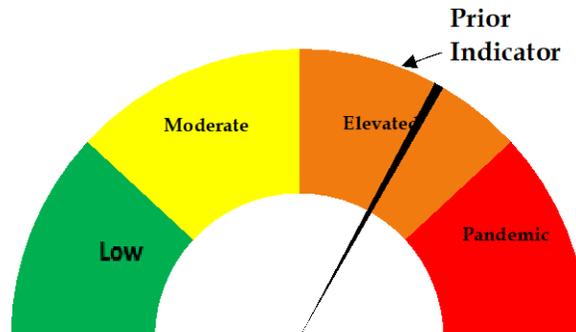


Risk Dial Jan 7, 2020



Risk Dial for COVID-19
Two Rivers Public Health
Published January 7, 2021

- Occupancy remains steady across hospitals in TRPHD. Currently, around 40% of ICU beds and about 50% of all medical/ surgical beds across the district are available; COVID-19 accounts for less than a 20% of patients occupying these. (see <https://www.trphd.org/covid-19/> for details)
- The weekly positivity rate has increased across the district, both including residential facilities as well as among the general population.
- Although testing availability remains steady across the district, uptake of TestNebraska and private testing services (mostly hospitals and clinics) is considerably lower than earlier. Weekly testing numbers for TestNebraska as well as private facilities are 23% and 28% of their 4-week average
- Overall tests for the district are about 50% of the number from two months previously. For more details on testing statistics, see weekly report (Dec 30 - Jan 6 <https://www.trphd.org/covid-19/>).
- TRPHD Contact Tracers report positive cases across multiple age groups that might be linked to family clusters in the past two weeks, which may be a sign of smaller outbreaks following holiday travel. We have been closely monitoring cases.
- For these reasons, the risk dial has risen this week within the 'elevated' stage. We continue to monitor rising test positivity rates across the district.



Weekly report Dec 30, 2020 - Jan 5, 2021

Overview

The weekly report will look at COVID-19 cases in TRPHD across three 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 **December 30 - January 5** (1 week) and **December 8 - January 5** (4 weeks). We describe cases in residential facilities separately from other residents of the district.
- The first set of graphs look at the progress of the pandemic from **April 1 - January 5** (40 weeks) across all counties.
 - We describe the 7-day rolling average ¹ of positive cases across TRPHD since April, describing cases by age categories (**Apr - Jan**)
- The second set of graphs look at the **test positivity rate (excl. residential facilities)** from **March 15 - January 5** across each of the 7 counties.
- The third graph describes the **total tests conducted** and **positives detected** from **November 11 - January 5** for each of the seven counties in Two Rivers Health District. Also displayed is the weekly test positivity rate
- The fourth set of graphs describe the daily cases (7-day rolling average) from **December 8 - January 5**. Progress is described by age, county and city of residence. Also depicted are countywide rates per 100,000 population and citywide rates per 10,000 population.
- The fifth set of graphs look at Residential facilities in TRPHD (**Sep - Jan**) ²
 - We describe weekly positive cases detected in residential facilities (**Sep 2 - Jan 5**), and display each week's cases by the county where the facility is located. ³

Overall weekly COVID-19 test positivity rates have risen across Two Rivers Health District, and lower overall levels of testing seem to compound this trend. Although testing availability is steady across the district, reduced uptake of public and private testing over the past two weeks is cause for concern. COVID outbreaks in residential facilities seem to have subsided for now. ICU availability and medical/surgical bed usage have remained within safe levels across hospitals in Two Rivers in the past two weeks. 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 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.

² For information on residential facilities, please see appendix 3

³ For information on data sources, please see appendix 1



Testing Overview

- As of Dec 29, over 39,200 residents of Two Rivers Health District were tested at least once for COVID-19. 81,772 tests were conducted since March 1, 9324 of which were positive. ⁴
- A little over 60% of all tests conducted since April have been laboratory-based Polymerase Chain Reaction (PCR) tests.
 - However, 68% of tests in the past 4 weeks have been rapid, or antigen tests. These are easier to administer and provide immediate results, but are not as sensitive as PCR tests that are used for laboratory confirmation of COVID.

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

	Dec 29 - Jan 5 (1 week)			Dec 8 - Jan 5 (4 weeks)		
	Total Tests	Positive Results	Positivity Rate	Total Tests	Positive Results	Positivity Rate
Hospital/ Clinic	502	146	29.1%	2855	636	22.3%
TestNebraska	348	79	22.7%	1859	365	19.6%
Residential Facility	1785	21	1.2%	7653	91	1.2%
Lab/ Pharmacy	171	28	16.4%	968	125	12.9%
Other	27	12	44.4%	117	24	20.5%
TOTAL	2833	286	10.1%	13,452	1,241	9.2%

- A total of 7653 tests were availed by residents and staff of long-term care and other **residential facilities** in the last 4 weeks. Details are provided below:

Residential Facility In:	Dec 29 - Jan 5 (1 week)			Dec 8 - Jan 5 (4 weeks)		
	Total Tests	Positive Results	Positivity Rate	Total Tests	Positive Results	Positivity Rate
Buffalo	659	14	2.1%	2612	31	1.2%
Dawson	191	1	0.5%	1040	3	0.3%
Franklin	0	0	0.0	0	0	0.0
Gosper	122	1	0.8%	598	21	3.5%
Harlan	67	0	0.0%	364	2	0.5%
Kearney	157	0	0.0%	509	1	0.2%
Phelps	405	5	1.2%	2070	32	1.5%
Outside TRPHD	184	0	0.0%	460	1	0.2%
TOTAL	1785	21	1.2%	7653	91	1.2%

⁴ 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.



