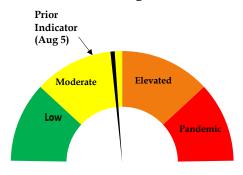


Risk Dial Aug 11, 2021



Risk Dial for COVID-19 Two Rivers Public Health Published Aug 12, 2021

- 126 new cases of COVID-19 were detected in TRPHD in the past week across the 7 counties. Weekly positivity rate for all tests conducted in the district is 7%, positivity rate in Buffalo county is over 10%.
- About a third of ICU beds across TRPHD are currently available. The number of COVID-related hospitalizations is 15; 4 persons are on ventilator support (see https://www.trphd.org/ for details).
- Contact tracing interviews report connected cases where multiple persons in the same household are infected. Over half the cases in the past month were among persons less than 40 years of age. An overwhelming majority of new COVID positive persons are unvaccinated.
- As of Aug 11, 2021, 40% of TRPHD's total population has been fully vaccinated. 50% of the adult population (18+years) has been fully vaccinated across the district. See weekly vaccination report at https://www.trphd.org/covid-19/vaccination-reports.html for details. TRPHD strongly urges all eligible residents to access vaccination through the local pharmacy, health department or through their healthcare provider. There is robust evidence that all available vaccines protect recipients from contracting COVID-19 and its newer Delta variant (B.1.617.2), as well as greatly reduce the incidence of severe illness in the rare event of infection.
- For these reasons, the risk dial is further raised from the previous time it was reset (August 4). Risk in the district is still assessed to be "moderate" but shows a rapidly increasing trend towards "elevated". The increase reflects the continued increase in COVID cases, less than 50% vaccination coverage, and the increasing number of COVID-related hospital admissions across TRPHD.



Weekly report Aug 4 - Aug 10, 2021 Overview

The weekly report will look at COVID-19 cases in TRPHD across different time periods, presenting graphs showing daily progress of cases and a weekly summary in conclusion

- The tables describe total tests conducted and positive cases across TRPHD from Aug 4 Aug 10 (1 week) and Jul 13 - Aug 10 (4 weeks). We show the average daily number of new cases, overall test positivity rate and positivity rate for tests not conducted routinely (eg: residential facilities1)
- The first graphic describes the vaccination coverage rate of TRPHD residents by county between December 15, 2020 - Aug 9, 2021. All residents are included to calculate the proportion of the total population that is partially or fully vaccinated.
- The second set of graphs look at the progress of the pandemic from April 1, 2020 Aug 10, **2021** across all counties.
 - We describe the **7-day rolling average** ² of positive cases across TRPHD since April, describing overall progress and cases by age categories
- The third set of graphs describe the **test positivity** rate (7-day rolling) across all 7 counties from April 1, 2020 - Aug 10, 2021. The graph is modified to show residential, non-residential and overall positivity rates separately. 3
- The fourth set of graphs describe the daily case average (7-day rolling) across towns and cities in three urban areas (Kearney, Lexington, Holdrege) (July 1, 2020- Aug 10, 2021) 4
 - o The cities described are Kearney, Elm Creek, Pleasanton, Amherst, Riverdale, Gibbon, Shelton and Axtell (total 39,412 people), Lexington, Overton, Elwood, Johnson Lake and Cozad (total 15,700 people), Holdrege, Loomis and Funk (total 5967 people).
- The fifth set of graphs describe the daily average of cases (7-day rolling average) from Jul 13 - Aug 10.
 - Progress is described by age & city of residence.

To conclude, overall COVID positivity rate in TRPHD is over 6%, the highest since January. ICU bed availability across 7 counties is less than a third, and COVID-related hospitalizations account for 10% of all beds in TRPHD. Over half of all new cases are among residents less than 40 years of age. 40% of the total population of TRPHD district is now fully vaccinated, including half of all adults (18 years or more). TRPHD has scheduled mobile vaccination clinics at almost 15 sites across seven counties. Those eligible for the vaccine are advised to contact their physician or refer to the vaccination clinic schedule at www.trphd.org. In the meantime, unvaccinated residents are advised to follow strict preventive measures (social distancing, correct and consistent masking) at all times, especially in light of increased transmission of the delta variant.

