Dashboard Data Documentation

The Missouri Department of Health and Senior Services (DHSS) is publishing COVID-19 data as soon as possible to provide Missourians up to date information. Efforts are continually being made to improve data quality so that DHSS is providing the most accurate information possible. Due to increased COVID-19 test volume, DHSS may experience delays in data processing and reporting from laboratories and providers. Please note that the data are provisional and may change daily.

For a log of updates made to the dashboard, please see the end of this document.

COVID-19 – Overview:

72-hour delay. Time-based data, consisting of the one-day change in statewide cases and the hospitalizations data, are subject to a 72-hour delay to ensure that the data are accurate and complete. (Example, on 5/15 the dashboard will report data for a period ending on 5/12). These data are provisional and may change daily. Investigations are being done on new cases, so as additional information is determined on these cases, information such as county, demographics, and the total counts will continue to change. Efforts are continually being made to improve data quality so that DHSS is providing the most accurate information possible.

Cases by Jurisdiction of Residence. The total number of laboratory-confirmed cases (individuals) by residence jurisdiction (county or city, when available). This number includes only individuals with positive PCR test results.

Lab-Confirmed Cases. The cumulative total number of cases that have been identified through PCR testing by state and private laboratories and reported to the state of Missouri, to-date. Most cases will recover from their illness, but this will not change the cumulative total. Serology tests are not included in the total number of Missouri cases, since they are considered to indicate possible past infection, and are not currently considered to be confirmed cases.

Deaths Attributed to COVID-19. The cumulative total of deaths that have been attributed to COVID-19. A death attributed to COVID-19 includes individuals who were identified as a positive COVID-19 case who died as a result of this illness or from a death certificate where COVID-19 was listed as a underlying or contributing cause of death.

New Cases Reported in the Last 24 Hours. The number of new cases between yesterday’s count and today’s. This is based on the date that the case was reported to DHSS and may reflect individuals who had been tested several days ago.

New Deaths Reported in the Last 24 Hours. The number of new deaths between yesterday’ count and today’s. This is based on the date that the death was reported to DHSS and may reflect individuals who died previously.
**7-Day Percent Positive of PCR Tested Individuals.** Numerator. The number of patients with an initial positive laboratory PCR test result for COVID-19 within the last 7 days. Denominator. The number of patients who had an initial PCR COVID-19 test within the last 7 days.

**Number of Hospitalizations.** The number of individuals reported as hospitalized confirmed or presumed to have COVID-19 on the listed date. Individuals hospitalized for more than one day may be included in the count on multiple dates. This dashboard provides hospitalization numbers obtained through the TeleTracking system. Not every hospital in Missouri reports to TeleTracking every day.

**Cases – Demographics:**

**Congregate Living Facility.** As of May 18, 2020, all congregate living facilities are required to report to DHSS when at least one resident or staff member receives a positive test result for COVID-19 infection. A congregate living facility is a facility where persons reside and shares common spaces with other residents, including residential care facilities, assisted living facilities, intermediate care facilities, skilled nursing facilities, jails, prisons, mental health facilities, dormitories, and resident summer camps. Hospitals, apartments or condominiums are not considered to be congregate living facilities. Currently, DHSS is only reporting out information on long term care facilities (LTCF). Information on positive COVID-19 tests at other types of congregate living facilities may be added as information becomes available.

**24 Hour Change in Statewide Cases (rate per 100,000 pop.).** This calculation is on a 72-hour delay. Numerator. The number of cumulative cases 72 hours ago per 100,000 population minus the number of cumulative cases today per 100,000 population. Denominator. The number of cumulative cases today per 100,000 population. Calculated as an increase from the cumulative total recorded one day before the current index date (see 72 hour delay). Because it considers the cumulative total, this number will always be zero or greater. The one-day percent increase calculation is based on

1. The onset date of symptoms
2. If 1 is not available: test date will be used
3. If neither 1 nor 2 are available, the date test results were received by DHSS will be used.

**7 Day Change in Statewide Cases (rate per 100,000 pop.).** Numerator. The number of cumulative cases 7 days ago per 100,000 population minus the number of cumulative cases today per 100,000 population. Denominator. The number of cumulative cases today per 100,000 population. Calculated as an increase from the cumulative total recorded. Because it considers the cumulative total, this number will always be zero or greater. The 7 day percent increase calculation is based on

1. The onset date of symptoms
2. If 1 is not available: test date will be used
3. If neither 1 nor 2 are available, the date test results were received by DHSS will be used.
**Race and Ethnicity.** The reported race and ethnicity of laboratory-confirmed cases.

**Reported Age.** Laboratory-confirmed cases by the age of the patient. A small number of patients do not have an age available for analysis at the time the data is published. For this reason, Cases by Age may not sum to the total number of cases reported.

**Average Age of a COVID-19 Patient.** The average age of all COVID-19 confirmed patients. This is a cumulative calculation that includes individuals from the first confirmed case to the most current date.

