

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
SAN ANTONIO DIVISION

MI FAMILIA VOTA, TEXAS STATE
CONFERENCE OF THE NATIONAL
ASSOCIATION FOR THE ADVANCEMENT
OF COLORED PEOPLE, MICAELA
RODRIGUEZ and GUADALUPE TORRES,

Plaintiffs

v.

GREG ABBOTT, Governor of Texas; RUTH
HUGHS, Texas Secretary of State,

Defendants.

No. 5:20-cv-00830

**DECLARATION OF CATHERINE L. TROISI IN SUPPORT OF PLAINTIFFS’
MOTION FOR PRELIMINARY INJUNCTION**

1. My name is Catherine L. Troisi. I am over the age of eighteen (18), of sound mind, and in all respects competent to testify. The facts stated herein are true, correct, and within my personal knowledge.

2. I have been asked by counsel for plaintiffs to opine on the novel coronavirus and its implications on in person voting in Texas. Based on my 40 years of experience as an epidemiologist and work in public health in the area of infectious disease epidemiology specializing in viruses, I have reached the following high-level conclusions, which are supported in more detail throughout my declaration:

- There is a high probability that SARS-CoV-2, the novel coronavirus and causative agent of COVID-19, will continue to spread throughout the fall and winter.
- The virus is spread from person to person through the air and on environmental surfaces. Therefore, gatherings such as at polling places contribute to virus spread.

- Racial and ethnic minority groups have an increased risk of severe outcomes should they become infected with SARS-CoV-2.
- There are ways to mitigate the risk of virus transmission at polling places, including requiring wearing of masks by both voters and poll workers.

QUALIFICATIONS

3. I am an infectious disease epidemiologist and public health expert as well as an Associate Professor in the Department of Management, Policy, and Community Health and Department of Epidemiology, Human Genetics, and Environmental Sciences and Center for Infectious Diseases at the University of Texas Health Science Center at Houston, School of Public Health and an Adjunct Associate Professor at Baylor College of Medicine.

4. I have a B.A. in Chemistry from The University of Rochester (NY) in 1974, an M.S. in Biochemistry from Michigan State University in 1975, and a PhD in Epidemiologic Sciences from The University of Michigan in 1980, specializing in influenza studies. I completed a postdoctoral position at Baylor College of Medicine in the Department of Virology and Epidemiology. I am a graduate of the National Public Health Leadership Institute at the University of North Carolina and have received post-doctoral training in epidemiologic techniques and public health preparedness.

5. My forty-year career in public health has been in the area of infectious disease epidemiology specializing in viruses. I was on the faculty in the Department of Virology and Epidemiology at Baylor College (the name was changed to Department of Molecular Virology during my tenure there) from 1983-1996, and I joined the faculty at University of Texas Health Science Center at Houston School of Public Health in Disease Control and Biological Sciences in 1997. I left academia in 2003 for seven years to practice public health at the Houston Health Department, beginning as Bureau Chief for HIV/STD and Viral Hepatitis Prevention, was

promoted to Assistant Director of the Health Department, overseeing the Division of Prevention and Communicable Diseases, and finally creating and filling a new position as Director of Public Health Practice. I rejoined the UTSPH faculty in 2010, in the Departments of Management, Policy, and Community Health and Epidemiology, Human Genetics, and Environmental Sciences and the Center for Infectious Diseases.

6. I was Incident Commander in the National Incident Management System structure (i.e., in charge of the Houston Health Department's response) in 2009 for the H1N1 influenza pandemic, a respiratory virus.

7. I am also currently an elected Executive Board Member of the American Public Health Association, a Board Member of International Network of Epidemiology in Policy, an Elected Fellow, Texas Public Health Association, a member of the National Association of County and City Health Officials epidemiology workgroup, and a member of the American College of Epidemiology. I have received several awards and honors including the Excellence in Community Service Award, UTSPH, 2013 and 2019, and the Association of Schools and Programs in Public Health Service Award, 2018. I was elected to Sigma Xi (Scientific Honor Society) in 1979, received a fellowship from the University of Michigan 1977-1980, and was a Eugene B. Casey Fellow at Baylor College of Medicine. I have testified before the US House of Representatives Committee on Homeland Security, Ebola Preparedness (October 2014, Dallas, TX), Governor Perry's Task Force on Public Health Prevention, Ebola Preparedness (October 2014, Austin, TX), the Texas House County Affairs Committee, Syringe Exchange Programs (April 2019, Austin, TX).

