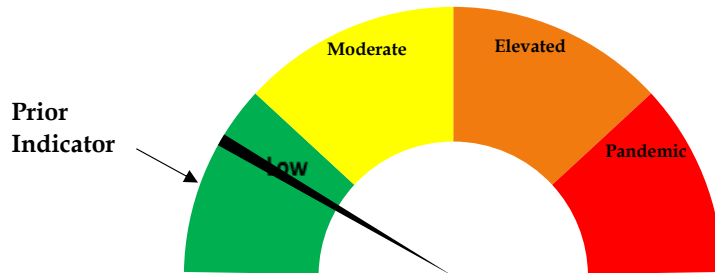




Risk Dial July 15, 2021



Risk Dial for COVID-19 Two Rivers Public Health Published Jul 15, 2021

- 27 cases of COVID were detected in TRPHD in the past week. This is first time that the weekly case count has surpassed 25 in the past 9 weeks. Furthermore, positivity rate of tests conducted outside residential and long term care facilities is over 7%, the first time since late April, although only a third as many tests were conducted this week.
- TestNebraska sites across the district will no longer offer COVID testing from July 16. This will limit access to testing and potentially affect access to testing for the public.
- This week, TRPHD reported two cases of the B.1.617.2 (Delta) variant of COVID-19 within the district. This variant is more infectious than the existing COVID strain (B.117) although evidence regarding relative severity of illness is inconclusive.
- Across TRPHD, COVID-related bed occupancy is at 6, the highest number since early May. ICU bed availability remains steady (see <https://www.trphd.org/> for details).
- As of Jul 13, 2021, 38% of TRPHD's total population has been fully vaccinated. About 41% of the total population has availed of at least one dose so far. See weekly vaccination report at <https://www.trphd.org/covid-19/vaccination-reports.html> for details.
- All vaccines currently available in the US are effective against the Delta variant. TRPHD strongly urges all eligible residents to access vaccination through the local pharmacy, TRPHD or through their healthcare provider.
- For these reasons, the risk dial is raised from the previous time it was reset (June 15). Risk in the district is still assessed to be "low", although we are closely monitoring rising case numbers. The increase reflects recent rapid increase in COVID test positivity rates, in spite of low testing rates, slower-than-expected increase in vaccination coverage and the sudden rise in COVID- bed utilization rates.



Weekly report Jun 16 – Jul 13, 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. We show positive cases and tests conducted by county, age and gender from **Jul 7 – Jun 13** (1 week) and **Jun 16 – Jul 13** (4 weeks). We describe cases in residential facilities¹ separately from other tests conducted in the district.
- The first graphic describes **the vaccination coverage rate of TRPHD residents by county** between **December 15, 2020 – Jul 13, 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 – July 13, 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 daily COVID tests conducted from **April 1, 2020 – July 13, 2021**. Tests are further denoted as positive or negative. Also displayed is the average weekly **positivity rate (7-day rolling)** in TRPHD from **July 1, 2020 – June 15, 2021**.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- June15, 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 **Jun 16 – Jul 13**.
 - Progress is described by age and city of residence in each of the 7 counties

To conclude, weekly COVID test positivity rate has shown a sharp increase in the past week as compared to two months previously, in spite of reduced testing access. Weekly tests have dropped, especially as long term care facilities have begun to wind down routine testing, and with the imminent closure of TestNebraska services. Two Rivers Health Department has announced the first detected cases of the Delta variant (B.1617.2) in the district, and contact tracing is underway. 38% of the total population of TRPHD district is now fully vaccinated and 41% has taken at least one dose of the vaccine so far. 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 continue to adhere to strict preventive measures (social distancing, correct and consistent masking) at all times to protect themselves and others.

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 July 13, over 46,000 residents of Two Rivers Health District were tested at least once for COVID-19. Over 140,000 tests have been conducted since March 1, 2020 and over 11,200 of these tests were positive, a small proportion of those testing COVID positive twice.⁵ About 10,052 persons have tested positive for COVID in TRPHD since March, 2020. TRPHD has publicly notified 120 deaths due to COVID-19 across the district.
- As of July 12, 38% of TRPHD’s entire population has been fully vaccinated. ⁶ Details of vaccination progress are discussed separately.

Details of all COVID tests conducted in Two Rivers’ Health District the past 1 week and 4 weeks is displayed below

	Jul 7 - Jul 13 (1 week)			Jun 16 - Jul 13 (4 weeks)		
	Total Tests	Positive Results	Positivity Rate	Total Tests	Positive Results	Positivity Rate
Hospital/ Clinic	218	18	8.3%	772	34	4.4%
TestNebraska	26	5	19.2%	89	6	6.7%
Residential Facility	684	1	0.1%	2142	1	0.0%
Lab/ Pharmacy	26	0	0.0%	192	1	0.5%
Other	67	3	4.5%	273	6	2.2%
TOTAL	1,021	27	2.6%	3468	48	1.4%

- A total of 2141 tests were availed by residents and staff of long-term care and other residential facilities ⁷ in the last 4 weeks. Details are provided below:

