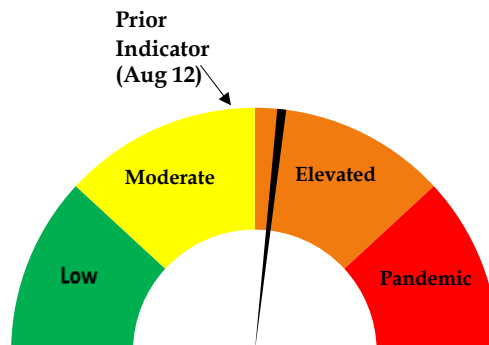




Risk Dial Aug 19, 2021



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

- In the week between 16– 22 Jun, no new COVID cases were recorded in the seven county area covered by Two Rivers Health District. In the week between August 10-16 (less than 2 months later), 150 cases were recorded across the district.
- Over 2/3rds of all positive cases in the past month were among residents less than 50 years of age. Adults less than 40 years (18-39 years) accounted for over 45% of all new cases in the past month.
- COVID-related hospitalizations account for 11% of Medical/ Surgical bed occupancy; 6 persons in hospitals across TRPHD are on ventilator support (see <https://www.trphd.org/> for details).
- Contact tracing interviews are restricted by personnel shortages and shifting strategies. The inability to identify and notify potential contacts of a new COVID positive case hampers tracing and quarantine efforts. Limited public access to testing in the district creates additional barriers to effective case identification.
- As of Aug 17, 2021, 40.4% of TRPHD's total population and 51.4% 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. In light of rising incidence rates connected to the newer delta variant, TRPHD strongly urges all unvaccinated vaccine-eligible residents to avail of the COVID vaccination through their healthcare provider, pharmacy or www.trphd.org
- For these reasons, the risk dial is further raised this week. Risk in the district is assessed to be 'elevated'. The previous time risk was 'elevated' was on 4th February, when test positivity was half the current rate and testing was more widespread. However, increased vaccination coverage in the district is an important factor that distinguishes the current situation from February.



Weekly report Aug 11 - Aug 17, 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 11 - Aug 17** (1 week) and **Jul 20 - Aug 17** (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 16, 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 17, 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 **cumulative number of COVID- positive cases** across all 7 counties from **March 15, 2020 - Aug 17, 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 17, 2021) ⁴
 - 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 20 - Aug 17**.
 - Progress is described by age & city of residence.

To conclude, incidence of COVID in TRPHD continues to rise; 150 new cases were recorded in the week from August 10-16. Over 45% of new cases are currently in their 20s or 30s. Minors (under 18 years) account for about a tenth of all new cases in the past month. COVID-related hospitalizations account for 11% of all beds in TRPHD. 40.4% of the total population of TRPHD district is now fully vaccinated, as are over 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 17, 2021, about 50,000 residents of Two Rivers Health District were tested at least once for COVID-19. Over 148,000 tests have been conducted since March 1, 2020 and over 8,500 persons have tested positive at least once and about 2,500 have tested COVID positive more than once.⁵ TRPHD has publicly notified 122 deaths due to COVID-19 across the district.
- As of Aug 17, 2021, 40.4% 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	7%	7%	4%	4%	4%	7%	3%	6%
18-29 YRS	28%	30%	21%	29%	23%	33%	23%	28%
30-39 YRS	41%	36%	35%	23%	35%	36%	34%	38%
40-49 YRS	53%	45%	38%	41%	28%	58%	35%	48%
50-59 YRS	58%	51%	40%	41%	42%	50%	46%	53%
60-69 YRS	76%	73%	62%	68%	58%	70%	61%	71%
70-79 YRS	95%	86%	85%	55%	86%	80%	90%	89%
80+ YRS	88%	76%	77%	76%	58%	68%	73%	78%
ALL AGES	42%	39%	42%	40%	37%	42%	37%	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 (51%) of Dawson county residents in their 50s are fully vaccinated, compared to less than a quarter (23%) of 30-year olds in Gosper county who are fully vaccinated.”

⁵ Note: A previous version of this document said that over 10,000 distinct people had tested positive. The error is regretted and has been corrected in this document. The differences between the numbers reported and totals displayed on www.trphd.org dashboards is due to 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



- The table below provides details of positive cases detected in 7 counties in TRPHD in the past week (**Aug 11 - Aug 17**) and past 4 weeks (**Jul 20 - Aug 17**).
- 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 long-term living facilities. ⁷ These COVID tests are conducted mainly in hospitals, clinics and pharmacies. Details are provided below.