8. In the last four years, I have testified and/or been deposed in:

- *Tex. Democratic Party v. Debeauvoir et. al.*, No. D-1-GN-20-1610 (201st Jud. Dist. Travis County, Tex. 2020)
- *Lewis v. Hughs*, No. 20 Civ.00577 (OLG) (W.D. Tex. 2020)
- *DCCC v. Ziriaux*, No. 20 Civ.21 (JED/JFJ) (N.D. Okla. 2020)
- *American Women v. Missouri*, No. 20AC-CC00333 (Cole Cnty. Ct. 2020)

9. Attached as Appendix A and incorporated by reference to this declaration is a copy of my curriculum vitae. I am being compensated for my work in this matter at a rate of \$150 an hour. My compensation is not dependent on my opinions or conclusions.

BACKGROUND ON COVID-19

10. The first reports of this novel coronavirus, now named SARS-CoV-2, occurred on December 31, 2019. The first confirmed case in the United States was noted one month later on January 20, 2020. In the nearly nine months since that first confirmed U.S. case, there have been over 8.1 million cases in all 50 states plus District of Columbia, with over 218,000 deaths reported as of October 19, 2020.¹ The United States as a whole is averaging over 50,000 confirmed cases per day and has experienced a 27% increase in cases over the past two weeks.² The United States has approximately 4.4% of the world's population but 20% of the COVID-19 cases and deaths.³

¹ CDC, *United States CPVOD-19 Cases and Deaths by State*, CDC, <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html> (accessed Oct. 19, 2020).

² *Tracking Our COVID-19 Response*, COVID Exit Strategy, https://www.covidexitstrategy.org/?utm_campaign=wp_the_health_202&utm_medium=email&utm_source=newsletter&wpisrc=nl_health202 (accessed Oct. 19, 2020).

³ See <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>. (accessed Oct. 19, 2020).

11. The COVID-19 infection is caused by the SARS-CoV-2 virus and is spread in two ways: (1) by the respiratory route (through the air and through mucous membranes), and (2) by fomites, that is, environmental surfaces that are contaminated with the virus.⁴ SARSCoV-2 can also be found in feces, although the importance of this in transmission is not yet known.⁵ The main route of virus transmission is through the respiratory track.

12. Factors that increase probability of transmission include indoor space, close contact, crowding, and duration of contact (longer than 15 minutes).⁶

13. There is increasing evidence that aerosolized droplets (which means the virus is found in fine particles suspended in the air) can spread the virus.⁷ One study found that aerosols of COVID-19 can remain viable in indoor environments for minutes while another found that aerosols remained infectious for at least 16 hours.⁸ Other studies show that COVID-19 aerosols were carried on air currents in a restaurant, infecting people across the room⁹ and that a bus rider became infected even though the rider was seated about 4.5 meters (~15 feet) away from the

⁴ CDC, *Frequently Asked Questions*, CDC, (accessed Oct. 19, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/faq.html>.

⁵ CDC, *Infectious SARS-CoV-2 in Fees of Patient with Severe COVID-19*, CDC Emerging Infectious Diseases, Research Letter Vol. 26, No. 8, (Aug. 2020), https://wwwnc.cdc.gov/eid/article/26/8/20-0681_article (accessed Oct. 19, 2020).

⁶ Health Departments, *Community-Related Exposures*, CDC, (Updated July 31, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/php/public-health-recommendations.html> (accessed Oct. 19, 2020).

⁷ Dyani Lewis, *Mounting evidence suggests coronavirus is airborne—but health advice has not caught up*, Nature, (July 23, 2020), <https://www.nature.com/articles/d41586-020-02058-1>.

⁸ EIU Healthcare, *Does the coronavirus stay longer in the air than previously thought?*, COVID-19 Facts, (July 15, 2020), <https://www.covid-19facts.com/?p=84800>.

