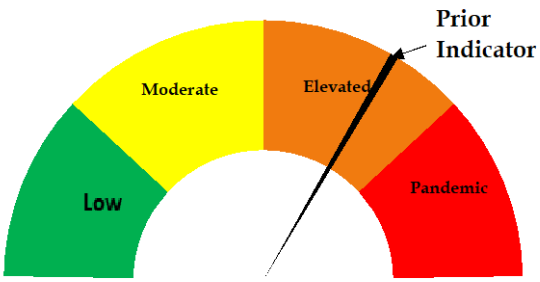
Two Rivers
PUBLIC HEALTH DEPARTMENT

Risk Dial Jan 14, 2020



Risk Dial for COVID-19
Two Rivers Public Health
Published January 14, 2021

- Around 40% of ICU beds and less than 50% of all medical/ surgical beds across the district are available currently; the bed occupancy rate has increased over the past week. (see https://www.trphd.org/covid-19/ for details).
    - The percentage of beds occupied by individuals with COVID-19 has decreased over the last week.
- ICU and medical/surgical bed availability is comparable to levels seen 3 months previously, before a statewide surge in hospitalizations during November – December.
- Weekly testing numbers for TestNebraska as well as private facilities seem to have increased. About 1048 people were tested during the week of December 30- January 6, while about 1395 people were tested during the week of this report. For more details on previous testing statistics, see weekly reports (https://www.trphd.org/covid-19/).
- Deaths due to COVID continue to rise in Two Rivers Health District, a total of 102 persons have died due to COVID-19 in the district thus far. Over 60% of these deaths occurred in the months of November and December.
- For these reasons, the risk dial remains at the same level within the 'elevated' phase this week. We continue to monitor rising case rates across the district.

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Weekly report Jan 6 - Jan 12, 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 **January 6 – January 12** (1 week) and **December 15 – January 12** (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)** 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 graph describes the **total tests conducted** and **positives detected** from **November 11 – January 12** 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 15 – January 12**. 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 12**), and display each week's cases by the county where the facility is located. [3]

COVID testing has risen across Two Rivers Health District in the past week, and positivity rates seem to have dropped across all seven counties. A little over 1% of all persons testing COVID positive in the district have succumbed to the disease thus far. Over 60% of the deaths occurred in November & December alone. ICU availability and COVID-related 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 Jan 12, over 40,000 residents of Two Rivers Health District were tested at least once for COVID-19. At least 85,670 tests have been conducted since March 1, and 9600 of these tests were positive.[4] As of Jan 12, TRPHD has publicly notified at least 102 persons COVID deaths across the district.
- A little under 60% of all tests conducted since April have been laboratory-based Polymerase Chain Reaction (PCR) tests.
    - However, almost 72% 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

	Jan 6 – Jan 12 (1 week)			Dec 15 – Jan 12 (4 weeks)		
	Total Tests	**Positive Results**	**Positivity Rate**	**Total Tests**	**Positive Results**	**Positivity Rate**
Hospital/ Clinic	585	143	24.4%	2450	610	24.9%
TestNebraska	398	71	17.8%	1562	330	21.1%
Residential Facility	2516	11	0.4%	8361	86	1.0%
Lab/ Pharmacy	343	36	10.5%	979	112	11.4%
Other	69	26	37.7%	175	47	26.9%
TOTAL	**3911**	**287**	**7.3%**	**13,527**	**1,185**	**8.8%**

- A total of 8361 tests were availed by residents and staff of long-term care and other **residential facilities** in the last 4 weeks. Details are provided below:

	Jan 6 – Jan 12 (1 week)			Dec 15 – Jan 12 (4 weeks)		
Residential Facility In:	**Total Tests**	**Positive Results**	**Positivity Rate**	**Total Tests**	**Positive Results**	**Positivity Rate**
Buffalo	1,274	5	0.4%	3290	32	1.0%
Dawson	358	2	0.6%	1191	6	0.5%
Franklin	0	0	0.0	0	0	0.0
Gosper	125	1	0.8%	545	21	3.9%
Harlan	81	0	0.0%	341	2	0.6%
Kearney	118	1	0.8%	565	1	0.2%
Phelps	462	2	0.4%	1969	24	1.2%
Outside TRPHD	98	0	0.0%	460	0	0.0%
TOTAL	**2516**	**11**	**0.4%**	**8361**	**86**	**1.0%**

