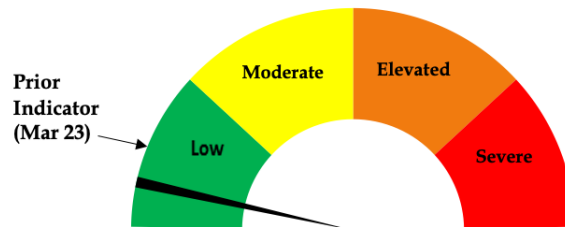




Risk Dial Mar 30, 2022



**Risk Dial for COVID-19
Two Rivers Public Health
Published Mar 31, 2022**

- 17 cases of COVID-19 were recorded in TRPHD between March 23 - March 29. In March 2022, TRPHD recorded the lowest number of monthly COVID cases (118) since June 2021, when 35 cases were recorded across the entire district.
- Test positivity rates outside of long term facilities are around 5%, and have remained at that level for over a month now.
- As of Mar 22, 52% of the total population of TRPHD has received the minimum prescribed dose of the COVID-19 vaccine. Booster doses of vaccines are recommended at 5 months after second dose (Pfizer/ Moderna) or 2 months after the first dose of Janssen COVID vaccine. As of Mar 29, 2022, half of TRPHD's total population has either received a booster dose or are within the 2 or 5-month interval after their second vaccine dose,.
- As of Wednesday morning, over 30% of ICU beds in TRPHD and 40% of Medical/surgical beds in TRPHD were available. No COVID patients are currently on ventilator support in the district.
- TRPHD offers COVID testing at the Two Rivers Public Health Department office at 516 W. 11th Street, Kearney. Testing is offered Mondays & Wednesdays 9:30AM - 10:30AM. Those interested are required to register at <https://login.registermytime.com/tw/2rphd> for scheduling.
- TRPHD strongly urges all unvaccinated vaccine-eligible residents to avail of the COVID vaccination through their healthcare provider, pharmacy or TRPHD. For schedule of vaccination clinics, see www.trphd.org
- For these reasons, the risk dial is lowered from last week in the 'low risk' (green) zone. The dial reflects falling COVID incidence rates, improved ICU & Hospital bed availability and lowered COVID-related morbidity across the district.



Weekly report Mar 23 – Mar 29, 2022

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 vaccination, total tests conducted and positive cases across TRPHD from **Mar 23 – Mar 29** (1 week) and **Mar 2 – Mar 29** (4 weeks). We describe new cases by age, gender and county of residence, and present weekly and monthly **test positivity rates**. We describe cases in residential facilities separately from tests in hospitals, & pharmacies¹. Vaccination rates refer to persons who have received the minimum recommended dose.
- The first graphic describes **the vaccination rate of TRPHD residents by county of residence and age** between **Dec 15, 2020 – Mar 29, 2022**. We present the proportion of persons who have received the minimum recommended dose (2 for Pfizer & Moderna; 1 for Janssen vaccines)
- The second set of graphs look at the progress of the pandemic from **April 1, 2020 – March 29, 2022** 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 daily number of negative and positive test results conducted outside residential facilities in TRPHD from **April 1, 2020 – March 29, 2022**.¹ The graph also shows the average **COVID test positivity rate** in TRPHD during this time³
- The fourth set of graphs describe the daily case average (7-day rolling) across towns and cities in three urban areas (**Kearney, Lexington, Holdrege**) (Jul 1, 2020- Mar 29, 2022)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 daily cases (7-day rolling average) from **Mar 2 – Mar 29, 2022**.
 - Progress is described by age & county of residence.

To conclude, 17 new COVID cases were detected in the Two Rivers area last week. Monthly case counts are the lowest since June 2021. Over half of TRPHD's population is fully vaccinated, a little under a quarter have received the appropriate booster shot. TRPHD has scheduled vaccination clinics across the district, schedule can be found at <https://www.trphd.org/covid-19/event-calendar.html>. TRPHD is operating a public COVID testing site at the TRPHD office in Kearney 9:30 AM – 10:30 AM, Mondays and Wednesdays. Those eligible for vaccines or booster doses are advised to contact TRPHD or their physician or local pharmacy. To access services through Two Rivers health department, residents are required to visit www.trphd.org to register an appointment (for COVID testing). TRPHD vaccination clinics accept walk-in customers and will provide appropriate vaccine dose as indicated.

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 Mar 29, 2022, over 65,400 unique persons in Two Rivers Health District has been tested at least once for COVID-19. More than 242,000 COVID tests have been conducted since March 1, 2020 and 21,072 persons have tested positive at least once – at least 1735 have tested COVID positive more than once.⁵ TRPHD has publicly notified 205 deaths due to COVID-19 across the district.
- As of Mar 29, 2022, 52% of TRPHD’s entire population has received the minimum prescribed dose of vaccine. 49.6% Of the population has received their booster dose as appropriate, or are within a 5 or 2-month window since the final dose of vaccine.
- 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 also displayed. Percentages have been rounded off to the nearest whole number. Vaccines are currently available to all eligible residents aged 5 years and over.

| | BUFFALO | DAWSON | FRANKLIN | GOSPER | HARLAN | KEARNEY | PHELPS | TRPHD |
|-----------|---------|--------|----------|--------|--------|---------|--------|-------|
| 0-17 YRS | 19% | 20% | 11% | 15% | 10% | 20% | 13% | 18% |
| 18-29 YRS | 39% | 57% | 30% | 41% | 31% | 46% | 36% | 42% |
| 30-39 YRS | 53% | 62% | 45% | 37% | 45% | 45% | 49% | 54% |
| 40-49 YRS | 65% | 63% | 50% | 53% | 35% | 69% | 46% | 61% |
| 50-59 YRS | 69% | 66% | 47% | 50% | 48% | 55% | 57% | 63% |
| 60-69 YRS | 83% | 83% | 66% | 74% | 64% | 77% | 68% | 79% |
| 70-79 YRS | 100% | 89% | 92% | 63% | 86% | 84% | 96% | 94% |
| 80+ YRS | 95% | 78% | 77% | 77% | 57% | 71% | 80% | 83% |
| ALL AGES | 53% | 55% | 49% | 49% | 42% | 51% | 47% | 52% |

| | |
|--------------|---|
| 0% - 33% | Less than 1/3rd received 1 or 2 dose as recommended |
| 34% - 49% | 1/3rd to 1/2 received 1 or 2 dose as recommended |
| 50%- 74% | 1/2 to 3/4ths received 1 or 2 dose as recommended |
| 75% & higher | Over 3/4ths received 1 or 2 dose as recommended |

