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Harris County COVID-19 Data Landscape

December 4, 2020

More information available at ReadyHarris.org

Harris County
Public Health
Building a Healthy Community

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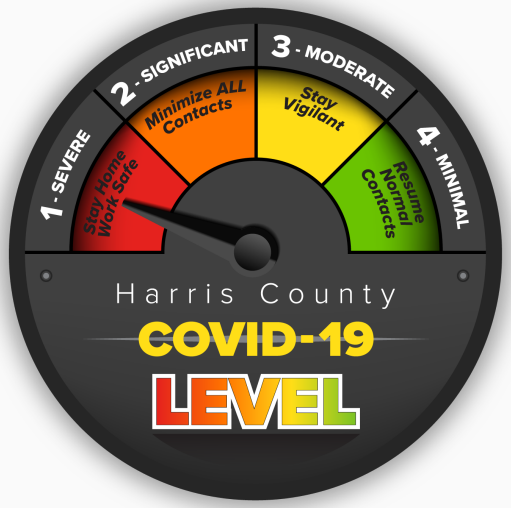
Key Takeaways

- The 14-day average of new cases in Harris County reported within 14 days of test date is 1061 new cases per day. Our goal to reach before moving to Orange is 400 new cases per day.
- The 14-day average of positive tests is 8.9%. Our goal to reach before moving to Orange is 5%.
- The 14-day average of COVID-19 ICU population is 18.5% of capacity. Our goal to reach before moving to Orange is 15%.
- The 14-day trends for both COVID General Population and ICU Population are all positive with 95% confidence, indicating that the number of severely ill COVID-19 patients has risen over the past two weeks.

Additional Information

- The total number of COVID-19 deaths in Harris County is 3032, according to the Department of State Health Services (DSHS). The death rate per 100k population is 64.3, which is higher than 24 states.

Current COVID-19 Threat Level: Level 1: Severe



Threat Levels

The Harris County COVID-19 Threat Level system advises four levels of transmission: Level 1 severe (red), Level 2 significant (orange), Level 3 moderate (yellow), and Level 4 minimal (green). Along with the level of transmission are actions residents should follow: Stay home (red); minimize all contacts (orange); stay vigilant (yellow); and resume normal contacts (green).

Changing Levels

The indicators in this document are not on/off switches for threat levels, but will be used by the County in conjunction with health experts to make decisions about policy changes at each level. To move down the ladder of the threat level system, all of the thresholds for these key health indicators must be met.

Harris County COVID-19 Risk Level Indicator Summary

Indicator	Status
Hospital Population Trends Negative 14-day trends for COVID-19 hospital population	**Indicator Not Met** COVID-19 General Population and ICU 14-day trends are positive with 95% confidence
Hospital Usage 14-day average of COVID-19 hospital population below 15%	**Indicator Not Met** COVID-19 ICU 14-day average population is 18.5% of capacity
New Cases: Trend 14-day trend for new COVID-19 cases is negative	**Indicator Not Met** 14-day trend of new cases is increasing by less than 1 case per day
New Cases: Total 14-day average of new cases in Harris County below 400	**Indicator Not Met** 14-day average of new cases is 1061 cases per day
Positivity Rate 14-day average of COVID-19 test positivity rate below 5%	**Indicator Not Met** 14-day average of COVID-19 test positivity is 8.9%

