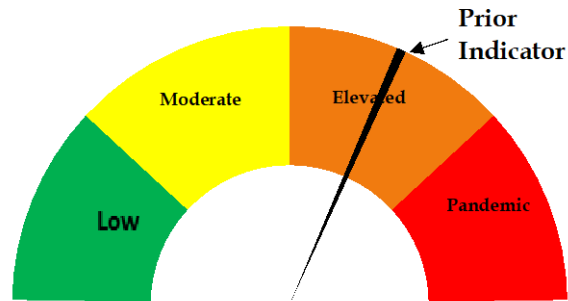




Risk Dial Dec 24, 2020



Risk Dial for COVID-19 Two Rivers Public Health Published December 24, 2020

- ICU occupancy has decreased drastically in the past month. About 40% of ICU beds are now available, a vast improvement compared to one month previously, when less than 6% ICU beds were available.
- COVID-19 accounts for less than 20% of patients occupying medical/surgical beds currently in the district. (see <https://www.trphd.org/covid-19/> for details)
- The daily average of positive cases as well as the positivity rate continues to drop across the district even as tests conducted outside residential facilities have slightly decreased. The drop in daily case counts in Buffalo county has been most influential in reducing overall numbers. For more details on testing statistics, see weekly report (Dec 9 - Dec 15 <https://www.trphd.org/covid-19/>).
- An outbreak over the last two weeks in Gosper county resulted in a rapid increase in case counts, especially compared to other counties in the same period.
- Deaths due to COVID-19 continue to increase. Death counts are higher compared to three months previously; about half of TRPHD reported deaths have died in the last 7 weeks.
- The laboratory-based PCR test results are now taking about 4 days to be reported to TRPHD, which is an increase from previous averages.
- For these reasons, the risk dial remains unchanged from the 'elevated' level displayed last week. We continue to be cautiously optimistic about a sustained downward trend in daily new cases across the district.



Weekly report Dec 16 - Dec 22 2020

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 16 - December 22** (1 week) and **November 24 - December 22** (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 - December 22** (38 weeks) across all counties.
 - We describe the 7-day rolling average ¹across TRPHD since July, describing cases by age categories (**Apr - Dec**) and describing the progression of deaths across the district.
- The second set of graphs look at the 7-day rolling average of cases from **July 1 - December 22** across each of the 7 counties, represented per 100,000 residents.
- The third set of graphs describe the daily cases (7-day rolling average) from **November 17 - December 22**. 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 fourth set of graphs look at Residential facilities in TRPHD (**Sep - Dec**) ²
 - We describe weekly positive cases detected in residential facilities (**Sep 2 - Dec 22**), and display each week's cases by the county where the facility is located. ³

Daily COVID-19 case counts and test positivity rates continue to decrease across Two Rivers Health District. Although ongoing outbreaks in residential facilities throughout the district are being closely monitored, the sustained drop in case counts is continued reason for cautious optimism ICU availability and COVID-related medical/surgical bed usage have remained within safe levels across hospitals in the district in the past week. Deaths due to COVID-19 continue to increase; half of all COVID deaths in the district have occurred in the past 7 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 2

³ For information on data sources, please see appendix 1



Testing Overview

- As of Dec 22, 37,928 residents of Two Rivers Health District have been tested at least once for COVID-19. A little under 76,000 tests have been successfully conducted since March 1, and 8781 positive results have been obtained. ⁴
- A little under 63% of all tests conducted since April have been laboratory-based Polymerase Chain Reaction (PCR) tests.
 - However, almost 61% 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 16 - Dec 22 (1 week)			Nov 24 - Dec 22 (4 weeks)		
	Total Tests	Positive Results	Positivity Rate	Total Tests	Positive Results	Positivity Rate
Hospital/ Clinic	818	164	20.0%	3411	871	25.5%
TestNebraska	529	99	18.7%	2240	412	18.4%
Residential Facility	1975	33	1.7%	8699	121	1.4%
Lab/ Pharmacy	307	41	13.4%	1499	295	19.7%
Other	115	7	6.1%	202	29	14.4%
TOTAL	3744	344	9.2%	16,051	1,728	10.8%

- A total of 8699 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 16 - Dec 22 (1 week)			Nov 24 - Dec 22 (4 weeks)		
	Total Tests	Positive Results	Positivity Rate	Total Tests	Positive Results	Positivity Rate
Buffalo	502	9	1.8%	3117	53	1.7%
Dawson	328	3	0.9%	1065	4	0.4%
Franklin	56	0	0.0%	283	0	0.0%
Gosper	170	9	5.3%	598	23	3.8%
Harlan	105	0	0.0%	449	1	0.2%
Kearney	136	0	0.0%	936	3	0.3%
Phelps	617	12	1.9%	1983	32	1.6%
Outside TRPHD	61	0	0.0%	268	5	1.9%
TOTAL	1975	33	1.7%	8699	121	1.4%

⁴ Note: The differences between these numbers 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 dataset used to generate public dashboards.