⁹ Jianyun Lu, et al., *COVID-19 Outbreak Associated with Air Conditioning in Restaurant, Guangzhou, China, 2020*, Emerg. Infet. Dis., (July 2020), accessed at <https://pubmed.ncbi.nlm.nih.gov/32240078/>.

infected subject.¹⁰ Choral practice and fitness classes have also been linked to aerosol transmission.¹¹ The World Health Organization (WHO) has recently changed its position and acknowledged that aerosol transmission may occur outside of medical facilities¹² based on information provided by over 200 scientists from 32 countries.¹³ A recently published article clearly articulates the evidence that aerosols play an important role in transmission of the virus, perhaps more than droplets, outlining how aerosol transmission explains many of the epidemiologic characteristics we are observing.¹⁴ Another recent publication questions the centuries-old guidance of protection from droplet spread at six-feet distancing.¹⁵ The virus is infectious and each person can infect, on average, between 2 and 5 to 6 other persons, in the

¹⁰ Ye Shen, et al., *Community Outbreak Investigation of SARS-CoV-2 Transmission Among Bus Riders in Eastern China*, 2020, JAMA Intern Med. , (Sept. 1, 2020), accessed at <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2770172>.

¹¹ CDC, *Cluster of Coronavirus Disease Associated with Fitness Dance Classes, South Korea*, CDC Emerging Infectious Diseases, Research Letter Vol. 26 No.8, (Aug. 2020), https://wwwnc.cdc.gov/eid/article/26/8/20-0633_article; CDC, *High SARS-CoV-2 Attack Rate Following Exposure at a Choir Practice—Skagit County, Washington, March 2020*, CDC MMWR 69(19), 606-610, (May 12, 2020), <https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e6.htm>.

¹² WHO, *Transmission of SARS-CoV-2: implications for infection prevention precautions*, WHO Newsroom, (July 9, 2020), <https://www.who.int/news-room/commentaries/detail/transmission-of-sars-cov-2-implications-for-infection-prevention-precautions>.

¹³ *239 Scientists From 32 Countries Call For WHO To Address Airborne Spread Of Novel Coronavirus*, KFF, (July 6, 2020), <https://www.kff.org/news-summary/239-scientists-from-32-countries-call-for-who-to-address-airborne-spread-of-novel-coronavirus/>.

¹⁴ Jose-Luis Jimenez, *COVID-19 Is Transmitted Through Aerosols. We Have Enough Evidence, Now It Is Time to Act*, Time, (Aug. 25, 2020), <https://time.com/5883081/covid-19-transmitted-aerosols/>.

¹⁵ Jones Nicholas, et al., *Two metres or one: what is the evidence for physical distancing in covid-19?*, BMJ 2020, (Aug. 2020), accessed at <https://www.bmj.com/content/370/bmj.m3223>.

absence of protective measures, leading to exponential spread.¹⁶ SARS CoV-2 is more infectious than influenza¹⁷ and current estimates are that it is ten times as deadly.¹⁸

14. Reported illnesses from SARS-CoV-2 have ranged from no to mild symptoms to severe illness and death. Symptoms can include fever, dry cough, and shortness of breath. In addition to lung damage, the virus can cause damage and failure of other organs including heart, kidney, and intestines.¹⁹ When severe, COVID-19 is a systemic illness characterized by hyperinflammation, cytokine storm, and elevations of cardiac injury biomarkers.²⁰ Forty percent of deaths from COVID-19 are due to cardiac damage, and these serious consequences can occur even after respiratory symptoms are resolved.²¹ Three months after clearing the virus, 50 to 80% of patients continue to have bothersome symptoms.²² Children generally do not have severe

¹⁶ Vanessa B. Ramirez, *What is R0? Gauging Contagious Infections*, Healthline, (Apr. 20, 2020), <https://www.healthline.com/health/r-nought-reproduction-number>; CDC, *Pandemic Planning Scenarios*, CDC Healthcare Workers, (Updated Sept. 10, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html> (accessed Oct. 19, 2020).

¹⁷ Rachael Rettner, *How does the new coronavirus compare with the flu?*, Live Science, (May 14, 2020), <https://www.livescience.com/new-coronavirus-compare-with-flu.html>.

¹⁸ Lisa L. Maragakis, *Coronavirus Disease 2019 vs. the Flu*, Hopkins Medicine, (accessed Oct. 19, 2020), <https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/coronavirus-disease-2019-vs-the-flu>.

¹⁹ Zsuzsanna Varga, et al., *Endothelial cell Infection and endotheliitis in COVID-19*, The Lancet 395(10,234), 1417-1418, (Apr. 20, 2020), *accessed at* [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30937-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30937-5/fulltext) (accessed Oct. 19, 2020).

²⁰ *Id.*

²¹ Riccardo M. Inciardi, et al., *Cardiac Involvement in a Patient with Coronavirus Disease 2019 (COVID-19)*, JAMA Cardiol. 2020 5(7), 819-824, (Mar. 27, 2020), <https://jamanetwork.com/journals/jamacardiology/fullarticle/2763843>.