Excluding residential facilities, a total of 5799⁵ persons were tested 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.

	Dec 29 - Jan 5 (1 week)			Dec 8 - Jan 5 (4 weeks)		
	Total tests conducted	Positive cases	P. rate (%)	Total tests conducted	Positive cases	P. rate (%)
County						
Buffalo	562	111	19.8%	2907	490	16.9%
Dawson	275	93	33.8%	1589	367	23.1%
Franklin	16	1	6.3%	154	28	18.2%
Gosper	23	11	47.8%	123	48	39.0%
Harlan	12	2	16.7%	105	20	19.0%
Kearney	63	20	31.7%	317	65	20.5%
Phelps	95	26	27.4%	568	122	21.5%
Data missing/ not disclosed	2	1	50.0%	36	10	27.8%
Total	1,048	265	25.3%	5,799	1,150	19.8%
Age (in yrs)						
0-17	90	26	28.9%	576	99	17.2%
18-29	242	52	21.5%	1275	222	17.4%
30-39	167	52	31.1%	979	212	21.7%
40-49	124	28	22.6%	717	154	21.5%
50-59	142	45	31.7%	770	182	23.6%
60-69	134	35	26.1%	742	142	19.1%
70-79	88	20	22.7%	440	81	18.4%
80-89	44	6	13.6%	216	43	19.9%
90+	17	1	5.9%	84	15	17.9%
Total	1048	265	25.3%	5799	1150	19.8%
Gender						
Female	610	151	24.8%	3262	606	18.6%
Male	433	114	26.3%	2427	538	22.2%
Data missing/ not disclosed	5	0	0.0%	110	6	5.5%
Total	1,048	265	25.3%	5,799	1,150	19.8%

⁵ Tests of persons missing date of birth were excluded from the analysis
 516 W 11th Street, Suite 108
 Kearney, NE 68845



- The graph below describes 7-day rolling average of COVID-19 across TRPHD from **April 1 – January 5**.
- 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.