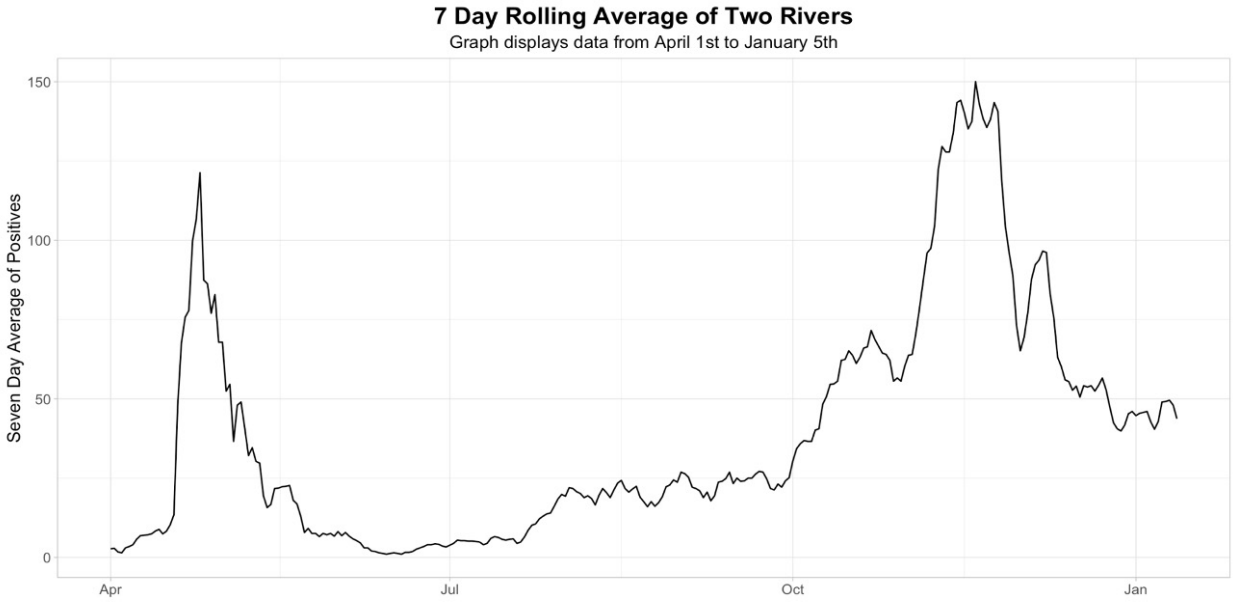
[4] Note: The minor differences between the numbers reported and totals displayed on www.trphd.org dashboards is explained by testing in residential facilities and isolated rapid test results that are not reflected in the state's public dashboards.

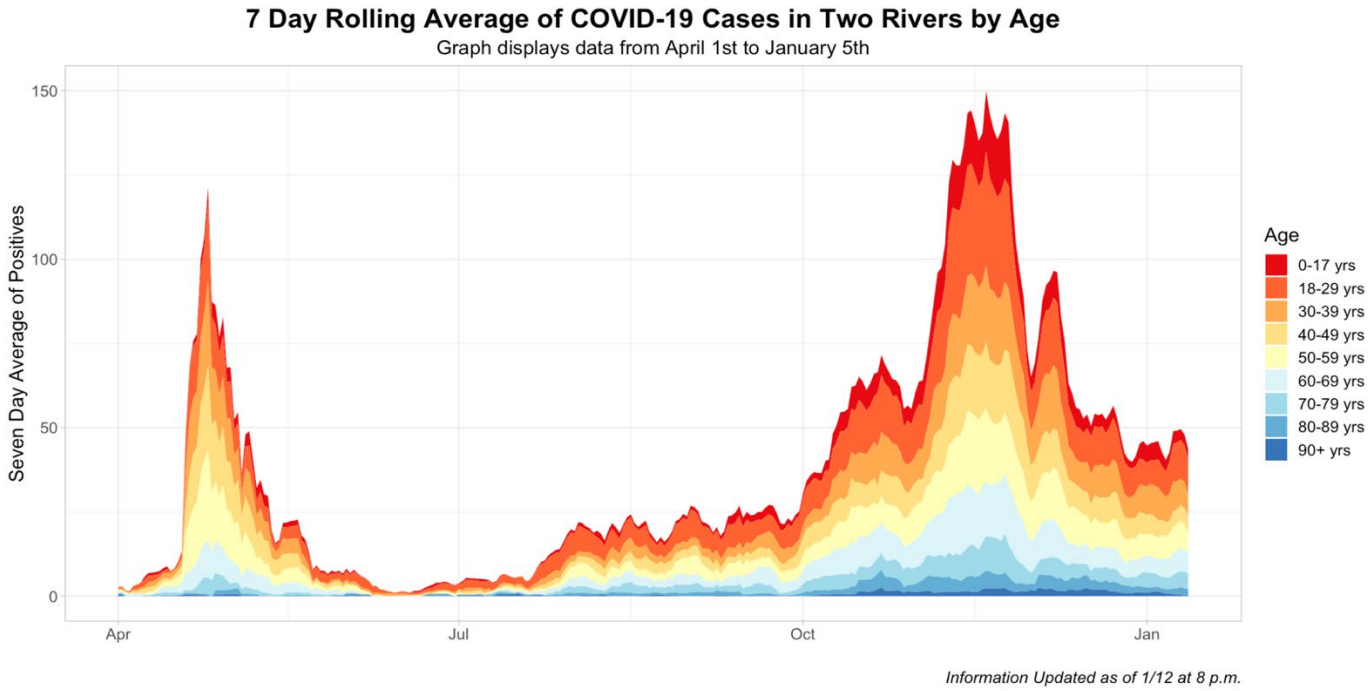
Excluding residential facilities, a total of 5166 [5] persons were tested in the past 4 weeks. The following table gives details of positive cases in the past week and past 4 weeks by county, age categories and gender.