	Jul 7 - Jul 13 (1 week)			Jun 16 - Jul 13 (4 weeks)		
Residential Facility In:	Total Tests	Positive Results	Positivity Rate	Total Tests	Positive Results	Positivity Rate
Buffalo	339	0	0.0%	1,288	0	0.0%
Dawson	89	0	0.0%	257	0	0.0%
Franklin	0	0	0.0	0	0	0.0
Gosper	13	0	0.0%	18	0	0.0%
Harlan	18	0	0.0%	78	0	0.0%
Kearney	167	0	0.0%	302	0	0.0%
Phelps	45	1	2.2%	149	1	0.7%
Outside TRPHD	12	0	0.0%	49	0	0.0%
TOTAL	683	1	0.1%	2141	1	0.0%

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

⁷ For information on residential facilities, please see appendix 3



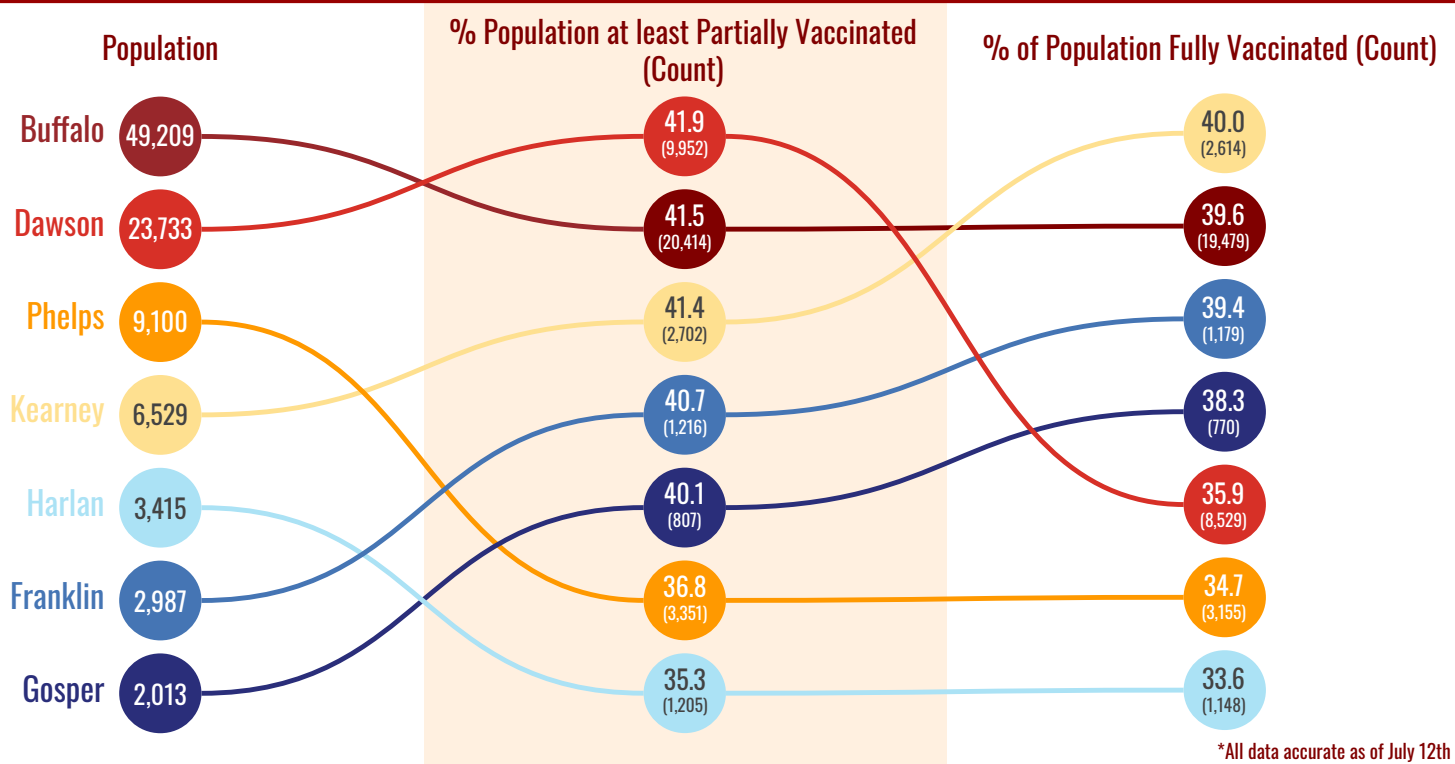
Excluding residential facilities, a total of 1326 tests were conducted in the past 4 weeks. The following table gives details of positive cases in the past week and past 4 weeks by county, age categories and gender.

	Jul 7 - Jul 13 (1 week)			Jun 16 - Jul 13 (4 weeks)		
	Total tests conducted	Positive cases	P. rate (%)	Total tests conducted	Positive cases	P. rate (%)
County						
Buffalo	184	8	4.3%	702	20	2.8%
Dawson	72	6	8.3%	382	8	2.1%
Franklin	10	1	10.0%	29	1	3.4%
Gosper	3	0	0.0%	16	1	6.3%
Harlan	6	1	16.7%	18	2	11.1%
Kearney	22	3	13.6%	60	4	6.7%
Phelps	35	7	20.0%	105	11	10.5%
Data missing/ not disclosed	5	0	0.0%	14	0	0.0%
Total	337	26	7.7%	1,326	47	3.5%
Age (in yrs)						
0-17	53	1	1.9%	202	2	1.0%
18-29	80	7	8.8%	312	9	2.9%
30-39	44	1	2.3%	190	1	0.5%
40-49	39	3	7.7%	170	11	6.5%
50-59	42	3	7.1%	176	7	4.0%
60-69	35	8	22.9%	126	11	8.7%
70-79	22	2	9.1%	74	5	6.8%
80-89	14	1	7.1%	49	1	2.0%
90+	8	0	0.0%	27	0	0.0%
Total	337	26	7.7%	1,326	47	3.5%
Gender						
Female	177	13	7.3%	688	26	3.8%
Male	159	13	8.2%	632	20	3.2%
Data missing/ not disclosed	1	0	0.0%	6	1	16.7%
Total	337	26	7.7%	1,326	47	3.5%