²² Angelo Carfi, et al., *Persistent Symptoms in Patients After Acute COVID-19*, JAMA. 2020 324(6), 603-605, (Aug. 2020), *accessed at* <https://pubmed.ncbi.nlm.nih.gov/32644129/>; Mark W. Tenforde, *Symptom Duration and Risk Factors for Delayed Return to Usual Health Among Outpatients with COVID-19 in a Multistate Health Care Systems Network—United States, March-June 2020*, MMWR. 69(30), 993-998, (Jul. 31, 2020), *accessed at* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7392393/>.

disease from COVID-19, but there has been recognition of multi-system inflammatory syndrome in SARS-CoV-2 infected children.²³ A recent systemic review and metanalysis found that the overall estimate of infected persons who remain asymptomatic throughout infection was 20% (95% confidence interval [CI] 17–25) with a prediction interval of 3%–67% in 79 studies analyzed.²⁴ CDC uses an estimate of 40% of infected persons will either never show symptoms or have very mild symptoms, but they can transmit the virus to others up to 14 days following infection.²⁵

15. According to the CDC, certain groups such as those over 65 years of age and those with certain underlying medical conditions (including chronic lung disease such as moderate to severe asthma, chronic heart disease, diabetes, obesity, chronic kidney disease, liver disease, immunosuppression) are at higher risk of serious illness and death from COVID-19.²⁶ Pregnant women are at increased risk of a severe outcome.²⁷ However, anyone can be infected

²³ CDC, HAN00432, CDC Emergency Preparedness and Response, (May 14, 2020), <https://emergency.cdc.gov/han/2020/han00432.asp> (accessed Oct. 19, 2020).

²⁴ Carl Heneghan, *COVID-19: What proportion are asymptomatic?*, CEBM, (Apr. 6, 2020), <https://www.cebm.net/covid-19/covid-19-what-proportion-are-asymptomatic/>; Stefanie Hossmann, et al., *Occurrence and transmission potential of asymptomatic and presymptomatic SARS-CoV-2 infections: A living systematic review and meta-analysis*, PLOS Medicine, (Sept. 22, 2020), accessed at

<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1003346>

²⁵ CDC, *Pandemic Planning Scenarios*, CDC Healthcare Workers, (Updated Sept. 10, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html> (accessed Oct. 19, 2020).

²⁶ CDC, *People at Increased Risk*, CDC Your Health, (Updated Sept 11, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html> (accessed Oct. 19, 2020).

²⁷ CDC, *Characteristics of Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection by Pregnancy Status—United States, January 22-June 7, 2020*, MMWR 69(25), 769-775, (June 26, 2020),

https://www.cdc.gov/mmwr/volumes/69/wr/mm6925a1.htm?s_cid=mm6925a1_w

with COVID-19 and suffer serious outcomes.²⁸ Rates of hospitalization increase with age.²⁹ A recent CDC study shows that 56% of Americans have a co-morbid condition that would put them at increased risk of serious sequelae should they become infected.³⁰

16. Racial minorities have been particularly affected by this pandemic for several reasons. They are more likely to get infected due to increased possibility of exposure (crowding, essential jobs that interact with the public, multi-generational housing,) and, once infected, experience worse outcomes (lack of health care access, higher rates of co-morbid conditions).³¹ A CDC graphic (below) clearly demonstrates these disparities.²⁷ In the United States overall, Black, non-Hispanic persons are 2.6 times more likely to be infected, 4.7 times more likely to be hospitalized, and 2.1 times more likely to die than Caucasians. Hispanics are 2.8 times more likely to be infected, 4.6 times more likely to be hospitalized, and 1.1 times more likely to die. compared to Caucasians. These numbers are 2.8, 5.3, and 1.4, respectively, for American Indian, Native Hawaiians.

²⁸ CDC, Symptoms, CDC Your Health, (Updated May 13, 2020),
<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html> (accessed Oct. 19, 2020).

²⁹ Shikha Garg, et al., Hospitalization Rates and Characteristics of Patients Hospitalized with Laboratory-Confirmed Coronavirus Disease 2019—COVID-Net, 14 States, March 1-30, 2020, MMWR 69(15), 458-464, (Apr. 17, 2020),
https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e3.htm?s_cid=mm6915e3_w.