**Average Age of a COVID-19 Patient within the Last 7 Days.** The average age of all new COVID-19 confirmed patients within the last 7 days. Only patients who have been identified as having COVID-19 during the last 7 days are included in this calculation.

**Reported Date.** The Cases by Reported Date and Cumulative Confirmed Cases graphics are based on information provided during the course of case investigation, primarily the onset date of symptoms for each individual. If that information is not available, then the test administration date is used. As information on each case is updated, and the onset date is identified, the case is moved to the count for that date. (Example, an individual could receive a positive result on 4/14 and initially be counted on the curve for that date. But the investigation could discover symptoms started on 4/11, so the case is moved to the onset date.) It is considered best practice to utilize the date of illness onset as the date of interest for this type of graphic (epidemiological curve).

**Sex.** The reported biological sex of laboratory-confirmed cases.

**Cases – County:**

**Daily Percent Increase in Cases.** This calculation is on a 72 hour delay. Calculated as an increase from the cumulative total recorded in each county one day before the current index date (see 72-hour delay). Because it considers the cumulative total, this number will always be zero or greater. The daily percent increase calculation is based on

1. The onset date of symptoms
2. If 1 is not available: test date will be used
3. If neither 1 or 2 are available, the date test results were received by DHSS will be used.

**7 Day Percent Increase in Cases.** Calculated as an increase from the cumulative total recorded in each county 7 days before and today’s cumulative total. Because it considers the cumulative total, this number will always be zero or greater. The 7 day percent increase calculation is based on

1. The onset date of symptoms
2. If 1 is not available: test date will be used
3. If neither 1 or 2 are available, the date test results were received by DHSS will be used.
72-hour delay. Time-based data, consisting of the one-day change in statewide cases and the hospitalizations data, are subject to a 72-hour delay to ensure that the data are accurate and complete. (Example, on 5/15 the dashboard will report data for a period ending on 5/12). These data are provisional and may change daily. Investigations are being done on new cases, so as additional information is determined on these cases, information such as county, demographics, and the total counts will continue to change. Efforts are continually being made to improve data quality so that DHSS is providing the most accurate information possible.

Cases per 100,000 population. Positive case counts are standardized per 100,000 population to allow more accurate comparison between jurisdictions. Standardization is done using 2018 US Census Bureau population estimates.

Positive (laboratory-confirmed) cases. The cumulative total number of cases that have been identified through PCR testing by state and private laboratories and reported to the state of Missouri, to-date, separated by jurisdiction of residence. Most cases will recover from their illness, but this will not change the cumulative total. Serology tests are not included in the total number of Missouri cases, since they are considered to indicate possible past infection, and are not currently considered to be confirmed cases. Patients may receive more than one test (for example, the requirement for health care providers to have two negative tests for clearance to return to work), so the total number of tests conducted will not match the total number of patients tested.

Rate of new cases over 14 days. Heat-map of seven day ‘rate of change’ in cases by county, where ‘rate of change’ refers to the number of new cases in the past 7 days relative to prior 7 days (8-14 days ago); Negative numbers indicate slowing rates of growth; filtered to show only counties with at least 5 cases. Shows where case growth is growing and declining on a relative (to each county) basis over time.

Residence. The county where an individual lives. This may not be the same county where an individual works, contracts COVID-19, is tested, or (if applicable) is hospitalized.

PCR Testing:

Patients tested. The number of individual individuals tested for COVID-19. This is separated into PCR (Viral RNA) and Serology (antibody) testing.

PCR (Polymerase Chain Reaction). A PCR test looks for the viral genetic material (RNA) in the nose, throat, or other areas in the respiratory tract to determine if there is an active infection with SARS-CoV-2, the virus that causes COVID-19. A positive COVID-19 PCR test means that the person has an active COVID-19 infection.

Percent positive. Numerator. The number of patients with positive laboratory PCR test results for COVID-19. Denominator. The number of patients who had a PCR COVID-19 test.

7-Day Percent Positive of PCR Tested Individuals. Numerator. The number of patients with an initial positive laboratory PCR test result for COVID-19 within the last 7 days. Denominator. The number of patients who had an initial PCR COVID-19 test within the last 7 days.
**Reported Age.** Laboratory tests by the age of the patient. A very small number of patients do not have an age available for analysis at the time the data is published. For this reason, Tests by Age may not sum to the total number of cases reported.

**Test encounters.** The number of tests conducted. An individual patient may have multiple test encounters.

**Test results.** The number of test results which are positive, negative, and indeterminate, by the date the test was administered.

**Serology Testing:**

**Patients tested.** The number of individuals tested for COVID-19. Missouri reports PCR (Viral RNA) and Serology (antibody) testing separately.

**Percent positive.** Numerator. The number of patients with positive laboratory Serology test results for COVID-19. Denominator. The number of patients who had a Serology COVID-19 test.

**Reported Age.** Laboratory tests by the age of the patient. A very small number of patients do not have an age available for analysis at the time the data is published. For this reason, Tests by Age may not sum to the total number of cases reported.