- How to read this table: (For eg.) : “61% of all TRPHD residents aged 40-49 years have received the minimum recommended vaccine dose (2 for Moderna & Pfizer; 1 for Janssen) However only 35% of all residents in their 40s in Harlan county have received minimum recommended dose.”

⁵ Note: Data collection limitations (recording of different first names, alternate spellings, unrecorded or delayed antigen test results) hamper an exact count of measures like total persons tested, or number of distinct positive cases.



- The table below provides details of positive cases detected in 7 counties in TRPHD in the past week (**Mar 23 - Mar 29**) and past 4 weeks (**Mar 2 - Mar 29**).
- Results are described by the site where tests were conducted, and include both antigen and PCR tests.

| | Mar 23 - Mar 29 (1 week) | | | Mar 2 - Mar 29 (4 weeks) | | |
|----------------------|--------------------------|------------------|-----------------|--------------------------|------------------|-----------------|
| | Total Tests | Positive Results | Positivity Rate | Total Tests | Positive Results | Positivity Rate |
| Hospital/ Clinic | 251 | 14 | 5.6% | 1106 | 61 | 5.5% |
| State Laboratory | 12 | 0 | 0.0% | 110 | 6 | 5.5% |
| Residential Facility | 440 | 0 | 0.0% | 3493 | 20 | 0.6% |
| Lab/ Pharmacy | 3 | 0 | 0.0% | 23 | 0 | 0.0% |
| Other | 65 | 3 | 4.6% | 453 | 23 | 5.1% |
| TOTAL | 771 | 17 | 2.2% | 5,185 | 110 | 2.1% |

- A total of 3493 tests were availed by residents and staff of long-term care and other **residential facilities** ⁶ in the last 4 weeks, and were almost all antigen tests. Details are provided below:

| Residential Facility In: | Mar 23 - Mar 29 (1 week) | | | Mar 2 - Mar 29 (4 weeks) | | |
|--------------------------|--------------------------|------------------|-----------------|--------------------------|------------------|-----------------|
| | Total Tests | Positive Results | Positivity Rate | Total Tests | Positive Results | Positivity Rate |
| Buffalo | 139 | 0 | 0.0% | 1907 | 12 | 0.6% |
| Dawson | 88 | 0 | 0.0% | 600 | 4 | 0.7% |
| Franklin | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| Gosper | 12 | 0 | 0.0% | 36 | 0 | 0.0% |
| Harlan | 59 | 0 | 0.0% | 104 | 1 | 1.0% |
| Kearney | 6 | 0 | 0.0% | 209 | 0 | 0.0% |
| Phelps | 108 | 0 | 0.0% | 474 | 3 | 0.6% |
| Outside TRPHD | 28 | 0 | 0.0% | 163 | 0 | 0.0% |
| TOTAL | 440 | 0 | 0.0% | 3,493 | 20 | 0.6% |

- How to read this table: (For eg.) : “In the past week, 5.6% of tests conducted in hospitals and clinics across TRPHD were positive. In the past month, 0.6% of all tests in residential facilities returned positive.”

⁶ For information on residential facilities, please see appendix 3
 516 W 11th Street, Suite 108
 Kearney, NE 68845



- Non-routine testing 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.