- The graph below describes **all TRPHD residents vaccinated** between **December 15, 2020 – July 12, 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, 36.1% of the total population in Two Rivers Health District is now fully vaccinated.**
- **45.3% of all residents eligible for vaccine (12 years and over) are fully vaccinated. 40.8% of the population has received at least one dose of vaccine.**

Vaccinations of Total Population in TRPHD



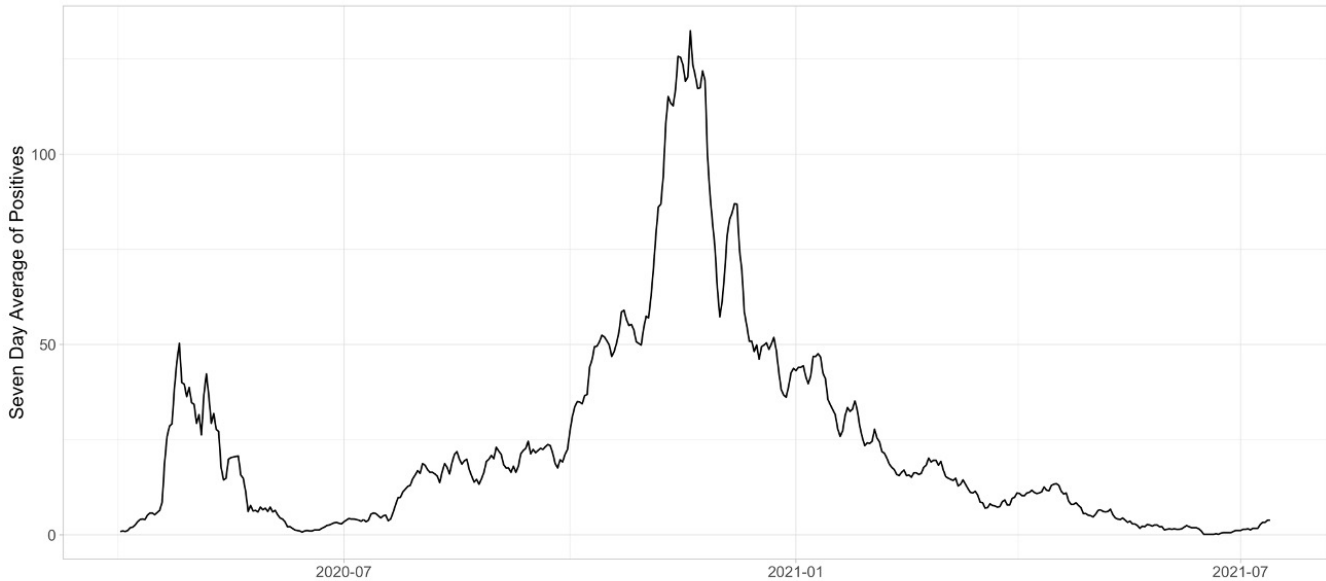
*All data accurate as of July 12th



- The graph below describes 7-day rolling average of COVID-19 across TRPHD from **April 1, 2020 - July 13, 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.