	Jan 6 – Jan 12 (1 week)			Dec 15 – Jan 12 (4 weeks)		
	Total tests conducted	**Positive cases**	**P. rate (%)**	**Total tests conducted**	**Positive cases**	**P. rate (%)**
County						
Buffalo	697	133	19.1%	2651	483	18.2%
Dawson	451	79	17.5%	1505	348	23.1%
Franklin	25	6	24.0%	108	29	26.9%
Gosper	13	1	7.7%	82	25	30.5%
Harlan	28	4	14.3%	95	18	18.9%
Kearney	45	9	20.0%	208	56	26.9%
Phelps	127	42	33.1%	495	131	26.5%
Data missing/ not disclosed	9	2	22.2%	22	9	40.9%
Total	**1395**	**276**	**19.8%**	**5166**	**1,099**	**21.3%**
Age (in yrs)						
0-17	160	21	13.1%	500	93	18.6%
18-29	315	65	20.6%	1182	228	19.3%
30-39	215	40	18.6%	852	196	23.0%
40-49	175	31	17.7%	635	139	21.9%
50-59	197	39	19.8%	679	165	24.3%
60-69	174	41	23.6%	659	146	22.2%
70-79	99	29	29.3%	410	89	21.7%
80-89	43	8	18.6%	183	32	17.5%
90+	17	2	11.8%	66	11	16.7%
Total	**1395**	**276**	**19.8%**	**5166**	**1099**	**21.3%**
Gender						
Female	780	150	19.2%	2897	579	20.0%
Male	604	125	20.7%	2221	515	23.2%
Data missing/ not disclosed	11	1	9.1%	48	5	10.4%
Total	**1,395**	**276**	**19.8%**	**5,166**	**1,099**	**21.3%**

[5] Tests of persons missing date of birth were excluded from the analysis

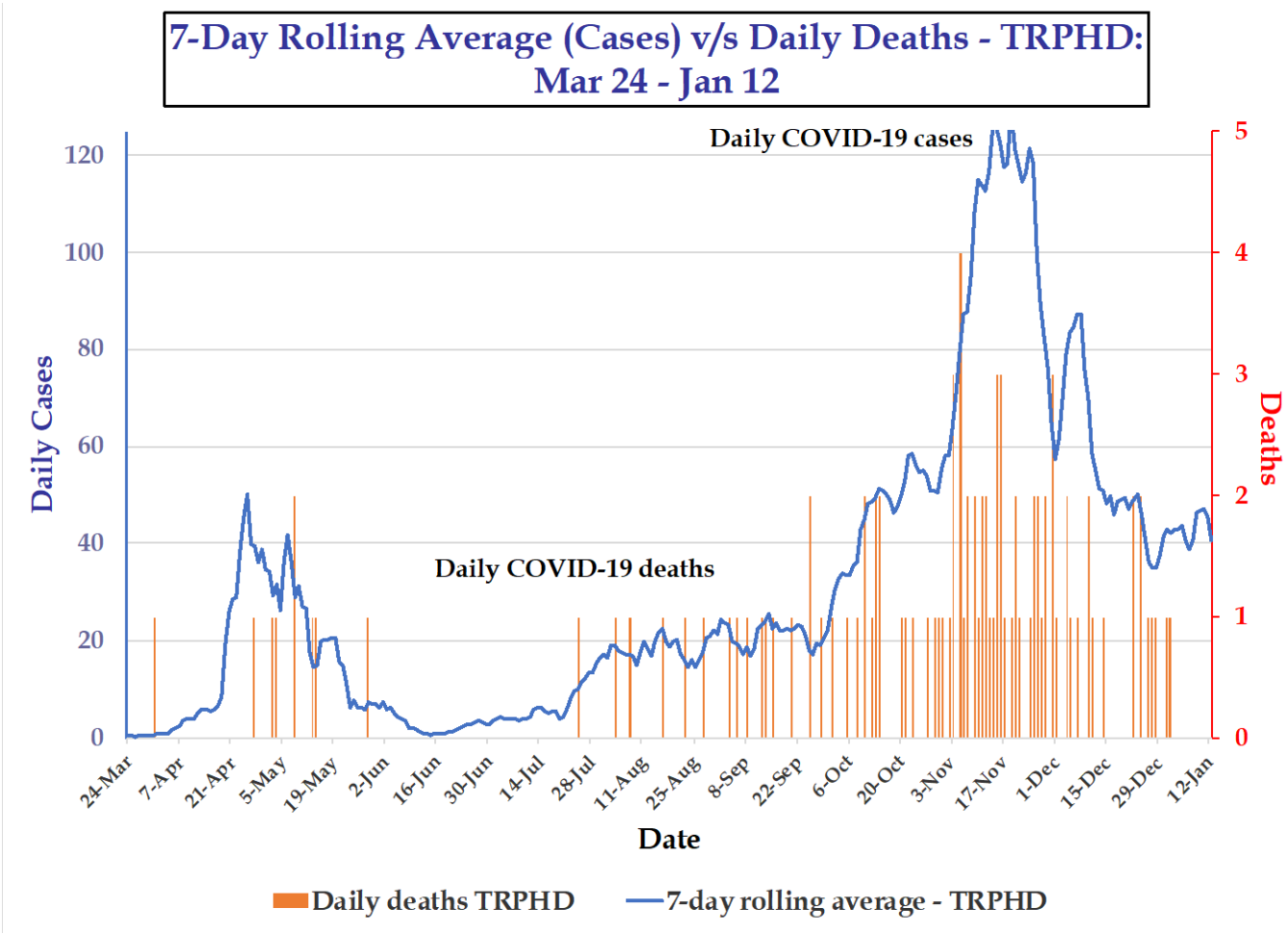
- The graph below describes 7-day rolling average of COVID-19 across TRPHD from **April 1 – January 12**.
- The second graph describes 7-day rolling average of COVID-19 cases by age across TRPHD for the same time period. The height of the graph corresponds to total cases and the thickness of each colored band corresponds to each age group.