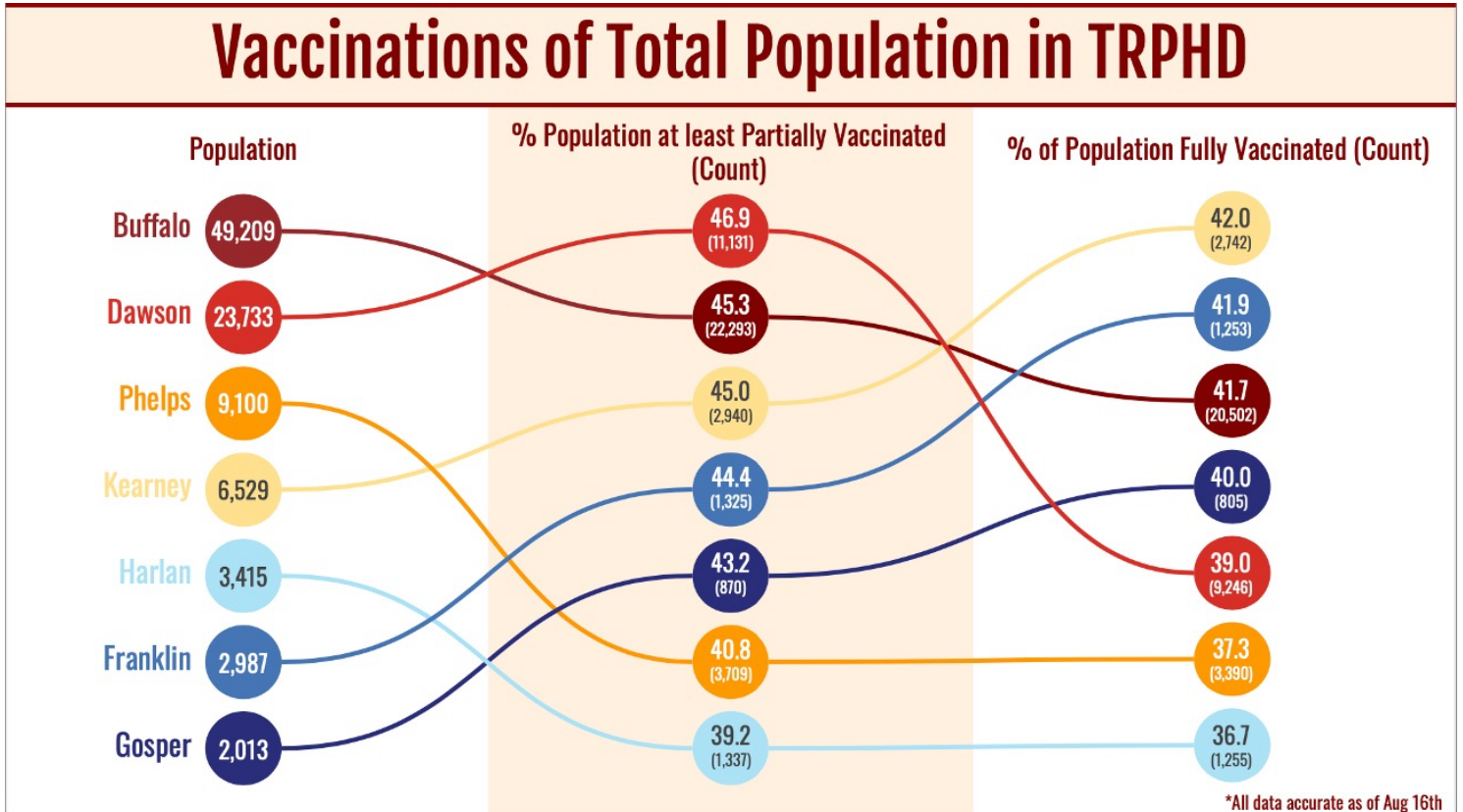
	Aug 11 - Aug 17 (1 week)			Jul 20 - Aug 17 (4 weeks)		
	Daily average (7-day avg)	Positivity Rate (All tests)	Positivity Rate (non-routine testing)	Daily average (28-day avg)	Positivity Rate (All tests)	Positivity Rate (non-routine testing)
County						
Buffalo	13.7	7.6%	14.9%	10.7	8.6%	15.6%
Dawson	5.0	10.9%	17.2%	2.8	7.9%	12.2%
Franklin	0.4	11.5%	25.0%	0.6	13.1%	22.5%
Gosper	0.3	9.1%	16.7%	0.1	1.5%	9.4%
Harlan	0.1	0.6%	11.1%	0.3	2.0%	20.0%
Kearney	0.7	1.9%	13.9%	0.5	2.2%	11.9%
Phelps	1.1	5.8%	10.8%	1.0	3.4%	13.3%
Age (in yrs)						
0-17	2.3	9.2%	11.5%	1.5	7.5%	10.2%
18-29	4.6	6.9%	12.0%	3.6	6.7%	13.2%
30-39	5.4	12.2%	21.7%	3.5	11.4%	21.4%
40-49	3.4	10.0%	20.2%	2.3	8.7%	17.3%
50-59	2.0	4.9%	12.2%	1.7	5.6%	13.0%
60-69	2.4	8.2%	20.5%	1.5	6.1%	14.2%
70-79	1.0	4.8%	13.2%	1.3	7.2%	15.5%
80+ yrs	0.3	0.5%	4.5%	0.6	1.7%	9.7%
TRPHD	21.4	6.8%	15.1%	15.9	6.7%	14.6%

- How to read this table: (For eg.) : “Over the past month, about 7 TRPHD residents in their 20s & 30s tested positive every day. One out of every eight tests conducted in Dawson county outside long term care and residential facilities were positive; in the past month, Phelps county has recorded at least one new COVID case every day.”

