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Executive Summary

The 2019 novel coronavirus is a highly contagious respiratory virus that has infected over 13 million people globally in its first six months of existence. The virus is responsible for the coronavirus disease-19 (COVID-19). The disease shows wide variation in clinical presentation from asymptomatic cases to severe breathlessness and death. The earliest laboratory diagnosed case of COVID-19 in the United States was in Washington state on January 19th, and the first case in Nebraska was recorded on March 6th 2020. Two Rivers Public Health Department serves roughly 100,000 residents across seven counties in South-Central Nebraska. The first positive case was detected in the health district on March 20th, in Buffalo county. In the first hundred days after the first positive, over 10,000 persons were tested, of whom more than a tenth was detected as positive. Two Rivers Public Health Department was responsible for co-ordination and facilitation for testing services through public sector entities like the National Guard, Department of Health and Human Services and testnebraska.com. These agencies accounted for about half the tests, and the rest were conducted by private clinics and hospitals. From March to June, almost 80% of positive cases were informed of their test results within five days of lab results received by Two Rivers Health Department. After the first hundred days, Dawson and Buffalo counties accounted for about three-quarters and a sixth of all detected cases respectively. These were followed by Phelps, Kearney, Gosper and Franklin counties, in that order. No coronavirus-positive case was detected in Harlan county. Overall, men were less likely to be tested, but more likely to test positive. A significant number of persons testing positive were workers employed in the meatpacking industry in Dawson county. A majority of persons testing positive in the health district identified themselves as white, and of Hispanic ethnicity. Older persons contracting the virus were far more likely to already be suffering from chronic diseases, most commonly cardiovascular disease, diabetes, hypertension, and lung disease. Over two-thirds of positive cases were symptomatic. Clinical complaints reported by patients were most likely to include systemic (fever, malaise, body pain), otorhinolaryngological (runny nose, recent loss of smell or taste) or respiratory (dry or productive cough, breathlessness) symptoms. A little under a tenth of all positive cases were hospitalized during this period. Nine persons were confirmed to have lost their lives to COVID-19 during the first hundred days of the coronavirus pandemic in Two Rivers Public Health Department.

Introduction and Background

The global coronavirus disease-19 (COVID-19) pandemic is an unprecedented event in the history of modern public health. Aided by intricate web-like linkages connecting the global marketplace, the ubiquity of international travel and an extremely infectious causative pathogen spread through droplet transmission, the disease has spread rapidly across the globe and affected more than 13 million people across almost all countries in the world. COVID-19 has brought enormous stress to bear on global and local surveillance systems. However, the response of the public health community to this crisis has been extraordinary, with the power of opensource data sharing platforms, real time data visualization applications and deep learning tools being leveraged to collect, collate, analyze and present data to citizens and policy makers. This report is a preliminary analysis of COVID-19 surveillance data in Two Rivers Public Health Department, analyzing the first four months of the pandemic's spread in the district.

1. COVID-19 Global overview

On December 31st, 2019, health officials in China reported the existence of a cluster of cases of highly contagious viral pneumonia among people associated with the Huanan Seafood Wholesale Market in Wuhan, Hubei Province. A week later, Chinese authorities confirmed that this cluster was associated with a hitherto unknown, or novel coronavirus, initially named the 2019 novel Coronavirus (2019 n-CoV), and subsequently renamed the Severe Acute Respiratory Syndrome coronavirus-2, or SARS-CoV-2. The disease caused by the 2019 n-CoV was named the Coronavirus disease 2019 or COVID-19, sometimes simply referred to as COVID. ¹

Coronavirus and COVID-19

Coronaviruses are enveloped, non-segmented positive-sense RNA viruses that are widely distributed in humans and other mammals. Although most coronaviruses are harmless or share a commensal relationship with humans, two beta coronaviruses, the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) and Middle East Respiratory Syndrome Coronavirus (MERS-CoV) were responsible for two outbreaks of a highly contagious respiratory disease earlier this century. ² SARS and MERS had mortality rates of 10% and 37% respectively, both diseases affecting over 10,000 people worldwide before being effectively controlled and suppressed. 2019 n-CoV shares 88% of its genetic sequence with two coronaviruses found in bats (bat-SL-CoVZC45 and bat-SL-CoVZXC21), 79% with SARS and 50% with MERS. However, its rate of human-to-human spread has proven far more prolific than its precursors during the short co-existence with humans. ³

Some people with COVID-19 have no or very mild symptoms but may still be capable of spreading the virus to others. Others may have severe symptoms that may be worsened by the patients' underlying poor health or immunocompromised status. ¹ Classic symptoms reported by patients suffering from COVID-19 include fever, cough, rhinorrhea (nasal drip), body ache, and headache. Other symptoms include abdominal pain, vomiting, and diarrhea. Some people with COVID-19 report recent loss of taste and smell. Patients

affected more severely may experience wheezing and even breathlessness needing hospitalization. ⁴ Older persons and individuals with underlying medical conditions including diabetes, heart disease, obesity, and Chronic Obstructive Pulmonary Disease (COPD) have higher risk for severe illness.⁵

Global spread of disease

Within a month of the initial announcement by Chinese authorities last December, cases had risen to almost 10,000 across 21 countries, and the International Health Regulations Emergency Committee of the World Health Organization (WHO) declared the outbreak as a “public health emergency of international concern”. Within another month, worldwide cases swelled to over 8 times that number, prompting the WHO to declare a global pandemic on the 11th of March, 2020. Countries such as Italy and Spain soon saw widespread community outbreaks of the virus, shifting the center of the pandemic from South East Asia to Europe and eventually, to North America. The United States recorded its first case in late January. As of August 4th, global cases of the disease have topped 18 million, about a quarter of those from the United States. COVID-19 has resulted in 695,318 deaths so far worldwide, with the US accounting for a little under 25% of this global mortality burden. ⁶

2. COVID-19 USA overview

On January 19th 2020, a 35-year old man with history of recent travel to China presented in an urgent care clinic in Snohomish County (Washington state) complaining of cough and fever for the previous 4 days. This was the first confirmed case of COVID-19 on US soil. The administration responded by stopping all flight travel to and from China for non-affected citizens and aggressive management of the Washington state outbreak. However, the detection of new cases in California and New York cities meant that there was community spread of the virus, and the Centers for Disease Control (CDC) warned the American public of a local outbreak on the 25th of February. The US Government declared a state of national emergency on March 13th and advised US citizens against all international travel shortly afterwards. ⁷ Different parts of the country went into different stages of lockdown, as daily cases and deaths due to COVID-19 continued to mount. Testing capacity was ramped up across the country, and Food and Drug Administration (FDA) regulations relaxed to ensure faster deployment of test kits and other critical equipment. ⁸ Workers in specific industries that were deemed ‘essential’ were affected at higher rates than others. Among Midwestern American states, workers at meatpacking plants processing beef, pork and poultry were especially hard-hit. Over 80,550 workers in 89 facilities in 8 Midwestern states (IA, IL, KS, MS, NE, OH, SD, WI) were affected, and more than 10,300 cases were confirmed among these workers between April – July. ^{9,10}

After a brief period of slowdown in new infections in May, the center of the pandemic shifted from the New England/Mid-Atlantic region down the Eastern Seaboard to Southern states like Florida, Texas, and Georgia. As lockdown restrictions were relaxed across the country in early July, cases began to climb sharply, especially across the American South and Southwest, including in the states of North Carolina, Arizona, and

California. In mid-July, the state of Florida was reporting more coronavirus cases per day than any other state previously, even as deaths due to COVID-19 seemed to show some signs of declining. ¹¹ As of August 4th, the United States has had 4.7 million confirmed cases of COVID-19 resulting in 155,814 deaths across the nation.

3. COVID-19 Nebraska overview

Nebraska Electronic Disease Surveillance System (NEDSS)

Surveillance, policy development and assurance are the three core functions of public health. ¹² The CDC defines public health surveillance as the ongoing and systematic collection, management, analysis, and interpretation of data followed by dissemination to public health programs to stimulate action. ¹³ Perhaps the most easily recognizable use of surveillance systems is to predict disease outbreaks and epidemics and to help and assist healthcare workers and policy makers with timely and accurate data.

The use of information technology (IT) systems has greatly enhanced our ability to collect, collate, manage, analyze, interpret and disseminate public health research. ¹⁴ From statewide database systems to social media, tech solutions continue to support and enhance the work of public health departments across the country. In 1999, Nebraska was the first state in the US to set up a web-based laboratory test ordering and reporting system for public health laboratories. The system, named Public Health Laboratories Information Program (PHLIPS), was later upgraded to the Electronic Laboratory Information and Retrieval Technology (ELIRT) system in 2005.

Currently, Nebraska uses an upgraded version (NuLIRT) and tracks testing done for disease conditions like West Nile virus, sexually transmitted diseases, hemorrhagic E- coli, lead screening, salmonella, Bordetella, measles, pertussis, and tuberculosis. These technology systems are critical tools in our response to ongoing health problems as well as emerging health emergencies by allowing us to monitor, predict and plan prevention and mitigation strategies. Electronic Laboratory Reporting (ELR) for reportable conditions may also be accessed by the Nebraska Electronic Disease Surveillance System (NEDSS), which is designed to enhance the transmission, speed, quality and availability of information related to tracking of communicable diseases. Nebraska was the first state in 2003 to adopt this system developed by the CDC, all local health departments were subsequently brought online by 2005. The TRPHD primarily relies on NEDSS and NuLIRT to obtain comprehensive and reliable laboratory data on ongoing communicable health problems, including COVID-19.

COVID-19 in Nebraska

On March 6th, 2020, Nebraska reported its first case of COVID-19, a 36-year-old from Omaha who had recently returned from a trip to England in Late February. ¹⁵ On March 13th, Governor Pete Ricketts issued an emergency declaration concerning COVID-19, allowing for provisions of state law to be suspended to aid state efforts to mitigate the spread of the virus. ¹⁶ On March 14th, the Douglas County Health Department identified the first community-acquired case of COVID-19, a woman in her 60s. Governor Pete

Ricketts announced on March 16th that public events and gatherings would be limited to 50 people or less statewide. At the time of the mandate, there were 17 confirmed cases of COVID-19 in the state (for a copy of the Governor’s directive health measures, please see appendix – i).¹⁸ On March 27th, the Nebraska Department of Health and Human Services announced the first and second deaths on the same day from COVID-19 in the state, a man in his 50s in Douglas County and a woman in her 60s in Hall county.¹⁹ Both had underlying health conditions.

The Novel Coronavirus quickly spread to other counties in Nebraska. Custer, Johnson, Logan, Phelps, Seward, Cheyenne, and Stanton all reported their first cases between April 5th and April 6th.²⁰ With cases spiking across the state, Governor Ricketts announced the informal initiative “21 Days to Stay Home and Stay Healthy in Nebraska” active from April 10th to April 30th.²¹ The effort asked Nebraskans to stay home if not doing essential tasks, respect social distancing requirements, and to limit the number of people in a space as much as possible. Meanwhile, epidemiological models predicted that the state would reach its peak number of Coronavirus cases soon. During April, Nebraska saw a rapid doubling of confirmed cases, with 500 cases on April 8th, 1000 cases on April 16th, and 2000 cases on April 23rd. At the end of April, Nebraska had 4,466 confirmed cases of COVID-19 and 70 deaths.²²

Part of the exponential rise in cases was attributed to the spread of the virus in with counties with meatpacking plants, such as Dakota, Hall, and Dawson. Two hundred thirty-seven cases were attributed to the JBS plant in Grand Island alone.²³ Rising case numbers in the meatpacking industry had an apparent effect on workers. A survey conducted by the University of Nebraska Medical Center found that 72% of Nebraska workers in the meatpacking industry “believed that they were at a “high risk” for contracting COVID-19”.²⁴ With over 26,134 workers in 23 plants processing beef, pork and poultry, Nebraska is home to the largest number of workers employed by the meatpacking industry in the country. A report on COVID-19 outbreaks among meatpacking plant workers released by the CDC on July 10 estimated that there were 3438 confirmed cases of COVID-19 among meatpacking workers in Nebraska.⁹ While official numbers are difficult to verify, it is estimated that around 15% of Nebraska’s cases of COVID-19 can be traced back to workers in meatpacking plants.²⁵ By the end of June, Nebraska’s case count rose to 19,177 and 274 deaths.²²

4. COVID-19 Two Rivers Public Health Department overview

Two Rivers Public Health Department

The Two Rivers Public Health Department (TRPHD) covers 7 counties in central Nebraska, reaching 97,132 people who live and work in the health district spread across roughly 4663 square miles. The district is flanked by the Republican River to the South and the Platte to the North, and consists of cropland in the central region with grazing lands for cattle to the North and South. The peculiarities of demographic distribution in TRPHD mean that over three quarters of residents live in Buffalo and Dawson county, a tenth live in Phelps county, and the remaining 15% is spread somewhat comparably among the four

counties of Kearney, Harlan, Franklin and Gosper in decreasing order. The largest urban areas are Holdrege (~5439 people), Lexington (~10,024 people), and Kearney (~33,835 people). About 17% of the district is over 65 years of age and about 24% under 18, but there is wide variation between counties, with over 24% of Dawson county aged less than 18 and 28% of Franklin county aged over 65. ²⁶ Almost 94% of the district identifies as white, while a little over 14% of residents are of Hispanic/ Latino ethnicity (both white and non-white) However, there is a wide variation in the racial composition across different counties– Over a third of Dawson county self-identifies as Hispanic/ Latino, but only 1 in 50 residents of Harlan county reports Hispanic or Latino ethnicity. Although only about 1 in 40 residents in TRPHD identify as African American, that proportion is 7.2% in Dawson County. There are 9 health systems operating across TRPHD, two-thirds of which are nonprofit. Seven hospitals are classified as critical access hospitals and two are short term acute care hospitals, both located in Kearney.