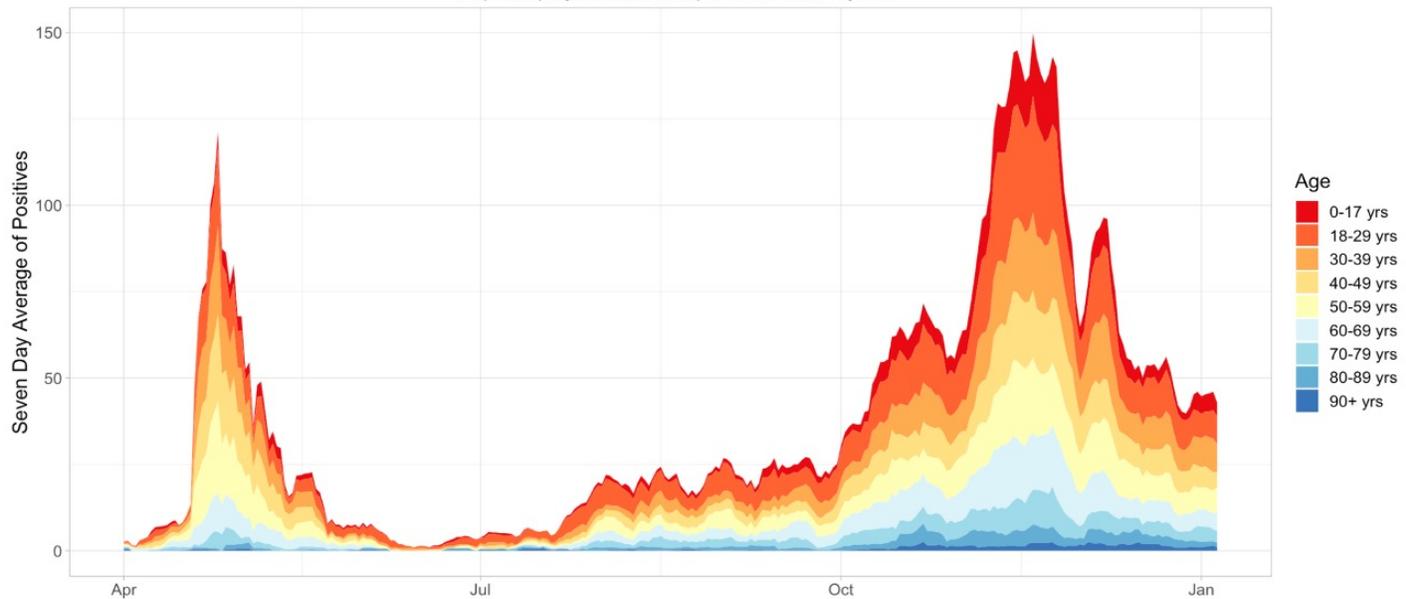
7 Day Rolling Average of Two Rivers

Graph displays data from April 1st to January 5th



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

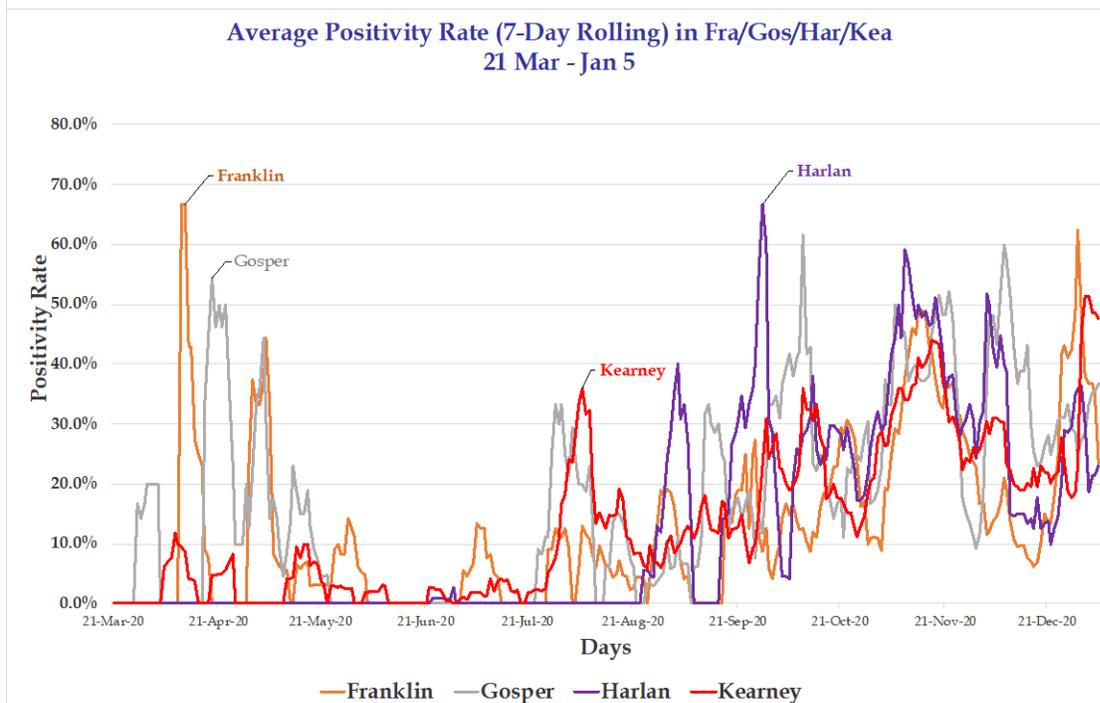
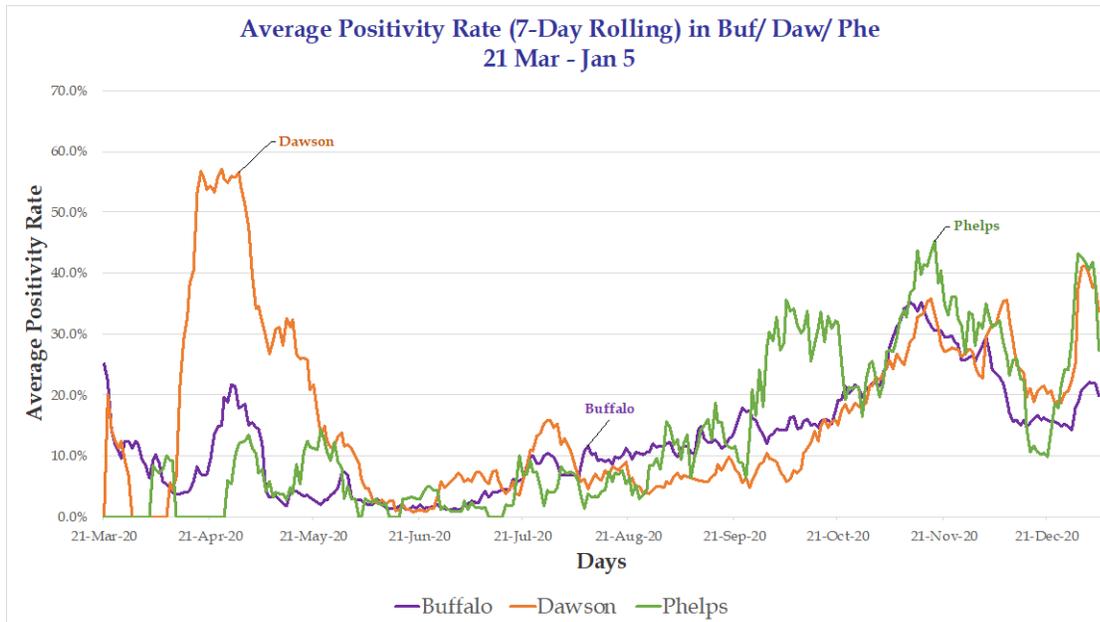
Graph displays data from April 1st to January 5th



Information Updated as of 1/5 at 8 p.m.