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 17, 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, 40.4% of TRPHD's total population and 48.3% of all eligible residents (12 years and over) are fully vaccinated.**





- The graph below describes 7-day rolling average of COVID-19 across TRPHD from **April 1, 2020 – Aug 17, 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.

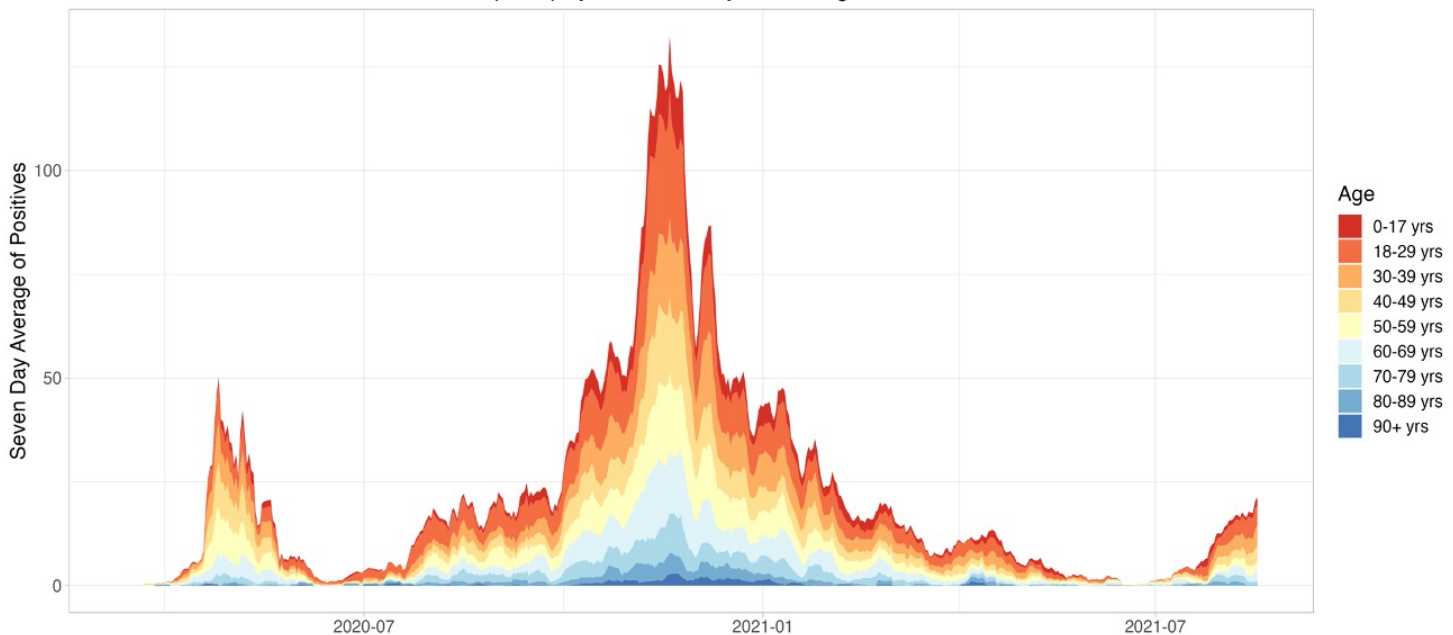
7 Day Rolling Average of Two Rivers

Graph displays data from April 1st to August 17th



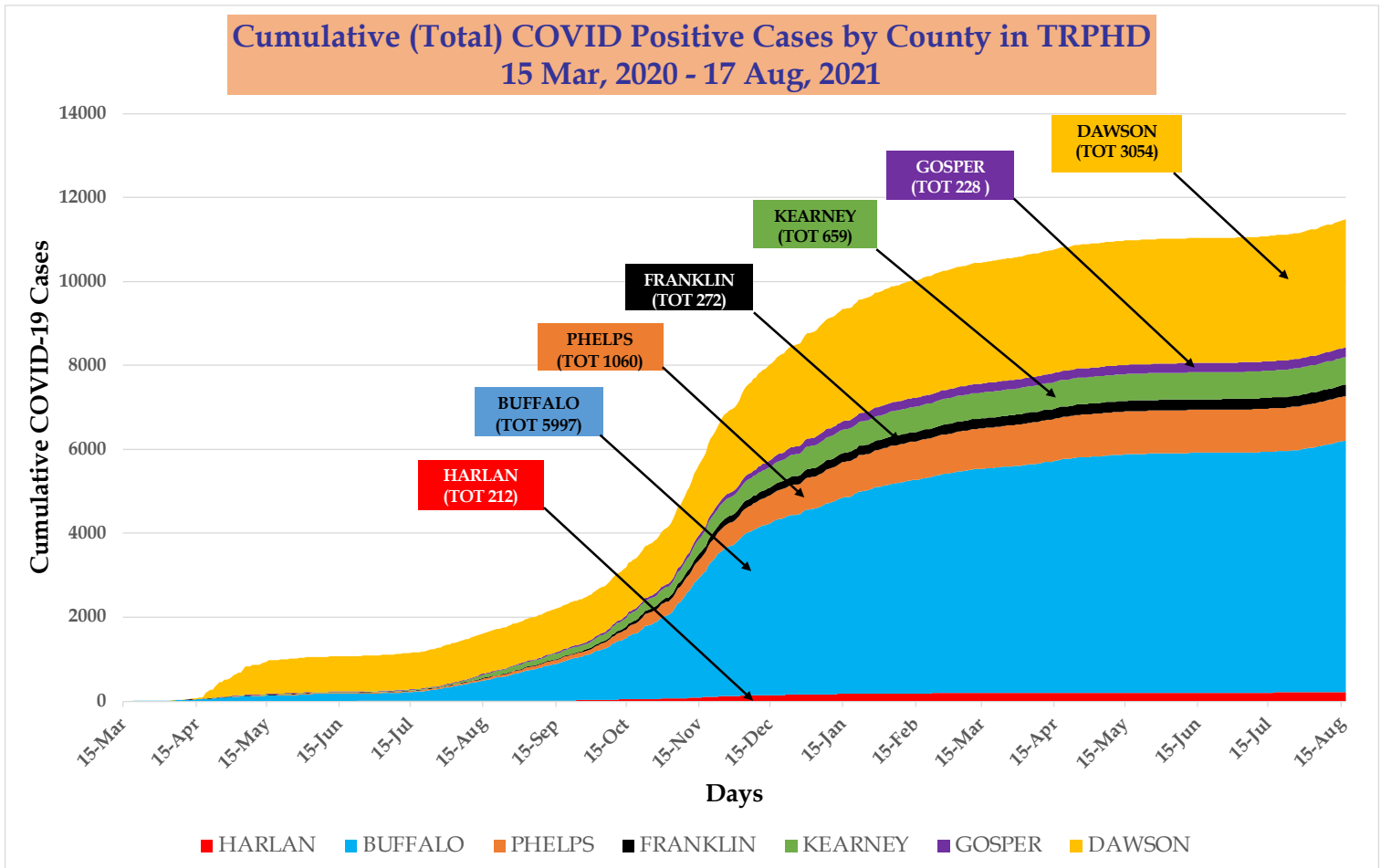
Daily Average of COVID-19 Cases in TRPHD by Age

Graph displays data from July 20th to August 17th





- The graphs below describe the **cumulative number of COVID positive cases** in TRPHD from **March 15, 2020 - Aug 17, 2021**. The graph depicts the entire county showing Buffalo, Dawson, Phelps, Franklin, Gosper, Harlan and Kearney counties separately.
- Graph describes all positive test results detected in TRPHD in the last 17 months, and may represent a slightly higher number than the total number of persons testing positive ⁸



