Frequently Asked Questions: Calculating Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) RT-PCR Laboratory Test Percent Positivity
FAQ: Calculating Percent Positivity

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FAQ

What is percent positivity?

Percent positivity represents the percentage of all COVID-19 (SARS-CoV-2 RT-PCR) tests conducted that are positive. While the methods used to calculate percent positivity can differ, percent positivity provides important insights into the transmission of an infectious disease, such as COVID-19 (SARS-CoV-2), in a geographical area (e.g., national, regional, state, county). Percent positivity provides a strong indication of how widespread infection is in an area where testing is being conducted, but is dependent upon whether testing is keeping up with the level of disease transmission and the criteria used for testing (routine screening vs. diagnostic testing).

Why is calculating percent positivity important?

A high percent positivity occurs when many of the test results among those being tested and reported in a community are positive. This can mean that

- There are a lot of infections in the community; or
- That only a subset of the community at greatest risk for SARS-CoV-2 infection is being tested; or
- There are reporting processes or delays that skew the results (e.g., prioritizing reporting of positive test results over negative results).

The percent positivity goes down when more people tested are negative for COVID-19. This happens when the number of infections goes down or when testing is expanded to include more people who are not infected. In general, percent positivity will go down as more persons are being screened in non-outbreak settings (e.g., routine screening of persons who are not infected by SARS-CoV-2 in schools, long-term care facilities, and workplaces) and the results are reported.

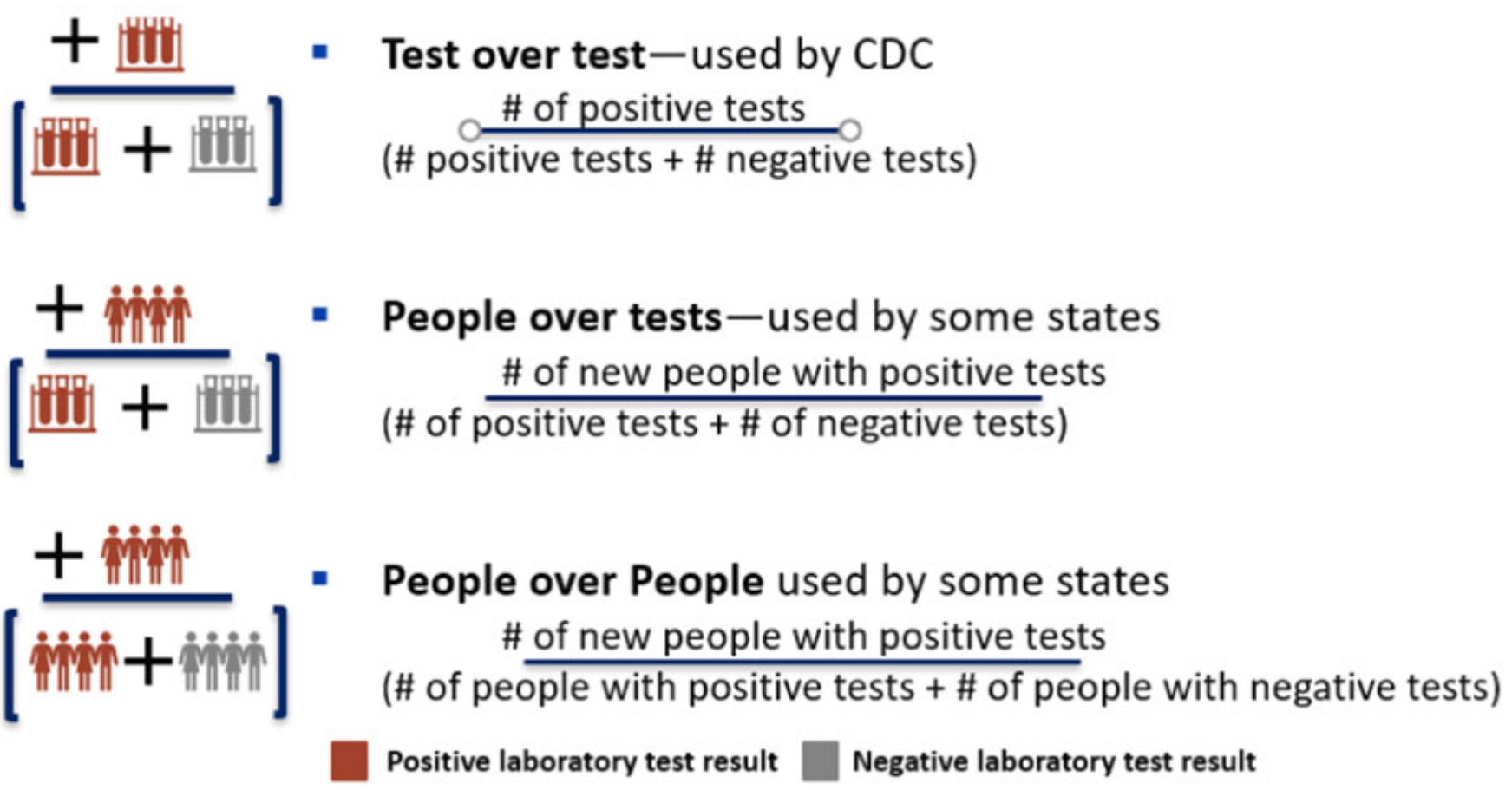
What methods are used to calculate percent positivity?