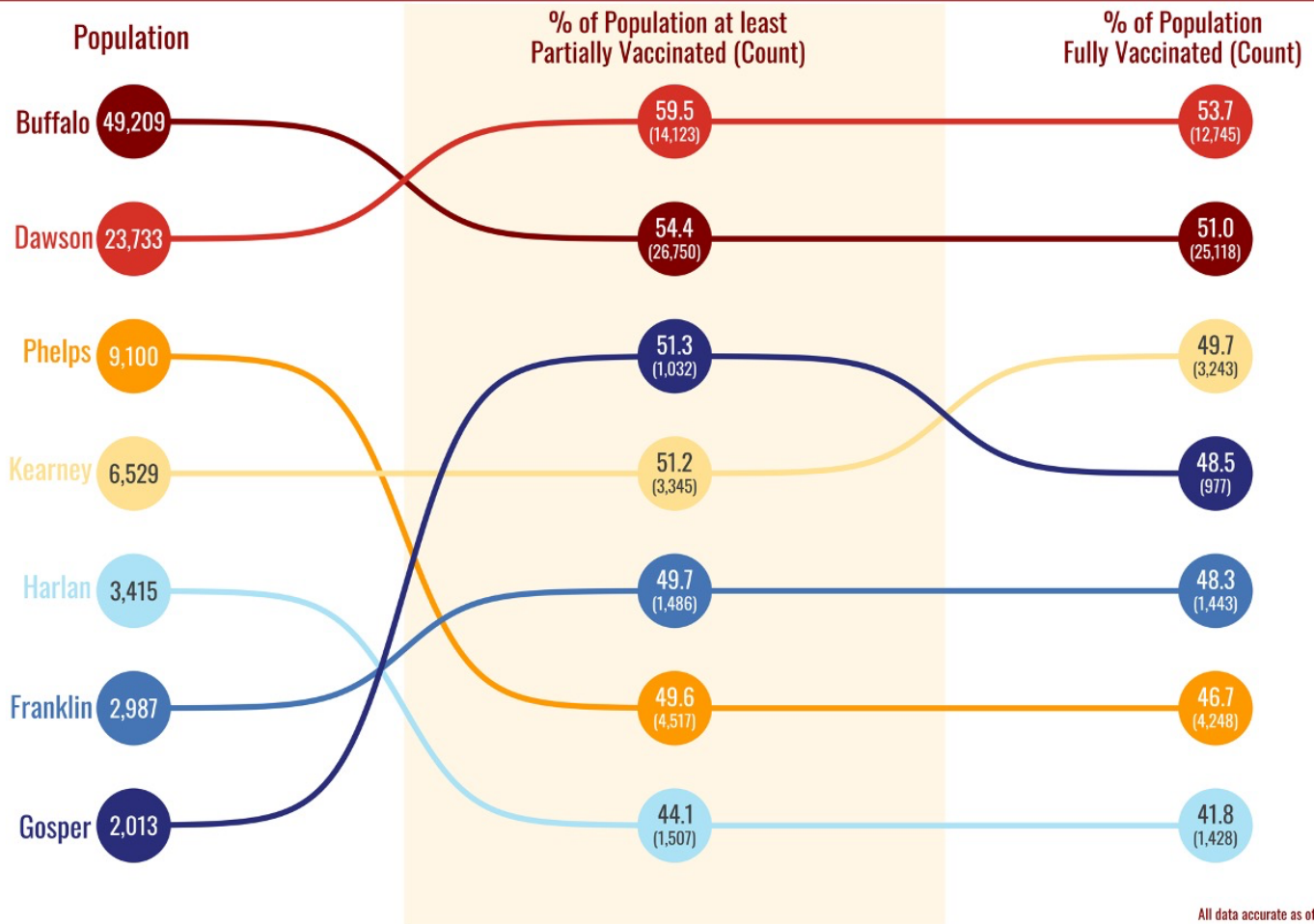
| | Mar 23 – Mar 29 (1 week) | | | Mar 2 – Mar 29 (4 weeks) | | |
|-----------------------------|--------------------------|----------------|-------------|--------------------------|----------------|-------------|
| | Total tests conducted | Positive cases | P. rate (%) | Total tests conducted | Positive cases | P. rate (%) |
| County | | | | | | |
| Buffalo | 224 | 9 | 4.0% | 1,173 | 54 | 4.6% |
| Dawson | 78 | 5 | 6.4% | 323 | 12 | 3.7% |
| Franklin | 6 | 2 | 33.3% | 41 | 5 | 12.2% |
| Gosper | 1 | 1 | 100.0% | 10 | 3 | 30.0% |
| Harlan | 11 | 0 | 0.0% | 13 | 5 | 38.5% |
| Kearney | 9 | 0 | 0.0% | 66 | 4 | 6.1% |
| Phelps | 1 | 0 | 0.0% | 58 | 6 | 10.3% |
| Data missing/ not disclosed | 1 | 0 | 0.0% | 8 | 1 | 12.5% |
| Total | 331 | 17 | 5.1% | 1,692 | 90 | 5.3% |
| Age (in yrs) | | | | | | |
| 0-17 | 91 | 3 | 3.3% | 397 | 13 | 3.3% |
| 18-29 | 63 | 4 | 6.3% | 292 | 10 | 3.4% |
| 30-39 | 22 | 0 | 0.0% | 172 | 9 | 5.2% |
| 40-49 | 35 | 3 | 8.6% | 199 | 15 | 7.5% |
| 50-59 | 36 | 0 | 0.0% | 195 | 6 | 3.1% |
| 60-69 | 23 | 3 | 13.0% | 147 | 13 | 8.8% |
| 70-79 | 35 | 2 | 5.7% | 161 | 13 | 8.1% |
| 80-89 | 26 | 2 | 7.7% | 129 | 11 | 8.5% |
| Total | 331 | 17 | 5.1% | 1,692 | 90 | 5.3% |
| Gender | | | | | | |
| Female | 182 | 7 | 3.9% | 952 | 52 | 5.5% |
| Male | 149 | 10 | 6.7% | 703 | 37 | 5.3% |
| Data missing/ not disclosed | 0 | 0 | 0.0 | 37 | 1 | 2.7% |
| Total | 331 | 17 | 5.2% | 1,692 | 90 | 5.3% |

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 who are fully vaccinated** against COVID-19 between **December 15, 2020 – March 29, 2022**. All residents of the seven counties are included although the vaccine is currently available only to those 5 years or over.
- 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, 52% of TRPHD’s total population and 63% of all adult residents (18 years and over) have received the minimum prescribed dose of vaccine (2 for Pfizer, Moderna, 1 for Janssen).**