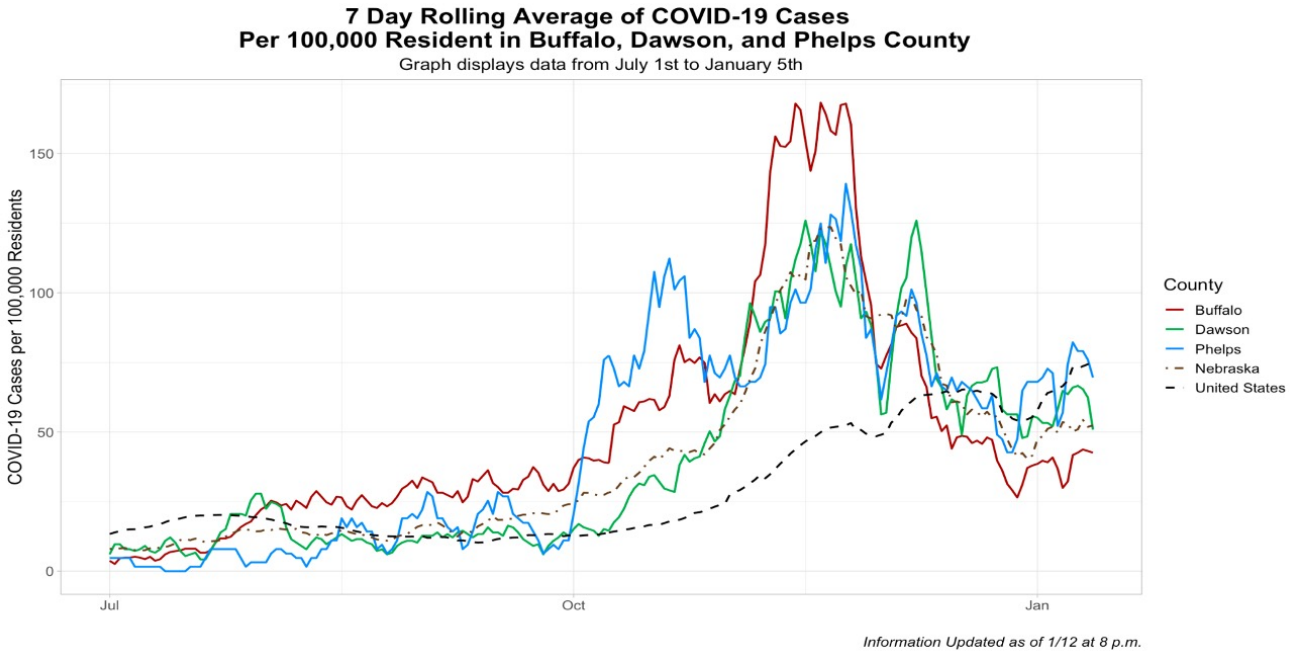
Information Updated as of 1/12 at 8 p.m.