¹ For information on residential facilities, please see appendix 3

² 7-day rolling average refers to the sum of the cases reported on that day and the preceding 6 days divided by 7. This number is presented for each day to 'smooth out' the line for cases.

³ For information on "average positivity rate", please see appendix 2

⁴ For information on urban areas, please see appendix 5



Testing & Vaccination Overview

- As of Aug 10, 2021, over 63,000 residents of Two Rivers Health District were tested at least once for COVID-19. Over 145,000 tests have been conducted since March 1, 2020 and over 10,200 persons have tested positive at least once, a small proportion testing COVID positive more than once.⁵ TRPHD has publicly notified 121 deaths due to COVID-19 across the district.
- As of Aug 10, 2021, 40% of TRPHD's entire population has been fully vaccinated. ⁶ Details of vaccination rates by age in each of the seven counties in Two Rivers Health District is shown below. The legend for color codes used is displayed below. Percentages have been rounded off to the nearest whole number. Vaccines are currently available to all eligible residents aged 12 years and over.

	BUFFALO	DAWSON	FRANKLIN	GOSPER	HARLAN	KEARNEY	PHELPS	TRPHD
0-17 YRS	6%	7%	4%	4%	4%	6%	3%	6%
18-29 YRS	27%	29%	21%	28%	23%	32%	22%	27%
30-39 YRS	40%	34%	35%	22%	34%	35%	33%	37%
40-49 YRS	53%	44%	38%	41%	27%	57%	34%	47%
50-59 YRS	58%	50%	40%	41%	41%	50%	44%	52%
60-69 YRS	76%	72%	62%	68%	58%	70%	60%	71%
70-79 YRS	95%	86%	85%	55%	86%	80%	89%	89%
80+ YRS	87%	76%	77%	76%	58%	68%	73%	78%
ALL AGES	41%	38%	42%	40%	36%	41%	36%	40%

	0% - 33%	Less than 1/3rd fully vaccinated			
	34% - 50%	1/3rd to 1/2 fully vaccinated			
	50%- 74%	1/2 to 3/4ths fully vaccinated			
75% & higher Over 3/4ths fully vaccinated					

• How to read this table: (For eg.): "Over half (53%) of Buffalo county residents in their 40s are fully vaccinated, compared to about a third (34%) of 40-year olds in Phelps county who are fully vaccinated."

⁵ Note: The minor differences between the numbers reported and totals displayed on www.trphd.org dashboards is explained by testing in residential facilities and isolated rapid test results that are not reflected in the state's public dashboards. Tests of persons missing date of birth are excluded from the analysis

⁶ For information on vaccine-eligible population in each of the counties, please see appendix 4 516 W 11th Street, Suite 108 Kearney, NE 68845



- The table below provides details of positive cases detected in 7 counties in TRPHD in the past week (Aug 4 - Aug 10) and past 4 weeks (Jul 13 - Aug 10).
- The daily average refers to the average daily new COVID cases calculated either weekly (7-day average) or **monthly** (28-day average).
- All-test positivity rate refers to the proportion of all tests conducted that are positive, including regular testing, antigen and PCR.
- Positivity rate (non-routine) refers to tests that are **not** conducted in residential and longterm living facilities. ⁷ These COVID tests are conducted mainly in hospitals, clinics and pharmacies. Details are provided below.