Incomplete Lab Report Queue Status

Note on Incomplete Lab Reports

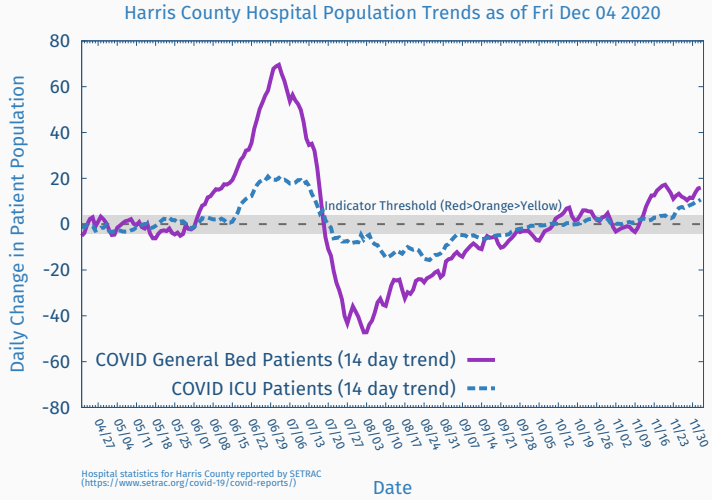
Since the peak of the pandemic the combination of the volume of new cases, the receipt of older labs reports and data dumps from individual labs and the state has led to backlogs in case reporting. HCPH has established an automated system to process lab reports faster. All lab reports from tests that can be processed through Harris County Public Health's automated system are processed overnight each day and have been reported as cases. However, Harris County also continuously receives many "incomplete lab reports" — lab reports that are missing vital pieces of information for public reporting, such as jurisdiction of the case and lab test type. Many of these incomplete lab reports are duplicates and must be deconflicted. In order to fully adjudicate these lab reports, HCPH manually researches and completes these reports and it may take 1-2 weeks to process and report those cases.
HCPH will be reporting the number of incomplete lab reports in queue for manual processing once a week.

Incomplete Lab Report Queue Status

As of Friday 12/4 HCPH has an estimated 309 "incomplete lab reports". Of these, an estimated:

- 182 are 29+ days old;
- 42 are within 15-28 days;
- 67 are within 14 days; and
- 18 have unknown date.
- **Not all of these will be considered a case within HCPH jurisdiction once processed. Many will be duplicated, antigen/antibody tests, out of jurisdiction, or unverified labs.**

COVID-19 Indicator: Hospital Population Trends



Indicator Threshold: Negative 14-day trends for ICU and general hospital population in Harris County, including the City of Houston (same threshold for all levels). 14-day period resets after changing levels. Data from SETRAC.

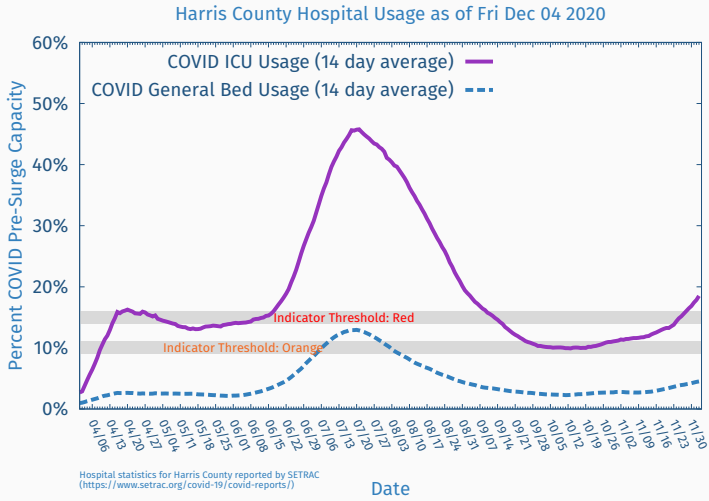
Indicator Not Met

COVID-19 General Population and ICU 14-day trends are positive with 95% confidence

Why it Matters

We must ensure our healthcare system has adequate capacity to treat all cases of COVID-19, including the most severe cases. We will continue to monitor the daily total of hospital patients in Harris County using data from SETRAC, a regional medical coordinating body, and analyze daily changes in the COVID patient population to see what direction we are heading. As Harris County monitors day-over-day trends, a 14-day flat or decreasing trend will indicate we are moving in the right direction. (If a threat level is moved, this measure will be restarted at zero days.)

COVID-19 Indicator: Hospital Usage



Indicator Thresholds: 14-day average of ICU and general population hospital beds in use in Harris County, including the City of Houston: Greater than 15%: Red, Greater than 10%: Orange, Greater than 5%: Yellow. Data from SETRAC.