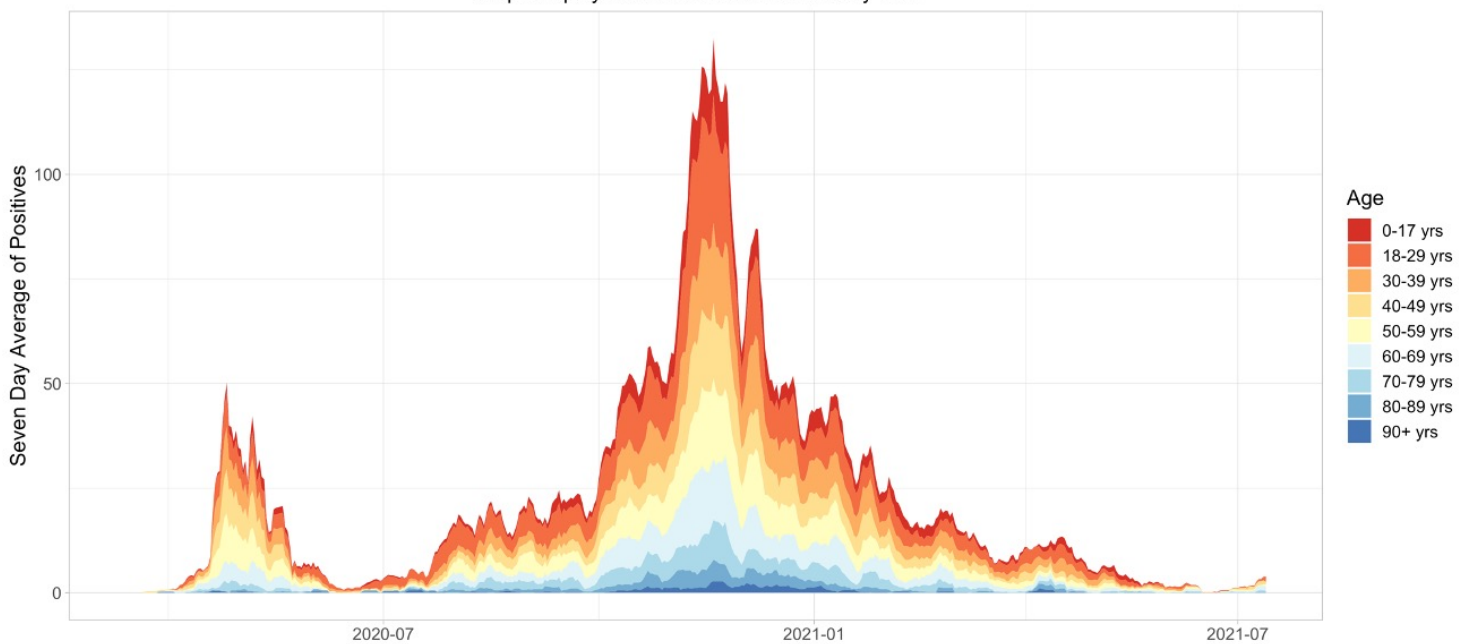
7 Day Rolling Average of Two Rivers

Graph displays data from April 1st to July 13th



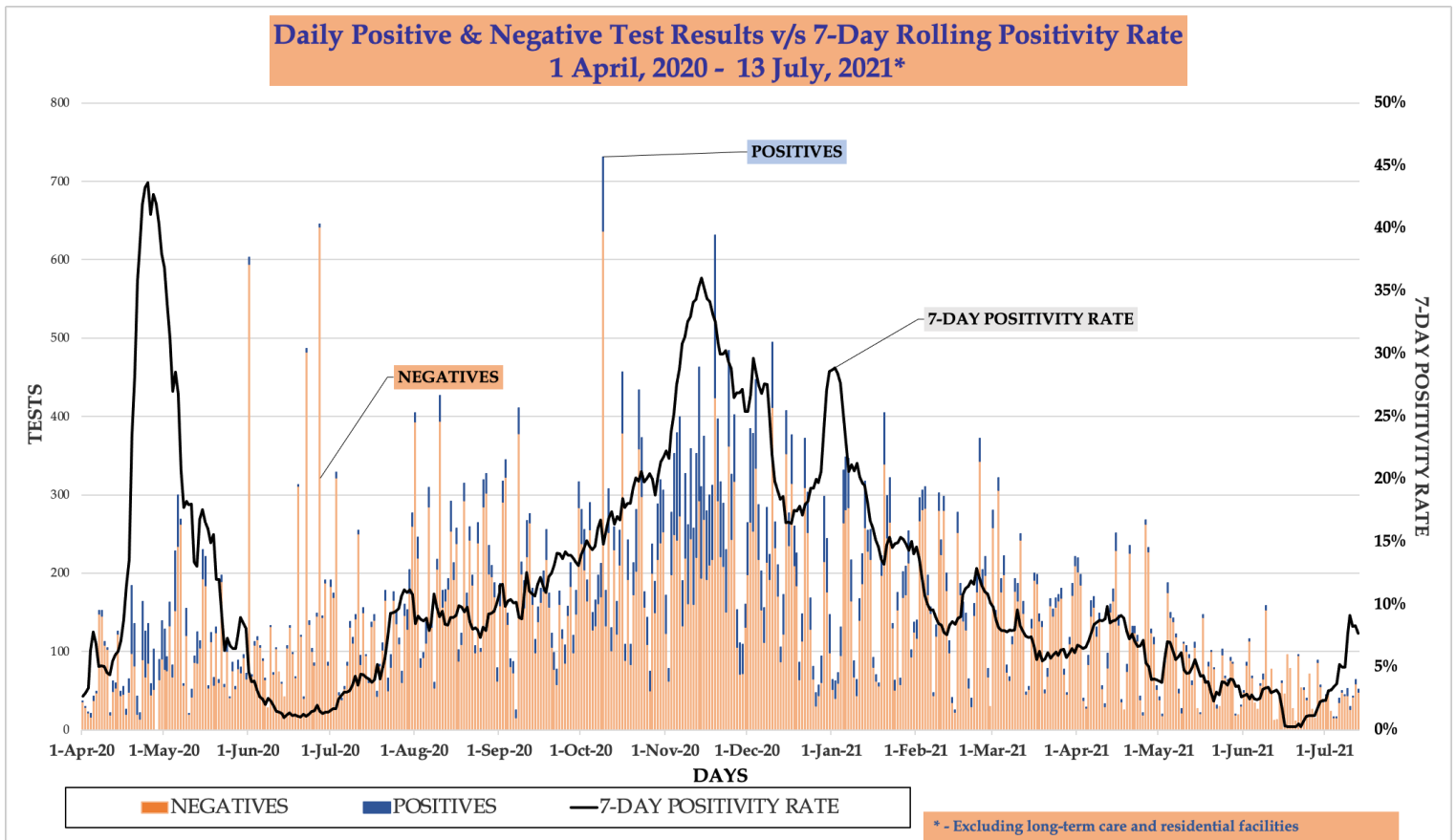
Daily Average of COVID-19 Cases in TRPHD by Age