The clustering of population centers around the I-80 interstate highway, variation in median ages across counties and the co-existence of transitory residents like university students and migrant workers with older, more established rural communities presents unique challenges for surveillance systems in TRPHD. In the wake of the global COVID-19 pandemic, the department has relied on existing laboratory and clinical databases to collect and analyze data. TRPHD is working closely with State and Federal agencies, healthcare providers and local communities to help guide the response to the COVID-19 pandemic.

COVID-19 in TRPHD

On March 20th 2020, a 42-year-old female who had moved to Buffalo county from New York City for employment was confirmed as the first case of COVID-19 in the Two Rivers Public health district. As she was exhibiting only mild symptoms needing no hospitalization, she was advised to quarantine at home. The first two cases in TRPHD were eventually traced back to travel-related contact.

The few positive cases in the district in March were in Buffalo, Gosper and Kearney counties. Following the identification of a COVID-positive elderly couple (both laboratories confirmed) in March, nearly 70 individuals were identified as close contacts including two EMT crews. The department worked closely with the Rapid Response Team (RRT), comprised of epidemiologists and other experts from multiple agencies including the CDC, United States Public Health Service Corps (USPHSC) and Department of Health and Human Services (DHHS). The RRT created an extensive timeline and ultimately identified the source of infection to be home health services. The department expanded its contact tracing and investigation team led by the community health nurse and emergency response coordinator. Additional staff pitched in, and a core team of four began detailed contact tracing and follow up in late March, reaching out to identified patients with telephone calls and further check-in. Over two weeks in late March, RRT helped the overwhelmed disease surveillance team in TRPHD set up internal systems to monitor outbreak investigations and conduct contact tracing.

April began with news of the unfortunate demise of one of the residents of Buffalo county who had tested positive the previous month and who succumbed to COVID-19 following transfer to hospital on March 31st. Contact tracing teams worked closely with the bereaved family, case investigators navigating truly uncharted territory during each phone call as they took care to balance the need for public health surveillance with the imperatives of caring for a grieving member of the district. Daily positive case counts continued to rise in April until disease outbreaks in Buffalo and Dawson counties almost overwhelmed local resources and reporting systems. Following an outbreak at the Youth Rehabilitation and Treatment Center, Kearney, ²⁷ over 75 persons tested positive in three communities. Further clusters were recorded in the district, including a family that formed the unfortunate nucleus of a disseminated outbreak affecting more than 50 individuals. The RRT led investigations on the three initial clusters described above before handing over control of tracing and investigation to the health department.

The contact tracing team at TRPHD grew rapidly with the addition of community health workers who would contact COVID-positive patients by phone, counseling them about self-quarantine and conducting a detailed investigation to elicit contact details. Volunteers joined in as contact tracers, including four bilingual University students and other volunteers. By late April through early May, it was almost certain that there was an ongoing outbreak of COVID-19 in Dawson county, and over eight contact tracers were fielding calls and closing case investigations daily, often working seven days a week to keep abreast of new cases. COVID cases touched their all-time highest weekly rate in mid-late April, when over a third of all people tested were found to be positive. TRPHD currently has a dedicated team of contact tracers who follow up each positive case with a telephone call for a detailed interview, health safety messages, and for help in creating realistic quarantine plans. Multiple attempts are made to reach out to district residents in the three languages (English, Spanish and Somali) and to verify information while collecting newer data. This data is entered in the common dashboard in real-time.

Surveillance data integrity

At TRPHD, we aim to ensure data integrity by focusing on three key aspects: data quality, safety and fidelity. Data quality is important because of the disparate nature of COVID-19 testing and treatment sites, often coordinated by multiple agencies and private entities across a patchwork of local health departments and county administrations. The invaluable work of the contact tracing team is directly responsible for data quality. Data safety is ensured by end-to-end digital encryption of all public health data that is shared or analyzed by TRPHD, and by enacting standard protocols for storage and disposal of paper records. The existence of an integrated database that can be edited in real time and is accessible to local health departments goes a long way in creating statewide data fidelity standards during this unpredictable time. The foresight and planning demonstrated by the state of Nebraska in setting up responsive ELR systems have been justified during the COVID-19 pandemic, allowing local health departments to make informed decisions that are responsive to the unique health demands of their communities.

5. COVID-19 disease outbreak in Two Rivers Public Health Department –

the first four months

Testing for COVID-19 in TRPHD

Tables 1 and 2 depict all laboratory COVID tests that were conducted on persons living in the seven counties that fall within Two Rivers Health District. The first test in the district was conducted on Mar 3rd, and the table covers all persons tested in the months of March, April, May, and June. To account for the time lag in contacting positive cases after testing was conducted, we have presented all people confirmed as suffering from COVID-19 (following positive lab result) from March 19th to July 4th in tables 3-4 which cover positive cases. After accounting for people with inconclusive test results, those missing key variables (date of birth, specimen collection date) and those mislabeled as living in the health district, a total of 10,079 people was tested across all seven counties. To analyze and understand the data, this report uses the number of total persons tested, rates of positive results for tests (positivity rates), and proportions by row or column as indicated. In addition, to describe disease incidence over time, the report also displays the seven-day rolling average of positive cases, thus smoothing out anomalous daily spikes of cases and facilitating a better understanding of the progression of disease.

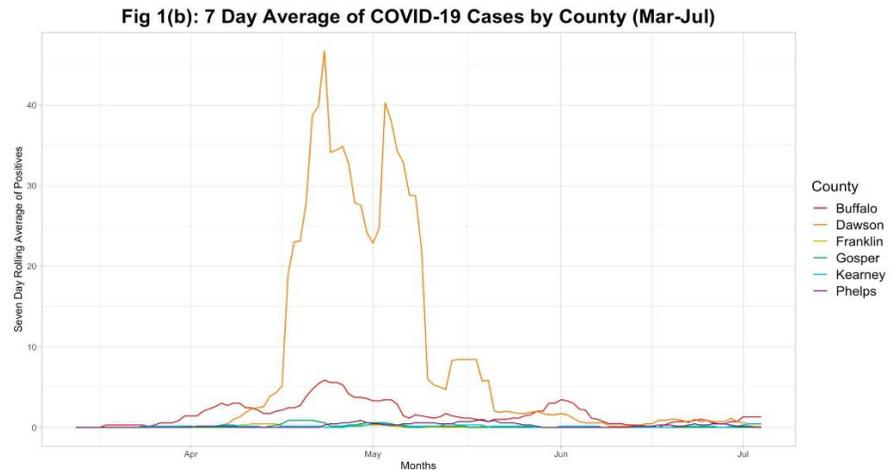
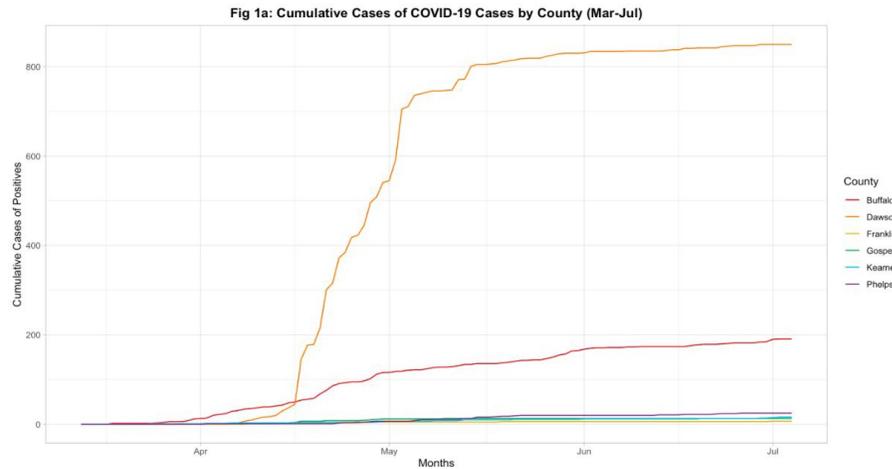
Table 1: COVID test results in TRPHD (Mar03 - Jun30)

	March		April		May		June		Total	
	Total Count	Percent Positive								
Total Persons Tested	192	7.3	2571	26.2	3608	9.9	3708	1.3	10079	10.8
Gender										
Female	117	6.8	1324	23.9	1969	8.9	1190	2.0	4600	11.4
Male	67	9.0	1184	29.8	1504	11.9	1044	2.2	3799	14.8
Age										
0-4 yrs.	5	0.0	47	12.8	71	5.6	107	0.9	230	4.8
5-17 yrs.	5	0.0	138	14.5	176	19.3	223	1.8	542	10.7
18-49 yrs.	95	8.4	1410	26.7	1559	12.9	1508	2.6	4572	13.7
50-64 yrs.	50	6.0	622	32	802	10.3	773	0.4	2247	12.8
65+ yrs.	37	8.1	354	20.1	1000	3.6	1097	0.1	2488	4.5
County										
Buffalo	97	12.4	1116	9.3	1675	2.9	1666	1.2	4554	4.1
Dawson	46	0.0	1120	48.3	1336	21.6	903	2.2	3405	25.0
Franklin	3	0.0	33	15.2	71	1.4	96	0.0	203	3.0
Gosper	12	8.3	34	32.4	52	1.9	99	0.0	197	6.6
Kearney	9	11.1	58	8.6	126	4.0	341	0.9	534	2.6
Phelps	11	0.0	79	8.9	231	5.6	418	1.2	739	3.4
Harlan	4	0.0	19	0.0	56	0.0	148	0.0	227	0.0

Table 1 describes the details of all COVID-19 tests conducted within Two Rivers health district over the first hundred days. The positivity rate was low (under 5%) for both preschoolers and for people aged 65 years or more, although far more tests were conducted in the latter age category, especially by testnebraska.com at long-termcare

facilities in June. The proportion of persons tested per county roughly tracks with their population share within TRPHD – persons living in Buffalo, Dawson and Phelps counties received a little over 86% of all tests, and account for 85% of the population of Two Rivers Health District. Positivity rates varied widely across counties, however, and positivity rates soared in April and May. In April, almost a third of people in Gosper and almost half of those in Dawson tested were positive. This contrasts with residents of Buffalo county, who accounted for about 45% of all tests conducted till the end of June but have consistently seen positivity rates lower than the district average (10.8%) after an initial spike in March.

Fig 1.a shows the cumulative cases across the seven districts in TRPHD and fig 1.b describes the seven-day rolling average of cases by county of residence. Almost 97% of all positive cases resided in Dawson, Buffalo and Phelps counties, and the outbreak in the district has been largely confined to the cities of Kearney and Lexington from Buffalo and Dawson counties respectively. In the first hundred days, the progression of COVID-19 in TRPHD followed three distinct trajectories – following a spike in May, Dawson county reported declining positivity rates in June. Meanwhile, after an initial spike in cases in April, Buffalo county consistently reported weekly positivity rates less than 8% till the beginning of July. The counties of Franklin, Gosper, Harlan, Kearney and Phelps have not shown an appreciable spike in cases since the beginning of the pandemic.



Positive test rates seem to be stubbornly high among children aged 5-17 years, hovering slightly above the overall positivity rate for the district. This group is also least likely to have been tested in the first place, making prevention strategies a key component of medium-term responses, (for eg, school reopening in the fall). Positivity rates increased with increasing age for adults, with almost a sixth of persons aged 30-60 years testing positive across all four months. However, a far lesser number of seniors aged 65 and older have tested positive for the virus: indeed, only about one in 50 persons aged 80 years or more were positive for the virus. Figs 3(a) – 3(c) describe the Rivers Health District.