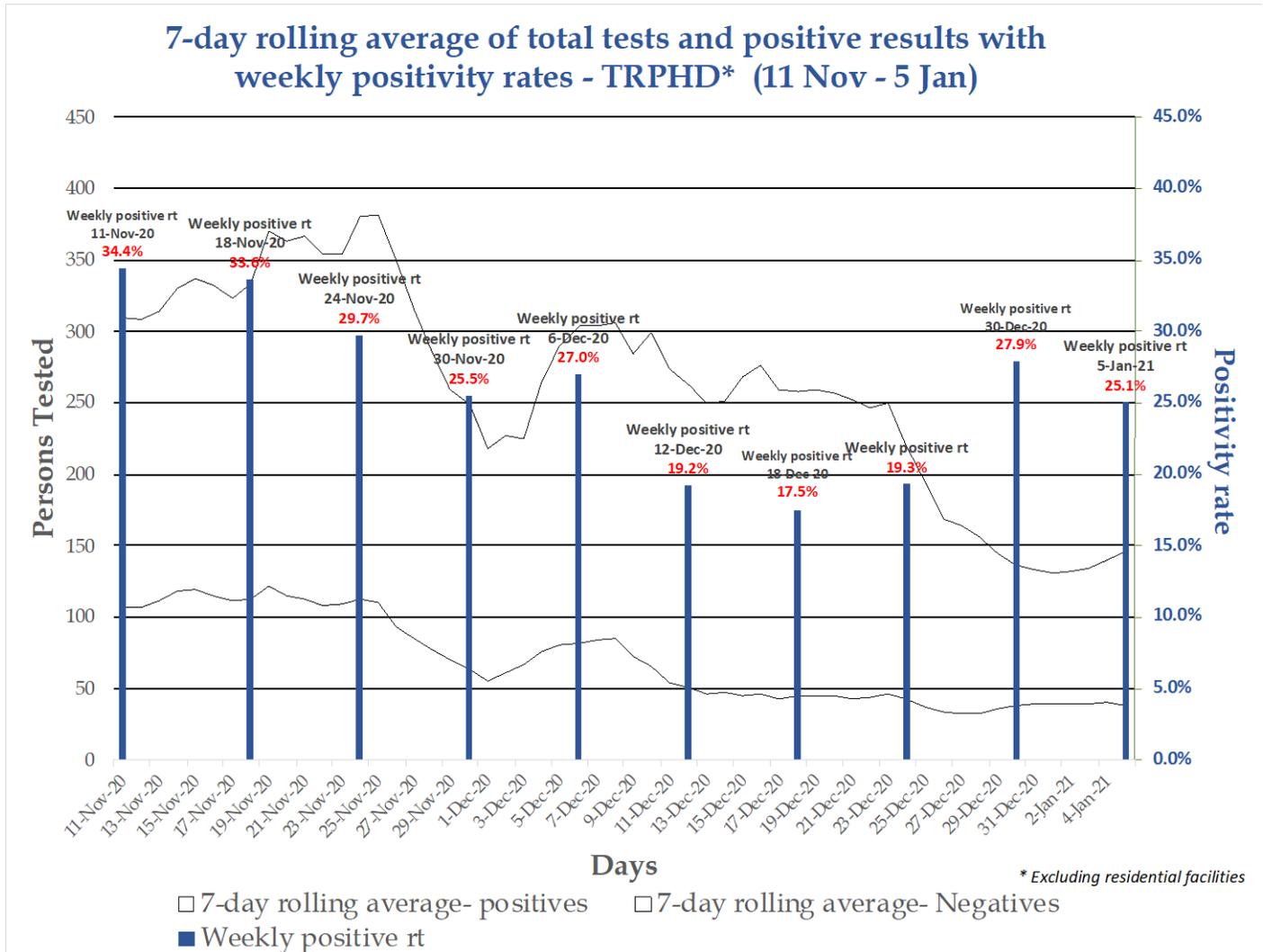


- The graph below describes the COVID-19 test **positivity rate (7-day rolling)** in each of the 7 counties in Two Rivers Health District from **March 15 – January 5**. Only tests conducted outside of residential facilities have been included.
- The first graph shows Buffalo, Dawson and Phelps counties, and the second displays Franklin, Gosper, Harlan and Kearney counties. Scales are different for both graphs.





- The graph below describes the **total tests conducted** across Two Rivers Health District, divided into **negative and positive results received** ⁶ from **November 11 to Jan 5**. The height of the graph corresponds to all tests done that week (7-day rolling average) and the two colors denote negative and positive results.
- Also shown is the **weekly test positivity rate**, denoted by vertical bars on the x-axis. Only tests outside of residential facilities were included.
- The number of weekly tests conducted across the district has dropped by about 50% compared to the weekly total 2 months previously.



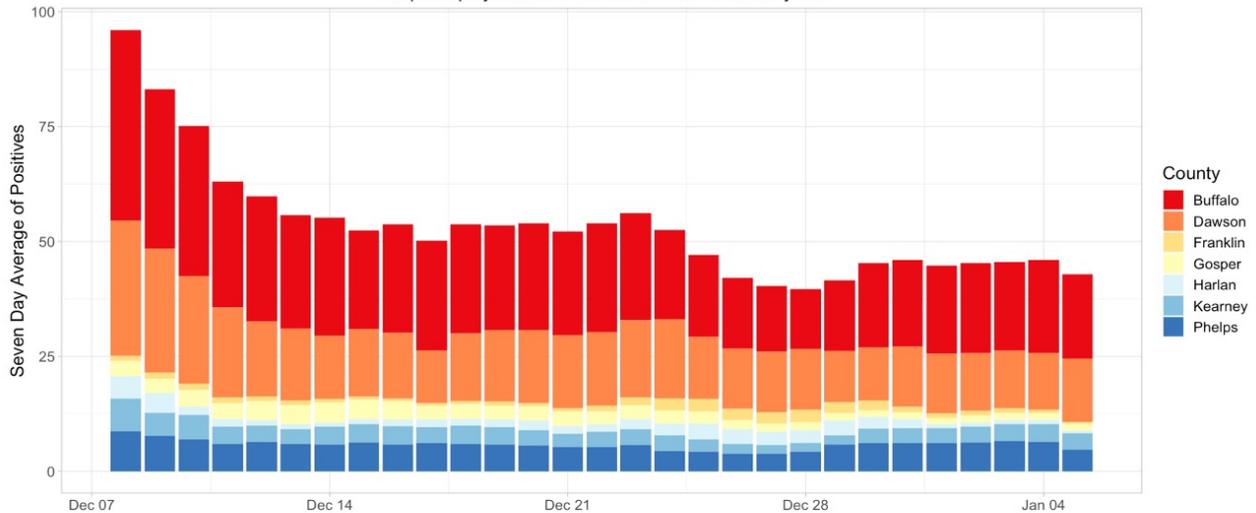
⁶ For information on total tests and test positivity rate, please see appendix 1
 516 W 11th Street, Suite 108
 Kearney, NE 68845