³⁰ CDC, Updates Estimates of Chronic Conditions Affecting Risk for Complication from Coronavirus Disease, United States, CDC Emerging Infectious Diseases 26(9), (Sept. 2020),
https://wwwnc.cdc.gov/eid/article/26/9/20-2117_article?deliveryName=USCDC_331-DM35835.

³¹ CDC, Health Equity Considerations & Racial Ethnic Minority Groups, CDC Community, Work & School, (Updated July 24, 2020), https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fneed-extra-precautions%2Fracial-ethnic-minorities.html (accessed Oct. 19, 2020).

Rate ratios compared to White, Non-Hispanic Persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
Cases ¹	2.8x higher	1.1x higher	2.6x higher	2.8x higher
Hospitalization ²	5.3x higher	1.3x higher	4.7x higher	4.6x higher
Death ³	1.4x higher	No Increase	2.1x higher	1.1x higher

17. The disparities seen in severe outcomes from COVID-19 are true for Texas alone as well as for the whole United States. We can't make valid comparisons based on who is getting infected because only 6% of reported cases in Texas indicate racial/ethnic background of the patient. However, 98% of reported COVID-19 deaths do indicate race/ethnicity. Hispanics comprise 39% of the Texas population but 56% of the COVID-19 deaths, a 44% increase in deaths over the representation in the population, indicating a disparity in outcomes.³²

18. Based on available data, in Texas, Black and Latino people are most likely to contract COVID-19; amongst Black Texans there are 284 cases per 100,000 and amongst Hispanic/Latino Texans there are 204 cases per 100,000, as compared with only 143 cases emerging per 100,000 amongst white Texans. In terms of COVID-19 fatalities in Texas, Hispanic/Latino people are by far the most likely to die from COVID-19, with 87 deaths occurring amongst Hispanic/Latino people per 100,000; Black people also experience disproportionate fatalities, with 57 deaths per 100,000 people, as compared to 44 deaths per 100,000 people for white people.³³

³² *Race and Ethnicity data by state*, Covid Tracking Project, <https://covidtracking.com/race/dashboard#state-tx> (accessed Oct. 19, 2020).

³³ *Infection and Mortality by Race and Ethnicity*, Covid Tracking Project, <https://covidtracking.com/race/infection-and-mortality-data#TX> (accessed Oct. 19, 2020).

19. In Texas, the U.S. age-adjusted COVID-19 mortality rate for Black people and for Indigenous people is more than twice as high and the mortality rate for Latino people is more than four times as high as the mortality rate for white people.³⁴

20. Within my area of expertise, social distancing, masks, frequent hand-washing, and environmental disinfection are the only ways to limit the spread of the virus,³⁵ as there is no FDA-licensed vaccine that could be administered to elicit immunity to the virus and there will not be one by November 3, 2020.³⁶ The availability of COVID-19 tests and timely results is also a critical tool for combatting community spread of COVID-19.

21. Social (also called physical) distancing refers to maintaining a distance of at least 6 feet between persons. Social distancing is a proven method to stop the spread of viruses such as the novel coronavirus through the respiratory route.³⁷ As noted, the novel coronavirus is spread through both droplet and aerosol transmission. These are produced through coughing, sneezing, talking, and singing. Droplets are fairly heavy, and most studies have shown that they cannot

³⁴ APM Research Lab, *The Color of Coronavirus: COVID-19 Deaths by Race and Ethnicity in the U.S.* (updated Oct. 15 2020), <https://www.apmresearchlab.org/covid/deaths-by-race#rates>.

³⁵ CDC, *Protect Yourself*, CDC Your Health, (Updated Sept. 11, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html> (accessed Oct. 19, 2020).

³⁶ Richard Harris, *Pfizer COVID-19 Vaccine Won't Be Ready By Election Day*, NPR, (Oct. 16, 2020), <https://www.npr.org/sections/coronavirus-live-updates/2020/10/16/924502362/pfizer-covid-19-vaccine-wont-be-ready-by-election-day>.