Excluding residential facilities, a total of 7344⁵ 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 16 - Dec 22 (1 week)			Nov 24 - Dec 22 (4 weeks)		
	Total tests conducted	Positive cases	P. rate (%)	Total tests conducted	Positive cases	P. rate (%)
County						
Buffalo	910	144	15.8%	3804	749	19.7%
Dawson	488	101	20.7%	1921	484	25.2%
Franklin	43	8	18.6%	198	29	14.6%
Gosper	33	9	27.3%	132	43	32.6%
Harlan	32	4	12.5%	136	33	24.3%
Kearney	84	18	21.4%	368	89	24.2%
Phelps	171	24	14.0%	664	145	21.8%
Data missing/ not disclosed	8	3	37.5%	121	33	27.3%
Total	1,769	311	17.6%	7,344	1,605	21.9%
Age (in yrs)						
0-17	174	27	15.5%	863	139	16.1%
18-29	420	69	16.4%	1618	323	20.0%
30-39	299	57	19.1%	1282	295	23.0%
40-49	217	42	19.4%	949	223	23.5%
50-59	218	43	19.7%	982	268	27.3%
60-69	224	39	17.4%	877	202	23.0%
70-79	144	21	14.6%	503	93	18.5%
80-89	56	11	19.6%	215	51	23.7%
90+	17	2	11.8%	55	11	20.0%
Total	1769	311	17.6%	7344	1605	21.9%
Gender						
Female	1001	156	15.6%	3967	819	20.6%
Male	744	153	20.6%	3245	765	23.6%
Data missing/ not disclosed	24	2	8.3%	132	21	15.9%
Total	1,769	311	17.6%	7,344	1,605	21.9%

- The graph below describes 7-day rolling average of COVID-19 across TRPHD from **April 1 - December 22**.

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



- 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.