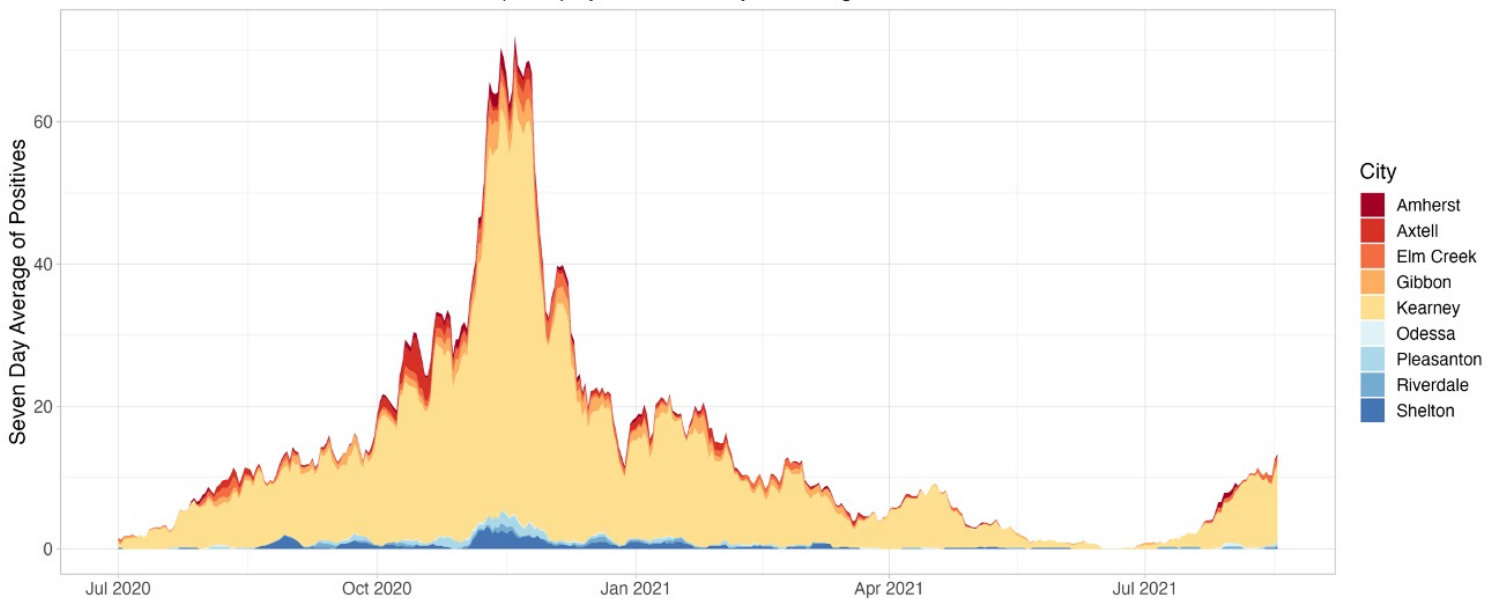
⁸ Cumulative number of positive tests in TRPHD is higher than the total number of people who tested positive because of persons who tested positive twice in the past 17 months. Persons testing positive again following a prior positive test have to either have returned two negative tests in the interim period, or should test positive 2 months after the previous test.



- 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**).⁹
- Time considered is from **July 1, 2020 - Aug 17, 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

Graph displays data from July 1st to August 17th



Information Updated as of 8/17 at 8 p.m.

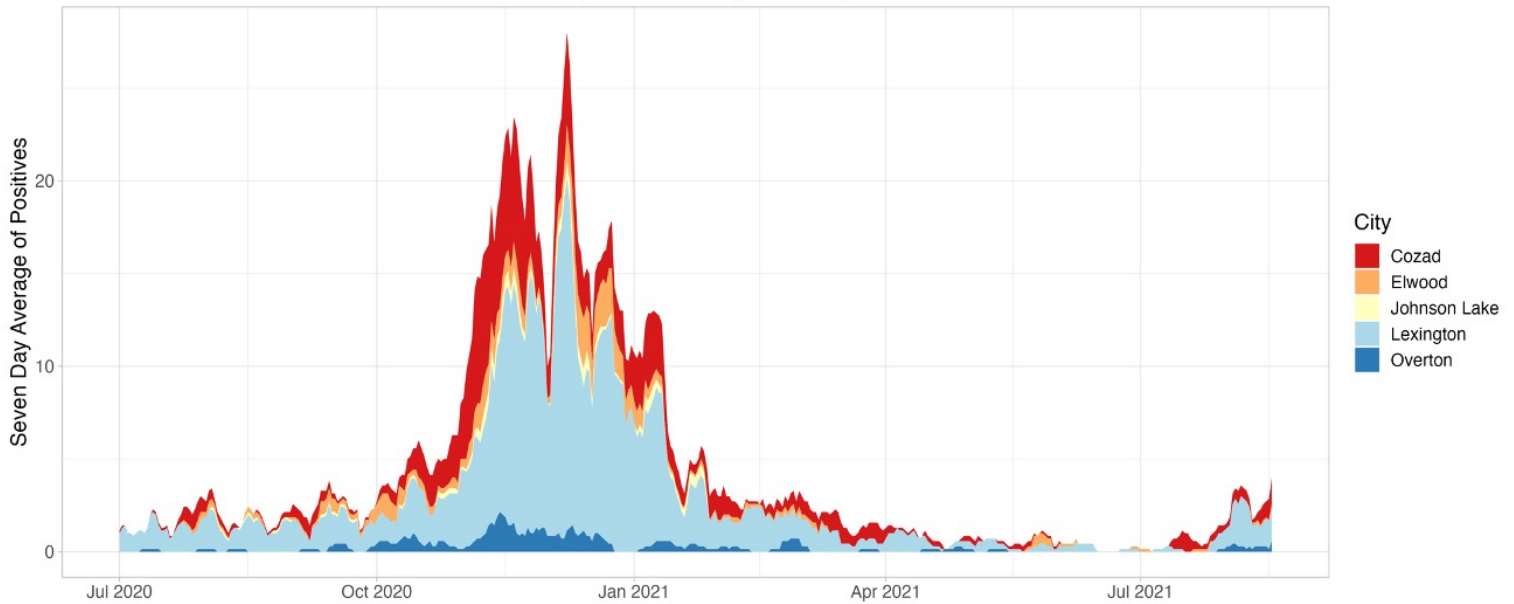
⁹ For details about each of the urban areas, please see appendix 5
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- The **daily average (7-day rolling)** of positive cases in **Lexington** and **Holdrege** cities and surrounding towns between July 1, 2020 – Aug 17, 2021 are presented below.