**Serology Test.** A Serology test looks for antibodies against SARS-CoV-2 in the patient’s blood to determine if there has been an infection in the past. Antibodies are formed by the body to fight off infections. A positive antibody test means that the person was infected with COVID-19 in the past or recently and that their immune system developed antibodies to try to fight it off.

**Test encounters.** The number of tests conducted. An individual patient may have multiple test encounters.

**Test results.** The number of test results which are positive, negative, and indeterminate, by the date the test was administered.

**Deaths:**

**Deaths Attributed to COVID-19.** The cumulative total of deaths that have been attributed to COVID-19. A death attributed to COVID-19 includes individuals who were identified as a positive COVID-19 case who died as a result of this illness or from a death certificate where COVID-19 was listed as an underlying or contributing cause of death.

**New Deaths Reported in the Last 24 Hours.** The number of new deaths between yesterday’s count and today’s. This is based on the date that the death was reported to DHSS and may reflect individuals who have died several days ago.
Deaths by County. Deaths are reported by the decedent’s county of residence. This may not be the same county where an individual worked, contracted COVID-19, was tested, or (if applicable) was hospitalized.

Race and Ethnicity. The reported race and ethnicity of COVID-19 attributed deaths.

Sex. The reported biological sex of COVID-19 attributed deaths.

Reported Age. COVID-19 attributed deaths by the age of the individual. A small number of individuals do not have an age available for analysis at the time the data is published. For this reason, Deaths by Age may not sum to the total number of deaths reported.

Date of Death. Deaths attributed to COVID-19 are required to be reported to DHSS within 24 hours. Despite this requirement, there may be delays in reporting or processing deaths. Not all deaths have a date available for analysis at the time the data is published. For this reason, the number of events in the Deaths by Date graph may not sum to the total number of deaths reported. If this information is missing, DHSS will investigate the death to provide the most accurate data available.

Hospitalizations:

72-hour delay. Time-based data, consisting of the one-day change in statewide cases and the hospitalizations data, are subject to a 72-hour delay to ensure that the data are accurate and complete. (Example, on 5/15 the dashboard will report data for a period ending on 5/12). These data are provisional and may change daily. Investigations are being done on new cases, so as additional information is determined on these cases, information such as county, demographics, and the total counts will continue to change. Efforts are continually being made to improve data quality so that DHSS is providing the most accurate information possible.

Current Hospitalizations. The number of individuals reported as hospitalized confirmed or presumed to have COVID-19 on the listed date. Individuals hospitalized for more than one day may be included in the count on multiple dates. This dashboard provides hospitalization numbers obtained through the TeleTracking system). Not every hospital in Missouri reports to TeleTracking every day. Additionally, facilities may back-fill information to previous dates when they report their hospitalizations. Data is ‘frozen’ after 72 hours to stop additional back-fill, which is why DHSS and the Missouri Hospital Association adhere to a 72-hour delay reporting this data.

Update Log:

DHSS has listened to your feedback and have included some additional metrics to the Dashboard. Thank you for helping us improve how we share this information. We appreciate your feedback and are dedicated to Protecting Health and Keeping People Safe.

--The DHSS Dashboard Team

7/29/2020
Hospitalizations reporting has resumed with data beginning 7/25/2020.

- Please note, due to an abrupt change in data measures and the reporting platform issued by the White House on Monday, July 13th, and effective Wednesday, July 15th, Missouri Hospital Association (MHA) and the State of Missouri were unable to access hospitalization data that met quality standards during the transition. As such, hospitalization data from the period of July 13 through July 24 will remain unavailable.
- Included a smaller age breakdown of the cases (0-9 and 10-19).

7/24/2020

Updated the COVID-Overview tab with the following:

- Added New Cases Reported in Last 24 Hours
- Added New Deaths Reported in Last 24 Hours
- Added 7-Day Percent Positive of PCR Tested Individuals
- Added Number of Hospitalizations
- Added Recent Update notice that
- Moved 24 Hour Change in Statewide Cases (rate per 100,000 pop.) to Cases-Demographics tab
- Moved 7 Day Change in Statewide Cases (rate per 100,000 pop.) to Cases-Demographics tab

Updated the COVID-Demographics tab with the following:

- Added Average Age of a COVID-19 Patient (cumulative)
- Added Average age of a COVID-19 Patient (within the last 7 days)
- Moved 24 Hour Change in Statewide Cases (rate per 100,000 pop.) from COVID-Overview tab
- Moved 7 Day Change in Statewide Cases (rate per 100,000 pop.) from COVID-Overview tab

Updated the Deaths tab with the following:

- Added New Deaths Reported in Last 24 Hours

Updated the Documentation with information on how 24 Hour/7 Day Change in Statewide Cases calculations are made. Also updated language to increase transparency and clarify. Added cumulative update section that will track all updates made to the DHSS COVID-19 Dashboard.