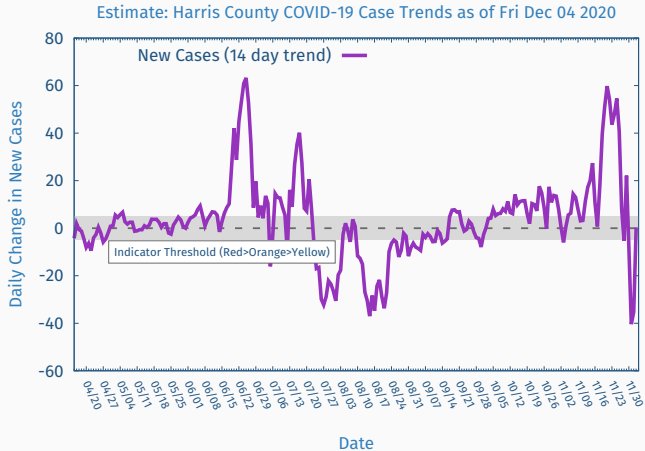
Indicator Not Met

COVID-19 ICU 14-day average population is 18.5% of capacity

Why it Matters

At the height of the COVID-19 pandemic in Harris County, nearly 50 percent of ICU beds were used by COVID patients. In order to ensure that hospitals have adequate capacity to treat the most critically ill COVID patients while caring for patients experiencing a life-threatening crisis or needing critical surgery, the percentage of beds being used for COVID patients must decrease and remain at a manageable level.

COVID-19 Indicator: New Cases: Trend



Indicator Threshold: 14-day flat or decreasing trend in new COVID-19 cases in Harris County, including the City of Houston (same threshold for all levels). 14-day period resets after changing levels. Data from Harris County Public Health and the Houston Health Department.

Additional Note: Due to backlogged cases that have increased over time due to delays in test reporting, missing information, and lags in processing we have now updated metrics involving case counts to only include cases that have specimen collection dates within 14 days of the date of reporting.

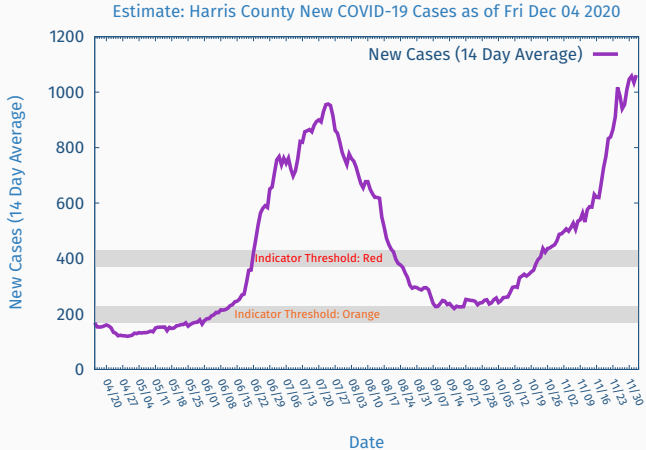
Indicator Not Met

14-day trend of new cases reported within 14 days of test date is increasing by less than 1 case per day

Why it Matters

Controlling the rate of COVID-19 transmission will be key to reopening. The number of daily new cases is an important indicator of the success of stay-at-home measures, social distancing, the avoidance of gatherings, and an adherence to wearing face coverings. Testing availability can affect the reliability of new case information, but it is still considered an early indicator of the degree of disease transmission. A decreasing trend will indicate the spread of the disease is slowing. (As with other measures, a change in the threat level will trigger a reset of this measure.)

COVID-19 Indicator: New Cases: Total



Indicator Thresholds: Greater than 400 new cases/day: Red, Greater than 200 new cases/day in Harris County, including the City of Houston: Orange, Greater than 100 new cases/day: Yellow. Data from Harris County Public Health and the Houston Health Department.

Additional Note: Due to backlogged cases that have increased over time due to delays in test reporting, missing information, and lags in processing we have now updated metrics involving case counts to only include cases that have specimen collection dates within 14 days of the date of reporting.