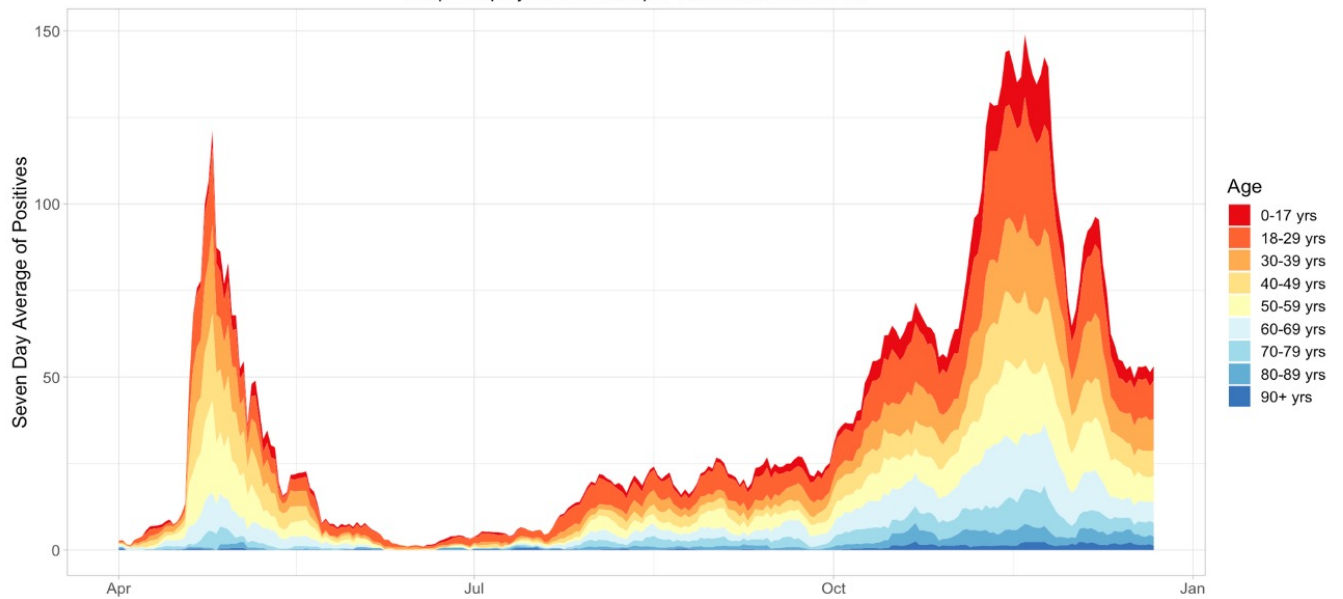
7 Day Rolling Average of Two Rivers

Graph displays data from April 1st to December 22nd



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

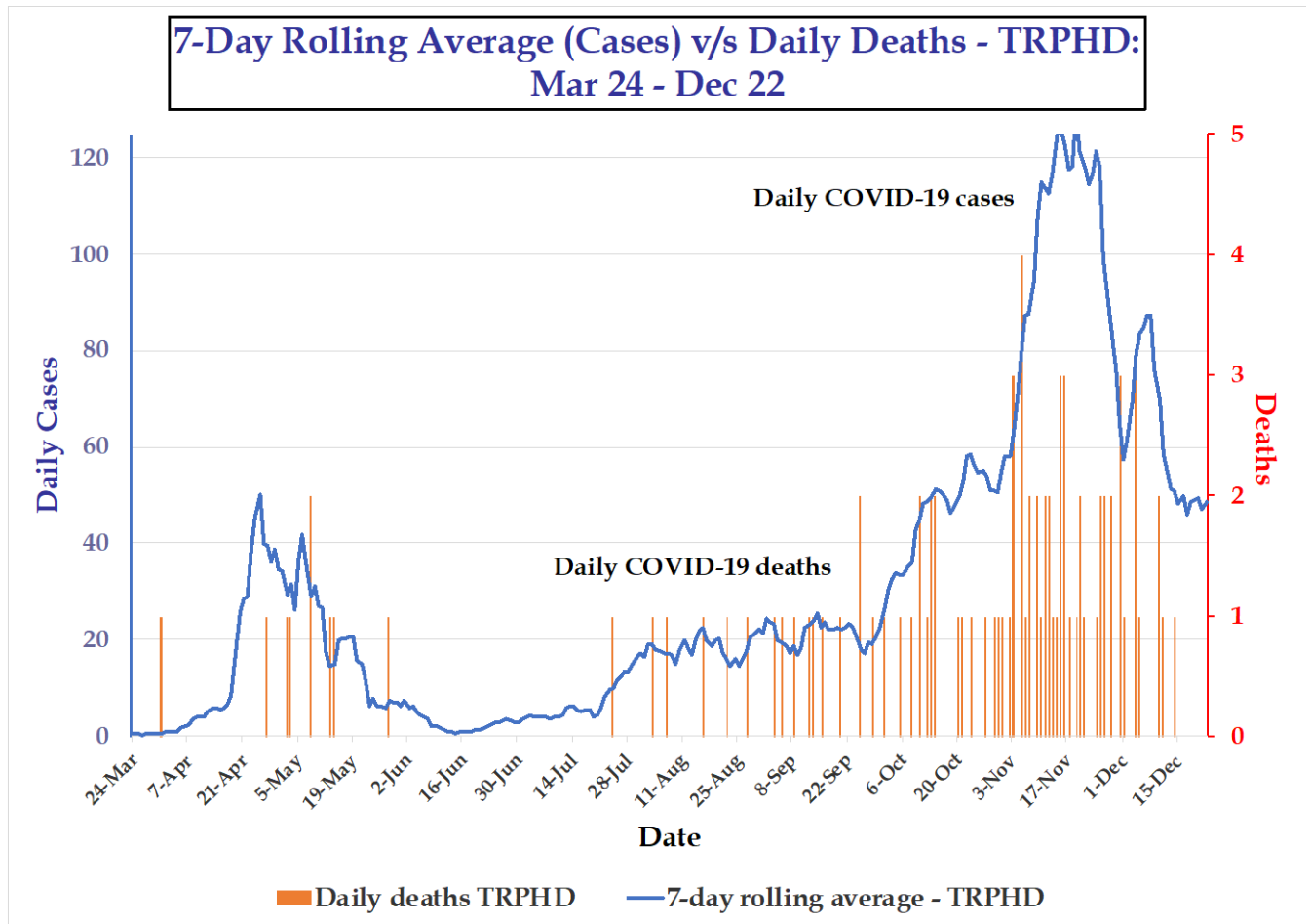
Graph displays data from April 1st to December 22nd



Information Updated as of 12/22 at 8 p.m.



- The graph below describes the 7-day rolling average of positive cases in TRPHD plotted against daily deaths due to COVID-19 ⁶ from **March 24 - December 22**.
- **Scale for deaths is on the z-axis.** Date indicates date of death due to COVID-19.
- **Daily case counts are plotted on the y-axis.** The line describes the 7-day rolling average of COVID positive cases in the district.



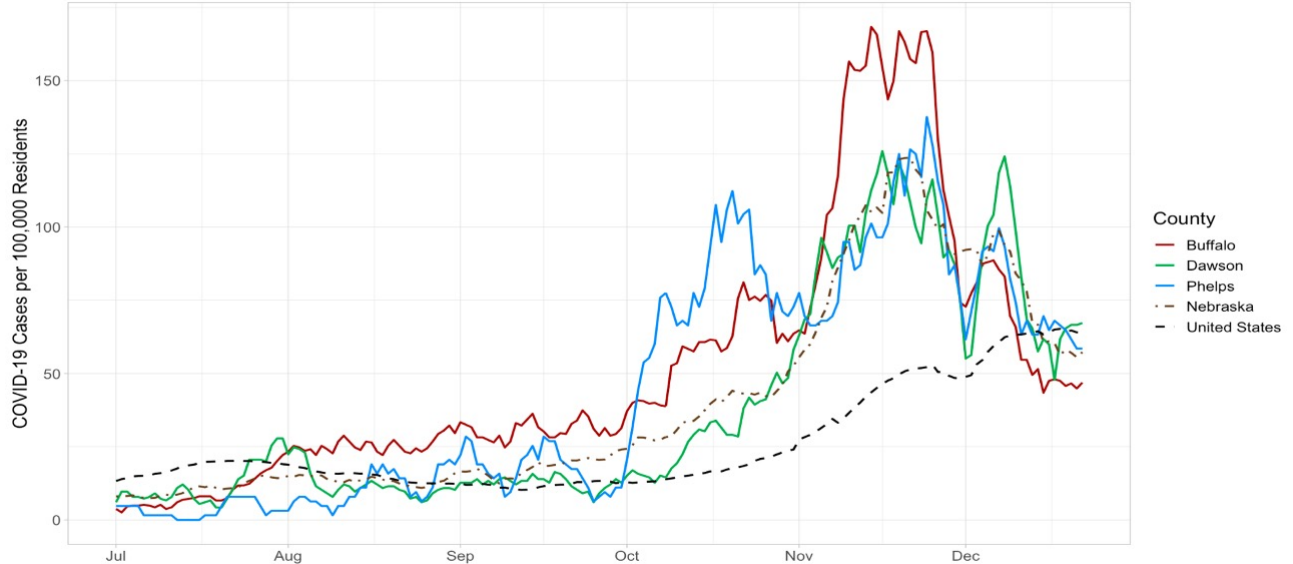
- The graph below describes the **7-day rolling average/100,000 population** of positive cases across each of the 7 counties in TRPHD from **July 1 to Dec 22**.
- Graphs are presented separately for Buffalo, Dawson and Phelps, and for Franklin, Gosper, Harlan and Kearney counties. Nebraska state and the United States are also presented for comparison. Scales are different for both graphs.