	Aug 4 - Aug 10 (1 week)			Jul 13	Jul 13 - Aug 10 (4 weeks)		
	Daily average (7-day	Positivity Rate (All	Positivity Rate (non- routine	Daily average (28-day	Positivity Rate (All	Positivity Rate (non- routine	
County	avg)	tests)	testing)	avg)	tests)	testing)	
Buffalo	13.3	10.1%	18.3%	8.1	8.5%	14.5%	
Dawson	2.0	6.1%	11.3%	1.8	5.4%	8.6%	
Franklin	0.3	4.7%	9.1%	0.5	11.2%	18.3%	
Gosper	0.1	8.3%	14.3%	0.1	0.9%	8.3%	
Harlan	0.6	3.5%	33.3%	0.3	3.3%	20.0%	
Kearney	0.3	1.0%	5.7%	0.4	2.8%	9.7%	
Phelps	1.4	3.4%	13.5%	0.8	2.9%	12.4%	
Age (in yrs)							
0-17	1.0	4.5%	6.7%	1.1	6.1%	8.6%	
18-29	4.1	7.0%	14.7%	2.8	6.1%	12.4%	
30-39	3.4	10.8%	21.1%	2.3	9.3%	17.5%	
40-49	2.6	10.4%	21.2%	1.6	7.4%	14.0%	
50-59	2.3	6.8%	17.4%	1.4	6.1%	13.0%	
60-69	2.0	6.5%	14.4%	0.9	4.7%	10.2%	
70-79	1.7	8.5%	19.2%	1.0	7.3%	14.4%	
80+ yrs	0.9	2.3%	15.4%	0.7	2.8%	12.8%	
TRPHD	18.0	6.9%	15.9%	11.8	6.2%	12.8%	

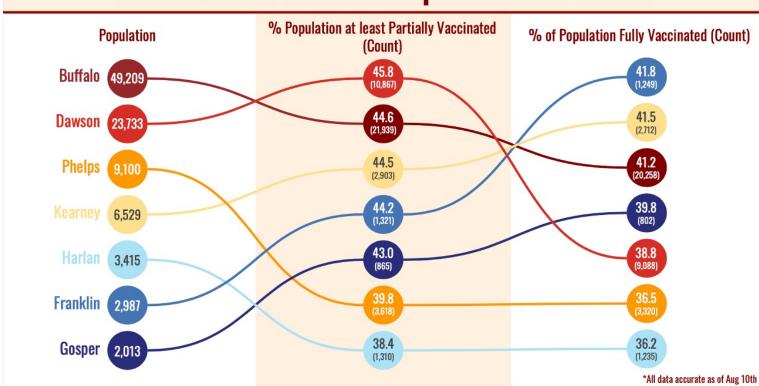
How to read this table: (For eg.): "In the past month, almost 3% of all COVID tests in Phelps county were positive (12% of tests not conducted by long term facilities); in the past week, more than one new case/ day was recorded in Phelps county."

⁷ For information on residential facilities, please see appendix 3 516 W 11th Street, Suite 108 Kearney, NE 68845



- The graph below describes all TRPHD residents vaccinated between December 15, 2020 Aug 10, 2021. All residents of the seven counties are included.
- Each county is depicted by a colored circle, and the relative position of each corresponds to the proportion vaccinated. Actual numbers (count) are included in parenthesis.
- Overall, 39.8% of the total population in Two Rivers Health District is now fully vaccinated. 50.8% of all adult residents (18 years and over) are fully vaccinated.

Vaccinations of Total Population in TRPHD

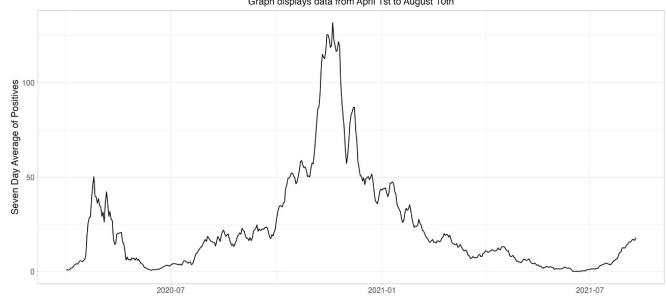




- The graph below describes 7-day rolling average of COVID-19 across TRPHD from April 1, 2020 - Aug 10, 2021.
- The second graph describes 7-day rolling average of COVID-19 cases by age across TRPHD for the same time period. The height of the graph corresponds to total cases and the thickness of each colored band corresponds to each age group.