Indicator Not Met

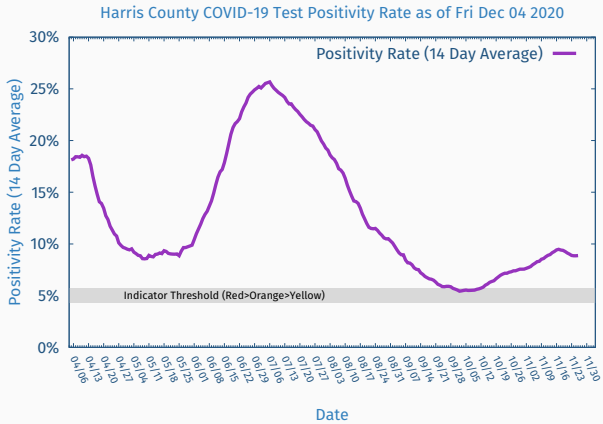
14-day average of new cases reported within 14 days of test date is 1061 cases per day

Why it Matters

The CDC and WHO recommend that contact tracing programs be in place before local governments consider easing restrictions.

In order to use contract tracing as a tool to control the spread of the virus, a total number of daily new cases must be at a level that allows contact tracers to quickly trace all cases and contacts.

COVID-19 Indicator: Testing Positivity Rate



Indicator Threshold: 14-day average positivity rate less than 5% (same threshold for all levels). Data from Harris County Public Health and the Houston Health Department. Data for the previous 7 days is not released due to lab turnaround time and the ability to report accurate data.

Additional Note: 14-day Average Positivity Rate is calculated using the number of positive labs reported to HCPH and Houston Health Department divided by the sum of positive and negative labs for all known specimens collected and reported to the health departments over the previous 14 days. Each individual is counted only once per day.

Indicator Not Met

14-day average of COVID-19 test positivity is 8.9%

Why it Matters

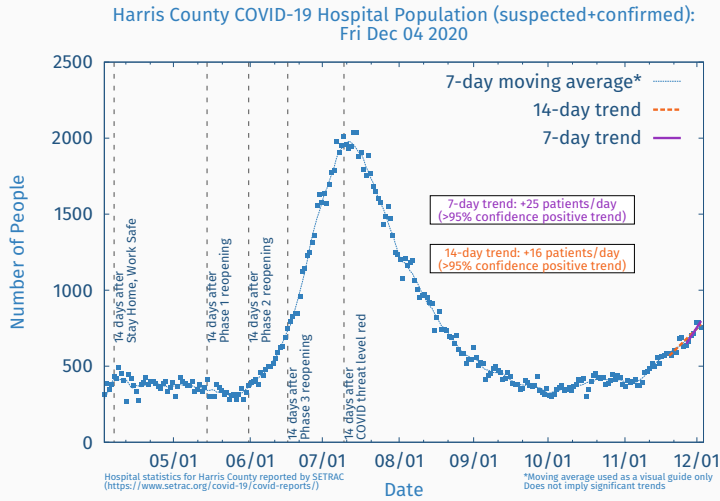
On May 12, 2020, the World Health Organization (WHO) advised governments that before reopening, rates of positivity in testing should remain at 5 percent or lower for at least 14 days.

Positivity rate is a reliable measure for whether or not our testing capacity is sufficient enough to detect a significant number of new cases. If positivity is high, it can indicate uncontrolled community spread, that we are only testing the sick, or a combination of both.

Changes due to Additional Data

On 11/13/20, the positivity rate chart changed slightly because Harris County gained access to more complete Houston Health Department data, allowing us to paint an even more accurate picture of the county's positivity rate. Even with the new data, Harris County's 14-day positivity rate average has never dropped below the 5% threshold for a move to Threat Level: Orange.

COVID-19 Hospital Population: General Beds



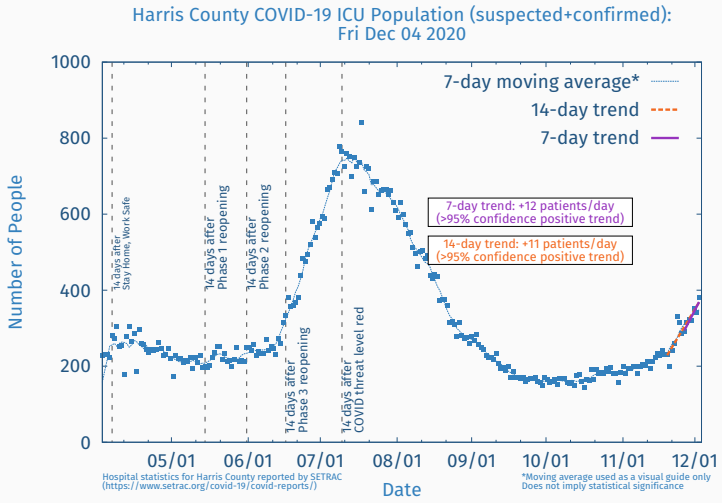
What does this graph show?