Fig 3(a): COVID-19 Positive Cases by Age (Buffalo)

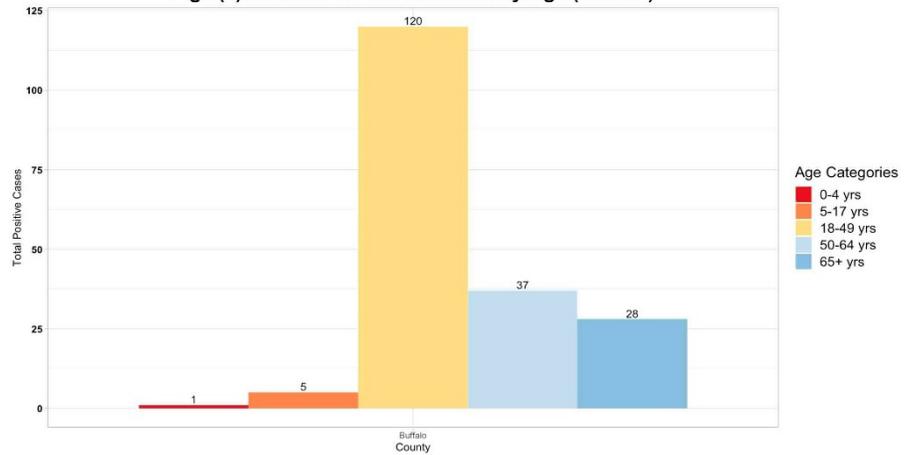


Fig 3(b): COVID-19 Positive Cases by Age (Dawson)

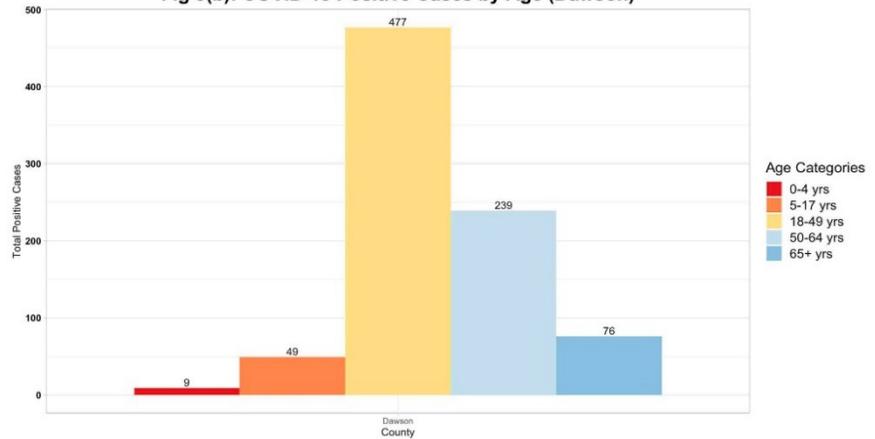


Fig 3(c): COVID-19 Positive Cases by Age (Fra/Gos/Kear/Phe)

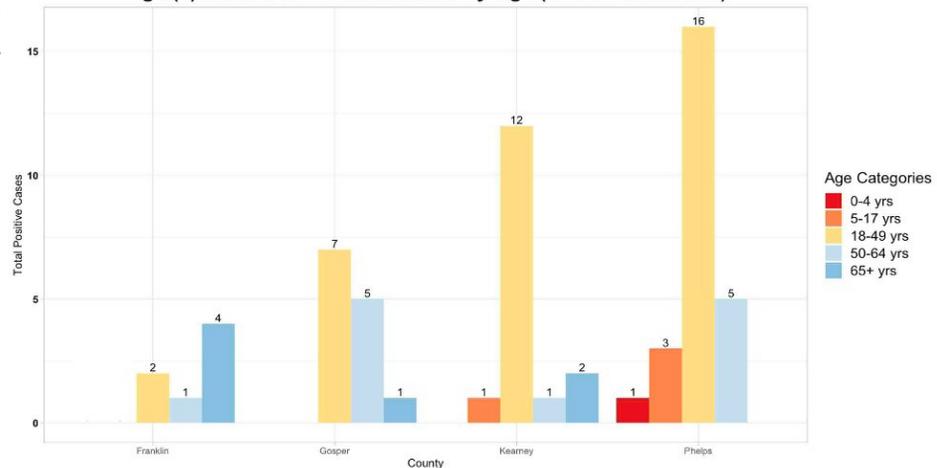


Table 2: COVID testing in TRPHD (Mar03- Jun30)

Months	March	April	May	June	Total
Total Persons Tested	192	2571	3608	3708	10079
Testing Site Location— (Percent of Month Total)					
National Guard/ Health Dept/ TestNebraska	31 (16.1)	1262 (49.1)	1872 (51.9)	1884 (50.8)	5049 (50.1)
Pvt-Buffalo Co	101 (52.6)	784 (30.5)	990 (27.4)	1160 (31.3)	3035 (30.1)
Pvt-Dawson Co	24 (12.5)	256 (10.0)	242 (6.7)	192 (5.2)	714 (7.1)
Pvt-Phe/Kea/Fra/Gos/Har	6 (3.1)	47 (1.8)	48 (1.3)	40 (1.1)	141 (1.4)
Pvt-outside TRPHD	21 (10.9)	208 (8.1)	366 (10.1)	261 (7.0)	856 (8.5)
Other Testing Location	9 (4.7)	14 (0.5)	90 (2.5)	171 (4.6)	284 (2.8)
Total Positives	14	673	358	49	1094
Time Taken in Days to Contact Patient after Positive Result - (Percent of Monthly Positive Patients)					
0-2 days	10 (71.4)	155 (23.0)	98 (27.4)	17 (34.7)	280 (25.6)
3-5 days	4 (28.6)	403 (60.0)	156 (43.6)	22 (44.9)	585 (53.5)
6-7 days	0 (0.0)	61 (9.0)	20 (5.6)	9 (18.4)	90 (8.2)
7-14 days	0 (0.0)	51 (7.6)	82 (22.9)	1 (2.0)	134(12.2)
14+ days	0 (0.0)	3 (0.4)	2 (0.5)	0 (0.0)	5 (0.4)

Table 2 describes the place where residents of TRPHD were tested during the first four months of the pandemic. It also describes the time taken by the contact tracing team to begin a case investigation on a confirmed positive patient following a positive test result (please note that number of positives is less than in table 3&4, reflecting the different time periods under consideration). State and Federal testing agencies (Health departments, National Guard, TestNebraska.com) have conducted or performed a majority of tests in TRPHD. Beginning in April, they have consistently accounted for over half of all tests conducted in the district, while private facilities in Buffalo County (primarily Kearney city) accounted for a little less than a third of all tests. Private facilities in Dawson, Phelps, Kearney, Franklin, Gosper, Harlan, Omaha, Lincoln, North Platte and Grand Island accounted for slightly over a sixth of all cases.

Positive cases in TRPHD

Fig 2 shows the 7-day rolling average of positive cases in TRPHD by 10-year age categories. It is clear that the outbreak of COVID-19 in April-May was driven by persons aged 30-60 years, which would point to working-age populations being hardest hit, as opposed to children or seniors. This trend is seen to have shifted towards the end of June, as adults aged 18-29 years seem to show an increase in caseloads.

Fig 2: 7 Day Average of COVID-19 Cases by Age (Mar-Jul)

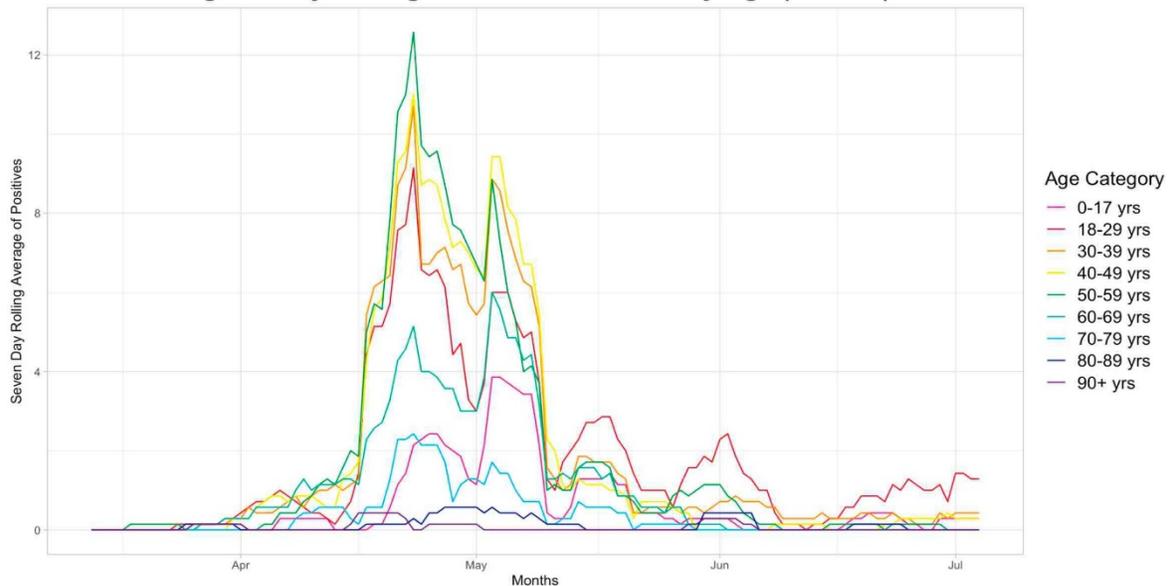


Table 3 describes the characteristics of people who tested COVID-positive in TRPHD, disaggregated by county.

Table 3: COVID patients in TRPHD (Mar19- Jul4)

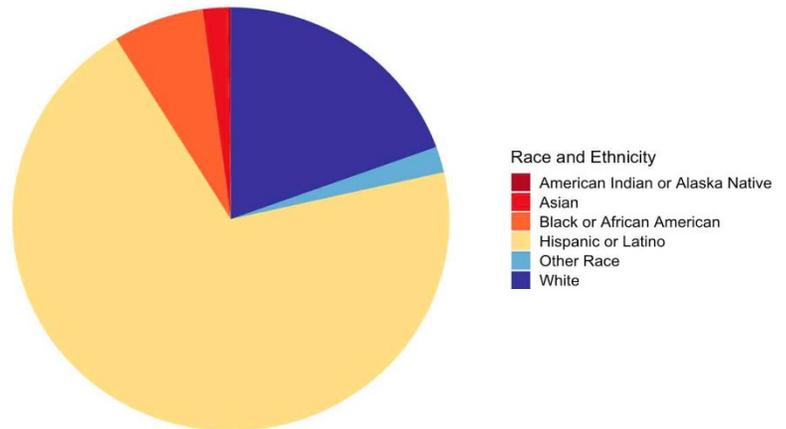
Counties:	Buffalo	Dawson	Franklin	Gosper	Kearney	Phelps	All Counties
Total Positives— N	191	850	7	13	16	25	1102
Age— n (Percentage of County Total)							
0-4 yrs.	1 (0.5)	9 (1.1)	-	-	-	1 (4)	11 (1)
5-17 yrs.	5 (2.6)	49 (5.8)	-	-	1 (6.2)	3 (12)	58 (5.3)
18-49 yrs.	120 (62.8)	477 (56.1)	2 (28.6)	7 (53.8)	12 (75)	16 (64)	634 (57.5)
50-64 yrs.	37 (19.4)	239 (28.1)	1 (14.3)	5 (38.5)	1 (6.2)	5 (20)	288 (26.1)
65+ yrs.	28 (14.7)	76 (8.9)	4 (57.1)	1 (7.7)	2 (12.5)	-	111 (10.1)
Gender— n (Percentage of County Total)							
Female	92 (48.2)	405 (47.6)	2 (28.6)	5 (38.5)	9 (56.2)	16 (64)	529 (48)
Male	98 (51.3)	440 (51.8)	5 (71.4)	8 (61.5)	7 (43.8)	8 (32)	566 (51.4)
Gender Missing	1 (0.5)	5 (0.6)	-	-	-	1 (4)	7 (0.6)
Race— n (Percentage of County Total)							
White	165 (86.4)	589 (69.3)	7 (100)	11 (84.6)	13 (81.2)	21 (84)	806 (73.1)
Black or African American	4 (2.1)	71 (8.4)	-	-	-	-	75 (6.8)
Other Race	2 (1)	67 (7.9)	-	-	1 (6.2)	1 (4)	71 (6.4)
Asian	-	21 (2.5)	-	-	-	-	21 (1.9)
Two or More Races	1 (0.5)	6 (0.7)	-	-	-	1 (4)	8 (0.7)
American Indian or Alaska Native	1 (0.5)	1 (0.1)	-	-	-	-	2 (0.2)
Missing or Did Not Wish to Disclose	18 (9.4)	95 (11.2)	-	2 (15.4)	2 (12.5)	2 (8)	119 (10.8)