⁶ Deaths due to COVID-19 are identified as such 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 and the next of kin contacted before releasing a public notification. For further details on COVID-19 death certification, please see <https://www.cdc.gov/nchs/data/nvss/vsrg/vsrg03-508.pdf>



**7 Day Rolling Average of COVID-19 Cases
Per 100,000 Resident in Buffalo, Dawson, and Phelps County**

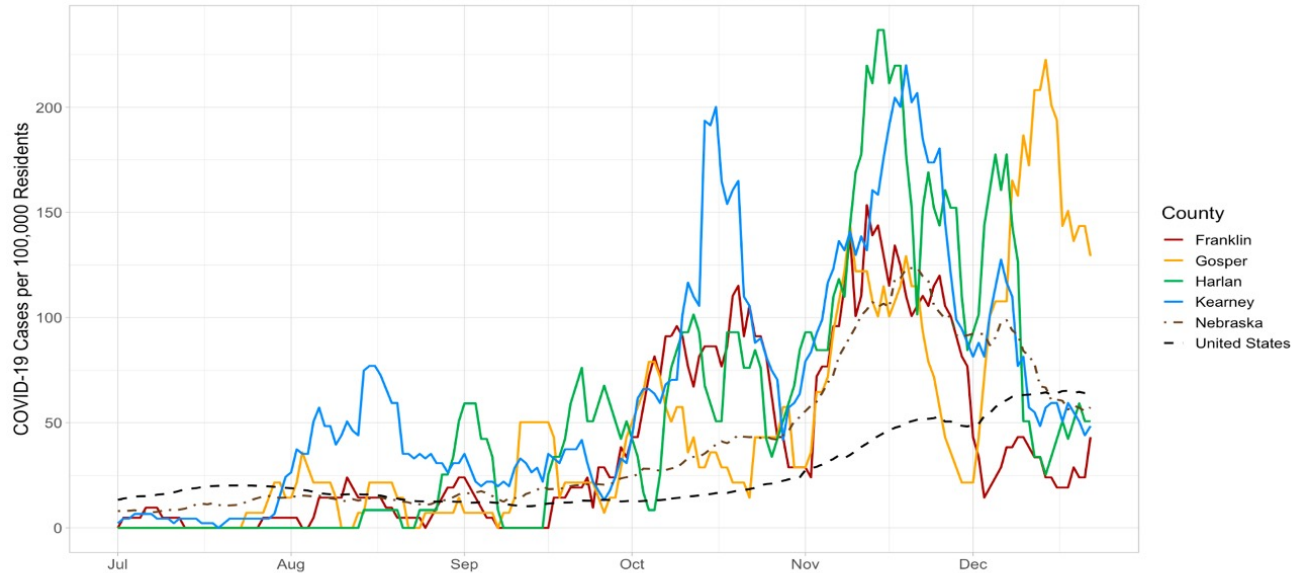
Graph displays data from July 1st to December 22nd



Information Updated as of 12/22 at 8 p.m.

**7 Day Rolling Average of COVID-19 Cases
Per 100,000 Resident in Franklin, Gosper, Harlan, and Kearney County**

Graph displays data from July 1st to December 22nd



Information Updated as of 12/22 at 8 p.m.