7 Day Rolling Average of Two Rivers

Graph displays data from April 1st to August 10th



Daily Average of COVID-19 Cases in TRPHD by Age

Graph displays data from July 13th to August 10th Seven Day Average of Positives Age 18-29 yrs 30-39 yrs 40-49 yrs 50-59 yrs 60-69 yrs 70-79 yrs 80-89 yrs 90+ yrs

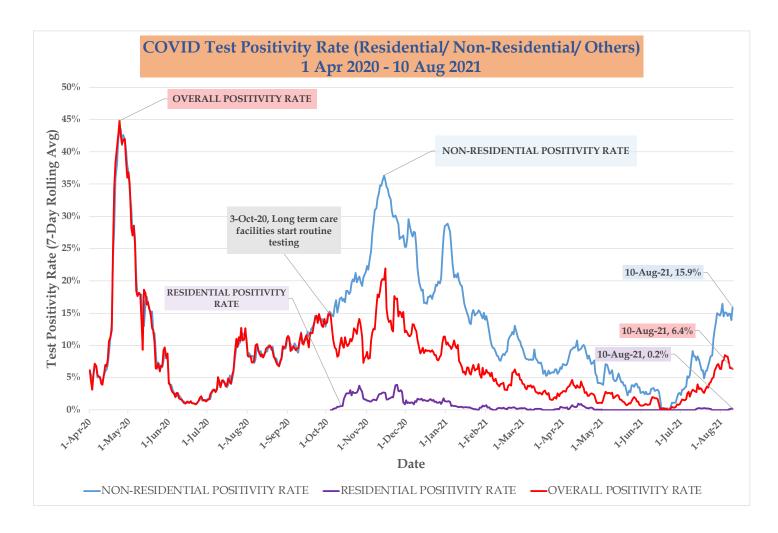
2021-01

2020-07

2021-07



- The graphs below describe the average **test positivity rate** (7-day rolling average)⁸ in TRPHD from **April 1, 2020 Aug 10, 2021.** The graph depicts the entire county including Buffalo, Dawson, Phelps, Franklin, Gosper, Harlan and Kearney counties.
- Graph describes all tests (overall positivity rate), those conducted **in residential facilities**, and those conducted outside residential facilities in the last 17 months ⁹



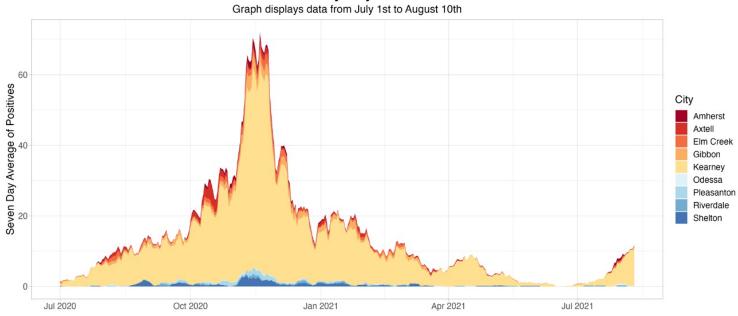
⁸ For description of average positivity rate, see appendix 1

For information on residential facilities, please see appendix 3
 516 W 11th Street, Suite 108
 Kearney, NE 68845



- The following graphs describe the average daily COVID cases (7-day rolling) in three urban areas in Two Rivers Health Department.
- The urban areas are Kearney city and surrounding towns (Kearney, Elm Creek, Pleasanton, Amherst, Riverdale, Gibbon, Shelton and Axtell total 39,412 people), Lexington city and surrounding towns (Lexington, Overton, Elwood, Johnson Lake and Cozad total 15,700 people), Holdrege city and surrounding towns (Holdrege, Loomis and Funk total 5967 people). 10
- Time considered is from July 1, 2020 Aug 10, 2021. Scales are different for all three graphs.
- The graph for Kearney city and surrounding areas is presented below.