Graph displays data from June 16th to July 13th





- The graph below describe the daily **positive and negative COVID test results** in TRPHD from **April 1, 2020 – July 13, 2021**. Also depicted is the average **test positivity rate (7-day rolling average)**⁸ in TRPHD for the same time.
- Graph describes all tests conducted **outside residential facilities** in the previous 15 months.⁹



⁸ For description of average positivity rate, see appendix 1

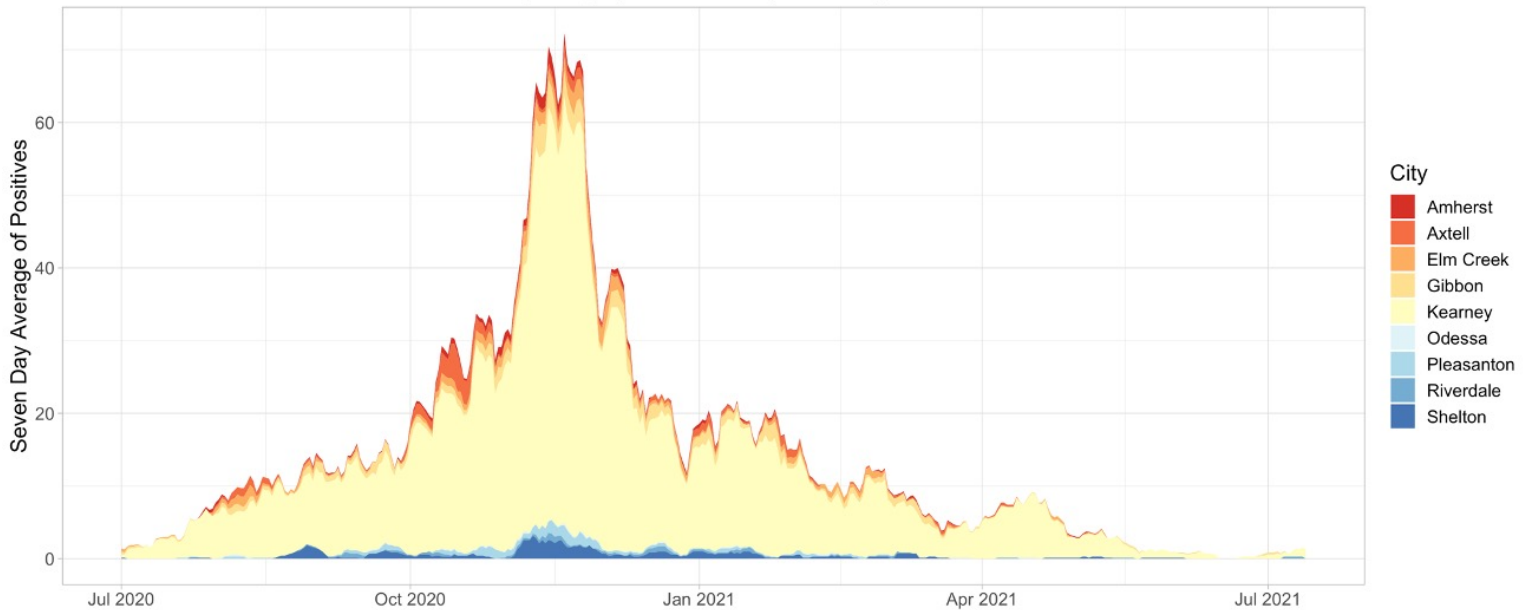
⁹ For information on residential facilities, please see appendix 3



- 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 - Jul 13, 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 July 13th



Information Updated as of 7/13 at 8 p.m.