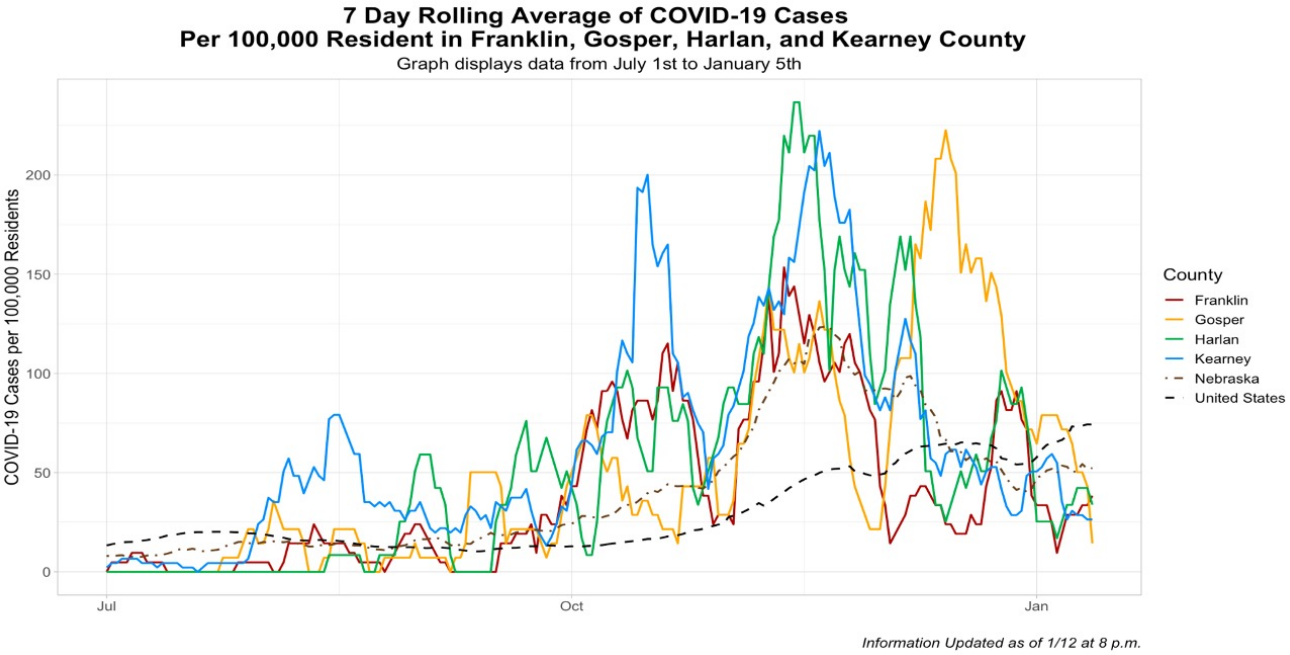
- The graph below describes the 7-day rolling average of positive cases in TRPHD plotted against daily deaths due to COVID-19 [6] from **March 24 – January 12**.
- **Scale for deaths is on the z-axis.** Date indicates date of death due to COVID-19.
- **Daily case counts are plotted on the y-axis.** The line describes the 7-day rolling average of COVID positive cases in the entire district.



[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

- 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 Jan 12**.
- 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.