Counties:	Buffalo	Dawson	Franklin	Gosper	Kearney	Phelps	All Counties
Ethnicity— n (Percentage of County Total)							
Hispanic or Latino	75 (39.3)	610 (71.8)	1 (14.3)	4 (30.8)	2 (12.5)	14 (56)	706 (64.1)
Not Hispanic or Latino	39 (20.4)	42 (4.9)	-	-	5 (31.2)	3 (12)	89 (8.1)
Missing or Did Not Wish to Disclose	77 (40.3)	198 (23.3)	6 (85.7)	9 (69.2)	9 (56.2)	8 (32)	307 (27.9)
Occupations— n (Percentage of County Total)							
Food Production (Meat or Poultry)	26 (13.6)	387 (45.5)	-	2 (15.4)	-	1 (4)	416 (37.7)
Disabled, Retired, or Unemployed	22 (11.5)	67 (7.9)	3 (42.9)	-	2 (12.5)	3 (12)	97 (8.8)
Minor or Student	7 (3.7)	55 (6.5)	-	1 (7.7)	1 (6.2)	6 (24)	70 (6.4)
Retail	6 (3.1)	29 (3.4)	-	1 (7.7)	-	-	36 (3.3)
Social Assistance Services	16 (8.4)	12 (1.4)	-	-	2 (12.5)	-	30 (2.7)
Agriculture and Animal Husbandry	5 (2.6)	21 (2.5)	-	3 (23.1)	-	-	29 (2.6)
Healthcare Services	5 (2.6)	17 (2)	-	2 (15.4)	-	2 (8)	26 (2.4)
Construction and Real Estate	9 (4.7)	15 (1.8)	-	-	1 (6.2)	1 (4)	26 (2.4)
Professional Services	4 (2.1)	19 (2.2)	-	-	1 (6.2)	2 (8)	26 (2.4)
Manufacturing or Heavy Industry	6 (3.1)	13 (1.5)	-	-	1 (6.2)	4 (16)	24 (2.2)
Public Sector	2 (1)	13 (1.5)	-	-	-	1 (4)	16 (1.5)
Educational Services	4 (2.1)	9 (1.1)	-	-	-	-	13 (1.2)
Transportation and Automobile Services	3 (1.6)	8 (0.9)	1 (14.3)	-	-	-	12 (1.1)
Food or Lodging Services	4 (2.1)	6 (0.7)	-	-	-	1 (4)	11 (1)
Self-Employed	1 (0.5)	4 (0.5)	1 (14.3)	-	1 (6.2)	-	7 (0.6)
Utilities	-	2 (0.2)	-	-	-	-	2 (0.2)
Missing or Did Not Wish to Disclose	71 (37.2)	173 (20.4)	2 (28.6)	4 (30.8)	7 (43.8)	4 (16)	261 (23.7)
Insurance— n (Percentage of County Total)							
Medicaid and/or Medicaid	22 (11.5)	36 (4.2)	3 (42.9)	1 (7.7)	1 (6.2)	-	63 (5.7)
No Insurance	7 (3.7)	33 (3.9)	-	-	-	3 (12)	43 (3.9)
Private	93 (48.7)	466 (54.8)	1 (14.3)	11 (84.6)	5 (31.2)	8 (32)	584 (53)
Missing or Did Not Wish to Disclose	69 (36.1)	315 (37.1)	3 (42.9)	1 (7.7)	10 (62.5)	14 (56)	412 (37.4)
Residence Types— n (Percentage of County Total)							
Apartment or Trailer	31 (16.2)	139 (16.4)	-	-	-	2 (8)	172 (15.6)
House	88 (46.1)	445 (52.4)	4 (57.1)	12 (92.3)	6 (37.5)	9 (36)	564 (51.2)
Long Term Care Facility	16 (8.4)	4 (0.5)	-	-	2 (12.5)	-	22 (2)
Missing or Did Not Wish to Disclose	56 (29.3)	262 (30.8)	3 (42.9)	1 (7.7)	8 (50)	14 (56)	344 (31.2)

In general, women were more likely than men to be tested for COVID-19, but men were significantly more likely to test positive. Adults aged 18-49 years formed more than half of all positive cases, although patients in Buffalo tended to skew slightly older than Dawson County. Fig 4 describes the race and ethnicity background of people who tested positive for COVID-19 in TRPHD. Persons identifying as white were the highest racial group across all counties. People of Hispanic or Latino ethnicity were disproportionately

high in the sample, especially in Dawson County. Although black/African American patients did not form a large proportion of the overall sample of positive cases, they accounted for the second largest racial group among COVID-positive patients in Dawson County.

Fig 4: Race and Ethnicity of COVID-19 Positive Cases



Around a third of the people surveyed were not willing to disclose their health insurance status or type of residence (apartment v/s house v/s long term care facility). Of those who shared this information, less than 5% of respondents said that they did not have insurance at the time. A majority of people surveyed had private insurance, including more than half the respondents in Dawson County. 51% of respondents reported that they lived in a house, as opposed to about a sixth of the sample whose residence was either an apartment or mobile home.

Table 4 describes the pre-existing conditions among people who tested positive for coronavirus.

Table 4: Pre-existing conditions & symptoms - COVID patients in TRPHD (Mar19- Jul4)

Age	0-4 yrs	5-17 yrs	18-49 yrs	50-64 yrs	65+ yrs	Totals
Total Positives	11	58	634	288	111	1102
Pre-existing Conditions— (Percent of Total Age)						
Diabetes	-	-	25 (3.9)	49 (17.0)	28 (25.2)	102 (9.3)
Cardiovascular Disease	-	-	22 (3.5)	41 (14.2)	34 (30.6)	97 (8.8)
Hypertension	-	-	19 (3.0)	23 (8.0)	15 (13.5)	57 (5.2)
Lung Disease	-	2 (3.4)	27 (4.3)	9 (3.1)	11 (9.9)	49 (4.4)
Autoimmune/Endocrine/Metabolic Disease	-	-	9 (1.4)	13 (4.5)	7 (6.3)	29 (2.6)
Neurological/Psychiatric Illness	-	1 (1.7)	8 (1.3)	5 (1.7)	2 (1.8)	16 (1.5)
Renal Disease	-	-	5 (0.8)	5 (1.7)	5 (4.5)	15 (1.4)
Other Disease	1 (9.1)	-	10 (1.6)	8 (2.8)	4 (3.6)	23 (2.1)
Symptomatic— (Percent of Age Positives)						
Yes	4 (36.4)	36 (62.1)	430 (67.8)	200 (69.4)	80 (72.1)	750 (68.1)

No	5 (45.5)	13 (22.4)	52 (8.2)	22 (7.6)	9 (8.1)	101 (9.2)
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Age:	0-4 yrs	5-17 yrs	18-49 yrs	50-64 yrs	65+ yrs	Totals
Missing/Unknown	2 (18.2)	9 (15.5)	152 (24.0)	66 (22.9)	22 (19.8)	251 (22.8)
Symptoms						
Systemic Symptoms	1 (9.1)	28 (48.3)	395 (62.3)	179 (62.2)	66 (59.5)	669 (60.7)
ENT Symptoms	2 (18.2)	27 (46.6)	391 (61.7)	169 (58.7)	65 (58.6)	654 (59.3)
Respiratory Symptoms	2 (18.2)	20 (34.5)	302 (47.6)	158 (54.9)	64 (57.7)	546 (49.5)
Gastrointestinal Symptoms	-	15 (25.9)	216 (34.1)	114 (39.6)	27 (24.3)	372 (33.8)
Musculoskeletal Symptoms	-	1 (1.7)	19 (3.0)	12 (4.2)	3 (2.7)	35 (3.2)
Cardiovascular Symptoms	-	1 (1.7)	11 (1.7)	6 (2.1)	2 (1.8)	20 (1.8)
Neurological Symptoms	-	-	11 (1.7)	5 (1.7)	2 (1.8)	18 (1.6)
Other Symptoms	-	-	9 (1.4)	3 (1.0)	1 (0.9)	13 (1.2)
Hospitalizations— (Percent of Age Positives)						
Yes	-	1 (1.7)	19 (3.0)	39 (13.5)	31 (27.9)	90 (8.2)
No	9 (81.8)	48 (82.8)	481 (75.9)	195 (67.7)	66 (59.5)	799 (72.5)
Missing/Unknown	2 (18.2)	9 (15.5)	134 (21.1)	54 (18.8)	14 (12.6)	213 (19.3)
Died from Illness— (Percent of Age Positive)						
Yes	-	-	1 (0.2)	4 (1.4)	4 (3.6)	9 (0.8)
No	11 (100.0)	58 (100.0)	633 (99.8)	284 (98.6)	107 (96.4)	1093 (99.2)

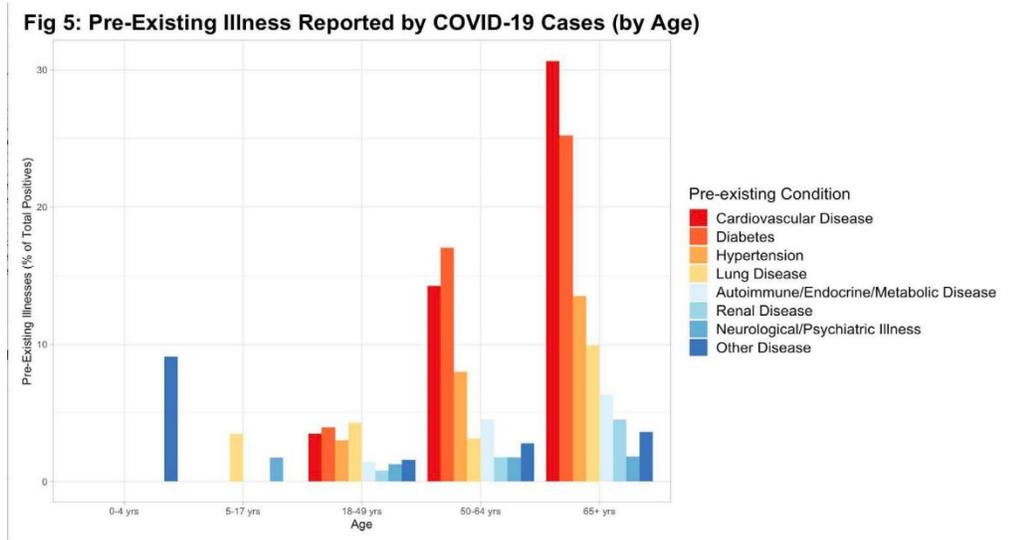
Table 4 also describes the symptoms that were experienced by positive cases in the district. A total of 249 people who tested positive for the coronavirus reported that they were suffering from some sort of pre-existing illness before testing positive for coronavirus.

The most common comorbidities reported were

diabetes,
hypertension
and
cardiovascular disease
(for a detailed description of each pre-existing condition, please see appendix – ii).

Predictably, patients over 65 years were overrepresented among

patients reporting pre-existing conditions before their COVID-19 diagnosis. Over a quarter of this age group had a prior diagnosis of diabetes mellitus, and a little less than a third reported suffering from cardiovascular disease. Fig

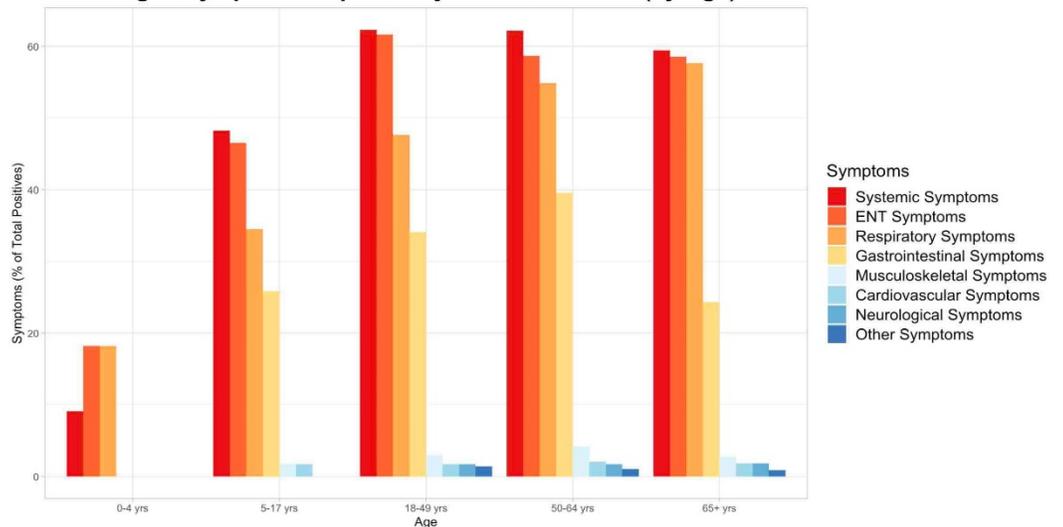


5 describes the pre-existing illnesses reported by patients who tested positive for coronavirus, and fig 6 describes the symptoms experienced by people after testing positive for the virus.

Over two-thirds of the sample reported experiencing mild moderate or severe symptoms following infection by coronavirus. The proportion of symptomatic patients was comparable across all age groups except 0-4 years, and the

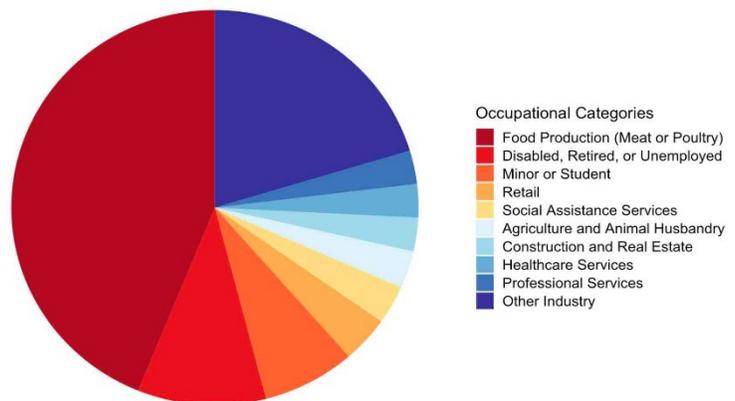
most common symptoms reported were systemic symptoms (eg: night sweats, fatigue, malaise, anorexia). The second and third most common symptoms were otorhinolaryngological (eg: nasal congestion, new loss of smell and taste) and respiratory (eg: productive or dry cough). For a detailed description of each symptom group, please see appendix – iii).