7 Day Rolling Average of COVID-19 Cases by City

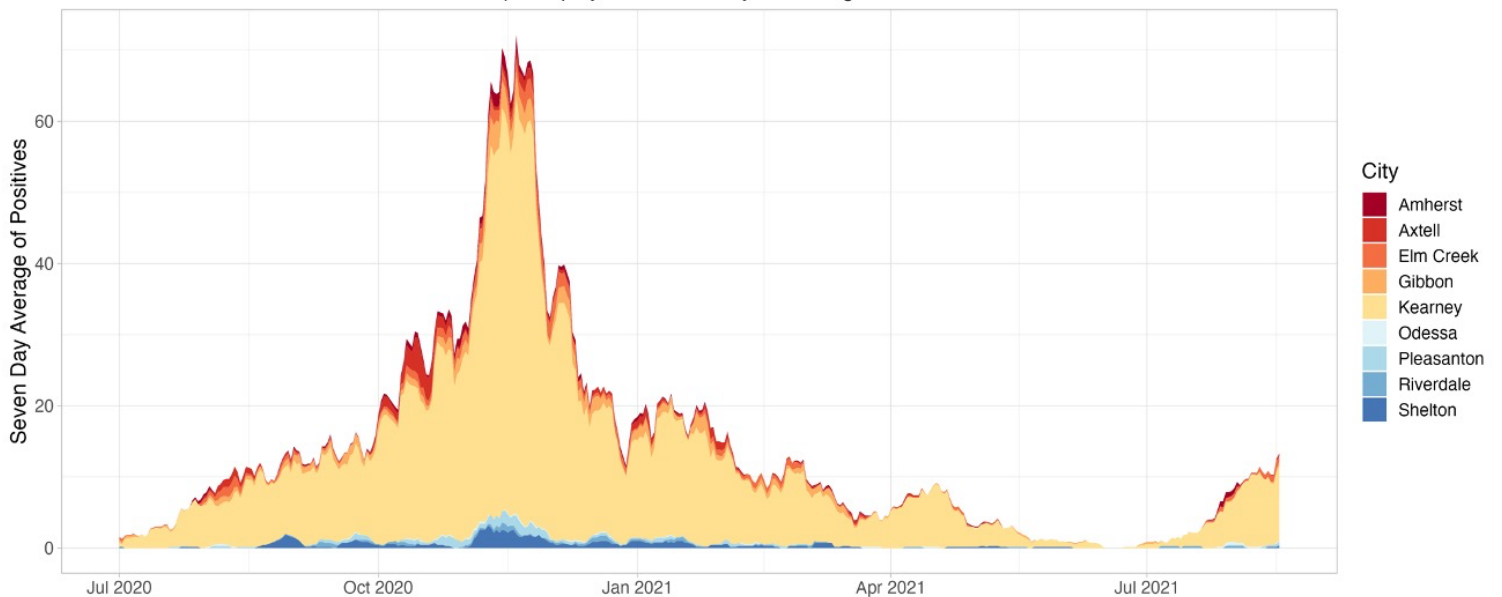
Graph displays data from July 1st to August 17th



Information Updated as of 8/17 at 8 p.m.