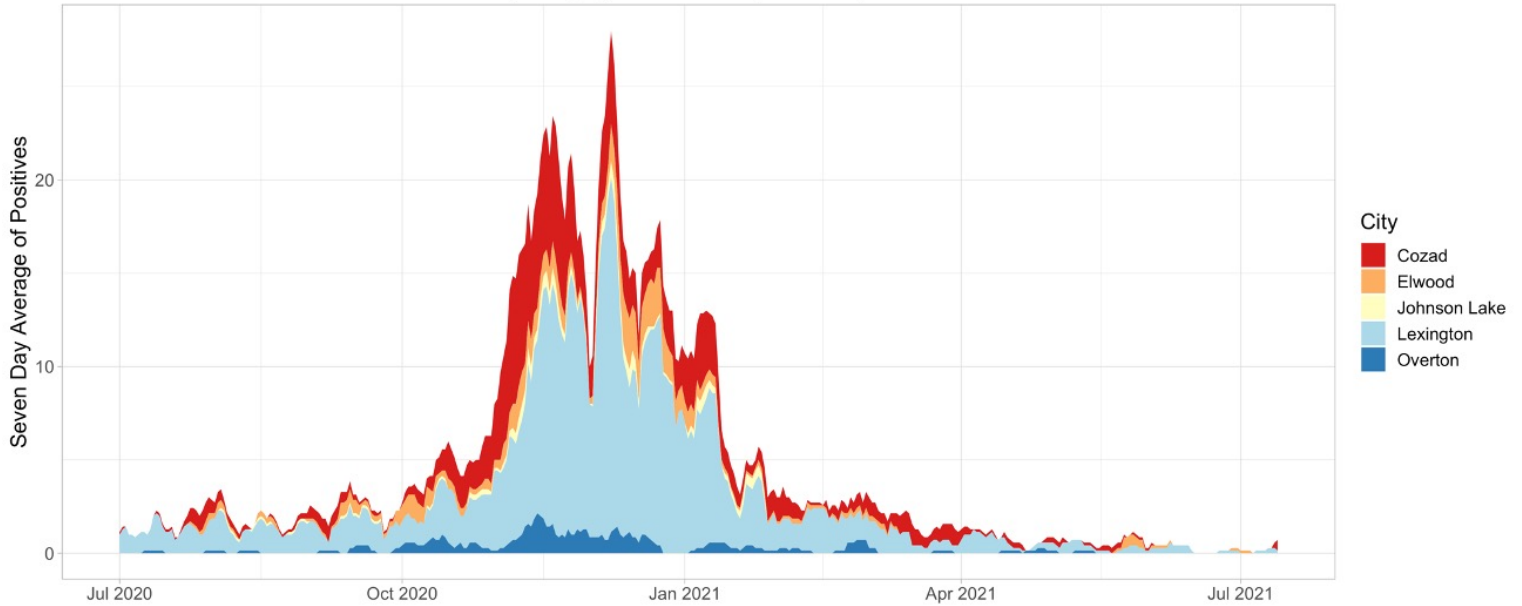
¹⁰ For details about each of the urban areas, please see appendix 5
516 W 11th Street, Suite 108
Kearney, NE 68845



- The daily average (7-day rolling) of positive cases in Lexington and Holdrege cities and surrounding towns between July 1, 2020 – Jul 13, 2021 are presented below.

7 Day Rolling Average of COVID-19 Cases by City

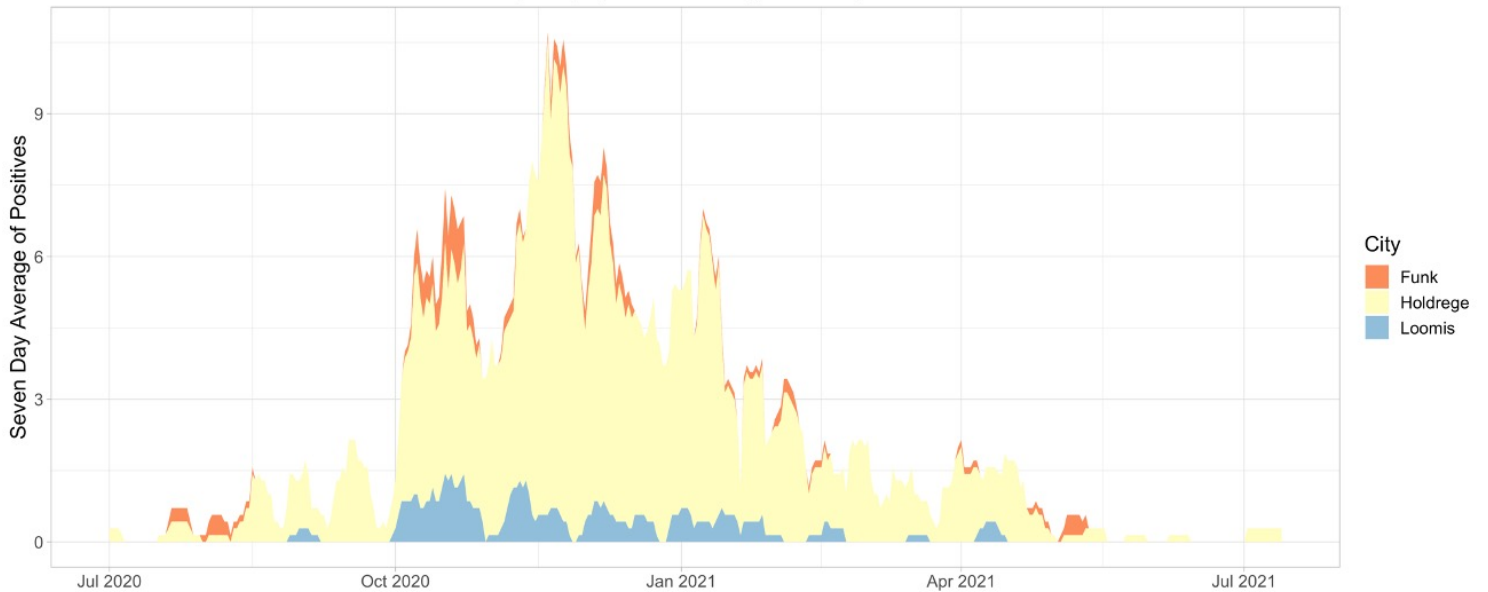
Graph displays data from July 1st to July 13th



Information Updated as of 7/13 at 8 p.m.