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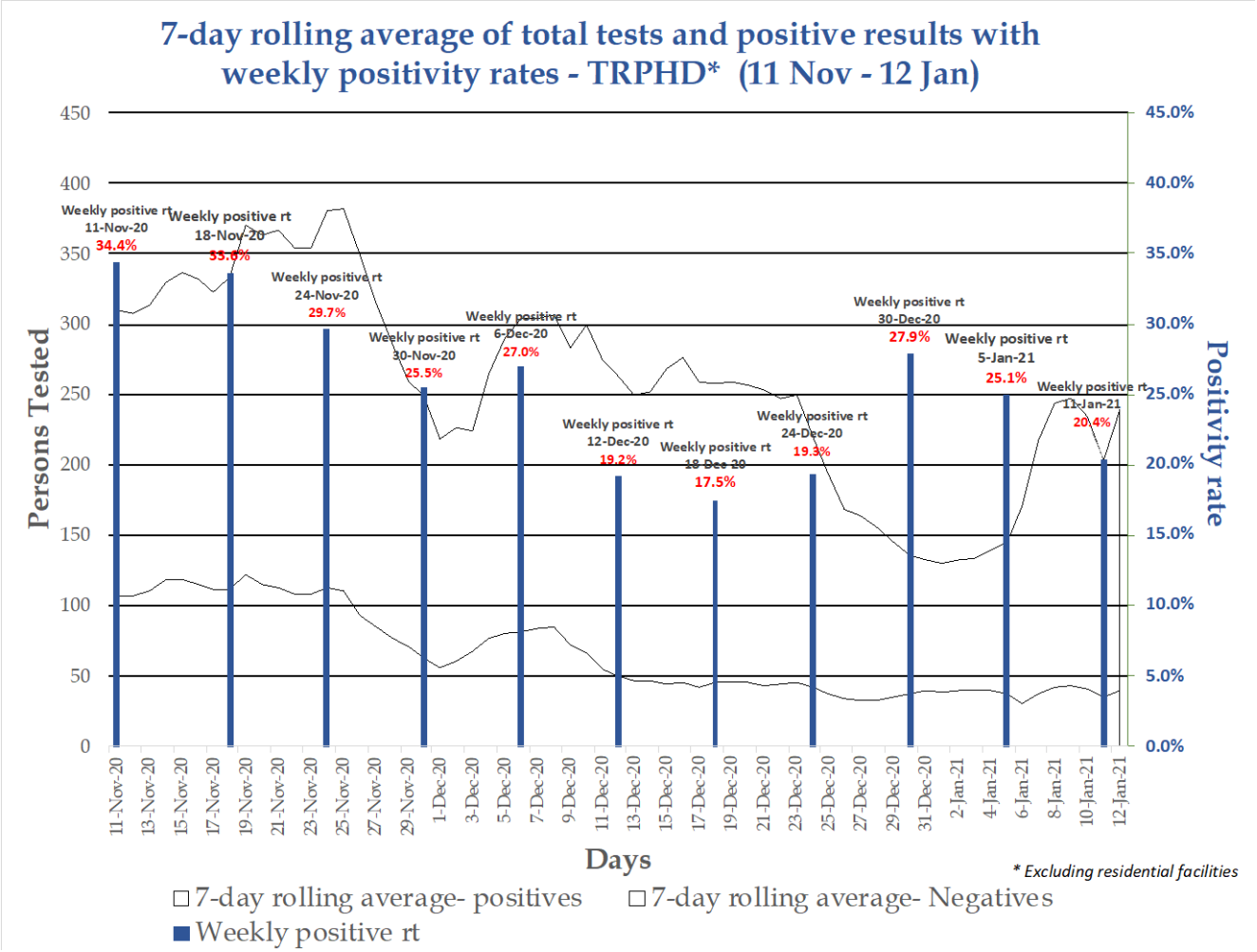
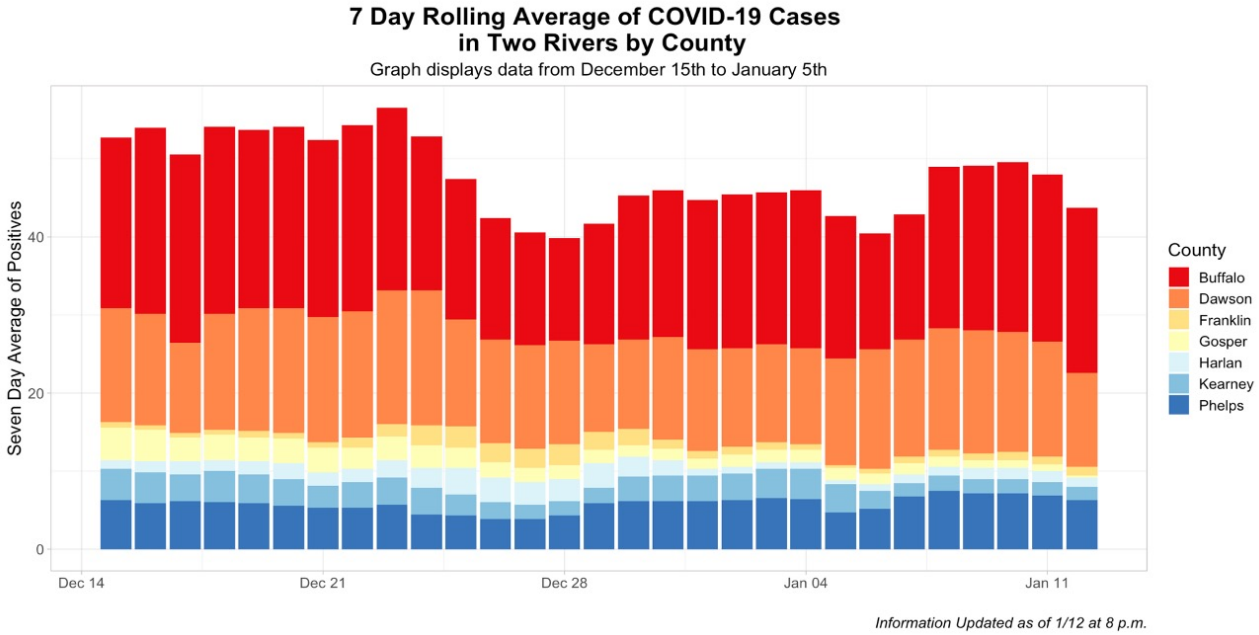
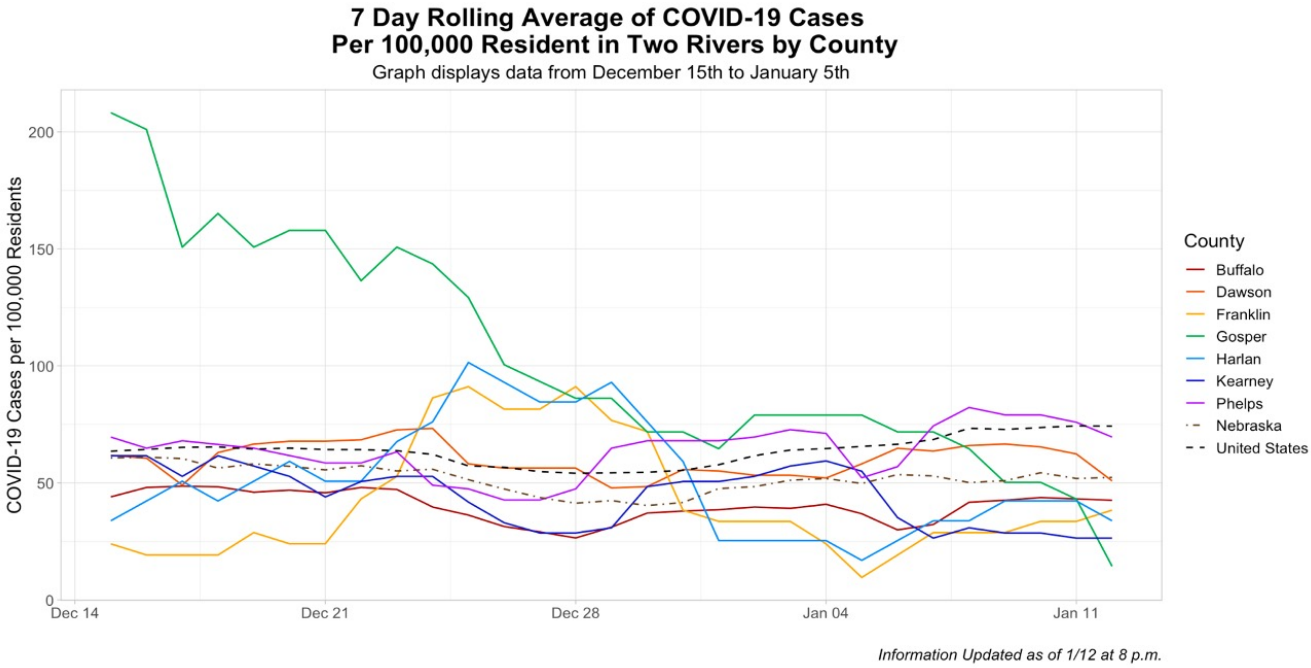
- The graph below describes the **total tests conducted** across Two Rivers Health District, divided into **negative and positive results received** [7] from **November 11 to Jan 12**. The height of the graph corresponds to all tests done that week (7-day rolling average) and the two colors denote negative 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 tests conducted last week across the district was about 2/3rds the number conducted 2 months previously.