- This graph shows the daily COVID-positive Harris County (including the City of Houston) hospital general population (blue points, 7-day average shown as a visual guide).
- It shows the 14-day and 7-day trends of patient populations (red and purple lines).
- Significant dates are noted with vertical lines.

How is it calculated?

- 7-day and 14-day trends are significant if their slope is positive or negative with greater than 95% confidence.
- Hospital statistics for Harris County are reported by SETRAC.

COVID-19 Hospital Population: ICU Beds



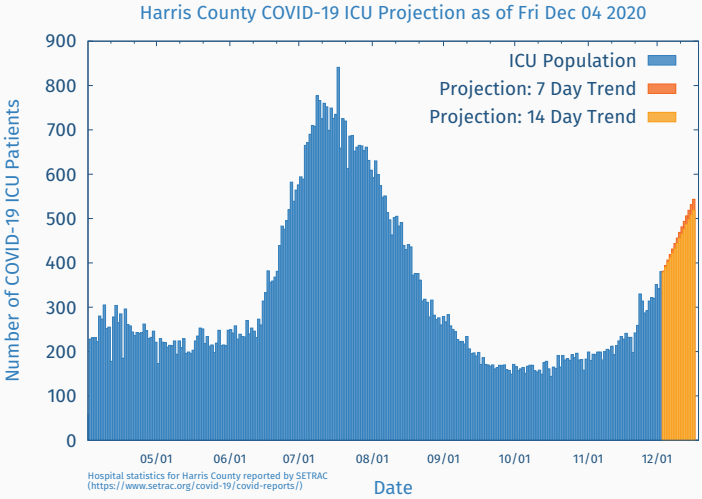
What does this graph show?

- This graph shows the COVID-positive Harris County (including the City of Houston) ICU population (blue points, 7-day average shown as a visual guide).
- It shows the 14-day and 7-day trends of patient populations (red and purple lines).
- Significant dates are noted with vertical lines.

How is it calculated?

- 7-day and 14-day trends are significant if their slope is positive or negative with greater than 95% confidence.
- Hospital statistics for Harris County are reported by SETRAC.

COVID-19 ICU Population Projection



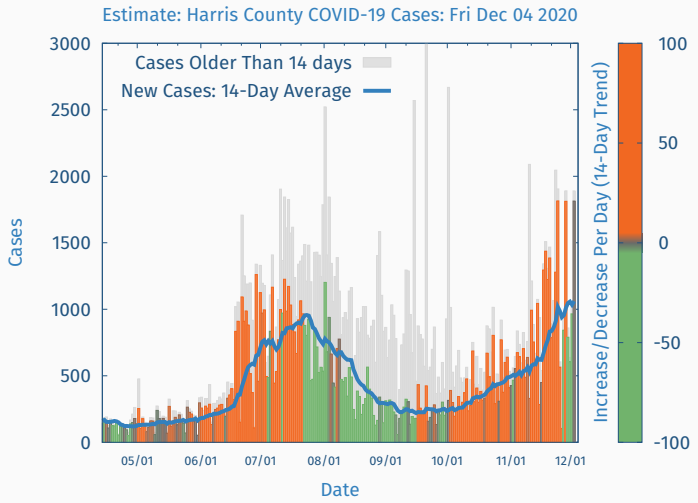
What does this graph show?

- This graph shows a projection for Harris County (including the City of Houston) COVID-19 ICU population for the next 14 days.

How is it calculated?

- Projections are created using the current 7-day and 14-day trends in ICU COVID-19 population.
- Hospital statistics for Harris County are reported by SETRAC.

Harris County COVID-19 Cases



Note: On September 21, Harris County reported 14k new cases that were older than 14 days at the time of reporting. The gray bar representing these cases extends beyond the limit of the chart above.

What does this graph show?