Vaccinations of Total Population in TRPHD

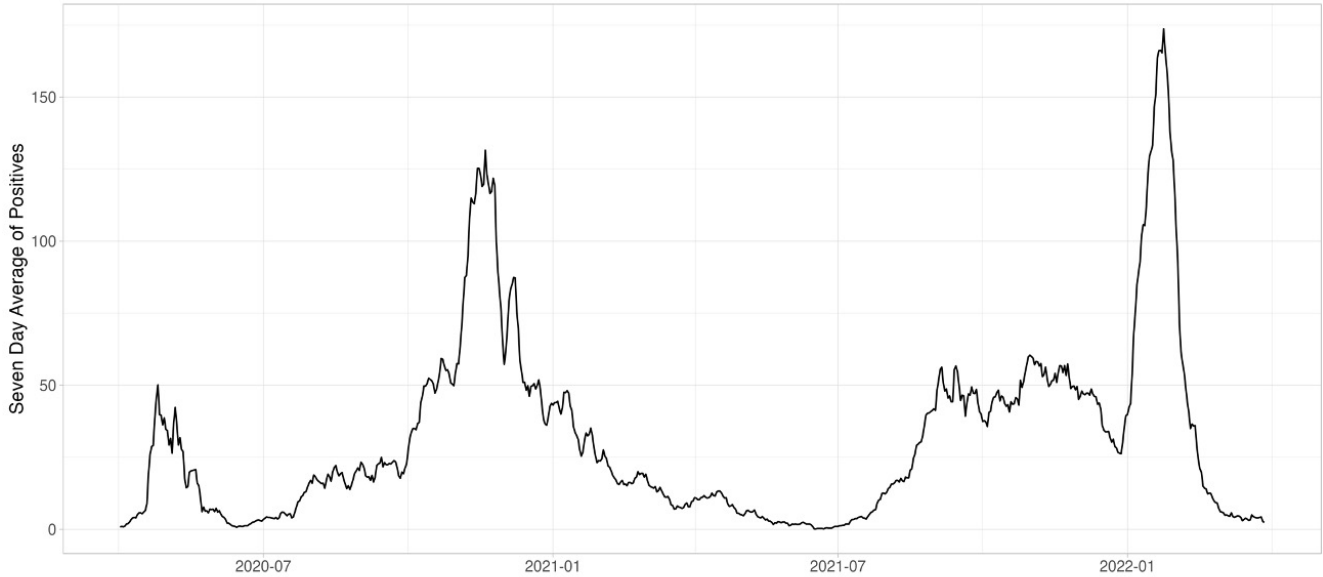




- The graph below describes 7-day rolling average of COVID-19 across TRPHD from **April 1, 2020 – Mar 29, 2022.**
- The second graph describes 7-day rolling average of COVID-19 cases by age across TRPHD for the same time period. The height of the graph corresponds to total cases and the thickness of each colored band corresponds to each age group.