[7] For information on total tests and test positivity rate, please see appendix 1

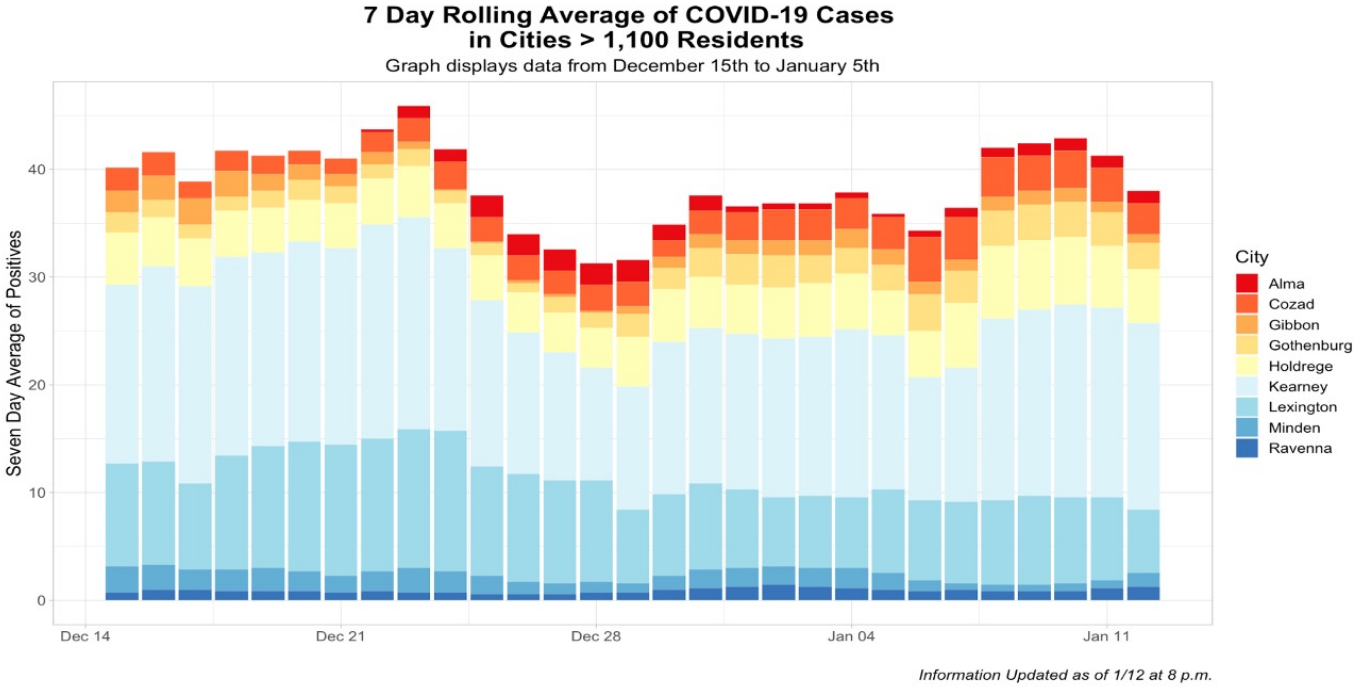
- The following bar graph describes the 7-day rolling averages of COVID-19 cases by **<u>county</u>** for the past four weeks **(Dec 15 – Jan 12).**
- The second graph describes the same data per 100,000 population.[8] The graph also depicts the line for the United States and Nebraska.

