The following slides illustrate a model of how COVID-19 is spreading across the DFW region based on real patient data. This provides a snapshot based on data available as of September 5-6. Every time we receive new data, we re-run the model and refine the graphs.

In the following slides we examine how well preventive measures including vaccinations, masking, staying at home, physical distancing, hand hygiene and others have limited the spread of COVID-19, and what might happen looking forward.

Model-building is an iterative process with inherent uncertainty in its predictions. It facilitates planning and should not be the sole basis for policies or management decisions for any emerging infection.

We thank the Dallas and Tarrant County health departments, the hospitals, and health systems that have contributed data to help us build this model.
Hospitalizations continue to decline in the region, driven by declining admissions among older patient groups, though the rate of decline is slowing, and pediatric admissions remain elevated. Over the next several weeks, the total number of people hospitalized for COVID-19 is expected to remain relatively flat in Dallas and Tarrant Counties. The Dallas County Health and Human Services COVID-19 risk level is still orange, and Tarrant County Public Health's advisory level is still high. Indoor masking is encouraged for everyone at this time. Infection rates are still elevated, and the Rt value is now around 1, indicating transmission speeds are rising again. Test positivity rates are still high and are increasing in school-aged groups. Based on these trends, our medium-term forecast predicts that hospitalization growth may resume in the fall.

Vaccination remains our most powerful tool for preventing severe COVID-19. Vaccinated individuals still have a significantly decreased chance of catching COVID-19 compared to unvaccinated individuals, and even more importantly, significantly decreased risk of hospitalization and death. All Texans over the age of 6 months are now eligible for vaccination. Boosters are recommended for everyone age 5+, and second boosters are recommended for those age 50+. As part of our ongoing commitment to an equitable, effective, and efficient vaccination rollout, Texans aged 12 and older can schedule a vaccination appointment using UT Southwestern’s online scheduling portal: utswmed.org/vaccines.

Both nationally and locally, Omicron is now by far the dominant variant of the virus, representing 100% of positive tests sequenced at UT Southwestern. The closely related BA.4/BA.5 Omicron sub-lineages are more transmissible and now represent 95% of our samples, outcompeting the “original” BA.1 Omicron variant and subsequent BA.2 sub-lineage.

Based on the latest CDC “COVID-19 Community Levels” guidance, which considers hospital admissions and capacity, Dallas, Denton and Collin Counties are low risk, and Tarrant County is high risk. Visit the CDC website for more guidance on individual and household-level prevention measures recommended during times of high or medium risk. The CDC “Community Transmission” levels for the DFW region, which consider new cases and test positivity, are currently high. Use of high-quality masks when appropriate, physical distancing, increased ventilation, staying home when feeling unwell, and other interventions recommended by health experts will help continue to curb transmission and protect the health of all Texans, especially those who are currently unvaccinated, unable to be vaccinated, or immunocompromised. Anyone who is experiencing symptoms or exposed to someone with COVID-19 is encouraged to get tested and quarantine to break the chain of transmission.
COVID-19 Hospitalizations in Dallas County: Past, Present, and Future Forecasting

Hospitalized COVID-19+ Patients: Past and Predicted

- COVID-19 hospitalizations (black squares) are rising again.
- The blue line shows the estimated number of hospitalizations for the last three weeks, as well as our 21-day forecast starting from 9/6.
- Dallas County total COVID-19 hospitalizations expected to decline to around 160 over the next several weeks.

Source: NCTTRAC EMResource Master Data Set - County Level for data through 8/1/20-9/5/22
Shaded regions in the model’s forecast represent 90% credible interval.
Dallas County’s Trajectory Is Currently Trending Down

- Total hospitalizations due to COVID-19 have been slowly declining, but this trend may reverse over the next several weeks.
  - Pediatric transmission has re-accelerated since school started.
  - These trends are influenced by reduced immunity over time from past infections during Delta and earlier waves, as well as the effect of more transmissible and immune-escaping Omicron subvariants.