- The following bar graph describes the 7-day rolling averages of COVID-19 cases by **county** for the past four weeks (Dec 8 - Jan 5).
- The second graph describes the same data per 100,000 population.⁷ The graph also depicts the line for the United States and Nebraska.

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

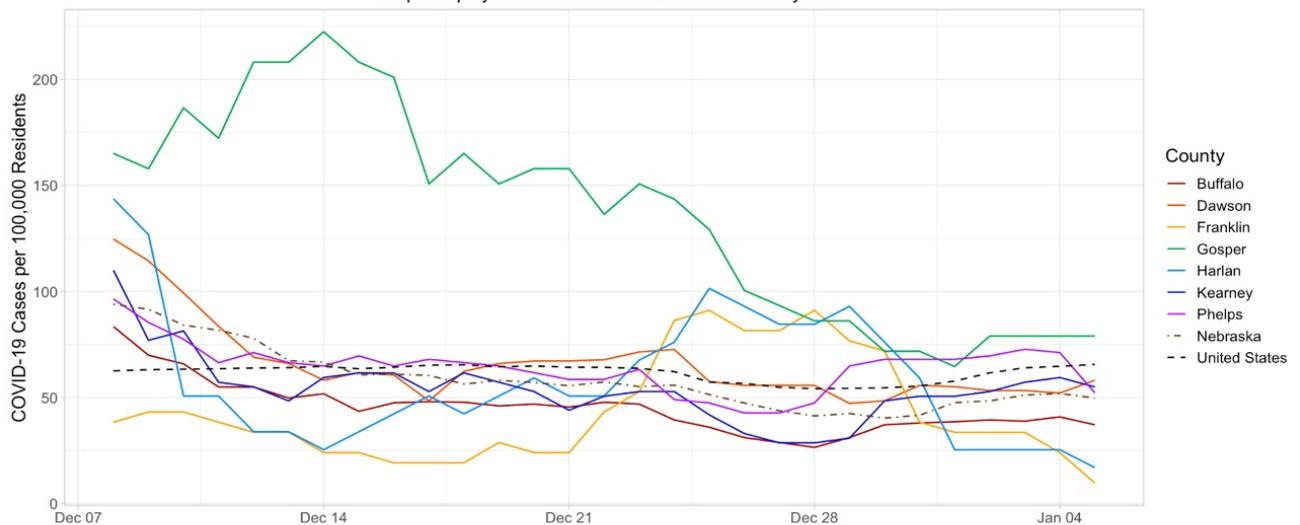
Graph displays data from December 8th to January 5th



Information Updated as of 1/5 at 8 p.m.

7 Day Rolling Average of COVID-19 Cases Per 100,000 Resident in Two Rivers by County

Graph displays data from December 8th to January 5th



Information Updated as of 1/5 at 8 p.m.

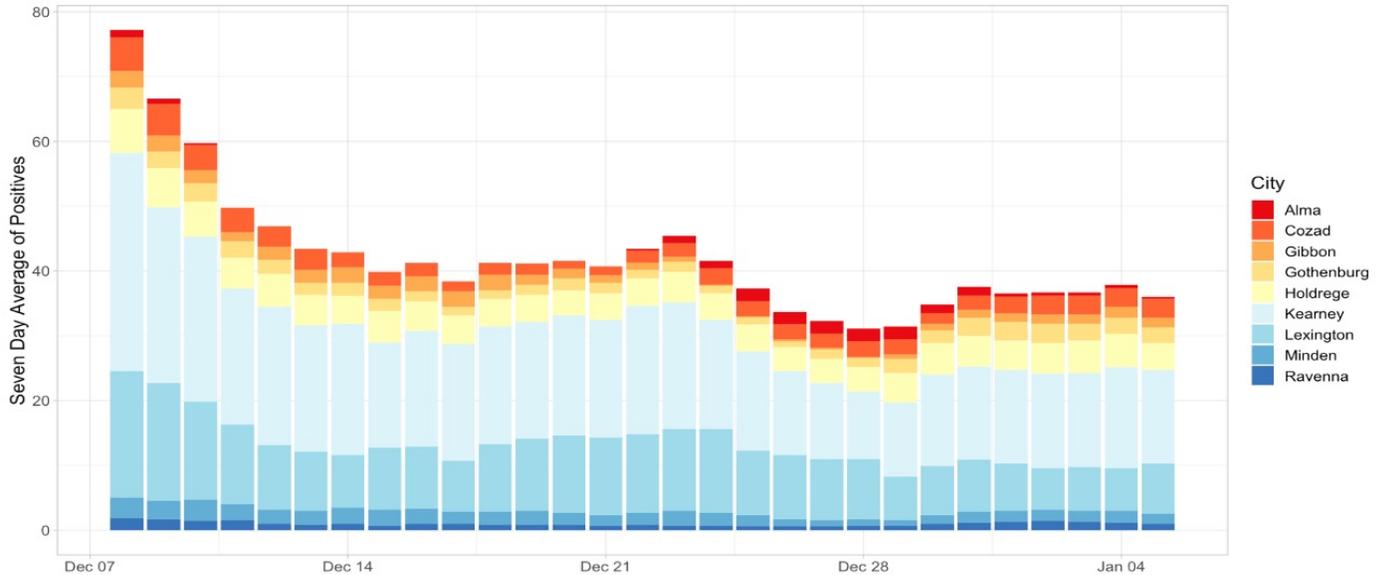
⁷ Please note: When comparing counties, we describe rates per 100,000 population. This is roughly equal to the total population of Two Rivers Health Department (~97,000)