Fig 6: Symptoms Reported by COVID-19 Cases (by Age)



A majority of the persons confirmed as suffering from COVID-19 in the district were employed in the food production industry, specifically meat and poultry processing plants located in the district. Fig 7 describes the occupation categories of people who tested positive for COVID-19 in Two Rivers Health District (for a detailed description of each occupation category, please see appendix – iv). Although a significant minority of respondents did not wish to share details about their job or health

Fig 7: Positive Cases in TRPHD by Industry Category



insurance, it is clear

that almost half of all patients in Dawson county and about a sixth in Buffalo were involved in meat and poultry processing industries. This is also reflected in the high proportion of people who reported having private insurance (as opposed to Medicaid/ Medicare or uninsured), especially in Dawson county. Disabled, retired or unemployed persons are the next largest single group, followed by students and minors (all currently registered students and legal minors below 18 years). The 4th and 5th most common industry types respectively were people employed in social assistance services (non-clinical staff at long term care facilities, child daycare centers, etc) and non-health-related professional services (legal, accountants, banking).

Discussion

The 2019 novel coronavirus is the most significant infectious disease threat encountered by humanity in the past century. Although clinical presentation shows a wide variation from mild asymptomatic disease to severe respiratory illness and even death, other unique features of the virus make it of special concern. The mode of respiratory spread, high infectivity, suboptimal treatment options and lack of innate immunity among humans makes the virus especially threatening to communities around the world.

The United States has been hit particularly hard by the novel coronavirus in 2020, losing over 150,000 lives to COVID in the six months since the virus was first detected in Washington state. After affecting states in the northeast and mid-Atlantic (New York, New Jersey) initially, by end-July the virus was raging in Southern and Western states, and showing an uptick in midwestern states like Oklahoma and Missouri. Nebraska has been spared a full-scale outbreak similar to Texas, Florida or New York thus far, but increased vigilance is imperative for the state to avoid a similar fate.

In Two Rivers Public Health Department, a bulk of the COVID testing was carried out by state and federal agencies – outside of Kearney city, less than a sixth of all tests were carried out by private entities like hospitals and clinics. The lower positivity rate among seniors aged 65 years and over in TRPHD is cause for cautious optimism. At the same time, higher numbers of people testing positive in the 50-64 age group is concerning. This group tends to be employed but underinsured in rural parts of the country, and may face challenges to accessing care in cases of severe disease.

Between April-June 2020, there was an outbreak of COVID cases in Dawson county. It is almost certain that this outbreak was related to meatpacking plants in the county. A majority of cases of COVID in the district identified as white Hispanic and working in the meatpacking industry. Although many of those who contracted the disease were symptomatic, mortality rates in the district were low; 9 patients succumbed to the illness, mostly older people with preexisting chronic illness.

Confirmed cases of COVID in the district were concentrated among certain populations.

It is evident that the initial outbreak of the disease disproportionately affected Hispanic and Latino citizens, with 64% of those infected identifying as such. Cases were also concentrated among certain occupations groups; nearly 38% of all infected stating their occupation in meat or poultry production and an additional 15% indicating they were unemployed, retired, disabled, students or minors. These two occupational groups are highly likely to access testing (along with healthcare workers), because of large industry-specific outbreaks (meat or poultry production) or the ability to get tested because of relatively open daytime work schedules (unemployed, retired, disabled, students, and minors).

Most COVID cases in the TRPHD district experienced symptoms at some point during their illness. The most common symptoms reported were systemic, ENT, and respiratory, with 61%, 59%, and 50% of all confirmed cases reporting these symptoms, respectively. There is a clear relationship between age and reported symptoms, with 36% of the youngest age group experiencing symptoms, compared to 72% of the eldest age group. This does not indicate that younger children are unable to contract or spread COVID, but rather that they do not experience symptoms as frequently as those older than them.

Pre-existing conditions were reported among patients of all ages, with diabetes and cardiovascular diseases being the most frequent among respondents. Pre-existing conditions were heavily concentrated among patients ages 65 years and older, with 25% responding they had diabetes and 30% responding they had a cardiovascular disease. Those aged 50-64 years old also showed relatively high numbers of pre-existing conditions, with 17% indicating diabetes and 14% reporting some cardiovascular disease. There exists a clear correlation between frequency of pre-existing conditions and hospitalization. Those aged 65 years and older constituted the highest percentage of hospitalizations by age with nearly 28%. Further, 50-64 years old followed with the next highest percentage of hospitalized at 13.5%.

The initial outbreaks in April and early May in the Two Rivers Public Health Department district indicate that people aged 30-59 constituted the highest percentages of confirmed cases. Following the cases into late May onto June and July, the most frequent share of cases had slowly shifted to those aged 18-29 years. With colleges beginning soon for many, this trend needs to be followed closely in order to effectively slow the spread of the virus and allow for a safe reopening of higher education institutions.

We would like to acknowledge the contribution of the staff at Two Rivers Health Department towards finalizing this report. Special thanks to Director Jeremy Eschliman, Community Health Nurse Susan Puckett and Planning Section Supervisor Katherine Mulligan for their participation in report conceptualization and in-depth interviews, as well as their invaluable contribution in the form of comments, feedback, and editing suggestions. Our sincere gratitude is also due to Community Health Worker Darienne Blair, who was responsible for report outline and layout. This document is a testimony to the

hard work and dedication put in by everyone at the department during the initial days of the COVID-19 pandemic in Nebraska. The goal of Two Rivers Health Department continues to be the creation of healthier and safer communities for all who live within the district.

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Appendix – (i) Directed Health Measures

Directed Health Measures 4/5 – 5/11

NEBRASKA DEPARTMENT OF HEALTH AND HUMAN SERVICES

Directed Health Measure Order 2020-011

Pursuant to Neb. Rev. Stat. §§ 71-502 and 81-601 and Title 173 Neb. Admin. Code Ch. 6 the Nebraska Department of Health and Human Services ("Department") may exercise its authority to order Directed Health Measures necessary to prevent the spread of communicable disease, illness, or poisoning. The objectives of this order are to reduce morbidity and mortality; minimize disease transmission; protect health care personnel and preserve health care system functioning.

Having reviewed information from the United States Department of Health and Human Services Centers for Disease Control and Prevention ("CDC"), local public health departments, treating health care providers and health care facilities, and other public health, security, and law enforcement authorities; having consulted with medical and communicable disease control personnel of the Department; and having considered directives and guidelines issued by the CDC and other public health authorities, the Director finds as follows:

That a member or members of the public have been exposed to a communicable disease, illness or poisoning, COVID-19; there are now confirmed cases of "community spread" or "community transmission" of COVID-19 in the areas subject to this Directed Health Measure.

That multiple areas of the United States are experiencing "community spread" of the virus that causes COVID-19. Community spread, defined as the transmission of an illness for which the source is unknown, means that isolation of persons traveling from known areas of infection is no longer enough to control spread.

That exposure presents a risk of death or serious long-term disabilities to any person; the exposure is wide-spread and poses a significant risk of harm to people in the general population; there is a particular subset of the population that is more vulnerable to the threat and thus at increased risk; and the threat is from a novel infectious disease.

That the immediate implementation of the following Directed Health Measures is necessary as members of the public continue to gather in large numbers, in close

proximity to each other, and in enclosed spaces, thereby endangering the health of themselves and the public.

That requiring individuals who test positive for COVID-19 or who have the following symptoms: fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset of shortness of breath; and individuals who reside or have resided with individuals who have tested positive for COVID-19 or with individuals who have the above symptoms to home-quarantine, unless quarantined in a health care facility, for a period of no less than 14 days from the date of the positive test or onset of symptoms per attached Quarantine Directions is the least restrictive practical means of quarantining those individuals that effectively protects unexposed and susceptible individuals. If a Home- Quarantined individual is residing with other household members, the household members Home-Quarantine may be discontinued 7 days after the original person has been released from home-quarantine. However, the household member(s) must continue to self-monitor for the above listed symptoms for an additional 7 days. Home- Quarantine shall be per the attached Quarantine Directions. Individuals with the above- listed symptoms who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition and individuals who reside or have resided with individuals who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to quarantine under this Order.

That a home-quarantine will allow the most freedom of movement and communication with family members and other contacts without allowing the transmission of COVID-19 to others and allow the appropriate level of medical care needed for the quarantined individuals unless it is necessary to admit the quarantined individuals to a health care facility.

That hospital capacity and health care resources including health care personnel hours and/or medical supplies, such as personal protective equipment, are being depleted by elective surgeries and elective procedures and that a shortage of hospital capacity or health care resources will hinder efforts of health care personnel and health care facilities to treat persons who test positive for COVID-19.

That a delay in the imposition of an effective Directed Health Measure would significantly jeopardize the ability to prevent or limit the transmission of COVID- 19 or pose unacceptable risks to any person or persons.

That the following Directed Health Measures have been identified as effective against

public health threats by the CDC and other similar public health authorities to effectively prevent, limit, or slow the spread of COVID-19.

The following Directed Health Measures are hereby ordered for: Cass, Douglas, and Sarpy counties, effective immediately and continuing until May 3, 2020, in addition the following Directed Health Measures are also hereby ordered for Lancaster, Dodge, Saunders and Washington counties, effective immediately and continuing until May 6, 2020 and in addition the following Directed Health Measures are also hereby ordered for Hall, Hamilton, York, Seward, Butler, Polk and Merrick counties, effective immediately and continuing until May 6, 2020, and in addition the following Directed Health Measures are also hereby ordered for Madison, Stanton, Cuming, and Burt counties effective immediately and continuing until May 6, 2020 and in addition the following Directed Health Measures are also hereby ordered for Sioux, Scotts Bluff, Banner, Kimball, Dawes, Box Butte, Morrill, Cheyenne, Sheridan, Garden, Deuel, and Grant counties effective immediately and continuing until May 11, 2020 and in addition the following Directed Health Measures are also hereby ordered for Adams, Clay, Webster and Nuckolls counties effective immediately and continuing until May 11, 2020 and in addition the following Directed Health Measures are also hereby ordered for Buffalo, Dawson, Gosper, Phelps, Kearney, Harlan and Franklin counties effective immediately and continuing until May 11, 2020 and in addition the following Directed Health Measures are also hereby ordered for Antelope, Boyd, Brown, Cherry, Holt, Keya Paha, Knox, Pierce, and Rock Counties effective immediately and continuing until May 11, 2020 and in addition the following Directed Health Measures are also hereby ordered for Hooker, Arthur, McPherson, Logan, Thomas and Lincoln counties effective immediately and continuing until May 11, 2020 and in addition the following Directed Health Measures are also hereby ordered for Dakota, Cedar, Dixon, Wayne, Thurston, Boone, Nance, Platte, Colfax, Otoe, Johnson, Nemaha, Pawnee, Richardson, Fillmore, Saline, Thayer, Jefferson, Gage, Blaine, Loup, Garfield, Wheeler, Custer, Valley, Greeley, Sherman, Howard, Keith, Perkins, Chase, Hayes, Frontier, Dundy, Hitchcock, Red Willow, and Furnas counties effective immediately and continuing until May 11, 2020 unless renewed, extended, or terminated by subsequent order, all persons in all the aforementioned counties are ordered to comply:

Gatherings are hereby prohibited; A gathering is defined as any even or convening that brings together more than ten (10) patrons, customers or other invitees, excluding staff, in a single room or single space at the same time, including but not limited to, pre-school, daycare facility (including in-home facilities), gymnasium, fitness center, auditorium, stadium, arena, large event conference room, meeting hall, library, or any other confined

indoor or outdoor space. This also includes weddings and funerals, as well as parades, fairs, festivals, concerts, auto racing and other indoor and outdoor events.

For the purpose of clarity, a gathering does not include normal operations at airports, bus and train stations, health care facilities and services (as defined in the Health Care Facility Licensure Act NEB. REV. STAT. §§ 71- 401 to 71-475), other mental health and /or substance use treatment day programs which are not required to be licensed (such as Day Rehabilitation or Day Treatment), shopping malls and centers, or other spaces where ten or more persons may be in transit. It also does not include typical office environments, factories, or retail or grocery stores where large numbers of people are present but it is typically unusual for them to be within six feet of one another. It also does not include events at which members of the media may need to be present, courts of law, public utilities, state, county, and city operations, election offices and polling places on election day, logistics/distribution centers, or family residences housing ten or more people. However these settings are directed to use heightened, diligent and effective disinfection of exposed surfaces meeting the directions of the Nebraska Department of Health and Human Services, Centers for Disease Control and Prevention and the Environmental Protection Agency.

Venues such as fitness centers/clubs, gymnasiums, gyms, health clubs, and health spas shall ensure that a minimum distance of six (6) feet be maintained between all patrons.

Liquor, beer, and wine sales are restricted to carry-out sales and delivery only, to the extent permitted by law. No onsite consumption is permitted. This includes bars, taverns, and private clubs, regardless of name or characterization.

Food and beverage sales at restaurants, bars, taverns, private clubs, and any dine-in establishments are restricted to carry-out, drive-through, and delivery only. This does not apply to and/or exempts food service in health care facilities.

Lines for carry-out and drive-through in the above-referenced establishments must have an environment where patrons and staff maintain social distancing (a distance of six feet away from other persons) whenever possible.