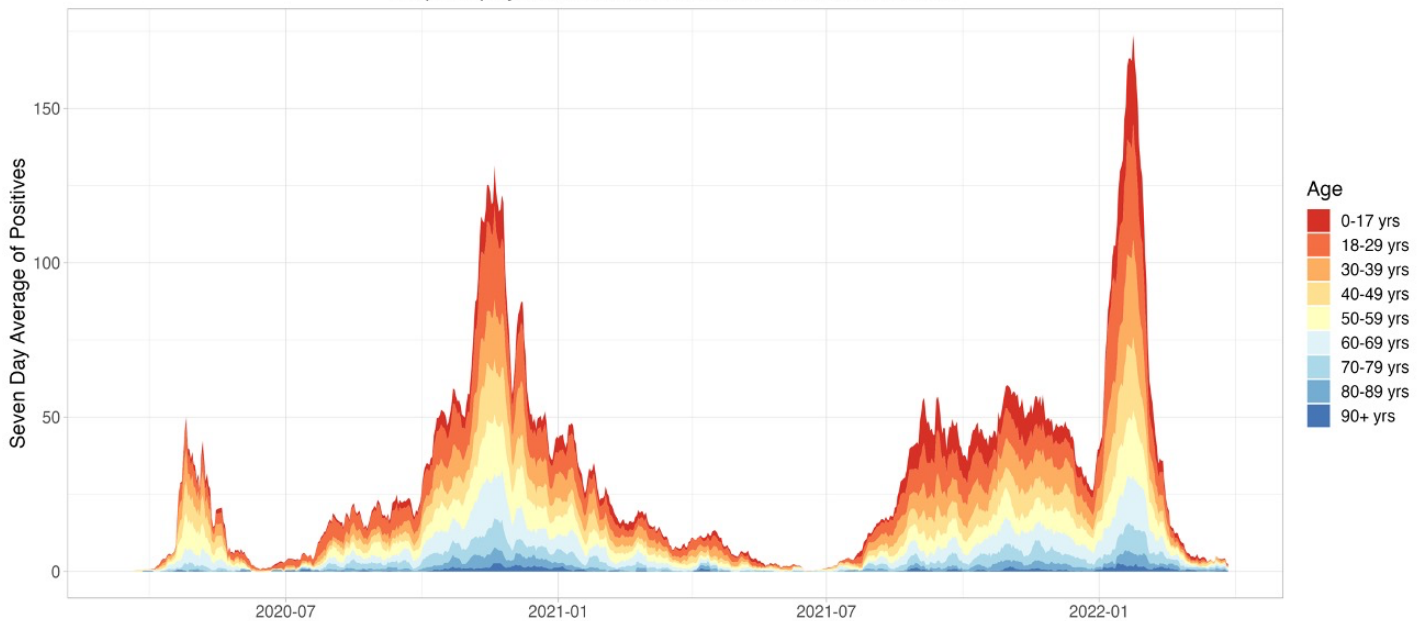
7 Day Rolling Average of Two Rivers

Graph displays data from April 1st, 2020 to March 29th, 2022



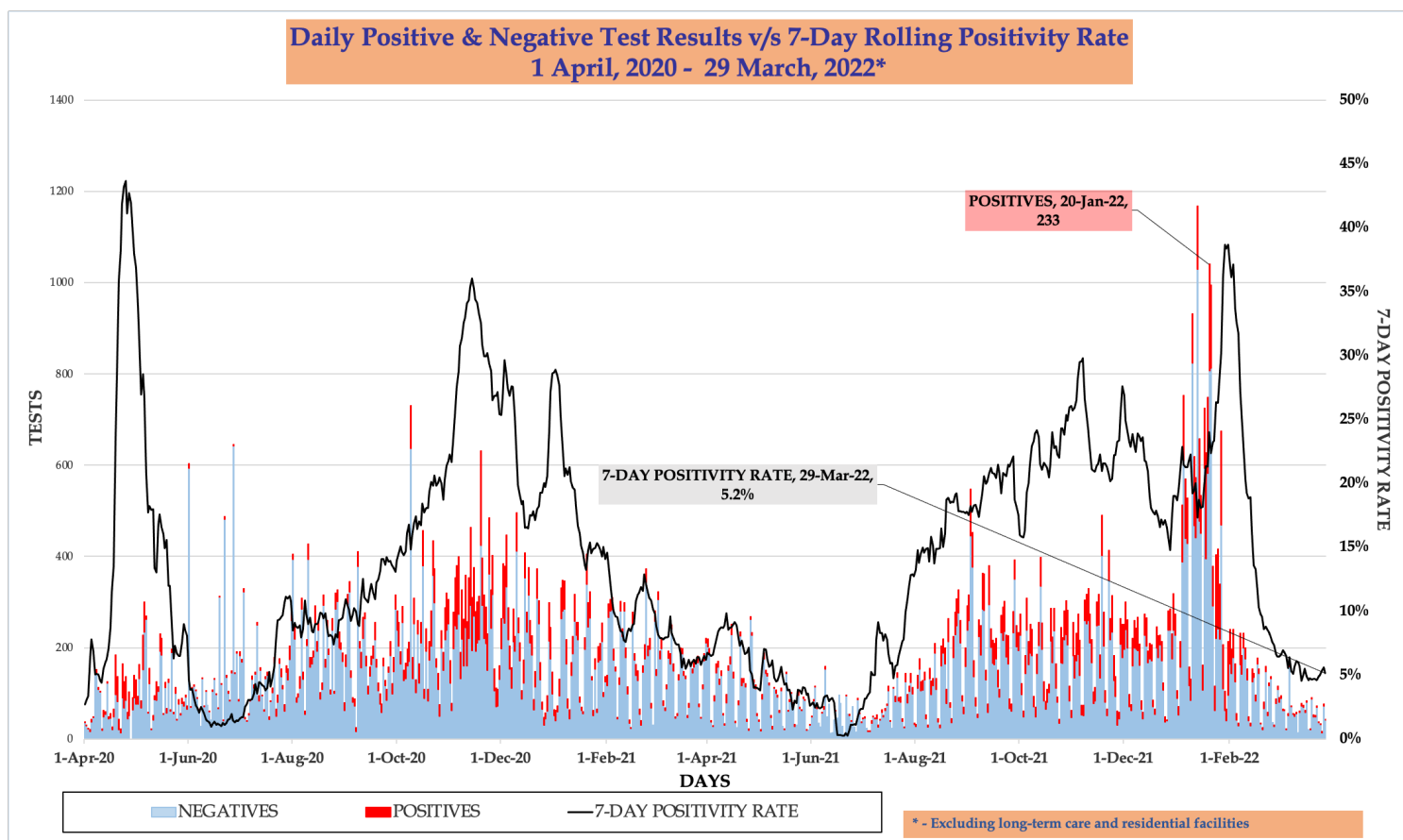
Daily Average of COVID-19 Cases in TRPHD by Age

Graph displays data from March 1st, 2022 to March 29th, 2022





- The graphs below describe the **daily COVID tests** in TRPHD from **April 1, 2020 - March 29, 2022** further divided as **positive** or **negative** . It also describes the average **test positivity rate (7-day rolling average)**⁸ The graph depicts the entire district, ie Buffalo, Dawson, Phelps, Franklin, Gosper, Harlan and Kearney counties.
- The height of the bar graph represents the total tests conducted on that day. The running line graph tracks 7-day positivity rate among all tests **except** those conducted in **residential facilities** in the last 23 months ⁹ .
- In the week Jan 19 - Jan 25, **44% of COVID tests** outside residential facilities was positive. By the week of Mar 23 - Mar 29, the positivity rate was **down to 5%**
- The highest number of positive cases recorded in a single day was on 20th Jan, 2022 (233 cases)



⁸ For description of average positivity rate, see appendix 1

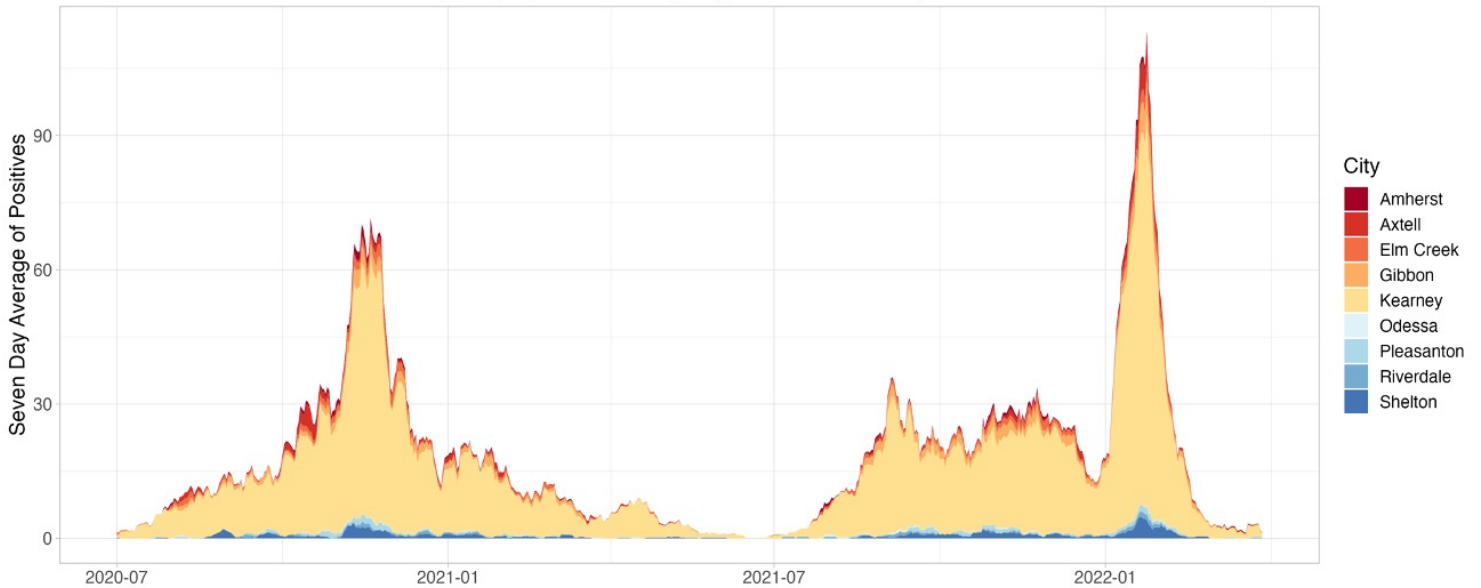
⁹ For information on residential facilities, please see appendix 3



- 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 - Mar 29, 2022**. 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, 2020 to March 29th, 2022



Information Updated as of 3/29 at 8 p.m.