³⁷ Kelvin Droegemeier, *Rapid Expert Consultation on Social Distancing for the COVID-19 Pandemic*, The Nat'l Academies of Sciences, (Mar. 19, 2020), <https://www.nap.edu/catalog/25753/rapid-expert-consultation-on-social-distancing-for-the-COVID-19-pandemic-march-19-2020>.

travel more than approximately 6 feet,³⁸ although under certain circumstances, they can travel a longer distance.³⁹ Aerosols can travel farther and remain lingering in the air.⁴⁰

22. Non-PPE masks (also known as cloth masks) offer a certain degree of protection against the virus in observational studies.⁴¹ While masks vary in effectiveness due to variations in type of fabric used, number of layers, presence or absence of an internal filter, as well as how closely they fit and other factors, many studies have shown they offer protection against SARS-CoV-2 infection, protecting both others and the wearer.⁴² Masks must be worn correctly to offer

³⁸ CDC, *supra* n. 22.

³⁹ Lydia Bourouiba, *Potential Implications for Reducing Transmission of COVID-19*, JAMA 323(18), 1,837-1,838, (Mar. 26, 2020), <https://jamanetwork.com/journals/jama/fullarticle/2763852>.

⁴⁰ CDC, *SARS-CoV-2 & Potential Airborne Transmission*, CDC More Resources, (Updated Oct. 5, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-sars-cov-2.html> (accessed Oct. 19, 2020).

⁴¹ Lynne Peeples, *Face masks: what the data say*, Nature, (Oct. 6, 2020), https://www.nature.com/articles/d41586-020-02801-8?utm_campaign=KHN%3A%20Daily%20Health%20Policy%20Report&utm_medium=email&_hsmt=97059706&_hsenc=p2ANqtz-9iFt-3p_qhcM7ABPp5V2koFfAvsRdNex51yXpHdonEYUb2KSaelq_C4pK66eoYkae-DwsWtkKSI8pZqbYnCqkD-hYcu2aHJHLvXo9SHdsmMlIEPso&utm_content=97059706&utm_source=hs_email.

⁴² Derek. K. Chu, et al., *Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis*, The Lancet 395(10,242), 1973-1987, (June 27, 2020), *accessed at* [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31142-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31142-9/fulltext); Mayo Clinic Staff, *COVID-19: How much protection do face masks offer?*, Mayo Clinic, (Aug. 20, 2020), <https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/coronavirus-mask/art-20485449>; Jeremy Howard, et al., *Face Masks Against COVID-19: An Evidence Review*, Preprints 2020, (July 10, 2020), *accessed at* <https://www.preprints.org/manuscript/202004.0203/v>; G. Kamps, et al., *Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents*, Hospital Infection Journal 104(3), 246-251, (Mar. 1, 2020), *accessed at* [https://www.journalofhospitalinfection.com/article/S0195-6701\(20\)30046-3/fulltext](https://www.journalofhospitalinfection.com/article/S0195-6701(20)30046-3/fulltext).

protection (e.g., both nose and mouth must be covered).⁴³ Therefore masks are recommended to prevent spread of infection as well as physical distancing.

23. The main purpose of non-PPE masks is source control; in other words, when worn by an infected person, the non-PPE masks act as a barrier to prevent infected persons from transmitting large respiratory droplets into the air.⁴⁴

24. Research shows that “public mask wearing is most effective at stopping spread of the virus when compliance is high.”⁴⁵

25. Any place where people gather and do not maintain physical distancing, such as a polling place, represents a heightened danger for transmission of COVID-19 disease. Due to the possibility of close proximity (less than 6 feet) between voters, between poll workers and voters, and between poll workers and poll workers, as well as the transmission of the virus on polling machine screens and other environmental surfaces, there is risk of spread of the virus at polling places through droplets, airborne, or environmental surfaces. This is particularly important because some people who are infected with the novel coronavirus do not have any symptoms but can transmit the virus and/or are infectious before they develop symptoms.⁴⁶ This means that

⁴³CDC, *How to Wear Masks*, CDC Your Health, (Updated Aug. 7, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-to-wear-cloth-face-coverings.html> (accessed Oct. 19, 2020).

⁴⁴ Jaclyn K. Cichowicz, et al., *Respiratory Protection vs. Source Control—What’s the Difference?*, NIOSH Science Blog, (Sept. 8, 2020), <https://blogs.cdc.gov/niosh-science-blog/2020/09/08/source-control/>; Jeremy Howard, *supra* n. 40.

⁴⁵ Jeremy Howard, *supra* n. 40; In a previous study of the effectiveness of respiratory protective devices in reducing influenza transmission, high compliance is defined as 80% or better compliance. J Yan, et al., *Modeling the Effectiveness of Respiratory Protective Devices in Reducing Influenza Outbreak*, Risk Analysis 39, 647–661 (2019).