Elective medical and dental surgeries and elective medical and dental procedures are hereby prohibited. For the purposes of this Order, this means a surgery or procedure that is scheduled in advance because it does not involve a medical or dental emergency. Surgeries or procedures that must be done to preserve the patient's life or physical health, but do not need to be performed immediately, are allowed by a

case-by-case determination of the medical or dental provider.

Individuals who test positive for COVID-19 or who have the following symptoms: fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset of shortness of breath; and individuals who reside or resided with individuals who have tested positive for COVID-19 or with individuals who have the above symptoms shall home-quarantine, unless quarantined in a health care facility, for a period of no less than 14 days, from the date of the positive test or onset of symptoms, per attached Quarantine Directions. If a Home-Quarantined individual is residing with other household members, the household members' Home-Quarantine may be discontinued 7 days after the original person has been released from home-quarantine. However, the household member(s) must continue to self-monitor for the above listed symptoms for an additional 7 days. Home-Quarantine shall be per the attached Quarantine Directions. Individuals with the above-listed symptoms who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition and individuals who reside or have resided with individuals who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to quarantine under this Order. Please see the attached, and hereby incorporated in full, Quarantine directions, per 173 NAC 6-006.03B. Individuals with the above-listed symptoms who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition and individuals who reside or have resided with individuals who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to quarantine under this Order.

The following Directed Health Measures are hereby ordered for **ALL** counties statewide effective immediately and continuing until May 31, 2020 unless renewed, extended, or terminated by subsequent order, all persons in all the aforementioned counties are ordered to comply: All schools; public, private and parochial: are hereby ordered to cease all in-person instruction, and all extra-curricular activities except for: remote learning, child care services, meal distribution, distribution of educational materials and supplies, general building or physical plant operations and maintenance, and residential services may be continued as needed or necessary.

Schools are defined as public, private, and parochial elementary and secondary schools.

The following Directed Health Measures are hereby ordered for **ALL** counties statewide effective immediately and continuing until May 3, 2020 unless renewed, extended, or terminated by subsequent order, all persons in all the aforementioned counties are ordered to comply:

1. All beauty/nail salons, barber shops, massage therapy services, gentleman's clubs, bottle clubs, indoor movie theatres, indoor theatres, and tattoo parlors/studios are hereby ordered to cease providing services to the public and are ordered closed.
2. General building or physical plant operations and maintenance, and animal care; if applicable, for the above, may be continued as needed or necessary.

The following Directed Health Measures are hereby ordered for **ALL** counties statewide effective immediately and continuing until May 31, 2020 unless renewed, extended, or terminated by subsequent order, all persons in all the aforementioned counties are ordered to comply:

3. All Organized Team Sports, youth and adult, including but not limited to Club Sports are hereby suspended.

This order supersedes previous Directed Health Measure Orders 2020-001, 2020-002, 2020-003, 2020-004, 2020-005, 2020-006, 2020-007, 2020-008, 2020-009 and 2020-010 for the aforementioned counties, provided, this Order does not supersede the provisions of any Directed Health Measure(s) issued by Local Health Departments, except that the Directed Health Measures contained in this order are binding and enforceable regardless of any Directed Health Measure(s) issued by Local Health Departments.

This Order will remain in effect no longer than necessary to ensure that individuals or groups affected by COVID-19 no longer pose a public health threat.

Failure to comply with this Order will result in legal action for enforcement by civil and/or criminal remedies.

In the event of noncompliance with the terms of this Order, law enforcement and other Municipal and Local Public Health Department personnel will be required to aid the Department in enforcement of the Order, pursuant to 173 NAC 6 and NEB. REV. STAT. § 71-502.

Any person subject to this Order may request a contested case hearing to contest the validity of the Order. A request can be made to the DHHS Hearing Office by fax at 402-742-2376 or requested by phone at 402-471-7237.

Upon request, the Department will schedule a hearing to be held as soon as reasonably possible under the circumstances. Unless requested otherwise, the hearing will be scheduled no sooner than three days after the request is received by the Department. The hearing will be conducted in accord with the Department's rules of practice and procedure adopted pursuant to the Administrative Procedure Act.

The parties to the hearing will be limited to the Department and requesting party unless one or more additional persons have requested contested case hearings on substantially identical issues; the interests of administrative economy require that the matters be consolidated; and no party would be prejudiced by consolidation, in which case notice of the consolidation will issue.

A party may be represented by counsel at the party's own expense, or may appear *pro se* if a natural person.

Reasonable prior notice of the time and place for hearing will be given. The hearing may be conducted in whole or in part by telephone.

The purpose of the hearing is to determine if the factual bases for the Order exist and the reasonableness of the ordered measures. The Director may affirm, reverse or modify the Order by a written Findings of Fact, Conclusions of Law, and Order to be issued as soon as reasonably possible after the hearing.

For the Nebraska Department of Health and Human Services.

Directed Health Measures 5/29 - 6/22:

NEBRASKA DEPARTMENT OF HEALTH AND HUMAN SERVICES
Directed Health Measure Order 2020-2RHD-003

Pursuant to Neb. Rev. Stat. §§ 71-502 and 81-601 and Title 173 Neb. Admin. Code Ch. 6 the Nebraska Department of Health and Human Services ("Department") may exercise its authority to order Directed Health Measures necessary to prevent the spread of communicable disease, illness, or poisoning. The objectives of this order are to reduce morbidity and mortality; minimize disease transmission; protect health care personnel and preserve health care system functioning.

Having reviewed information from the United States Department of Health and Human Services Centers for Disease Control and Prevention ("CDC"), local public health departments, treating health care providers and health care facilities, and other public health, security, and law enforcement authorities; having consulted with medical and communicable disease control personnel of the Department; and having considered directives and guidelines issued by the CDC and other public health authorities, the Director finds as follows:

That a member or members of the public have been exposed to a communicable disease known as COVID-19; there are now confirmed cases of "community spread" or "community transmission" of COVID-19 in the areas subject to this Directed Health Measure.

That multiple areas of the United States are experiencing "community spread" of the virus that causes COVID-19. Community spread, defined as the transmission of an illness for which the source is unknown, means that isolation of persons traveling from known areas of infection is no longer enough to control spread.

That exposure presents a risk of death or serious long-term disabilities to any person; the exposure is wide-spread and poses a significant risk of harm to people in the general population; there is a particular subset of the population that is more vulnerable to the threat and thus at increased risk; and the threat is from a novel infectious disease.

That the immediate implementation of the following Directed Health Measures is necessary to ensure that members of the public do not gather in large numbers, in close proximity to each other, or in enclosed spaces, thereby endangering the health of themselves and the public.

That one of the goals of the following Directed Health Measures is to minimize in-person interaction, which is the main means of transmission of COVID-19.

That gatherings, entertainment venues, restaurants, and bars increase and encourage talking, touching, and other social interaction in environments with a multitude of hard surfaces.

That requiring individuals who test positive for COVID-19 or who have the following symptoms-fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset of shortness of breath-to home-Isolate, unless Isolated in a health care facility, for a period of no less than ten (10) days from the date of the first-positive test or onset of symptoms per attached Quarantine and Isolation Directions is the least restrictive practical means of Isolating those individuals that effectively protects unexposed and susceptible individuals. Home-Isolation shall be per the attached Quarantine and Isolation Directions. Individuals with the above-listed symptoms who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to Isolation under this Order.

That requiring individuals who have had Close Contact (see attached Quarantine and Isolation Directions definitions) to home-Quarantine, unless Quarantined in a health care facility, for a period of no less than fourteen (14) days from the date of their last exposure to a person who tested positive or exhibited or exhibits the above symptoms per attached Quarantine and Isolation Directions is the least restrictive practical means of Quarantining those individuals that effectively protects unexposed and susceptible individuals. Home-Quarantine shall be per the attached Quarantine and Isolation Directions. Individuals who have had Close Contact with individuals who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to quarantine under this Order.

That a home-Isolation and Quarantine will allow the most freedom of movement and

communication with family members and other contacts without allowing the transmission of COVID-19 to others, and a home-Isolation or Quarantine will allow the appropriate level of medical care needed for the quarantined individuals unless it is necessary to admit the Isolated or Quarantined individuals to a health care facility.

That hospital capacity and health care resources including health care personnel hours and/or medical supplies, such as personal protective equipment, are being depleted by elective surgeries and elective procedures and that a shortage of hospital capacity or health care resources will hinder efforts of health care personnel and health care facilities to treat persons who test positive for COVID- 19.

Based on conditions in the following areas, the following Directed Health Measures are hereby ordered for Dawson, Buffalo, Gosper, Phelps Kearney, Harlan and Franklin counties, effective 12:00 AM, June 1, 2020 and continuing through 11:59 PM, June 30, 2020; unless renewed, extended, or terminated by subsequent order, all persons in all the aforementioned county(s) are ordered to comply:

Gatherings are hereby restricted; A gathering is defined as any event or convening that brings together more than ten (10) patrons, customers or other invitees, excluding staff, in a single room or single space at the same time, including but not limited to, pre- schools, fairgrounds, fairs, festivals, auditoriums, stadiums, arenas, large event conference rooms, meeting halls, libraries, in-door or out-door arenas, tracks, zoos, aquariums, swimming pools, or any other confined indoor or outdoor space.

Gatherings are restricted to the greater of twenty-five (25) patrons, customers or other invitees (excluding staff) or twenty-five percent (25%) of the applicable rated occupancy (but never to exceed 3,000 individuals).

Any one party at a gathering may not exceed six (6) individuals, and parties must maintain at least six (6) feet of separation.

Parades, carnivals, midways, dances (not to include dance recitals), street dances, and beer gardens are prohibited. Except that processions of occupied motor vehicles in which occupants do NOT leave their vehicle and attendees do NOT line the street or gather to watch ARE permitted.

Drive-in movie theatres may open at full capacity so long as parties remain in their vehicles while viewing the movie and lines for concessions and restrooms areas must have an environment where patrons and staff maintain social distancing (a distance of six feet away from other persons) whenever possible.

Plans for Reopening: Except in counties with a population of five-hundred- thousand (500,000) or more, venues with a rated capacity of five-hundred

(500) or more individuals must submit a "plan for reopening" to the applicable Local Public Health Department BEFORE reopening, the plan must contain at a minimum the following: planned number of guests/attendees, how the venue will meet applicable social distancing guidelines, sanitation guidelines and any other applicable DHM requirement. All plans must be approved by the Local Public Health Department prior to reopening.

For counties with a population of five-hundred-thousand (500,000) or more individuals venues with a rated capacity of one-thousand (1,000) or more individuals must submit a "plan for reopening" to the applicable Local Public Health Department BEFORE reopening, the plan must contain at a minimum: planned number of guests/attendees, how the venue will meet applicable social distancing guidelines, sanitation guidelines and any other applicable DHM requirement. All plans must be approved by the Local Public Health Department prior to reopening.

For the purpose of clarity, a gathering does not include normal operations at airports, bus and train stations, health care facilities and services (as defined in the Health Care Facility Licensure Act NEB. REV. STAT. §§ 71-401 to 71-475), other mental health and/or substance use treatment day programs which are not required to be licensed (such as Day Rehabilitation or Day Treatment), shopping malls and centers, or other spaces where ten or more persons may be in transit. It also does not include typical office environments, factories, or retail or grocery stores where large numbers of people are present but it is typically unusual for them to be within six feet of one another. It also does not include events at which members of the media may need to be present, courts of law, public utilities, state, county, and city operations, election offices and polling places on election day, logistics/distribution centers, or family residences housing ten or more people. It also does not include religious services (see Religious service section below). However, these settings are directed to use heightened, diligent and effective disinfection of exposed surfaces meeting the directions of the Nebraska Department of Health and Human Services, Centers for Disease Control and Prevention and the Environmental Protection Agency.

In addition to the aforementioned restriction on Gatherings, venues such as fitness centers/clubs, gymnasiums, gyms, school-gyms/weight rooms, health clubs, health spas, martial arts studios, and gymnastics gyms shall ensure that a minimum distance of six (6) feet be maintained between all patrons, and shall be limited to the greater of twenty-five (25) patrons or fifty percent (50%) of rated occupancy. Martial arts competitions and gymnastics competitions are still prohibited contact sports.

Beauty/nail salons, barber shops, massage therapy services, tattoo parlors/body art facilities shall require the use of masks, or other item sufficient to cover an individual's mouth and nose, for all staff, practitioners and patrons, except those patrons receiving services provided by estheticians may unmask only while receiving

facial services directly. These locations/services shall further be limited to the greater of twenty-five (25) patrons (excluding staff) or fifty percent (50%) of rated occupancy and shall maintain a minimum distance of six (6) feet between all patrons.

Restaurants, bars, taverns, bowling alleys, private clubs, bottle clubs, and gentleman clubs, regardless of name or characterization, shall be restricted to no more than fifty percent (50%) of the rated occupancy maximum at a time. Party(s) must maintain a minimum of six (6) feet of separation, and consist of no more than six (6) individuals. Food may NOT be consumed at bar seating. Six (6) feet of separation shall be maintained between Parties and any entertainer, performer or dancer. Games such as pool, darts, arcade games etc. are prohibited. Items should not be shared or distributed between different dining parties or tables. Carry-out, drive-through, and delivery are permitted. Self-service buffets and self-service food bars are prohibited. Lines for carry-out and drive-through in the above-referenced establishments must have an environment where patrons and staff maintain social distancing (a distance of six feet away from other persons) whenever possible.