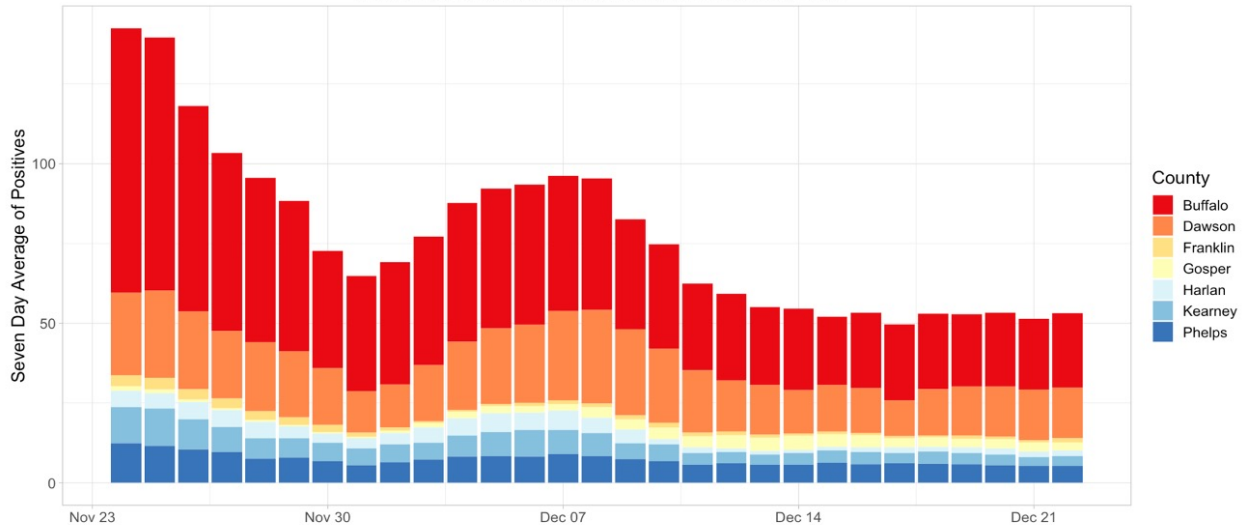
- The following bar graph describes the 7-day rolling averages of COVID-19 cases by county for the past four weeks (Nov 24 - Dec 22).



- The line 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

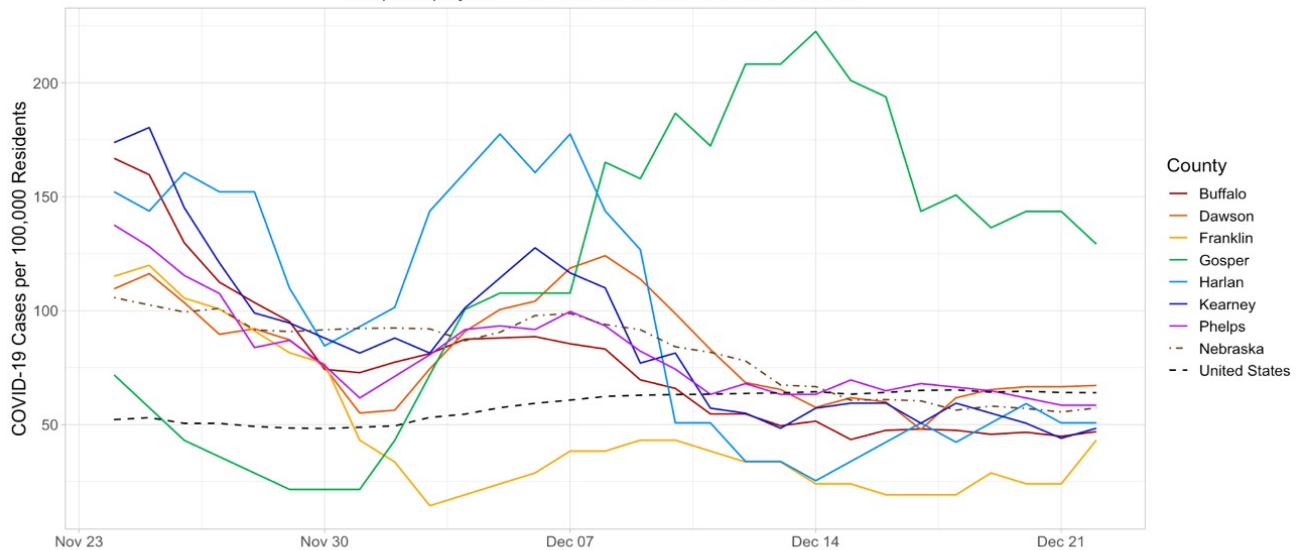
Graph displays data from November 24th to December 22nd



Information Updated as of 12/22 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 November 24th to December 22nd



Information Updated as of 12/22 at 8 p.m.