⁴⁶ Li R, Pei S, Chen B, et al. Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SAROVIS-CoV2). Science (New York, NY). 2020.

isolating only symptomatic persons will not stop the spread of infection. Instead, we have to assume anyone could be infected and transmit that infection to another person.

26. As a result of the many ways the coronavirus can spread, with respect to elections, the Centers for Disease Prevention and Control states that:

The more an individual interacts with others, and the longer that interaction, the higher the risk of COVID-19 spread. Elections with only in-person voting on a single day are higher risk for COVID-19 spread because there will be larger crowds and longer wait times. Lower risk election polling settings include those with:

- a wide variety of *voting* options
- longer voting periods (more days and/or more hours)
- any other feasible options for reducing the number of voters who congregate indoors in polling locations at the same time

The CDC also recommends that voters consider alternatives that minimize contact with or the amount of time you are in contact with others to help reduce the spread of COVID-19.⁴⁷ Furthermore, the CDC recommends that poll workers and voters wear masks, noting that “[m]asks are meant to protect other people in case the wearer is unknowingly infected but does not have symptoms.”⁴⁸

LONGEVITY OF COVID-19

27. In my expert opinion, it is highly likely that the novel coronavirus will continue to be transmitted through this fall and winter and, as discussed below, people will continue to have to wear masks, social distance, hand-wash, and take proper precautions into November. Currently we are seeing increases in COVID-19 cases in 43 states plus the District of Columbia.⁴⁹

⁴⁷ CDC, *Considerations for Election Polling Locations*, CDC Community, Work & School, (Updated June 22, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/community/election-polling-locations.html> (accessed Oct. 19, 2020).

⁴⁸ *Id.*

⁴⁹ *Supra* n. 2.

28. Herd immunity occurs when a high percentage of people in a community become immune to an infectious disease (one that is spread person to person) that its transmission slows down or stops altogether. This can occur naturally through widespread infection or through vaccination. In most cases, 70-80% of the population must be immune for herd immunity to occur. Herd immunity protects those in the community who cannot be vaccinated and for whom infection may be very serious, e.g., babies, seniors, immunocompromised, cancer patients.⁵⁰ We are nowhere near reaching the 70-80% of people who need to be immune for herd immunity to occur; a recent serological prevalence study show antibody prevalence levels in the United States range from 1% to 6.9%⁵¹ while another study showed antibody prevalence of less than 10%.⁵²

COVID-19 AND TEXAS

29. Texas is currently seeing an increase in new COVID-19 cases and hospitalization rates. As of October 16, 2020, over 820,000 cases have been reported with 17,000 deaths. Over the past week, Texas has averaged over 4,100 confirmed daily cases, with a 24% increase in rolling average of cases.⁵³ The 14-day trend of COVID-19 testing positivity rates is at 8.6%⁵⁴

⁵⁰ Noreen Iftikhar, *What is Herd Immunity and Could It Help Prevent COVID-19?*, Health Line, (Apr. 2, 2020), <https://www.healthline.com/health/herd-immunity#how-it-works> (accessed Oct. 19, 2020).

⁵¹ Fiona P. Havers, et al., *Seroprevalence of Antibodies to SARS-CoV-2 in 10 Sites in the United States, March 23-May 12, 2020*, JAMA Intern. Med., (July 21, 2020), accessed at <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2768834>.

⁵² Shuchi Anand, et al., *Prevalence of SARS-CoV-2 antibodies in a large nationwide sample of patients on dialysis in the USA: a cross-sectional study*, The Lancet, (Sept. 25, 2020), accessed at [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)32009-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32009-2/fulltext).

⁵³ See

<https://txdshs.maps.arcgis.com/apps/opsdashboard/index.html#/ed483ecd702b4298ab01e8b9cafc8b83> (accessed Oct. 19, 2020).