Wedding and funeral receptions are exempt from the Gathering requirements but will be limited to the greater of twenty-five (25) attendees (excluding venue staff) or fifty percent (50%) of venue rated capacity. Parties must remain at least six (6) feet apart; a party may not exceed six (6) individuals. Self-service buffets and self-service food bars are prohibited. Venue staff must serve food directly to attendees. Dancing or other activities which require attendees to gather beyond their respective tables or seats is prohibited.

All businesses are hereby reminded to follow any COVID-19 related safety guidelines established or published by their respective professional, regulatory or advisory associations or agencies relating to or regarding the use of PPE.

Elective surgery and elective procedures;

The following Directed Health Measures are hereby ordered for all Acute Care Hospitals, Critical Care Hospitals and Children's Hospitals effective 12:00 AM, June 1, 2020 and continuing through 11:59 PM, June 30, 2020: Elective medical surgeries and procedures are allowed in the aforementioned facilities so long as those facilities maintain and dedicate fifteen percent (15%) of general bed capacity, fifteen percent (15%) of ICU bed capacity, and fifteen percent (15%) of ventilator capacity for non-elective surgery/procedure patients. In addition, these facilities must maintain a two-week supply of necessary PPE, to sustain Hospital operations at one-hundred percent (100%) capacity. For the purposes of this Order, an "elective medical surgery or procedure" means a surgery or procedure that is scheduled in advance because it does not involve a medical emergency.

Individuals who test positive for COVID-19 or who have the following symptoms-fever of

100.4 F. or above, or a sudden onset of a cough or sudden onset of shortness of breath-- shall home-Isolate, unless Isolated in a health care facility, for a period of no less than ten (10) days from the date of the first- positive test or onset of symptoms per attached Quarantine Directions. Individuals who have had Close Contact (see attached Quarantine and Isolation Directions definitions) shall home-Quarantine, unless Quarantined in a health care facility, for a period of no less than fourteen (14) days from the date of their last exposure to a person who tested positive or exhibited or exhibits the above symptoms per attached Quarantine and Isolation Directions. Individuals who have had Close Contact with individuals who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to Quarantine under this Order.

Please see the attached, and hereby incorporated in full, Quarantine and Isolation directions, per 173 NAC 6-006.03B.

1. Team Sports have been characterized by contact level (contact, limited- contact, non-contact) based upon guidance from the April 2008 "American Academy of Pediatrics Classification of Sports According to Contact". These categories will be used while determining the opening/restriction of team sports. In addition to the below Sports restrictions, the "June 1st Statewide Sports Reopening Guidelines" are hereby ordered, and fully incorporated herein. These guidelines shall govern all Adult, Youth and School Sports not otherwise specifically exempted.

Adult, Youth and School Limited and Non-contact team sports (including but not limited to: baseball, softball and volleyball) practices may begin June 1, 2020.

Adult, Youth, and School Limited and Non-contact team sports (including but not limited to: baseball, softball and volleyball) games may begin June 18, 2020

Adult, Youth and School Rodeo events may begin June 1, 2020. Rodeo events must meet "Gathering" requirements contained herein.

Adult, Youth and School Contact sports (including but not limited to: basketball, tackle football, soccer, and wrestling) games and practices are prohibited.

2. Religious services, including weddings or funerals, are allowed. During religious ceremonies and services, party(s) must maintain a minimum of six(6) feet of separation and consist of a household unit or individual. Items should not be shared or distributed between different parties. Widow or Widower may be included into another household unit.
3. Daycare/childcare services: Not withstanding any other state statute, regulation, or order, daycare/childcare services may not exceed the lessor of the current license limit or fifteen (15) children per room/space or twenty (20) children per room/space for school-aged children. Statutory and regulatory staff-to-child ratio requirements are still

applicable and enforceable.

4. Every individual who enters the State of Nebraska as the final destination from any international point of origin, and individuals who reside or resided with an individual who enters the State of Nebraska as the final destination from any international point of origin, shall home-quarantine, per attached Quarantine and Isolation Directions, for a period of no less than fourteen(14) days from the time of entry into Nebraska or the duration of the individual's presence in Nebraska, whichever is shorter. This restriction shall not apply to individuals traveling in connection with military service or in connection with employment at a health care facility.
5. Any employer required by law to provide housing to an employee or worker and who provides congregate or shared housing to employees or workers, must, at minimum, (1) post signage throughout the shared or congregate housing communicating prevention measures such as proper cleaning, disinfection, hand washing, cough etiquette, and avoiding non-essential physical contact, (2) daily clean and disinfect shared areas in such housing,(3) perform daily verbal screening and temperature checks of all employees or workers living in employer provided shared or congregate housing, (4) provide alternative housing arrangements for any employee or worker who tests positive for COVID-19 or who have the following symptoms - fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset or shortness of breath - separate from housing provided to employees or workers who test negative for COVID-19 or are without symptoms, (5) provide alternative housing arrangements for any employee or worker who had close contact with a confirmed or suspected COVID-19 case separate from housing provided to employees or workers who test negative for COVID-19 or are without symptoms, and separate from any employee or worker who tests positive for COVID-19 or who have the following symptoms - fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset or shortness of breath, and (6) thoroughly clean and disinfect all housing areas where a confirmed or suspected COVID-19 case spent time.

This order supersedes previous Directed Health Measure Orders 2020-001, 2020- 002, 2020-003, 2020-004, 2020-005, 2020-006, 2020-007, 2020-008, 2020-009, 2020-010, 2020-011, 2RHD-001 and 2RHD-002 for the aforementioned county(s), provided. This Order will remain in effect no longer than necessary to ensure that individuals or groups affected by COVID-19 no longer pose a public health threat. Failure to comply with this Order will result in legal action for enforcement by civil and/or criminal remedies.

In the event of noncompliance with the terms of this Order, law enforcement and other Municipal and Local Public Health Department personnel will be required to aid the Department in enforcement of the Order, pursuant to 173 NAC 6 and NEB. REV. STAT.§ 71-502.

Any person subject to this Order may request a contested case hearing to contest the

validity of the Order. A request can be made to the DHHS Hearing Office by fax at 402-742-2376 or requested by phone at 402-471-7237.

Upon request, the Department will schedule a hearing to be held as soon as reasonably possible under the circumstances. Unless requested otherwise, the hearing will be scheduled no sooner than three days after the request is received by the Department. The hearing will be conducted in accord with the Department's rules of practice and procedure adopted pursuant to the Administrative Procedure Act.

The parties to the hearing will be limited to the Department and requesting party unless one or more additional persons have requested contested case hearings on substantially identical issues; the interests of administrative economy require that the matters be consolidated; and no party would be prejudiced by consolidation, in which case notice of the consolidation will issue.

A party may be represented by counsel at the party's own expense, or may appear *pro se* if a natural person.

Reasonable prior notice of the time and place for hearing will be given. The hearing may be conducted in whole or in part by telephone.

The purpose of the hearing is to determine if the factual bases for the Order exist and the reasonableness of the ordered measures. The Director may affirm, reverse or modify the Order by a written Findings of Fact, Conclusions of Law, and Order to be issued as soon as reasonably possible after the hearing.

Directed Health Measures 6/22 – 7/31

NEBRASKA DEPARTMENT OF HEALTH AND HUMAN SERVICES

Directed Health Measure Order 2020-2RHD-004

Pursuant to Neb. Rev. Stat. §§ 71-502 and 81-601 and Title 173 Neb. Admin. Code Ch. 6 the Nebraska Department of Health and Human Services ("Department") may exercise its authority to order Directed Health Measures necessary to prevent the spread of communicable disease, illness, or poisoning. The objectives of this order are to reduce morbidity and mortality; minimize disease transmission; protect health care personnel and preserve health care system functioning.

Having reviewed information from the United States Department of Health and Human Services Centers for Disease Control and Prevention ("CDC"), local public health departments, treating health care providers and health care facilities, and other public health, security, and law enforcement authorities; having consulted with medical and communicable disease control personnel of the Department; and having considered directives and guidelines issued by the CDC and other public health authorities, the Director

finds as follows:

That a member or members of the public have been exposed to a communicable disease known as COVID-19; there are now confirmed cases of "community spread" or "community transmission" of COVID-19 in the areas subject to this Directed Health Measure.

That multiple areas of the United States are experiencing "community spread" of the virus that causes COVID-19. Community spread, defined as the transmission of an illness for which the source is unknown, means that isolation of persons traveling from known areas of infection is no longer enough to control spread.

That exposure presents a risk of death or serious long-term disabilities to any person; the exposure is wide-spread and poses a significant risk of harm to people in the general population; there is a particular subset of the population that is more vulnerable to the threat and thus at increased risk; and the threat is from a novel infectious disease.

That the immediate implementation of the following Directed Health Measures is necessary to ensure that members of the public do not gather in large numbers, in close proximity to each other, or in enclosed spaces, thereby endangering the health of themselves and the public.

That requiring individuals who test positive for COVID-19 or who have the following symptoms-fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset of shortness of breath-to home-Isolate, unless Isolated in a health care facility, for a period of no less than ten (10) days from the date of the first-positive test or onset of symptoms per attached Quarantine and Isolation Directions is the least restrictive practical means of Isolating those individuals that effectively protects unexposed and susceptible individuals. Home-Isolation shall be per the attached Quarantine and Isolation Directions. Individuals with the above-listed symptoms who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to Isolation under this Order.

That requiring individuals who have had Close Contact (see attached Quarantine and Isolation Directions definitions) to home-Quarantine, unless Quarantined in a health care facility, for a period of no less than fourteen (14) days from the date of their last exposure to a person who tested positive or exhibited or exhibits the above symptoms per attached Quarantine and Isolation Directions is the least restrictive practical means of Quarantining those individuals that effectively protects unexposed and susceptible individuals. Home-Quarantine shall be per the attached Quarantine and Isolation Directions. Individuals who have had Close Contact with individuals who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to quarantine under this Order.

That a home-Isolation and Quarantine will allow the most freedom of movement and communication with family members and other contacts without allowing the transmission of COVID-19 to others, and a home-Isolation or Quarantine will allow the appropriate level of medical care needed for the quarantined individuals unless it is necessary to admit the Isolated or Quarantined individuals to a health care facility.

That hospital capacity and health care resources including health care personnel hours and/or medical supplies, such as personal protective equipment, are being depleted by elective surgeries and elective procedures and that a shortage of hospital capacity or health care resources will hinder efforts of health care personnel and health care facilities to treat persons who test positive for COVID-19.

That a delay in the imposition of an effective Directed Health Measure would significantly jeopardize the ability to prevent or limit the transmission of COVID- 19 or pose unacceptable risks to any person or persons.

That the following Directed Health Measures have been identified as effective against public health threats by the CDC and other similar public health authorities to effectively prevent, limit, or slow the spread of COVID-19.

Based on conditions in the following areas, the following Directed Health Measures are hereby ordered for Dawson, Buffalo, Gosper, Phelps, Kearney, Harlan and Franklin counties, effective 12:00 AM, June 22, 2020 and continuing through 11:59 PM, July 31, 2020; unless renewed, extended, or terminated by subsequent order, all persons in all the aforementioned county(s) are ordered to comply:

Gatherings are hereby restricted; A gathering is defined as any event or convening that brings together more than ten (10) patrons, customers or other invitees, excluding staff, in a single room or single space at the same time, including but not limited to, pre- schools, fairgrounds, fairs, festivals, auditoriums, stadiums, arenas, large event conference rooms, meeting halls, libraries, in-door or out-door arenas, tracks, bowling alleys, zoos, aquariums, swimming pools, or any other confined indoor or outdoor space.

Gatherings are restricted to: fifty percent (50%) for an indoor facility's applicable rated occupancy (excluding staff) or seventy-five percent (75%) for outdoor facility of the applicable rated occupancy (excluding staff). No gathering may exceed 10,000 individuals.

Any one party at a gathering may not exceed eight (8) individuals.

Parades, carnivals, midways, dances (excluding dance recitals), street dances, and beer gardens are prohibited. Processions of occupied motor vehicles in which

occupants do NOT leave their vehicle and attendees do NOT line the street or gather to watch ARE permitted. Dancing is permitted at private events (events with set invitee lists, i.e. wedding receptions, proms etc.).

Drive-in movie theatres may open at full capacity so long as parties remain in their vehicles while viewing the movie and lines for concessions and restrooms areas must have an environment where patrons and staff maintain social distancing (a distance of six feet away from other persons) whenever possible.

Plans for Reopening: Except in counties with a population of five-hundred-thousand (500,000) or more, venues with a rated capacity of five-hundred(500) or more individuals must submit a "plan for reopening" to the applicable Local Public Health Department BEFORE reopening, the plan must contain at a minimum the following: planned number of guests/attendees, how the venue will meet applicable social distancing guidelines, sanitation guidelines and any other applicable DHM requirement. All plans must be approved by the Local Public Health Department prior to reopening. "Plans for Reopening" previously submitted under prior DHMs will need to be resubmitted for approval, if venues intend to exceed the prior DHM's occupancy (gathering) restrictions.