7 Day Rolling Average of COVID-19 Cases by City

Graph displays data from July 1st to July 13th



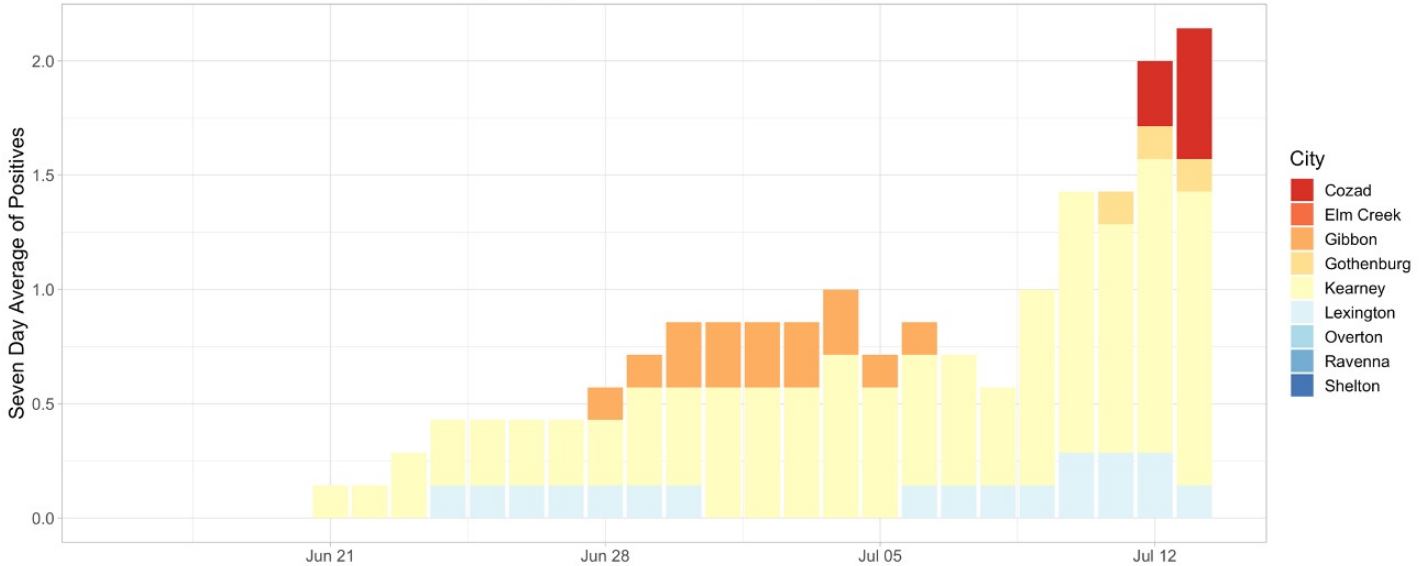
Information Updated as of 7/13 at 8 p.m.



- The following bar graphs describes the 7-day rolling averages by city for the past four weeks (**Jun 16 - Jul 13**) 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

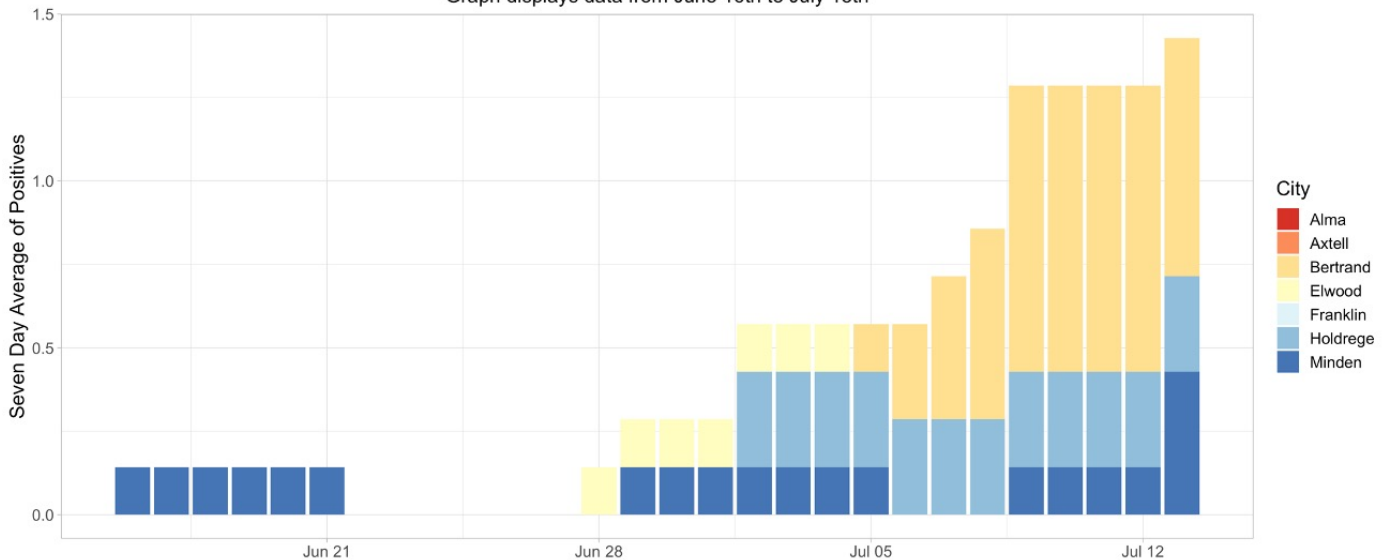
Graph displays data from June 16th to July 13th



Information Updated as of 7/13 at 8 p.m.

