



SUMMARY

The Indiana COVID-19 Data Report includes two approaches to measuring Indiana’s COVID-19 positive test rate. The two methodologies are distinguishable by the terms “Individuals” and “All Tests”. The positive test rate for “Individuals” calculates the positivity of unique individuals who have been tested for COVID-19. Using the “Individuals” methodology, a person is only counted once (even if that person is tested multiple times). The positive test rate for “All Tests” calculates the positivity of all tests administered. Using the “All Tests” methodology, every test that a person has will be counted.

Positive test rates are available for download on the MPH Data Hub. Rates are published by date for counties, regions, and statewide.

POSITIVE TEST RATE FOR INDIVIDUALS

In the “Positivity” section of the Indiana COVID-19 Data Report, the positive test rate for individuals is available by setting the toggle to “Individuals”. In the summary section at the top of the Indiana COVID-19 Data Report, the positive test rate for individuals is available in the “Positivity – Unique Individuals” tile.

Methodology

Calculation:

The positive test rate for “Individuals” is the percentage of unique individuals who tested positive for COVID-19. In this calculation, a person is only counted once (even if that person has been tested multiple times). Additionally, a person who tests positive for COVID-19 is only counted as one positive individual (even if they test positive multiple times). Using the “Individuals” methodology, the individual is recorded once on the date of their earliest specimen collection.

The positive test rate calculation for individuals is the same whether measuring positivity on a single date (daily) or measuring positivity for all dates (cumulative).

$$\text{Positive Test Rate for Individuals } (R) = \frac{(\text{positive individuals})}{(\text{individuals tested})} \times 100$$

The positive test rate 7-day average for individuals is calculated by taking the sum of all unique individuals that tested positive (UP) for the current date (D) and the six previous dates (D-1, 2, 3...) and dividing by the sum of all unique individuals (UI) tested during the same period.

$$\begin{aligned} &7 - \text{Day Average Positive Test Rate for a Date} \\ &= \frac{UP_D + UP_{D-1} + UP_{D-2} + UP_{D-3} + UP_{D-4} + UP_{D-5} + UP_{D-6}}{UI_D + UI_{D-1} + UI_{D-2} + UI_{D-3} + UI_{D-4} + UI_{D-5} + UI_{D-6}} \end{aligned}$$



Data Notes & Limitations:

Since tested individuals are recorded only once (on the date of their earliest specimen collection), positive individuals are also recorded on the date of the individual's earliest specimen collection date. For individuals who were tested multiple times, this means that the earliest specimen collection date may not always reflect the true positive specimen collection date.

Example:

On July 1, Patient A learns that she has been in close contact with someone who is COVID-19 positive. That same day, Patient A is tested for COVID-19 and tests negative. On July 8, Patient A is tested for COVID-19 a second time and tests positive.

Using the "Individuals" methodology, Patient A will be counted as one positive individual and one tested individual on her earliest specimen collection date of July 1.

POSTIIVE TEST RATE FOR ALL TESTS

In the "Positivity" section of the Indiana COVID-19 Data Report, the positive test rate for all tests is available by setting the toggle to "All Tests". At the top of the Indiana COVID-19 Data Report, the positive test rate for individuals is available in the "Positivity – All Tests" tile.

Methodology

Calculation:

The positive test rate for "All Tests" is the percentage of all administered COVID-19 tests that are positive. In this calculation, every test for every person is counted (even if the same person is tested multiple times). Additionally, a person who is tested multiple times may produce multiple COVID-19 positive tests. Using the "All Tests" methodology, each test is recorded on the date it was administered (specimen collection date).

The positive test rate calculation for all tests is the same whether measuring positivity on a single date (daily) or measuring positivity for all dates (cumulative).

$$\text{Positive Test Rate for All Tests } (R) = \frac{(\text{positive tests})}{(\text{tests administered})} \times 100$$

The positive test rate 7-day average for all tests is calculated by taking the sum of all positive tests administered (P) for the current date (D) and the six previous dates (D-1, 2, 3...) and dividing by the sum of all tests administered (T) during the same period.



Positive Test Rate Methodology

$$7 - \text{Day Average Positive Test Rate for a Date} = \frac{P_D + P_{D-1} + P_{D-2} + P_{D-3} + P_{D-4} + P_{D-5} + P_{D-6}}{T_D + T_{D-1} + T_{D-2} + T_{D-3} + T_{D-4} + T_{D-5} + T_{D-6}}$$

Data Notes & Limitations:

If an individual receives two or more of the same test type within a single day, they are counted as only one test. If an individual receives a PCR and antigen test on the same day, these are counted as two separate tests.

Example:

On July 1, Patient B learns that he has been in close contact with someone who is COVID-19 positive. That same day, Patient B is tested for COVID-19 and tests positive. After a period of self-isolation, on July 15, Patient B is tested for COVID-19 a second time and has a second positive result. Finally, Patient B returns to the testing site on July 22 and tests negative.

Using the “All Tests” methodology, Patient B will be counted as one positive test on July 1, one positive test on July 15, and one negative test on July 22.

SHARED LOGIC

The “Positive Test Rate for Individuals” and the “Positive Test Rate for All Tests” share some logic and limitations.

Preliminary Period:

Receiving enough testing data to perform reliable rate calculations typically takes six days (preliminary period). Therefore, the data within this six-day preliminary period are provisional and should not be characterized as comprehensive and complete data.

Testing Methods:

Both PCR tests and antigen tests are included in positive test rate calculations. Serology tests (IgM and IgG) are excluded.

Testing Date:

As described in the Individuals and All Tests methodology, the test date is based on the patient’s specimen collection date(s). If the specimen collection date was not provided by the reporting facility, then the date the test results were received by the health department is used.

Historical Data:

Dates and other attributes for historical data may change as records are de-duplicated or additional tests are submitted by the reporting facility.