7 Day Rolling Average of COVID-19 Cases by City

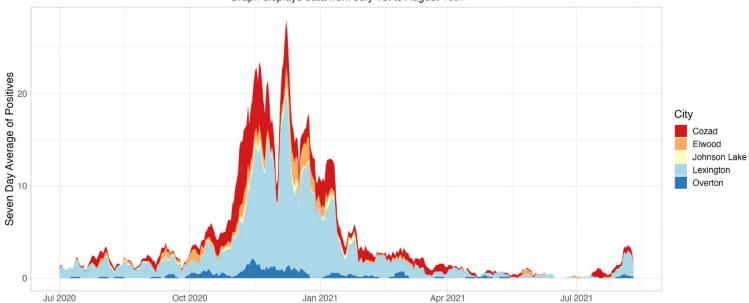




• The **daily average (7-day rolling) of positive cases** in **Lexington** and **Holdrege** cities and surrounding towns between July 1, 2020 – Aug 3, 2021 are presented below.

7 Day Rolling Average of COVID-19 Cases by City





Information Updated as of 8/10 at 8 p.m.

7 Day Rolling Average of COVID-19 Cases by City

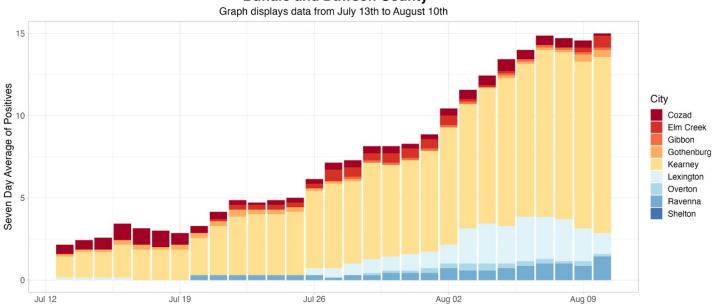
Graph displays data from July 1st to August 10th

Total Tota



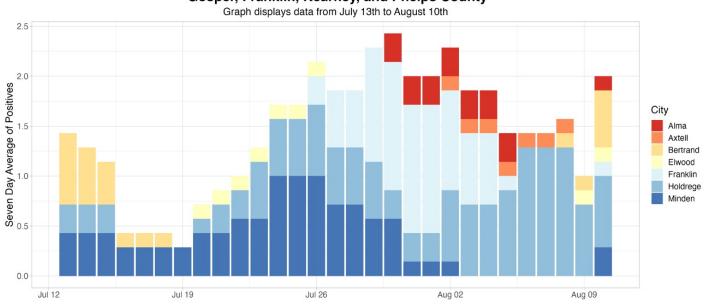
• The following bar graphs describes the 7-day rolling averages by <u>city</u> for the past four weeks (Jul 13 - Aug 10) in TRPHD. The graph above shows cities in Buffalo and Dawson counties and the one below shows the graph for cities in Gosper, Harlan, Kearney and Phelps counties. <u>The scale is different for both graphs</u>.

7 Day Rolling Average of COVID-19 Cases Buffalo and Dawson County



Information Updated as of 8/10 at 8 p.m.