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**Lines**
- **Red Line** is if all behavior returns to unmitigated, pre-pandemic patterns with Omicron-like severity
- **Blue Line** is if we maintain our current trajectory

**Shading**
- **High Risk:** Recommend indoor masking
- **Medium Risk:** Recommend indoor masking for high-risk groups and their contacts
- **Low Risk:** Indoor masking is personal preference

*Updated 9/7/22 with data from 9/5/22*
COVID-19 Hospitalizations in Tarrant County: Past, Present, and Future Forecasting

- COVID-19 hospitalizations (black squares) are climbing again.
- The blue line shows the estimated number of hospitalizations for the last three weeks, as well as our 21-day forecast starting from 9/6.
- Tarrant County total COVID-19 hospitalizations are expected to decline to around 180 over the next three weeks.

Source: NCTTRAC EMResource Master Data Set - County Level for data through 8/1/20-9/5/22
Shaded regions in the model's forecast represent 90% credible interval.
More About the Measures We Follow to Build the Model

- **Mobility** proxy measures indicate the degree to which residents are compliant with physical distancing, determined using data from cell phones and surveys.

- **Visits to the doctor** for COVID-like symptoms are a leading indicator that will likely rise ahead of hospitalizations.

- **Test percent (%) positivity** is a useful number to follow to make sure that enough tests are being done and to follow over time. If it goes up, then cases and hospitalizations follow. % positivity varies by the population tested. For example, the % positivity of samples from the emergency department would be different than that of a group of asymptomatic individuals.

- **Hospitalizations** trail new infections by 1-2 weeks but are not influenced by testing capacity or test reporting delays, thus giving us a clear picture of severe cases in the community.

- **Vaccinations** indicate the level of protection that is present in the community against severe disease.

- Based on testing and hospitalization data, we calculate **infection rates**, which indicate how prevalent COVID-19 is within an age group or community, and **$R_t$**, which represents how many people 1 individual is likely to infect under current conditions.
How Mobile Are North Texans?

The graphs above show mobility trends through September 3 based on cell phone data. Time spent at home increased slightly over the summer. Visits to other sites outside the home, with the exception of workplaces, are near their pre-pandemic baselines.
Cases of COVID-19 That Require Hospitalization Are Declining; Test Positivity Rates Remain Elevated in North Texas

Approximately 23% of COVID-19 tests are positive in the state of Texas.

Hospital volumes for COVID-19 have decreased 6% compared to one week ago and decreased 24% compared to one month ago.

Source (left): TX DSHS data through 9/1/22, Accessed 9/6/22
Source (right): TX DSHS Combined Hospital Data by TSA Region data through 9/1/2022
“North Texas” is defined as Trauma Service Area E, % increases compare trailing 7-day averages
COVID-19 Hospital Admissions Are Declining

- Hospital admissions for COVID-19 are stable or declining across most age groups and counties in the DFW.

- However, pediatric admissions have flattened out at high levels in some counties.

- Please note the differing scales for each county when reading the graphs at left. Data show location of hospital, not necessarily patients’ resident county.
Dallas County Infection Rates Are Elevated Across Age Groups

- The redder the rectangle, the more cases per 100,000 people.
- Infection rates are elevated across most age groups.
- Please note that the upper bound of the color scale is now 400 cases per 100,000 people, as compared to an earlier upper bound of 1,000.

Source: Dallas County HHS, Accessed 9/6/22, data for positive tests with a specimen collection date of 8/27/22 or earlier
Infection Rates in All Dallas County Cities Are Elevated

- The redder the rectangle, the more cases per 100,000 people.
- Infection rates are elevated across Dallas County.
- Please note that the upper bound of the color scale is now 400 cases per 100,000 people, as compared to an earlier upper bound of 1,000.

Source: Dallas County HHS, Accessed 9/6/22, data for positive tests with a specimen collection date of 8/27/22 or earlier
\( R_t \) Represents Contagiousness

- \( R_t \) helps us measure how effective social distancing measures are after they are put into place.

- If social distancing and measures like masking are effective, then the number of secondary infections is dramatically reduced.

- In this scenario where social distancing measures were 50% effective, then only **five people** end up infected, rather than the original 31.
How Contagious Was COVID-19 in Dallas Two Weeks Ago?

This graph shows the $R_t$ value in Dallas County as of one-to-two weeks ago, calculated using the date positive tests were collected. The $R_t$ value has risen to around 1 in Dallas County.

Source: Dallas County HHS, Accessed Sep 6; up to specimen collection date of Aug 30;