For counties with a population of five-hundred-thousand (500,000) or more individuals, venues with a rated capacity of one-thousand (1,000) or more individuals must submit a "plan for reopening" to the applicable Local Public Health Department BEFORE reopening, the plan must contain at a minimum: planned number of guests/attendees, how the venue will meet applicable social distancing guidelines, sanitation guidelines and any other applicable DHM requirement. All plans must be approved by the Local Public Health Department prior to reopening. "Plans for Reopening" previously submitted under prior DHMs will need to be resubmitted for approval, if venues intend to exceed the prior DHM's occupancy (gathering) restrictions.

For the purpose of clarity, a gathering does not include normal operations at airports, bus and train stations, health care facilities and services (as defined in the Health Care Facility Licensure Act NEB. REV. STAT. §§ 71- 401 to 71-475), other mental health and/or substance use treatment day programs which are not required to be licensed (such as Day Rehabilitation or Day Treatment), shopping malls and centers, or other spaces where ten or more persons may be in transit. It also does not include typical office environments, factories, or retail or grocery stores where large numbers of people are present but it is typically unusual for them to be within six feet of one another. It also does not include events at which members of the media may need to be present, courts of law, public utilities, state, county, and city operations, election offices and polling places on election day, logistics/distribution centers, or family residences housing ten or more people. It also does not include religious services (see Religious service section below). However, these settings are directed to use heightened, diligent and effective disinfection of exposed surfaces meeting the directions of the Nebraska Department of Health and Human

Services, Centers for Disease Control and Prevention and the Environmental Protection Agency.

In addition to the aforementioned restriction on Gatherings, venues such as fitness centers/clubs, gymnasiums, gyms, school-gyms/weightrooms, health clubs, health spas, martial arts studios, and gymnastics gyms shall be limited to seventy-five (75%) of rated occupancy.

Beauty/nail salons, barber shops, massage therapy services, tattoo parlors/body art facilities shall require the use of masks, or other item sufficient to cover an individual's mouth and nose, for all staff, practitioners and patrons. Patrons receiving services on or to the face directly may unmask for the duration of the service. These locations/services shall further be limited to seventy-five percent (75%) of rated occupancy.

Restaurants, bars, taverns, private clubs, bottle clubs, and gentleman clubs, regardless of name or characterization, shall limit parties to no more than eight (8) individuals. Parties must be seated at tables, unless ordering, using restrooms, playing or participating in games. Items should not be shared or distributed between different dining parties or tables. Carry-out, drive-through, and delivery are permitted. Self-service buffets and self-service food bars are prohibited. Lines for carry-out, drive-through, restrooms and ordering in the above-referenced establishments must have an environment where patrons and staff can maintain social distancing (a distance of six feet away from other persons) whenever possible. Restaurants at bowling alleys will be treated as restaurants while the bowling area is considered under gathering requirements.

Wedding and funeral receptions shall limit parties to no more than eight (8) individuals. Self-service buffets and self-service food bars are prohibited. Venue staff must serve food directly to attendees. Dancing is permitted at wedding receptions.

All businesses are hereby reminded to follow any COVID-19 related safety guidelines established or published by their respective professional, regulatory or advisory associations or agencies relating to or regarding the use of PPE.

Individuals who test positive for COVID-19 or who have the following symptoms-fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset of shortness of breath-shall home-Isolate, unless Isolated in a health care facility, for a period of no less than ten (10) days from the date of the first- positive test or onset of symptoms per attached Quarantine and Isolation Directions. Individuals with the above-listed symptoms who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition **not** subject to Isolation under this Order.

Individuals who have had Close Contact (see attached Quarantine and Isolation Directions definitions) shall home-Quarantine, unless Quarantined in a health care facility, for a period of no less than fourteen (14) days from the date of their last exposure to a person

who tested positive or exhibited or exhibits the above symptoms per attached Quarantine and Isolation Directions. Individuals who have had Close Contact with individuals who have tested positive for influenza or an alternative diagnosis including seasonal allergies or other chronic condition are **not** subject to Quarantine under this Order.

Please see the attached, and hereby incorporated in full, Quarantine and Isolation directions, per 173 NAC 6-006.03B.

1. Team Sports have been characterized by contact level (contact, limited- contact, non-contact) based upon guidance from the April 2008 "American Academy of Pediatrics Classification of Sports According to Contact". These categories will be used while determining the opening/restriction of team sports. In addition to the below Sports restrictions, the "Statewide Sports Reopening Guidelines" are hereby ordered, and fully incorporated herein. These guidelines shall govern all Adult, Youth and School Sports not otherwise specifically exempted.

Adult, Youth and School Limited and Non-contact team sports (including but not limited to: baseball, softball and volleyball) practices may continue per Statewide Sports Reopening Guidelines.

Adult, Youth, and School Limited and Non-contact team sports (including but not limited to: baseball, softball and volleyball) games may continue per Statewide Sports Reopening Guidelines.

Adult, Youth and School Rodeo events may continue per Statewide Sports Reopening Guidelines. Rodeo events must meet "Gathering" requirements contained herein.

Adult, Youth and School Contact sports (including but not limited to: basketball, tackle football, soccer, and wrestling) games and practices may begin July 1, 2020 per Statewide Sports Reopening Guidelines.

2. Religious services, including weddings or funerals, are allowed. During religious ceremonies and services, items should not be shared or distributed between different parties.
3. Daycare/childcare services: Notwithstanding any other state statute, regulation, or order, daycare/childcare services may not exceed the lessor of the current license limit or: Fifteen (15) children per room/space for infant to three (3) year olds Twenty (20) children per room/space for three (3) year olds Twenty-Four (24) Children per room/space for four (4) and five (5) year olds Thirty (30) school-age (K-12) children per room/space Statutory and regulatory staff-to-child ratio requirements are still applicable and enforceable.
4. Every individual who enters the State of Nebraska as the final destination from any international point of origin, and individuals who reside or resided with an individual

who enters the State of Nebraska as the final destination from any international point of origin, shall home-quarantine, per attached Quarantine and Isolation Directions, for a period of no less than fourteen(14) days from the time of entry into Nebraska or the duration of the individual's presence in Nebraska, whichever is shorter. This restriction shall not apply to individuals traveling in connection with military service or in connection with employment at a health care facility.

5. Any employer required by law to provide housing to an employee or worker and who provides congregate or shared housing to employees or workers, must, at minimum, (1) post signage throughout the shared or congregate housing communicating prevention measures such as proper cleaning, disinfection, hand washing, cough etiquette, and avoiding non-essential physical contact, (2) daily clean and disinfect shared areas in such housing,(3) perform daily verbal screening and temperature checks of all employees or workers living in employer provided shared or congregate housing, (4) provide alternative housing arrangements for any employee or worker who tests positive for COVID-19 or who have the following symptoms - fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset or shortness of breath - separate from housing provided to employees or workers who test negative for COVID-19 or are without symptoms, (5) provide alternative housing arrangements for any employee or worker who had close contact with a confirmed or suspected COVID-19 case separate from housing provided to employees or workers who test negative for COVID-19 or are without symptoms, and separate from any employee or worker who tests positive for COVID-19 or who have the following symptoms - fever of 100.4 F. or above, or a sudden onset of a cough or sudden onset or shortness of breath, and (6) thoroughly clean and disinfect all housing areas where a confirmed or suspected COVID-19 case spent time.

This order supersedes previous Directed Health Measure Orders 2020-001, 2020-002, 2020-003, 2020-004, 2020-005, 2020-006, 2020-007, 2020-008, 2020-009, 2020-010, 2020-011, 2RHD-001, 2RHD-002 and 2RHD-003 for the aforementioned county(s), provided, this Order does not supersede the provisions of any Directed Health Measure(s) issued by Local Health Departments, except that the Directed Health Measures contained in this order are binding and enforceable regardless of any Directed Health Measure(s) issued by Local Health Departments or municipalities.

This Order will remain in effect no longer than necessary to ensure that individuals or groups affected by COVID-19 no longer pose a public health threat.

Failure to comply with this Order will result in legal action for enforcement by civil and/or criminal remedies.

In the event of noncompliance with the terms of this Order, law enforcement and other Municipal and Local Public Health Department personnel will be required to aid the Department in enforcement of the Order, pursuant to 173 NAC 6 and NEB. REV.

STAT. § 71-502.

Any person subject to this Order may request a contested case hearing to contest the validity of the Order. A request can be made to the DHHS Hearing Office by fax at 402-742-2376 or requested by phone at 402-471-7237.

Upon request, the Department will schedule a hearing to be held as soon as reasonably possible under the circumstances. Unless requested otherwise, the hearing will be scheduled no sooner than three days after the request is received by the Department. The hearing will be conducted in accord with the Department's rules of practice and procedure adopted pursuant to the Administrative Procedure Act.

The parties to the hearing will be limited to the Department and requesting party unless one or more additional persons have requested contested case hearings on substantially identical issues; the interests of administrative economy require that the matters be consolidated; and no party would be prejudiced by consolidation, in which case notice of the consolidation will issue.

A party may be represented by counsel at the party's own expense, or may appear *pro se* if a natural person.

Reasonable prior notice of the time and place for hearing will be given. The hearing may be conducted in whole or in part by telephone.

The purpose of the hearing is to determine if the factual bases for the Order exist and the reasonableness of the ordered measures. The Director may affirm, reverse or modify the Order by a written Findings of Fact, Conclusions of Law, and Order to be issued as soon as reasonably possible after the hearing.

Appendix – (ii) Pre-existing illnesses (list and explanations)

Pre-existing illness	Examples of condition	Data collection method
Diabetes	Diabetes mellitus	Self-reported during contact tracing – question part of interview schedule
Cardiovascular Disease	Previous myocardial infarction, prior diagnosis of congestive heart failure	Self-reported during contact tracing – question part of interview schedule
Hypertension	Previous diagnosis of hypertension	Self-reported during contact tracing – question part of interview schedule
Lung Disease	Chronic Obstructive Pulmonary Disease, Asthma	Self-reported during contact tracing – question part of interview schedule
Autoimmune/Endocrine/Metabolic Disease	All non-diabetic endocrine disorders (eg: Addison’s disease), Systemic Lupus Erythematosus (SLE)	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes
Neurological/Psychiatric Illness	Diagnosis of clinical depression, Alzheimer’s disease	Self-reported during contact tracing – question part of interview schedule
Renal Disease	Renal failure	Self-reported during contact tracing – question part of interview schedule
Other Disease	Immunocompromised conditions, fibromyalgia, all malignant neoplasia’s	Extracted from interview notes

Appendix – (iii) Symptoms following COVID-19 infection (list and explanations)

Symptom	Examples of symptom	Data collection method
Systemic	Night sweats, fatigue, malaise	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes
Ear, Nose and Throat (ENT)	Recent loss of sense of smell and taste, post-nasal drip, sore throat	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes
Respiratory	Cough (dry or productive), pulmonary edema	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes
Gastrointestinal	Stomach pain, heart burn	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes
Musculoskeletal	Leg pain, back pain. Muscular cramping, joint pain	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes
Cardiovascular	Palpitations, chest pain, chest tightness	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes
Neurological	Restlessness, light-headedness, dizziness	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes
Other	Burning pain in eyes, dark-colored urine, skin rash, clinical depression, adrenal crisis	Self-reported during contact tracing – question part of interview schedule. Also extracted from interview notes

Appendix – (iv) Occupation categories (category and examples)

Category	Explanation	Examples
Food/ lodging services	Fast food, restaurants, motels, hospitality	Arby's, EconoLodge
Agriculture/ Animal Husbandry	Farmers, seed lots, feed lots, auxiliary farm services, veterinarians	Monsanto, pig farms
Construction and Real estate		Kearney Crete and Block,
Educational services	Schools, colleges, community college, summer camp	Lexington High School
Disabled/ retired/ unemployed	Unemployed here refers to "not engaged in remunerative work outside the home"	Retired, homemaker
Food Production (Meat/Poultry)	Meatpacking services, cleaners and auxiliary for food production	Tyson, Gibbon meatpacking plant
Healthcare services	Doctors, nurses, pharmacy, hospital non-clinical staff, clinical staff at long-term care facilities etc	Kearney Regional Health Center, pharmacies
Manufacturing/ Heavy Industry	Factory workers, staff	Case New Holland, Baldwin Gas
Professional services	Legal, accountant, bankers, IT, cleaning services	Hunt cleaners, credit union, immigration lawyer
Public sector	Federal, local and city government services	City of Cozad, DHHS
Retail	Supermarket, grocery stores, gas stations	Walmart, supermarkets, car dealerships
Social assistance services	Retirement homes, childcare, religious institutions, YRTC, non-clinical staff at care homes.	Avamere, LTCF, assisted living
Transportation and automobile services	Truckers, railroad mechanics	Railyard, gas station
Utilities	Electricity and gas	Dawson Public Power District
Self-employed	Self-reported during contact tracing interview	Self-owned business
Minor/ student	Includes all minors irrespective of employment status	School students
Missing/ did not wish to disclose		