⁵⁴ See

<https://txdshs.maps.arcgis.com/apps/opsdashboard/index.html#/0d8bdf9be927459d9cb11b9eaf6101f> (accessed Oct. 19, 2020).

and is increasing, indicating widespread community spread of the virus (the goal is 3-5%).⁵⁵

Both hospital and ICU beds have a low availability. The case fatality rate in Texas since the beginning of the pandemic is at 2.1%.⁵⁶

30. Texas currently has no stay at home order.⁵⁷ Although Governor Abbott issued a mask order effective on July 3, 2020, it is not uniformly enforced and is not required at polling places.⁵⁸ We will surely see this increase in the number of infected persons continue, in my expert opinion, as this very infectious virus is still prevalent, there is no vaccine, and no herd immunity. Pushback against non-pharmaceutical interventions such as physical distancing⁵⁹ and mask-wearing⁶⁰ will only exacerbate transmission of the SARS-CoV-2 virus, along with general pandemic fatigue.⁶¹ Even if Texas was able to “flatten the curve” and decrease the rising rate of infections, travel in and out of state by Texans or visitors to Texas via states with a higher level of infection could import infection and lead to community spread in Texas. As with the rest of the United States, it is likely that coronavirus will be present in Texas in November and that

⁵⁵ Which U.S. States meet WHO recommended testing criteria?, Johns Hopkins Coronavirus Resource Center, <https://coronavirus.jhu.edu/testing/testing-positivity>.

⁵⁶ *Supra* n. 2.

⁵⁷ Cassandra Pollock & Juan G. Garnham, Texas city and county leaders ask Gov. Greg. Abbott for authority to implement local stay-at-home orders, The TX Tribune, (June 29, 2020), <https://www.texastribune.org/2020/06/29/texas-coronavirus-stay-at-home-harris-dallas/>.

⁵⁸ Valeria Olivares, Nearly 80 Texas counties have opted out of Gov. Greg Abbott's mask order. Other refuse to enforce it, The TX Tribune, (July 9, 2020), <https://www.texastribune.org/2020/07/09/texas-mask-order-enforcement/>.

⁵⁹ *See* <https://www.unacast.com/COVID19/social-distancing-scoreboard?view=state&fips=48> (accessed Oct. 19, 2020).

⁶⁰ Alex Samuels, For some, forgoing masks in public during the coronavirus pandemic has become a political statement, The TX Tribune, (May 22, 2020), <https://www.texastribune.org/2020/05/22/texas-coronavirus-masks/>.

⁶¹ Julie Bosman, et al., *As the Coronavirus Surges, a New Culprit Emerges: Pandemic Fatigue*, N.Y. Times, (Oct. 17, 2020), https://www.nytimes.com/2020/10/17/us/coronavirus-pandemic-fatigue.html?campaign_id=2&emc=edit_th_20201018&instance_id=23251&nl=todaysheadlines®i_id=20801062&segment_id=41412&user_id=a1d37690a71a3c57114034e48f1643bc.

associated needs for social distancing, frequent hand-washing, sanitizing high-touch surfaces, and protective wear will be needed.

RECOMMENDATIONS

31. In my expert opinion (and consistent with CDC guidelines), for the upcoming November election in Texas, precautions will need to be in place for public health and safety, given that it is highly likely that the virus will be circulating during voting season. Masks are a critical precaution to prevent the spread of the virus.

32. Notably, voters are not the only ones who face increased risk of infection. Poll workers are at a heightened risk of acquiring SARS-CoV-2 infection as they come in contact with a large number of people on voting days and must share space with other poll workers. Poll workers also are often older.

33. Transmission is a significant risk at polling places because infected people who are asymptomatic or presymptomatic—and therefore have not been tested or do not know that they have the disease—are contributing to spread of the virus.⁶² Therefore, a voter going to the polls or a poll worker could infect others without knowing they themselves are infected. Moreover, given their central role in facilitating the voting process, poll workers will experience significantly more contacts (and opportunities for infection) with other individuals during Election Day than will the average voter. In any event, voters and poll workers who do become infected with the SARS-CoV-2 virus can further spread it to others in their household.

34. The main route of virus transmission is through the respiratory track. Factors that increase probability of transmission include indoor space, close contact, crowding, and duration

⁶² Ruiyun Li, et al., *Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SARS-CoV-2)*, Science 368(6,490), 48-493, (May 1, 2020), *accessed at* <https://science.sciencemag.org/content/early/2020/03/24/science.abb3221>.

of contact (longer than 15 minutes).⁶³ Public health measures to stop transmission, therefore, include mandating mask wearing for voters, protecting both the wearer and those around him/her.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed in Harris County, State of Texas, on the 20th day of October 2020.

Catherine Troisi
Digitally signed by Catherine
Troisi
Date: 2020.10.20 08:17:06 -05'00'
Catherine L Troisi

⁶³ CDC, *Community-Related Exposures*, CDC Health Departments, (Updated July 31, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/php/public-health-recommendations.html> (accessed Oct. 19, 2020)