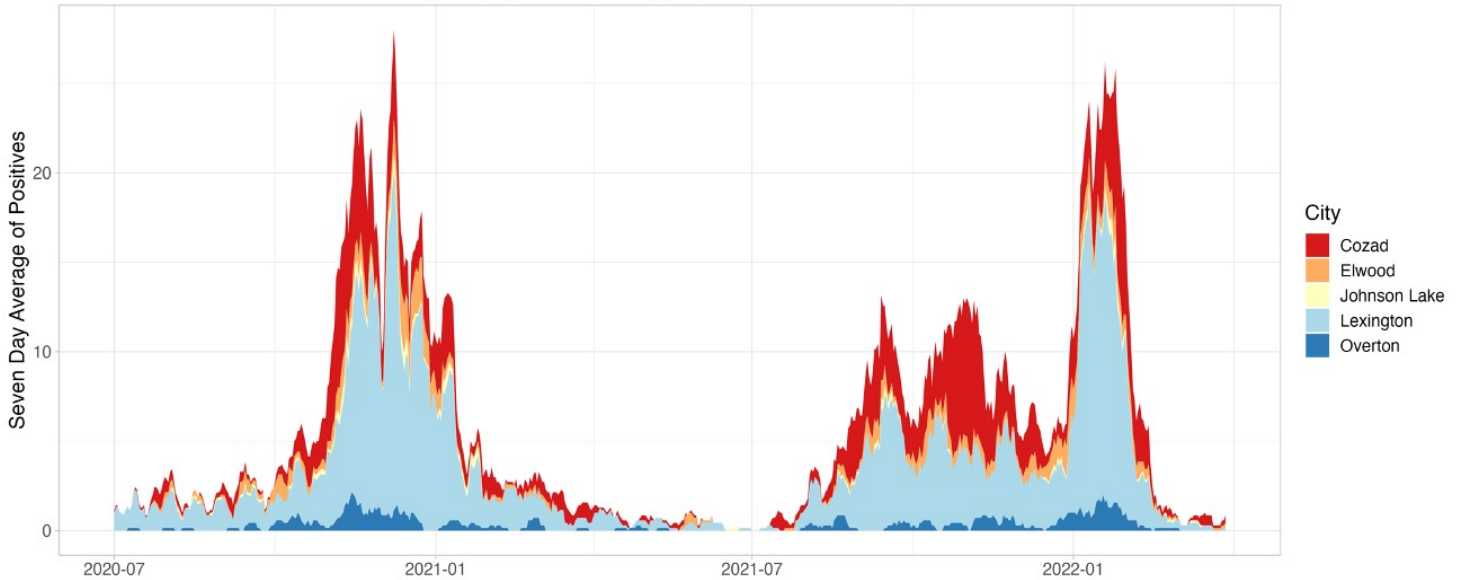
¹⁰ For details about each of the urban areas, please see appendix 5
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Kearney, NE 68845



- The daily average (7-day rolling) of positive cases in Lexington and Holdrege cities and surrounding towns between July 1, 2020 – Mar 29, 2022 are presented below.

7 Day Rolling Average of COVID-19 Cases by City

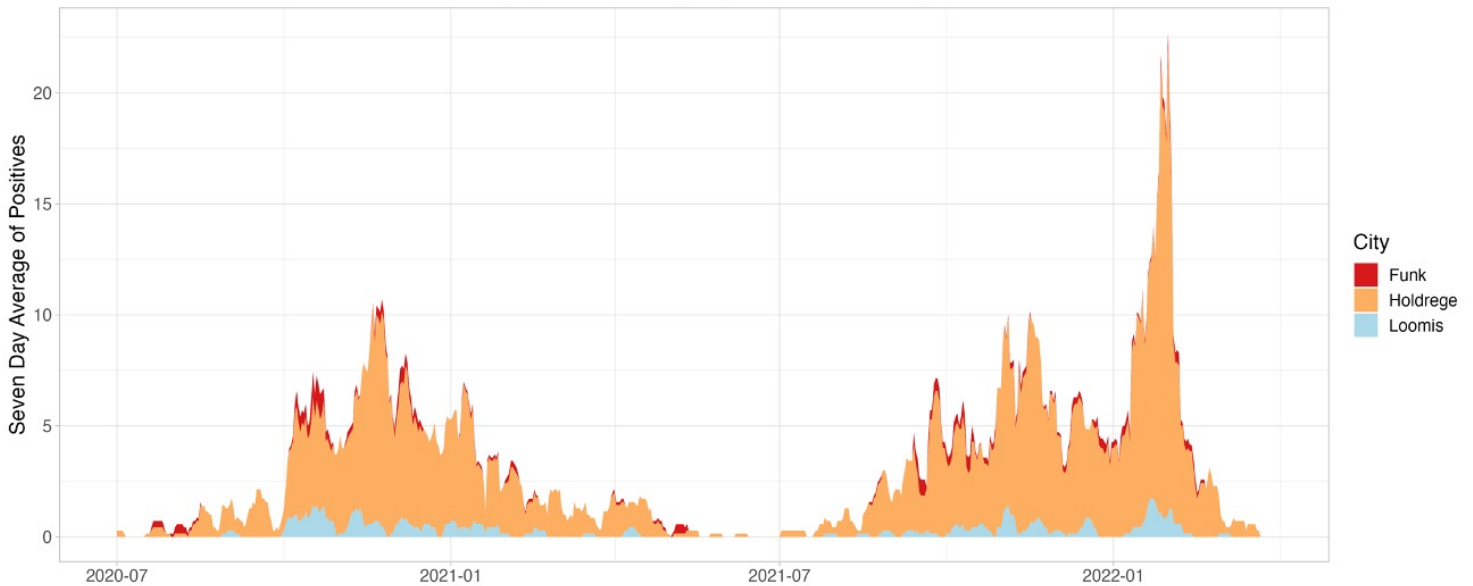
Graph displays data from July 1st, 2020 to March 29th, 2022



Information Updated as of 3/29 at 8 p.m.