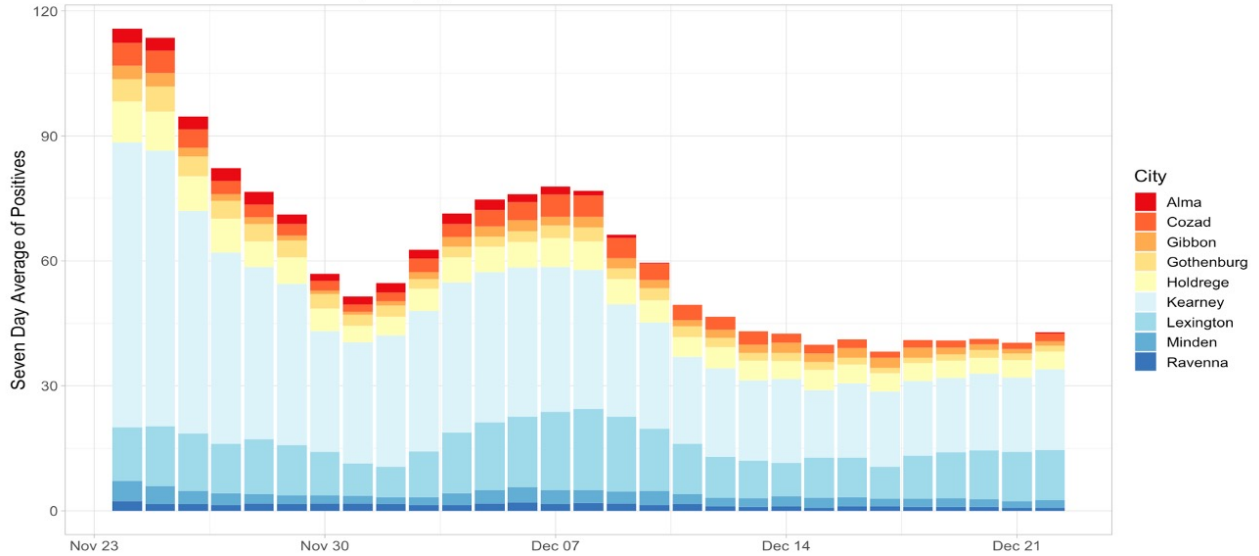
⁷ Please note: When comparing counties, we describe rates per 100,000 population. This is roughly equal to the total population of Two Rivers Health Department (~97,000)



- The following bar graph describes the 7-day rolling averages by city for the past four weeks (Nov 24 – Dec 22) in TRPHD. The graph above 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
in Cities > 1,100 Residents**

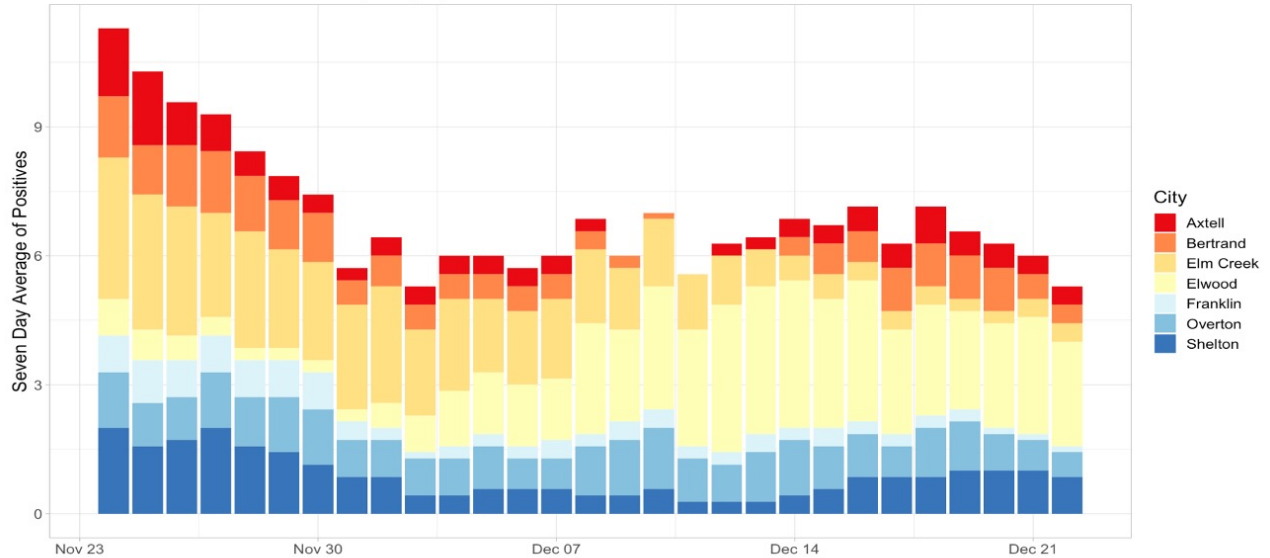
Graph displays data from November 24th to December 22nd



Information Updated as of 12/22 at 8 p.m.