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

Graph displays data from June 16th to July 13th



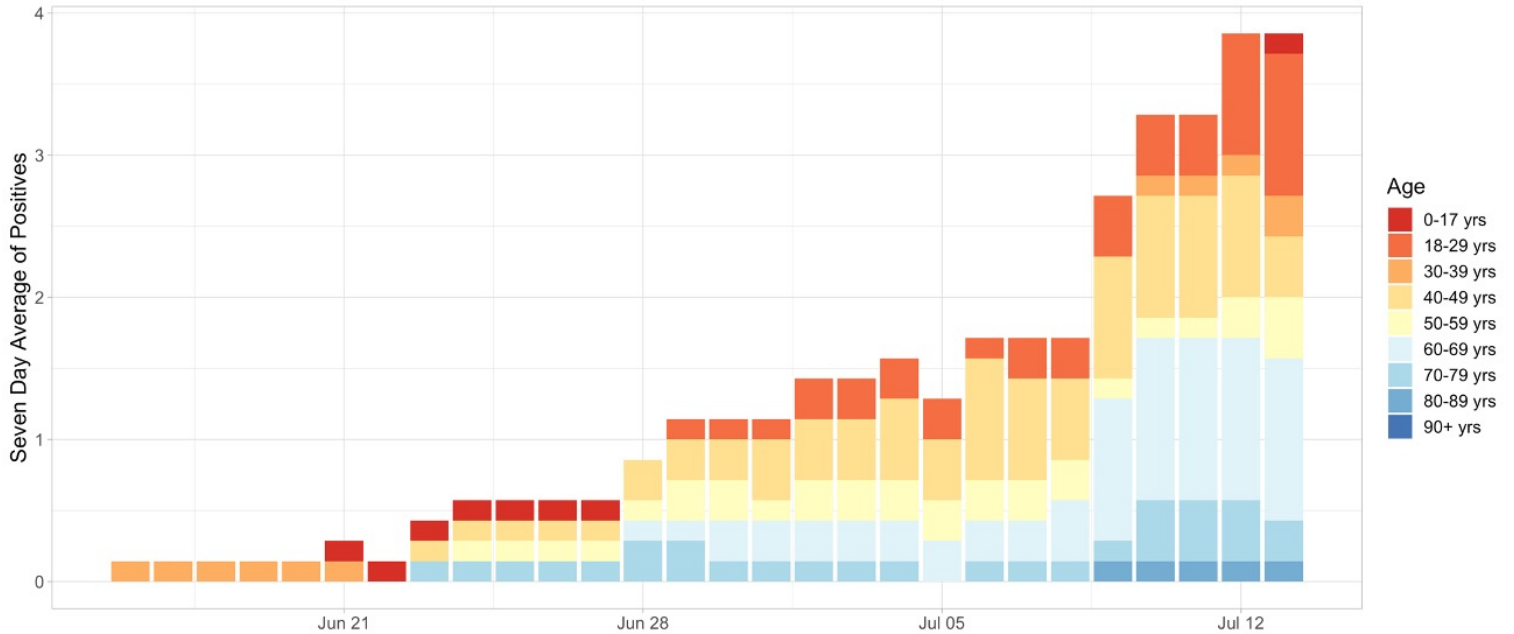
Information Updated as of 7/13 at 8 p.m.



- The graph below describes the **7-day rolling average** of cases from **Jun 16 - Jul 13** 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 June 16th to July 13th



Information Updated as of 7/13 at 8 p.m.



Weekly summary

- 27 cases of COVID were detected in TRPHD in the past week. This is first time that the weekly case count has surpassed 25 in the past 9 weeks. Furthermore, positivity rate of tests conducted outside residential and long term care facilities is over 7%, the first time since late April.
- Total tests conducted in the previous week were less than a third the weekly number in April. Higher test positivity rates among low testing populations is cause for concern, although absolute case numbers may still be low. Furthermore, the closure of TestNebraska sites across the district will affect access to testing for the public.
- This week, TRPHD reported two cases of the B.1.617.2 (Delta) variant of COVID-19 within the district. This variant is more infectious than the existing COVID strain (B.117); all vaccines currently available in the US are effective against the Delta variant.
- Across TRPHD, COVID-related bed occupancy is at 6, the highest number since early May. ICU bed availability remains steady (see <https://www.trphd.org/> for details).
- As of Jul 13, 2021, 38% of TRPHD's total population has been fully vaccinated. About 41% of the total population has availed of at least one dose so far. See weekly vaccination report at <https://www.trphd.org/covid-19/vaccination-reports.html> for details.
- 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, weekly COVID test positivity rate has shown a sharp increase in the past week as compared to two months previously, in spite of reduced testing access. Weekly tests have dropped, especially as long term care facilities have begun to wind down routine testing, and with the imminent closure of TestNebraska services. Two Rivers Health Department has announced the first detected cases of the Delta variant (B.1617.2) in the district, and contact tracing is underway. 38% of the total population of TRPHD district is now fully vaccinated and 41% has taken at least one dose of the vaccine so far. 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 continue to adhere to strict preventive measures (social distancing, correct and consistent masking) at all times to protect themselves and others.



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:

$$[(\text{Total positive test results for residents in the region}) / (\text{mid-year population}) * 100,000]$$

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:

$$[(\text{7-day rolling average of cases among residents}) / (\text{mid-year population}) * 100,000]$$

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>)