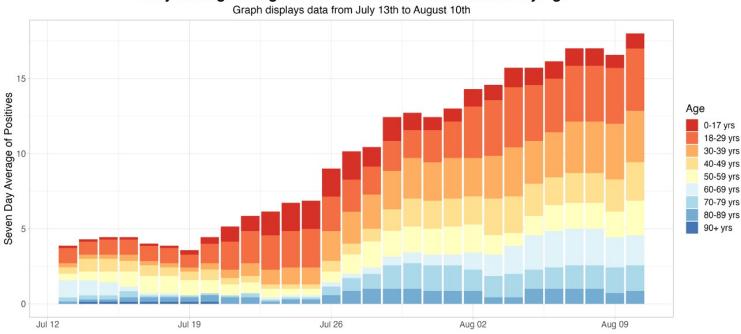
7 Day Rolling Average of COVID-19 Cases Gosper, Franklin, Kearney, and Phelps County





• The graph below describes the **7-day rolling average** of cases from **Jul 13 – Aug 10** by age. The height of the graph corresponds to total cases and the thickness of each colored band corresponds to each age group.

7 Day Rolling Average of COVID-19 Cases in Two Rivers by Age





Weekly summary

- 126 new cases of COVID-19 were detected in TRPHD in the past week across the 7 counties. Weekly positivity rate for all tests conducted in the district is 7%, positivity rate in Buffalo county is over 10%.
- About a third of ICU beds across TRPHD are currently available. The number of COVID-related hospitalizations is 26; 4 persons are on ventilator support (see https://www.trphd.org/ for details).
- As of Aug 11, 2021, 40% of TRPHD's total population has been fully vaccinated. 50% of the adult population (18+years) has been fully vaccinated across the district. See weekly vaccination report at https://www.trphd.org/covid-19/vaccination-reports.html for details. TRPHD strongly urges all eligible residents to access vaccination through the local pharmacy, health department or through their healthcare provider. There is robust evidence that all available vaccines protect recipients from contracting COVID-19 and its newer Delta variant (B.1.617.2), as well as greatly reduce the incidence of severe illness in the rare event of infection.
- Less than 30% of adults under 40 years are fully vaccinated, this age group accounts for a little under half of all new cases in the past month. Positivity rates have risen for this age group, and is cause for concern especially in light of increased susceptibility of younger persons to the Delta variant.
- COVID-19 vaccination continues to be provided by Two Rivers Health Department vaccine clinic and walk-in pharmacies across the district. All persons aged 12 and over are eligible for the vaccine. TRPHD has scheduled mobile vaccination clinics at almost 15 sites across seven counties to distribute vaccines and to focus on areas of potential shortfall. Those eligible for the vaccine are advised to refer to the vaccination clinic schedule at www.trphd.org

To conclude, overall COVID positivity rate in TRPHD is over 6%, the highest since January. ICU bed availability across 7 counties is less than a third, and COVID-related hospitalizations account for 10% of all beds in TRPHD. Over half of all new cases are among residents less than 40 years of age. 40% of the total population of TRPHD district is now fully vaccinated, including half of all adults (18 years or more). TRPHD has scheduled mobile vaccination clinics at almost 15 sites across seven counties. Those eligible for the vaccine are advised to contact their physician or refer to the vaccination clinic schedule at www.trphd.org. In the meantime, unvaccinated residents are advised to follow strict preventive measures (social distancing, correct and consistent masking) at all times, especially in light of increased transmission of the delta variant.



APPENDIX 1

Background

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. 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 of population. The largest cities are Holdrege (pop. 5408), Lexington (pop. 10115) and Kearney (pop. 33867) meaning that well over half the residents of TRPHD live in three cities, and over a third are in Kearney alone. The population of all 7 counties in TRPHD are shown below.