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

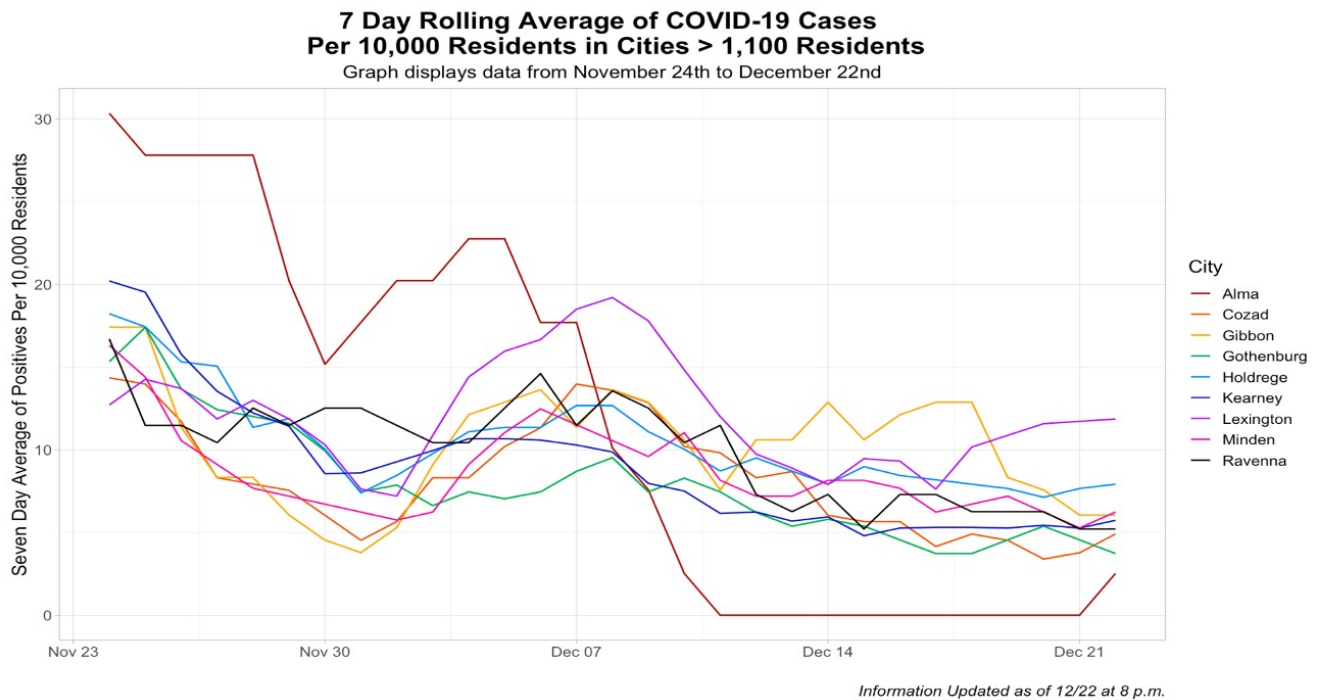
Graph displays data from November 24th to December 22nd



Information Updated as of 12/22 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 (Nov 24 - Dec 22) 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.

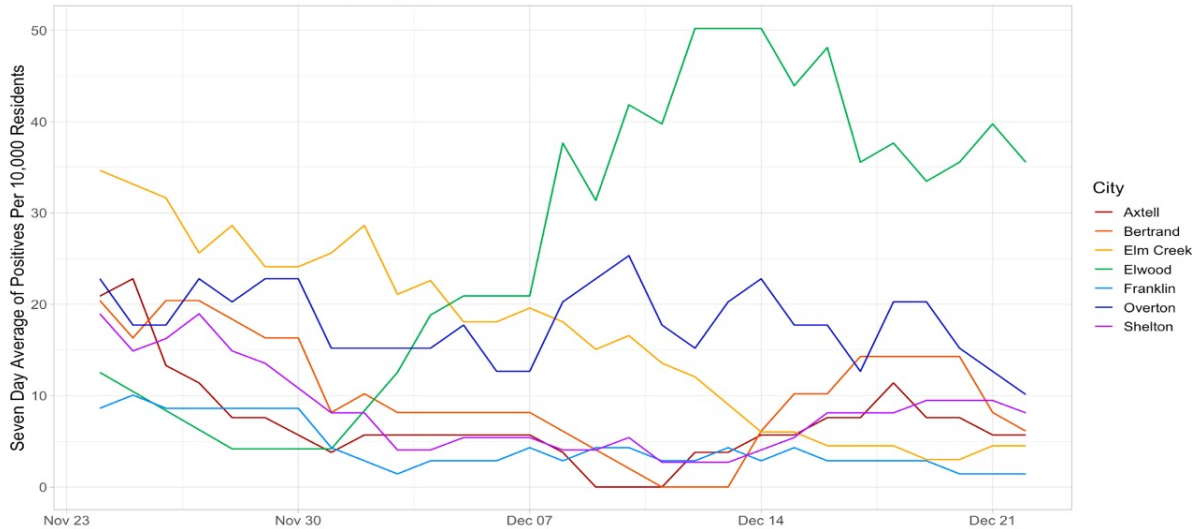


⁸ Please note: When comparing cities, we describe rates per 10,000 population. This is roughly equal to the total population of Lexington (~10,000)