- Differences in the numerators or denominators they use (e.g., tests/tests, people/tests, people/people). [See **figure** below].
- Differences in the timeframe in which data are included (i.e., a seven-day versus a 14-day rolling average), as well as what dates (e.g. specimen collection date, test date, result date) are used to assign tests to specific timeframes.

- Differences in the inclusion or exclusion of antigen test results. Antigen tests may be used for screening or diagnostic purposes. Antigen test results may not be consistently reported to public health officials by clinics or sites where routine screening is conducted (e.g., long-term care facilities, schools or workplaces).
- Differences in inclusion of screening tests results. With increased screening using both antigen and RT-PCR tests, the ability to confidently interpret the meaning of percent positivity results will be impacted by the unknown criteria for testing (routine screening vs. diagnostic testing of symptomatic persons).
- Differences in how test results are assigned to jurisdictions, including by the person's place of residence, the provider's clinic location, the location the test specimen was collected, or the location of the laboratory.
- Differences in whether "indeterminate" or "inconclusive" results are included in the denominator (even though these may represent a very small proportion of all results).

How is percent positivity calculated?

There are three ways percent positivity can be calculated.



What is the value of calculating percent positivity? Does it matter which method is used?

For surveillance purposes, the value of calculating percent positivity of laboratory tests for COVID-19 RT-PCR is to allow us to follow the magnitude and trend of the pandemic. Any of the three methods for calculation (tests/tests, people/tests, or people/people), when applied consistently and with clear communication, will allow public health officials to follow magnitude and trends effectively, and the trends will be useful for local public health decision making.

What does a high percent positivity mean?

A high percent positivity means that SARS-CoV-2, the virus that causes COVID-19, transmission is elevated in the jurisdiction and community mitigation measures are warranted to reduce transmission. A high percent positivity means there is a high rate of SARS-CoV-2 infections due to extensive transmission of the virus in the geographic area. For details on steps you can take to slow the spread of the virus in your community, visit Implementation of Mitigation Strategies for Communities with Local COVID-19 Transmission.

How can a high percent positivity be reduced?

To reduce the percent positivity, a community can work to reduce the coronavirus transmission. For a comprehensive list of CDC recommendations for prevention of COVID-19 transmission, visit CDC's summary of guidance.

A community can also do more testing. When there is a positive test, make sure that isolation of infected persons is done to limit further transmission. Other prevention measures also help such as wearing a mask, washing hands frequently, social distancing, avoiding large gatherings, and cleaning and disinfecting commonly used surfaces regularly.

If I live in a place with high percent positivity, what should members of the community do?

Take steps to protect yourself and others from getting sick. Get tested if you have any symptoms or if you have been exposed to someone who has tested positive for COVID-19.

Where does the federal government report percent positivity?

CDC currently provides data at the national level on RT-PCR laboratory test percent positivity on the CDC COVID Data Tracker.

The Center for Medicare and Medicaid Services publishes percent positivity by county to help guide the frequency of COVID-19 screening of long-term care facility residents and staff.

The White House Coronavirus Task Force reports percent positivity at the national, state and county levels in the Governor's Report, a weekly report that sent by the Vice President to each Governor.

Where can I find more information about calculating percent positivity?

For additional information and resources, visit CDC's web page on Calculating Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Laboratory Test Percent Positivity: CDC Methods and Considerations for Comparisons and Interpretation.

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