County	Population
Buffalo	49,659
Dawson	23,595
Franklin	2,979
Gosper	1,990
Harlan	3,380
Kearney	6,495
Phelps	9,034
TRPHD total	97,132
Nebraska state	1,934,408
United States	328,239,523

- Data is presented as 7-day rolling averages for daily numbers and absolute counts for cumulative cases. The 7-day rolling average is the sum of all cases reported on that day plus the previous six divided by 7.
- Total (cumulative) cases refer to all COVID cases that have been confirmed by testing in the district since the beginning of the pandemic in TRPHD (March 19)
- All tests refers to all types of tests conducted across the Health District, including laboratory-based PCR and rapid antigen.
- Average positivity rate refers to a seven-day rolling average positivity rate, which is the sum of all cases for that day and the previous six divided by the sum of all tests done in that day and the previous six. This is also the same as the "weekly positivity rate"
- In cases that call for comparison across larger areas (counties v/s state of Nebraska, for eg), we present the count per 100,000 population. 100,000 roughly corresponds to the population of Two Rivers Health District (97,132)
- In cases that call for comparison between cities, (Kearney v/s Minden for eg), we present a count per 10,000 population. 10,000 roughly corresponds to the population of Lexington (10,115), the second largest city in TRPHD.
- Deaths due to COVID-19 are identified in death certificates (usually COVID -19 is the Underlying Cause of Death) and attested by the attending physician or medical examiner/ coroner. Each case is further investigated by TRPHD over telephone the next



of kin is contacted, condolences conveyed and exit interviews conducted by Department staff before releasing a public notification. For further details on the procedure for COVID-19 death certification, please see https://www.cdc.gov/nchs/data/nvss/vsrg/vsrg03-508.pdf

 For calculation, we use the 2019 mid- year census estimate (American Community Survey, ACS) and data from The Atlantic's COVID tracking project (https://covidtracking.com/data)

APPENDIX 2

Total (cumulative) cases per 100,000 population

The total/cumulative case counts are the **total** cases confirmed by testing in an area (county, city, state or health district) calculated from the first recorded case (in case of TRPHD this is March 19, 2020). This is expressed as a fraction of the total population of the area and standardized to 100,000 persons. A population of 100,000 is used to compare counties as it is comparable to the overall population of Two Rivers Health District (97,032).

Total (cumulative) cases / 100,000 persons is calculated as:

[(Total positive test results for residents in the region)] / (mid-year population) * 100,000 Daily average of cases per 100,000 population

The daily average (7-day rolling) of cases is the sum of all cases reported on that day plus the previous six divided by 7. This is expressed as a fraction of the total population of the area and standardized to 100,000 persons. A population of 100,000 is used to compare counties as it is comparable to the overall population of Two Rivers Health District (97,032).

Daily average of cases / 100,000 persons is calculated as:

[(7-day rolling average of cases among residents)] / (mid-year population) * 100,000 APPENDIX 3

About a third of all tests conducted since March in the district have been availed by residents or staff of residential facilities. "Residential facilities" include long-term care facilities, in-patient psychiatry services, retirement villages, veterans' homes and correctional facilities within Two Rivers Health District.

Considering the specific nature of COVID risk of long-term residents of institutional facilities and taking into account the frequent testing performed at facilities, we present numbers separately for long term care facilities and others in the district.



APPENDIX 4

Vaccine-eligible population

The total COVID-19 vaccine-eligible population of Two Rivers Health District is about 76,002. This includes all residents over the age of 16 years living in the seven counties that make up the district. The table below describes the eligible population in each of the seven counties divided by age category.

	16-29 YRS	30-49 YRS	50-64 YRS	65+ YRS	TOTAL(16+ YRS)
TRPHD	19580	22863	17760	15799	76002
BUFFALO	11828	11910	8184	6863	38785
DAWSON	4301	5723	4334	3696	18054
FRANKLIN	391	586	717	809	2503
GOSPER	232	418	532	526	1708
HARLAN	459	649	735	845	2688
KEARNEY	985	1508	1343	1239	5075
PHELPS	1384	2069	1915	1821	7189

Vaccines used in TRPHD

In the first phase, COVID-19 vaccines have been approved for use in all persons over the age of 16 years. Currently, Pfizer and Moderna vaccine formulations are being offered in Two Rivers Health District. Use of the Johnson & Johnson (Janssen) vaccine formulation has been paused pending further scrutiny by the Food and Drug Administration (FDA).