- The following bar graph describes the 7-day rolling averages by city for the past four weeks (Dec 8 - Jan 5) in TRPHD. The graph above shows cities with population above 1100 and the one below shows the graph for cities with less than 1100 residents. The scale is different for both graphs.

7 Day Rolling Average of COVID-19 Cases in Cities > 1,100 Residents

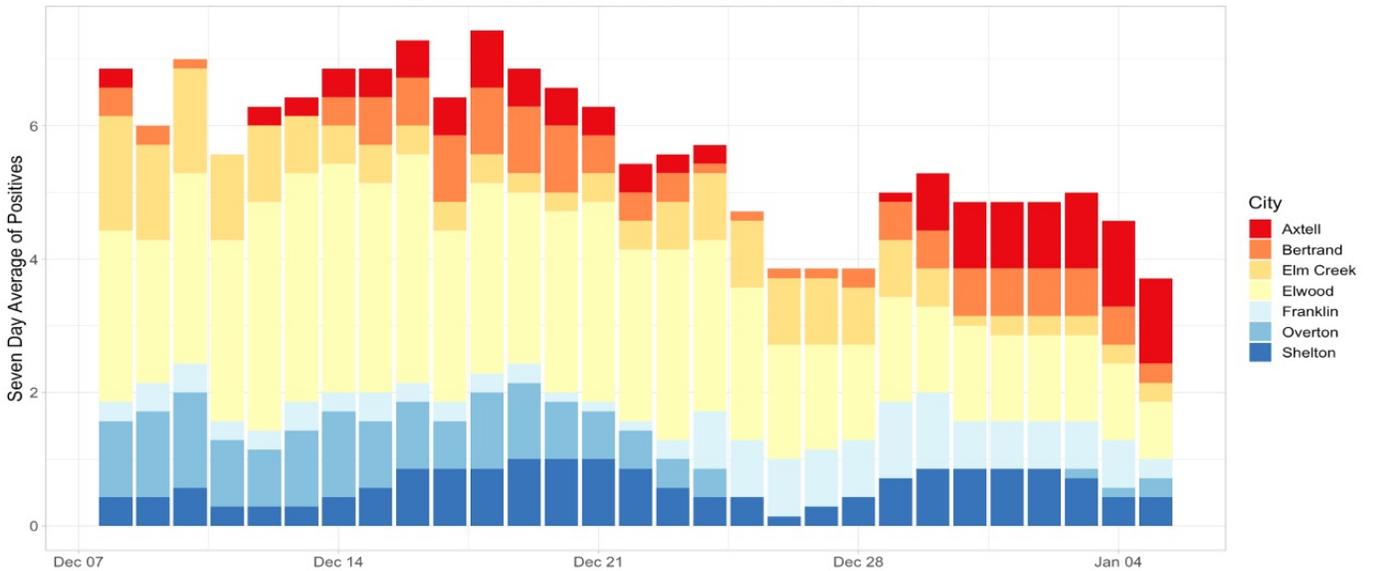
Graph displays data from December 8th to January 5th



Information Updated as of 1/5 at 8 p.m.

7 Day Rolling Average of COVID-19 Cases in Cities with 500-1,099 in Residents

Graph displays data from December 8th to January 5th



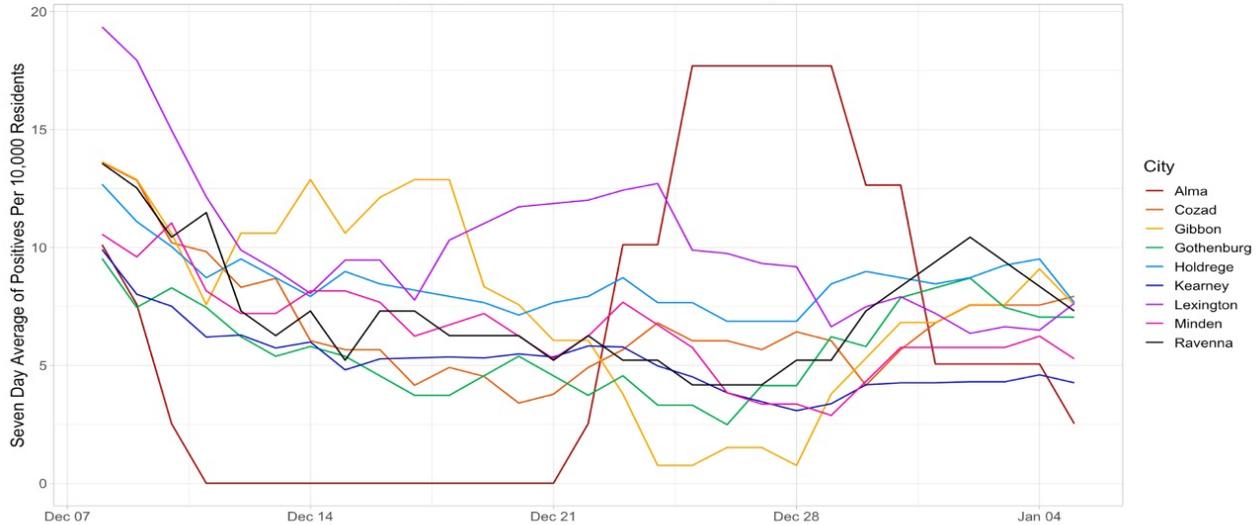
Information Updated as of 1/5 at 8 p.m.