7 Day Rolling Average of COVID-19 Cases by City

Graph displays data from July 1st to August 17th



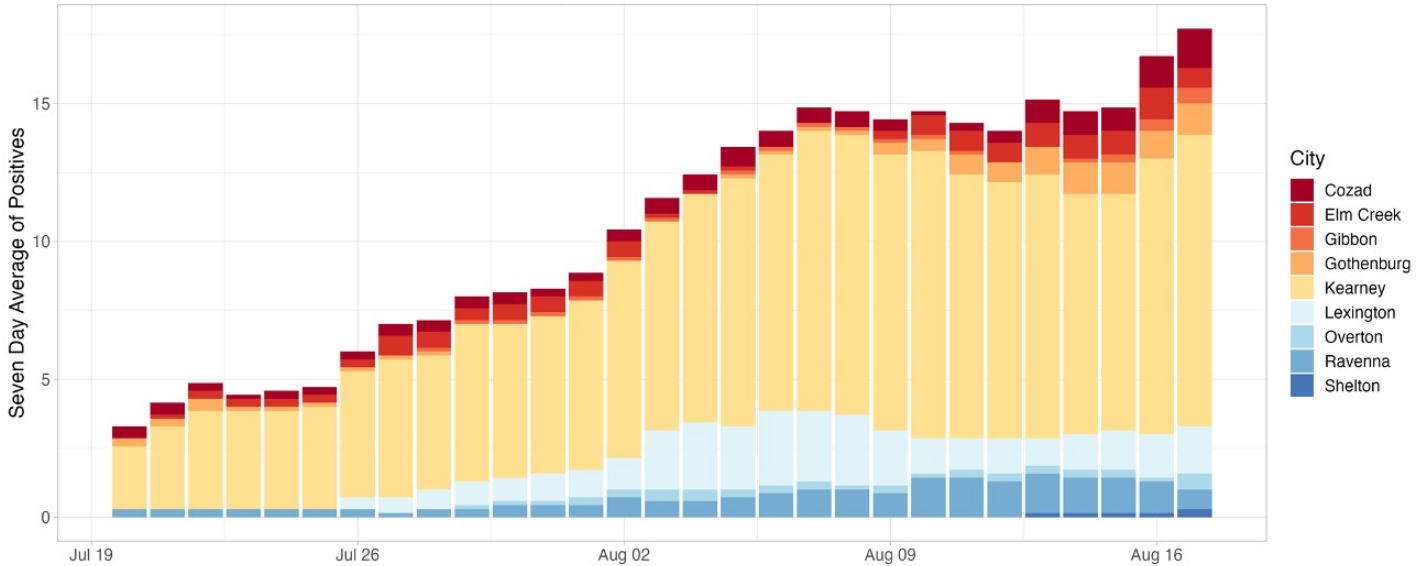
Information Updated as of 8/17 at 8 p.m.



- The following bar graphs describes the 7-day rolling averages by city for the past four weeks (**Jul 20 - Aug 17**) 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. The scale is different for both graphs.

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

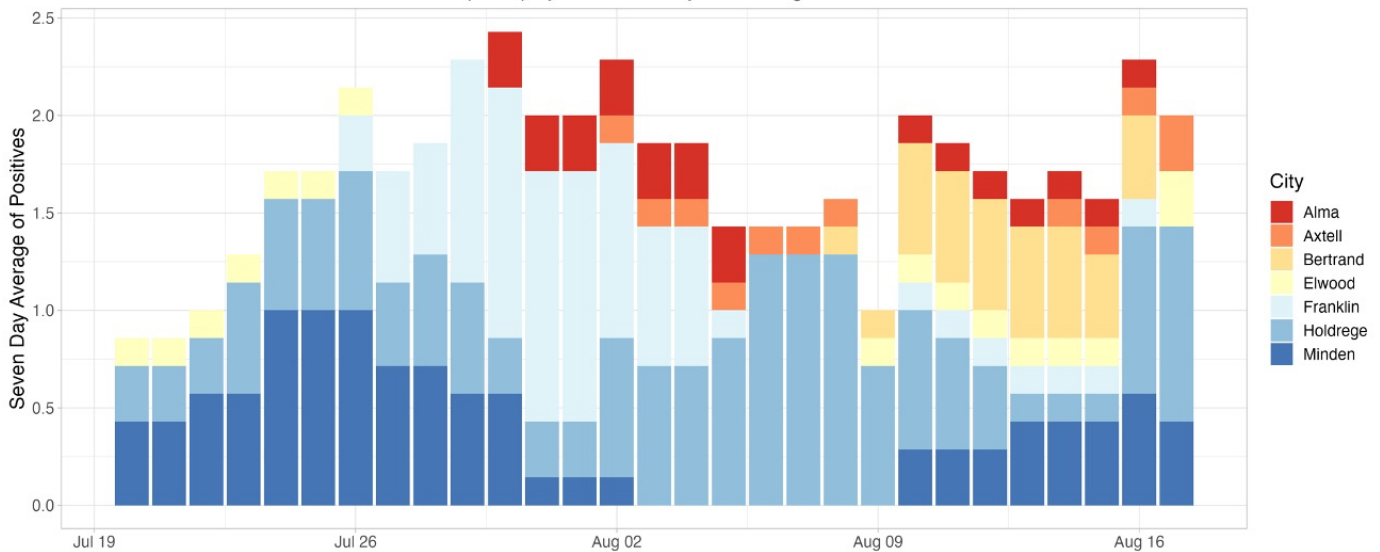
Graph displays data from July 20th to August 17th



Information Updated as of 8/17 at 8 p.m.