The Nebraska Department of Health and Human Services paused use of the Johnson & Johnson (Janssen) COVID-19 vaccine after Centers for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA) recommendations following reports of six women who have been hospitalized with severe blood clots after receiving the vaccine dose, including one woman in Douglas county. The women were aged between 18-48 years. Vaccine use was reinstated on April 26, 2021 and is now available at private pharmacies across the state.

To date, over 6.8 million doses of Janssen vaccine have been administered in the United States, over 31,500 in Nebraska, and 1560 in Two Rivers Health District.

Symptoms in the 6 hospitalized individuals included headache, back pain, other unexplained pain. Symptoms typically began 6-13 days after vaccination, and hospital admission was within 15 days, on average. More than 55% of the Janssen vaccine was administered before 22nd of March in Two Rivers Health District.



APPENDIX 5

Methods & Definitions

To better understand the course of the COVID-19 pandemic in Kearney, Lexington and Holdrege, we created 'urban areas' that included both the city and its surrounding towns. We included all towns within 20 miles of Kearney city, 15 miles of Lexington and 10 miles of Holdrege within each city's urban area. The respective populations of all 7 counties in TRPHD are shown below. Kearney city accounts for over third of the population of TRPHD.

County	Population
Buffalo	49,659
Dawson	23,595
Franklin	2,979
Gosper	1,990
Harlan	3,380
Kearney	6,495
Phelps	9,034
TRPHD total	97,132
Nebraska state	1,934,408

Thus "Kearney area" includes Kearney city as well as Elm Creek, Pleasanton, Amherst, Riverdale, Odessa, Gibbon, Shelton and Axtell.

The populations of cities and villages is described below. Also included are Minden and Gothenburg, used as comparison points in descriptive statistics about the area.

CITY	POPULATION
Kearney	33867
Elm Creek	949
Axtell	751
Pleasanton	359
Riverdale	179
Amherst	253
Gibbon	1869
Shelton	1055
Odessa	130
KEARNEY URBAN AREA (TOTAL)	39412
Lexington	10115
Overton	567
Johnson Lake	600

[&]quot;Lexington area" includes Lexington city as well as Overton, Johnson Lake and Cozad.

[&]quot;Holdrege area" includes Holdrege city, Loomis and Funk.



Elwood	683
Cozad	3735
LEXINGTON URBAN AREA (TOTAL)	15,700
Holdrege	5408
Funk	183
Loomis	376
HOLDREGE URBAN AREA (TOTAL)	5967
Gothenburg	3489
Minden	2890

For presenting data, we selected 3 time frames:

- a) April 1 current (From the beginning of the pandemic to most recent Tuesday)
- b) July 01 current (From the beginning of second sustained 'wave' in daily case counts to current)
- c) Previous 4 weeks
- Data is presented as 7-day rolling averages for daily numbers and absolute counts for cumulative cases. The 7-day rolling average is the sum of all cases reported on that day plus the previous six divided by 7.
- Cumulative cases refer to all cases that have been confirmed in the district since the beginning of the pandemic in TRPHD (March 19)
- Average positivity rate refers to a seven-day rolling average positivity rate, which is the sum of all cases for that day and the previous six divided by the sum of all tests done in that day and the previous six
 - Average positivity rate (in %) = (Sum of positive cases for current day + previous 6 days) / (Sum of total tests for current day + previous six days)
- In cases that call for comparison across larger areas (counties v/s state of Nebraska, for eg), we present the count per 100,000 population. 100,000 roughly corresponds to the population of Two Rivers Health District (97,132)
- In cases that call for comparison between cities, (Kearney v/s Minden for eg), we present a count per 10,000 population. 10,000 roughly corresponds to the population of Lexington (10,115), the second largest city in TRPHD.
- For calculation, we use the 2019 mid- year estimate (American Community Survey, ACS) and data from The Atlantic's COVID tracking project (https://covidtracking.com/data)