- This graph shows the total number of new cases reported in Harris County (including the City of Houston) over time, using only cases reported within 14 days from the test date.
- Cases reported greater than 14 days from the test date are shown in gray.
- The color of the graph indicates whether the 14-day trend of cases is increasing or decreasing.

How is it calculated?

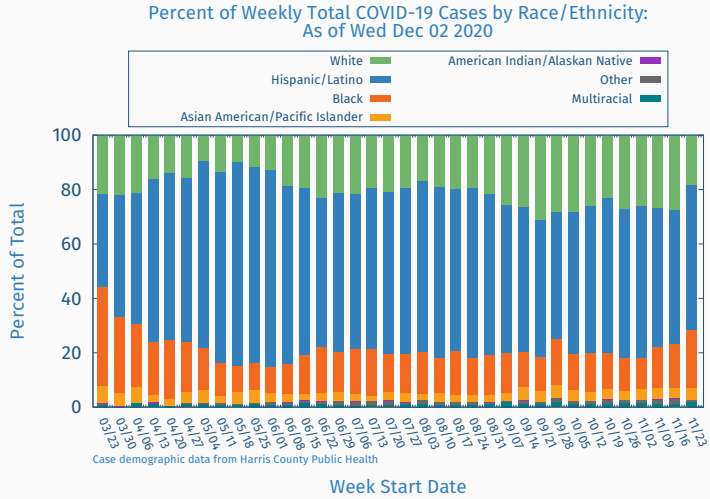
- Case trends for each date are calculated using the 14-day period ending on the date.
- The moving average (blue line) is drawn as a visual guide and does not represent significant trends.
- Data from Harris County Public Health and the Houston Health Department.

Important Information About Backlogs

Due to backlogged cases that have increased over time due to delays in test reporting, missing information, and lags in processing we have now updated metrics involving case counts to only include cases that have specimen collection dates within 14 days of the date of reporting.

Demographics of Harris County COVID-19 Cases: Race/Ethnicity

Data updated weekly, last updated on 12/2/2020.



What does this graph show?

- This graph shows the breakdown of COVID-19 cases in Harris County outside the City of Houston by race/ethnicity.

How is it calculated?

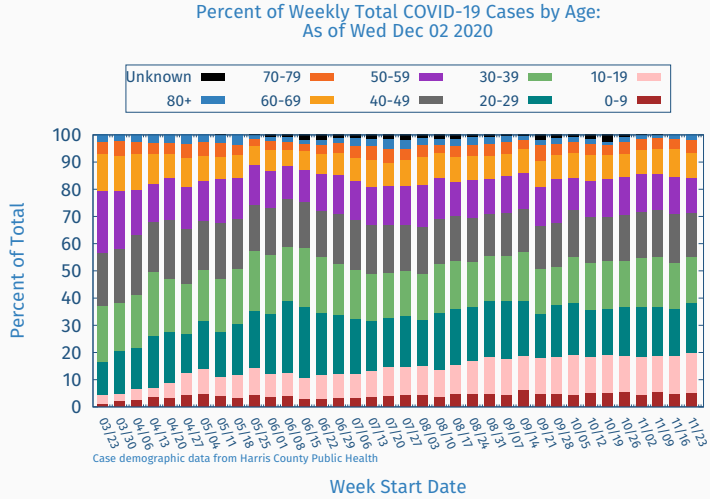
- Data includes only COVID-19 cases in the jurisdiction of Harris County Public Health for which race/ethnicity is known.
- COVID-19 demographic data from Harris County Public Health.

Harris County population demographics

American Indian/Alaskan Native	0.2%
Asian American/Pacific Islander	7.1%
Black	18.7%
Hispanic/Latino	44.3%
Multi-racial	1.6%
Other	0.3%
White	28.9%

Demographics of Harris County COVID-19 Cases: Age

Data updated weekly, last updated on 12/2/2020.



What does this graph show?

- This graph shows the breakdown of COVID-19 cases in Harris County outside the City of Houston by age.

How is it calculated?

- Data includes only COVID-19 cases in the jurisdiction of Harris County Public Health
- Age breakdowns from US Census do not match age groupings provided by HCPH
- COVID-19 demographic data from Harris County Public Health.