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

Graph displays data from November 24th to December 22nd



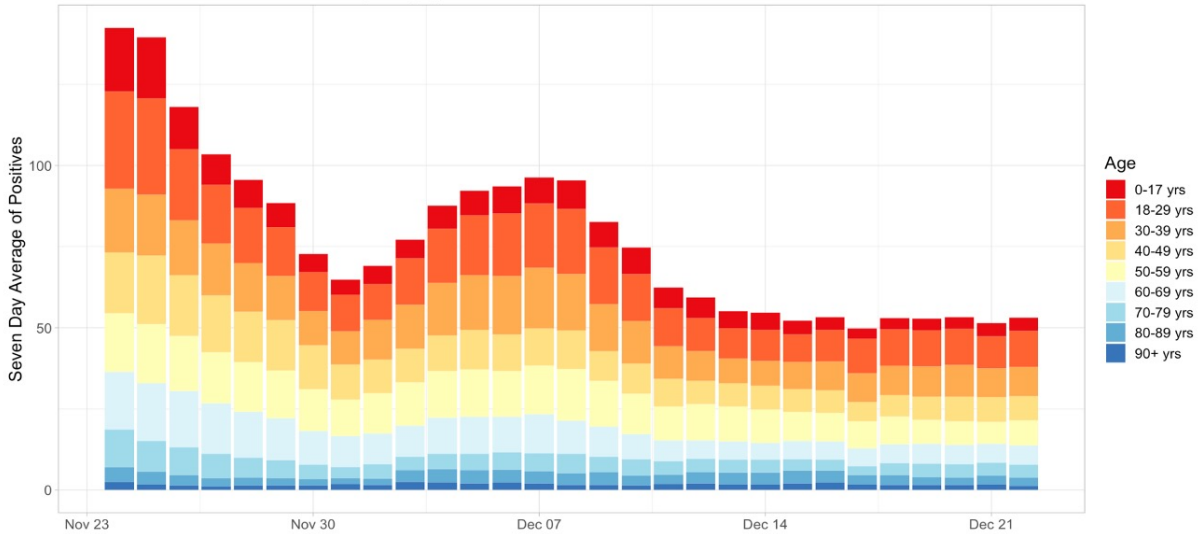
Information Updated as of 12/22 at 8 p.m.

- The first graph below describes the **7-day rolling average** of cases from **November 24 – December 22** by age. Tests were conducted among persons who are not 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 – Dec 22**). Regular and widespread testing in long term care facilities in TRPHD began in early October.



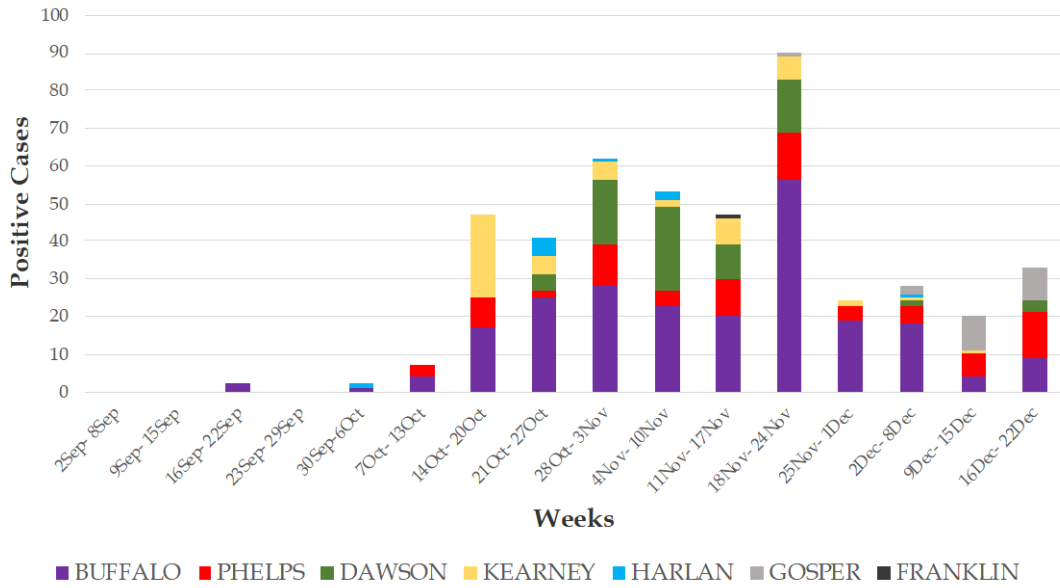
7 Day Rolling Average of COVID-19 Cases in Two Rivers by Age

Graph displays data from November 24th to December 22nd



Information Updated as of 12/22 at 8 p.m.

Residential Facilities: TRPHD Positive Cases by Week: Sep 2 - Dec 22





Weekly summary

- The daily average of positive cases and the positivity rate continue to drop across the district even as tests conducted outside residential facilities have decreased slightly.
- The drop in daily case counts in Buffalo county has been most influential in reducing overall numbers in TRPHD. The positivity rate for all tests conducted outside of residential facilities in Buffalo county dropped by 8% in the last week compared to the previous month, the overall positivity rate in the district dropped by about 7% in the same time.
- Isolated outbreaks (especially in long term care facilities) remain a cause for concern. An outbreak in Gosper county continues to command our attention. Over two-thirds of all positive cases in Gosper county in the past 6 weeks have been among persons aged 60 years or over.
- Daily death counts are higher compared to three months previously; about half of all 92 persons who died due to COVID-19 in TRPHD were deceased in the last 7 weeks.
- Positivity rates have dropped across almost all counties in the district in the last week, with the exception of Gosper and Franklin counties, in both residential facilities and in other settings. Residential facilities across Franklin, Kearney and Harlan counties saw almost no new cases in the past month.

To conclude, daily COVID-19 case counts and test positivity rates continue to decrease across Two Rivers Health District. Although ongoing outbreaks in residential facilities throughout the district are being closely monitored, the sustained drop in case counts is continued reason for cautious optimism ICU availability and COVID-related medical/surgical bed usage have remained within safe levels across hospitals in the district in the past week. Deaths due to COVID-19 continue to see increase; half of all COVID deaths in the district have occurred in the past 7 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.
- 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
- 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

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.