7 Day Rolling Average of COVID-19 Cases by City

Graph displays data from July 1st, 2020 to March 29th, 2022



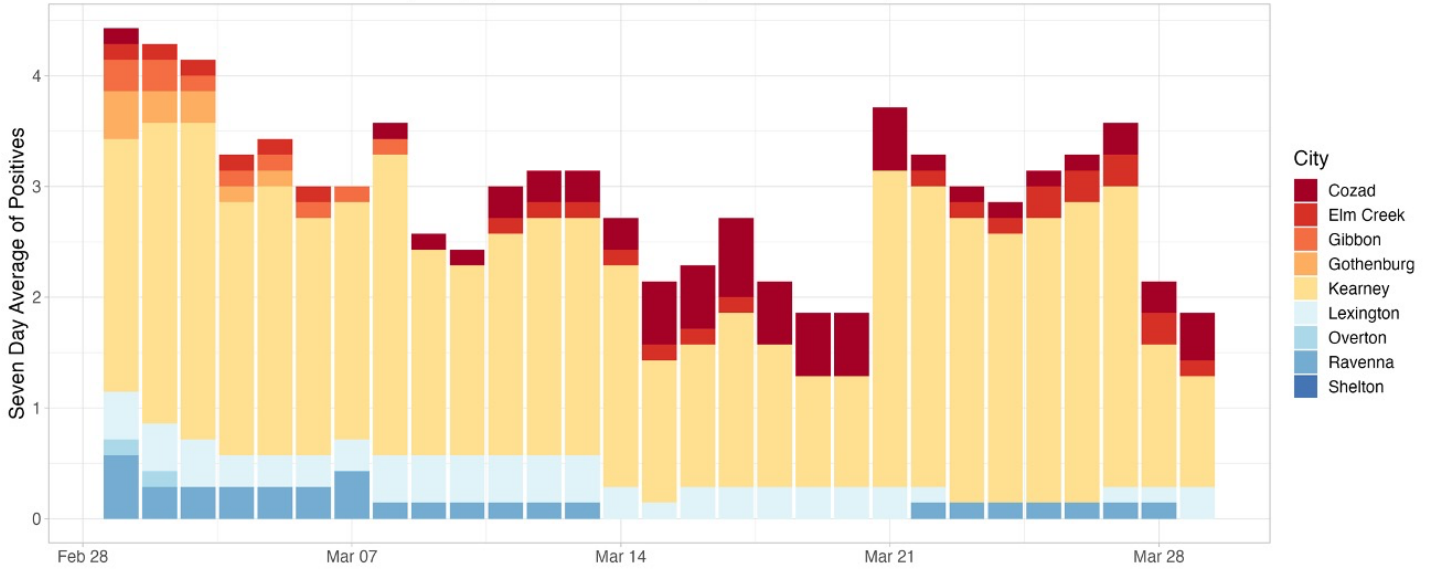
Information Updated as of 3/29 at 8 p.m.



- The following bar graphs describes the 7-day rolling averages by city for the past four weeks (Ma 2 – Mar 29) 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

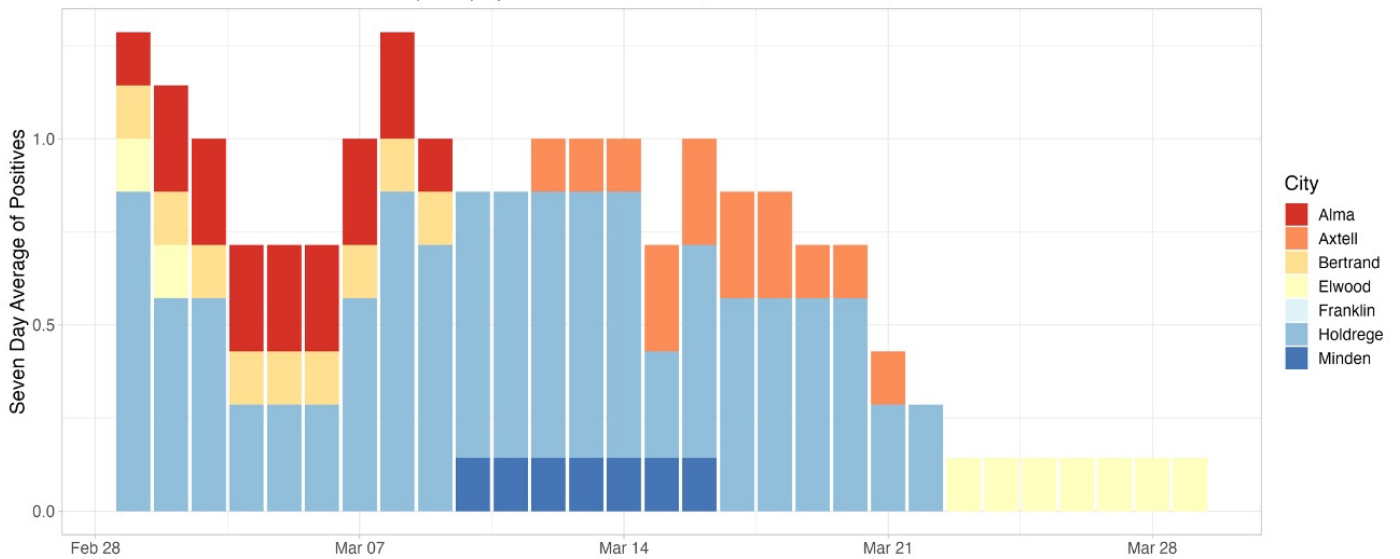
Graph displays data from March 1st, 2022 to March 29th, 2022



Information Updated as of 3/29 at 8 p.m.