- The following line graph describes the 7-day rolling average of COVID cases per 10,000 population in cities across TRPHD for the past four weeks (Dec 8 - Jan 5)⁸
- The top graph describes shows cities with population above 1100 and the one below shows the graph for cities with under 1100 residents. The scale is different for both graphs.

7 Day Rolling Average of COVID-19 Cases Per 10,000 Residents in Cities > 1,100 Residents

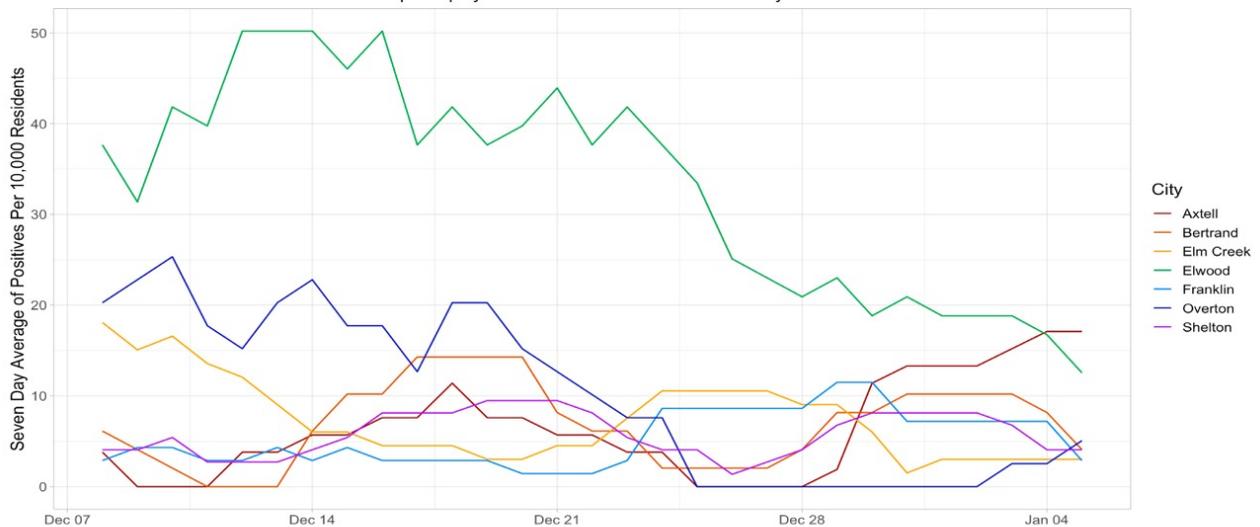
Graph displays data from December 8th to January 5th



Information Updated as of 1/5 at 8 p.m.