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

Graph displays data from July 20th to August 17th



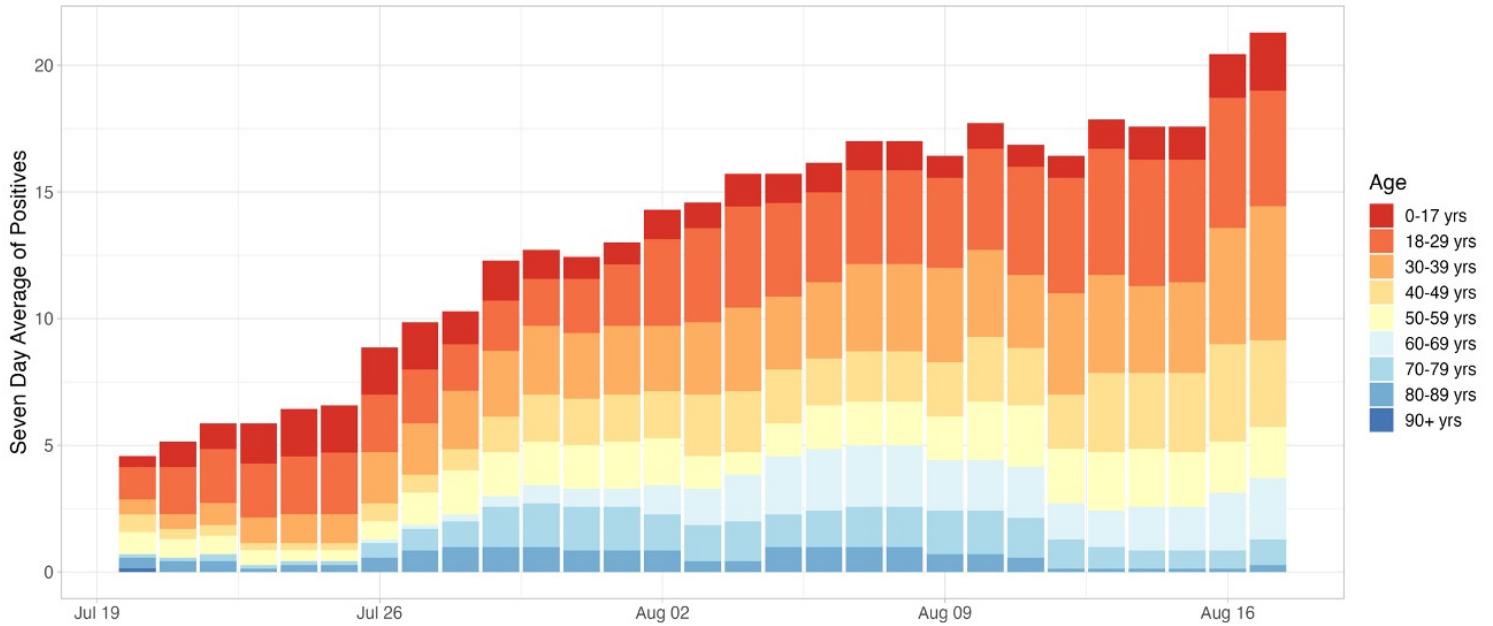
Information Updated as of 8/17 at 8 p.m.



- The graph below describes the **7-day rolling average** of cases from **Jul 20 - Aug 17** 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

Graph displays data from July 20th to August 17th



Information Updated as of 8/17 at 8 p.m.



Weekly summary

- In the week between 16– 22 Jun, no new COVID cases were recorded in the seven county area covered by Two Rivers Health District. In the week between August 10-16 (less than 2 months later), 150 cases were recorded across the district. Weekly testing has doubled in this time period, although public access to testing is greatly reduced.
- Over 2/3rds of all positive cases in the past month were among residents less than 50 years of age. Adults less than 40 years (18-39 years) accounted for over 45% of all new cases in the past month. A quarter of new COVID cases in Buffalo county were among 20-year olds.
- COVID-related hospitalizations account for 11% of Medical/ Surgical bed occupancy; 6 persons in hospitals across TRPHD are on ventilator support (see <https://www.trphd.org/> for details).
- As of Aug 17, 2021, 40.4% of TRPHD's total population and 51.4% 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.
- In light of rising incidence rates connected to the newer delta variant, TRPHD strongly urges all unvaccinated vaccine-eligible residents to avail of the COVID vaccination through their healthcare provider, pharmacy or TRPHD. All persons aged 12 and over are eligible for the vaccine. TRPHD has scheduled mobile vaccination clinics at over 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, incidence of COVID in TRPHD continues to rise; 150 new cases were recorded in the week from August 10-16. Over 45% of new cases are currently in their 20s or 30s. Minors (under 18 years) account for about a tenth of all new cases in the past month. COVID-related hospitalizations account for 11% of all beds in TRPHD. 40.4% of the total population of TRPHD district is now fully vaccinated, as are over 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.

“Lexington area” includes Lexington city as well as Overton, Johnson Lake and Cozad.

“Holdrege area” includes Holdrege city, Loomis and Funk.

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



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>)