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

Graph displays data from March 1st, 2022 to March 29th, 2022



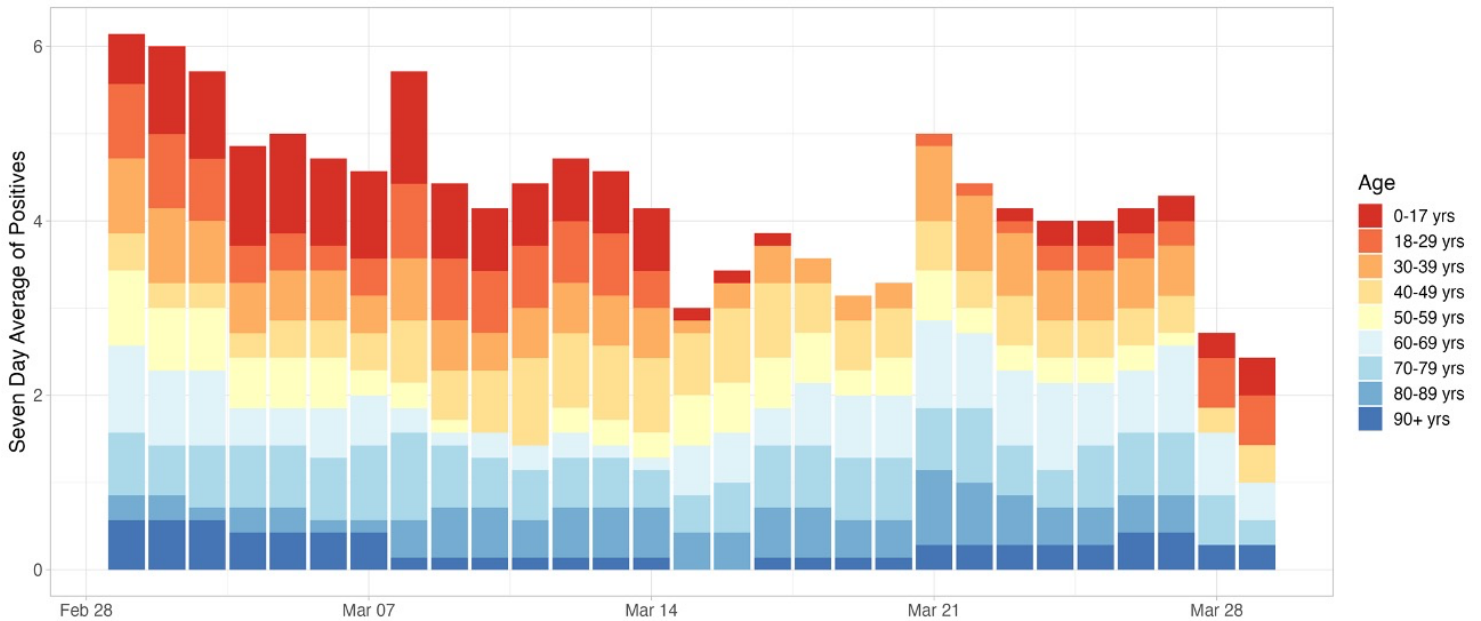
Information Updated as of 3/29 at 8 p.m.



- The graph below describes the **7-day rolling average** of cases from **Mar 2 - Mar 29** 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 March 1st, 2022 to March 29th, 2022



Information Updated as of 3/29 at 8 p.m.



Weekly summary

- 33 cases of COVID-19 were recorded in TRPHD between March 16 - March 22. Test positivity rate for all tests is below 2%; when considering testing outside residential facilities, positivity rate is under 5%, the first time since July 2021.
- Test positivity rates and weekly case counts have dropped to levels comparable to June 2021, before the onset of the delta variant wave in TRPHD.
- As of Mar 22, 52% of the total population of TRPHD has received the minimum prescribed dose of the COVID-19 vaccine. Booster doses of vaccines are recommended at 5 months after second dose (Pfizer/ Moderna) or 2 months after the first dose of Janssen COVID vaccine. Half of TRPHD's total population has either received a booster dose or are within the 2 or 5-month interval after a vaccine dose.
- As of Wednesday morning, over 20% of ICU beds in TRPHD and 35% of Medical/surgical beds in TRPHD were available. COVID accounts for only one ICU admission currently
- TRPHD offers COVID testing at the Two Rivers Public Health Department office at 516 W. 11th Street, Kearney starting Monday, March 7th, 2022. Testing offered Mondays & Wednesdays 9:30AM - 11:00AM. Those interested are required to register at <https://login.registermytime.com/tw/2rphd> for scheduling.
- TRPHD strongly urges all unvaccinated vaccine-eligible residents to avail of the COVID vaccination through their healthcare provider, pharmacy or TRPHD. For schedule of vaccination clinics, see www.trphd.org

To conclude, 33 new COVID cases were detected in the Two Rivers area last week. Test positivity rate is around 3% for the entire district, weekly test uptake has also dropped considerably. Over half of TRPHD's population is fully vaccinated, although vaccine uptake has plateaued. TRPHD has scheduled vaccination clinics across the district, schedule can be found at <https://www.trphd.org/covid-19/event-calendar.html>. TRPHD is operating a public COVID testing site at the TRPHD office in Kearney 9:30 AM - 12:30 PM, Mondays and Wednesdays. Those eligible for vaccines or booster doses are advised to contact TRPHD or their physician or local pharmacy. To access services through Two Rivers health department, residents are required to visit www.trphd.org to register an appointment (for COVID testing). TRPHD vaccination clinics accept walk-in customers and will provide appropriate vaccine dose as indicated.



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

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 | 49209 |
| Dawson | 23733 |
| Franklin | 2987 |
| Gosper | 2013 |
| Harlan | 3415 |
| Kearney | 6529 |
| Phelps | 9100 |
| TRPHD total | 96986 |
| 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>)