7 Day Rolling Average of COVID-19 Cases Per 10,000 Residents in Cities with 500-1,099 in Residents

Graph displays data from December 8th to January 5th

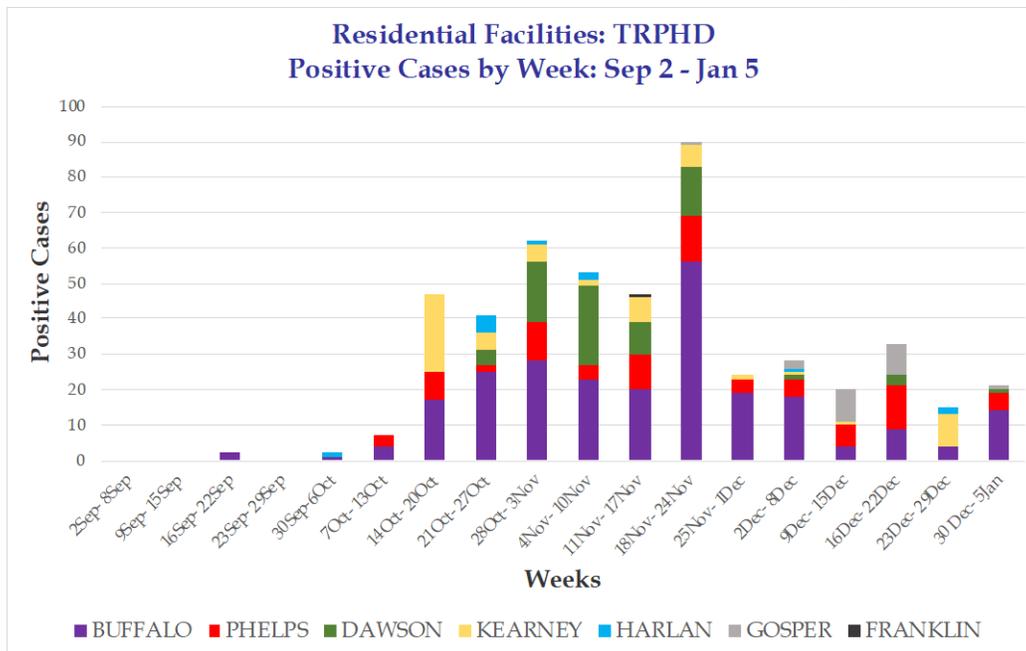
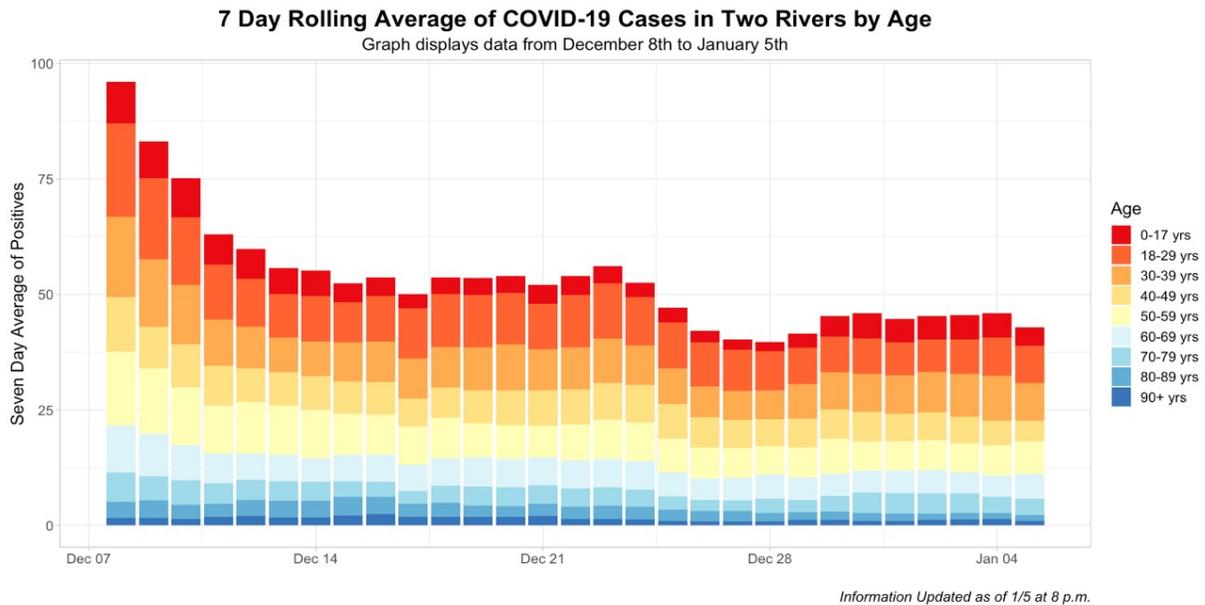


Information Updated as of 1/5 at 8 p.m.

⁸ Please note: When comparing cities, we describe rates per 10,000 population. This is roughly equal to the total population of Lexington (~10,000)



- The first graph below describes the **7-day rolling average** of cases from **December 8 – January 5** by age. Tests were conducted among all persons, including residents of long-term residential facilities. The height of the graph corresponds to total cases and the thickness of each colored band corresponds to each age group.
- The second graph shows the distribution of cases per week in **residential facilities** in the district, broken up by county (**Sep 2 – Jan 5**). Regular and widespread testing in long term care facilities in TRPHD began in early October.





Weekly summary

- The daily average of positive cases across Two Rivers Health District remains low, although positivity rates for the district has risen in the last week.
- Although tests continue to be available through TestNebraska as well as private clinics and hospitals, testing uptake has dropped dramatically across Two Rivers Health District. Average daily tests are about 50% of the weekly average from two months previously.
- Weekly testing numbers for TestNebraska as well as private facilities are 23% and 28% of their 4-week average; we have been observing underutilization of TestNebraska services in the district for the past two weeks.
- Rising positivity rates in the district are at least in part a consequence of low testing numbers, although the high positivity rate among symptomatic cases would seem to indicate widespread community transmission.
- As some of the long-term care facilities move past previous outbreaks among their residents and staff, they have reduced the rates of daily and weekly testing among their residents.
- Small localized outbreaks in Franklin and Gosper counties seem to have subsided for now, although this may be due to lower overall testing in these counties.
- Current positivity rates across the district are comparable to early December, although total tests conducted per week has dropped by about a third in that time period.

To conclude, overall weekly COVID-19 test positivity rates have risen across Two Rivers Health District, and lower overall levels of testing seem to exacerbate this trend. Although testing availability is steady across the district, reduced uptake of public and private testing over the past two weeks is cause for concern. COVID outbreaks in residential facilities seem to have subsided for now. ICU availability and medical/surgical bed usage have remained within safe levels across hospitals in Two Rivers in the past two weeks. 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

- 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
- 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).

Population numbers used are from the American Community Survey (ACS 2019 mid-year estimates). For further detail, see: <https://www.census.gov/programs-surveys/acs/data.html>

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

[(Total positive test results for residents in the region)] / (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.