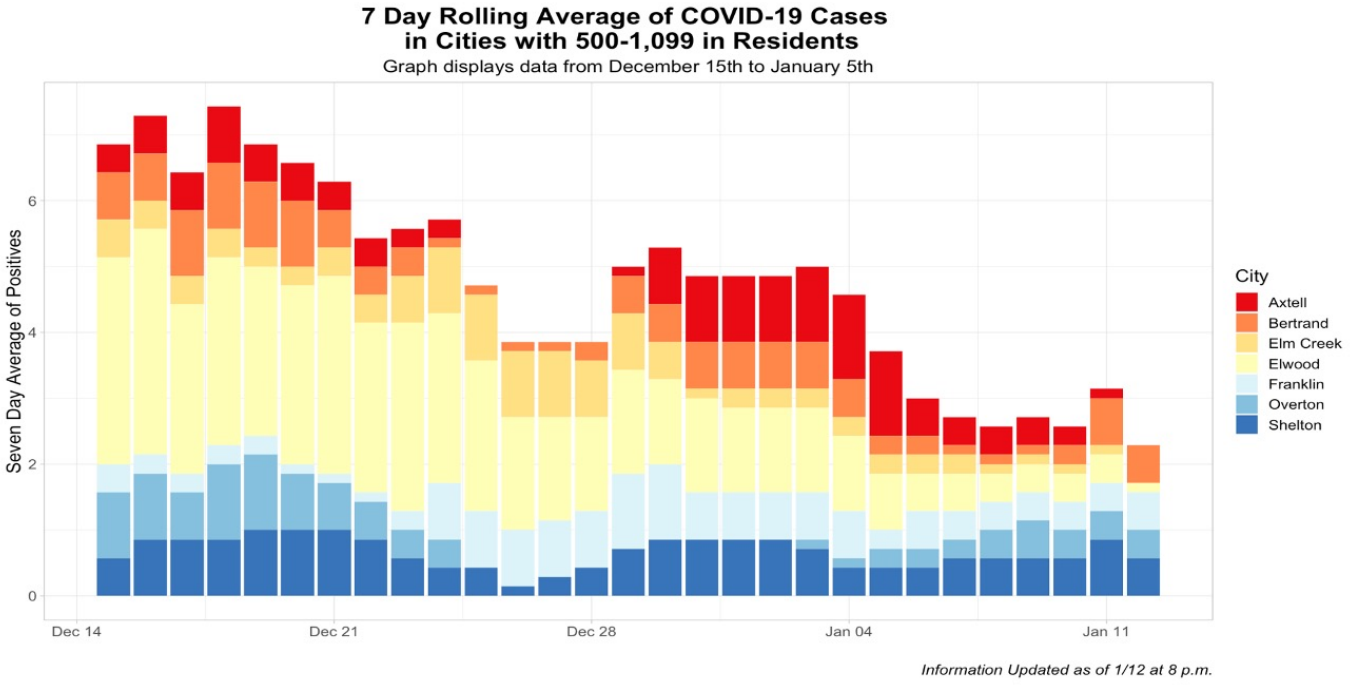




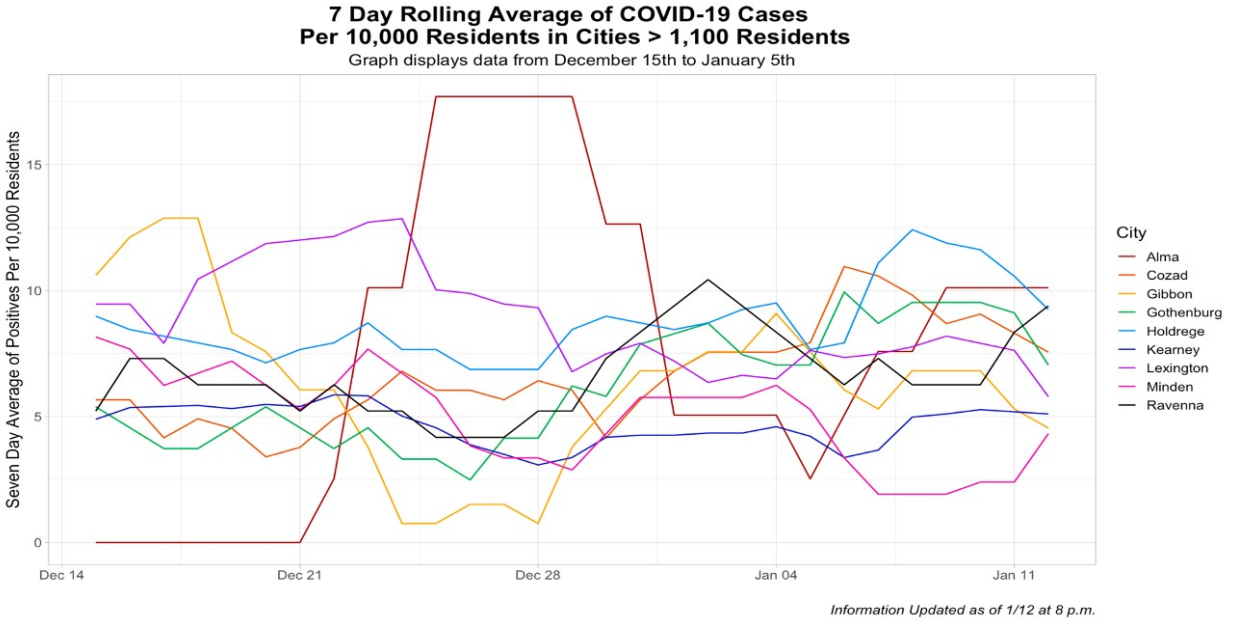
[8] Please note: When comparing counties, we describe rates per 100,000 population. This is roughly equal to the total population of Two Rivers Health Department (~97,000)

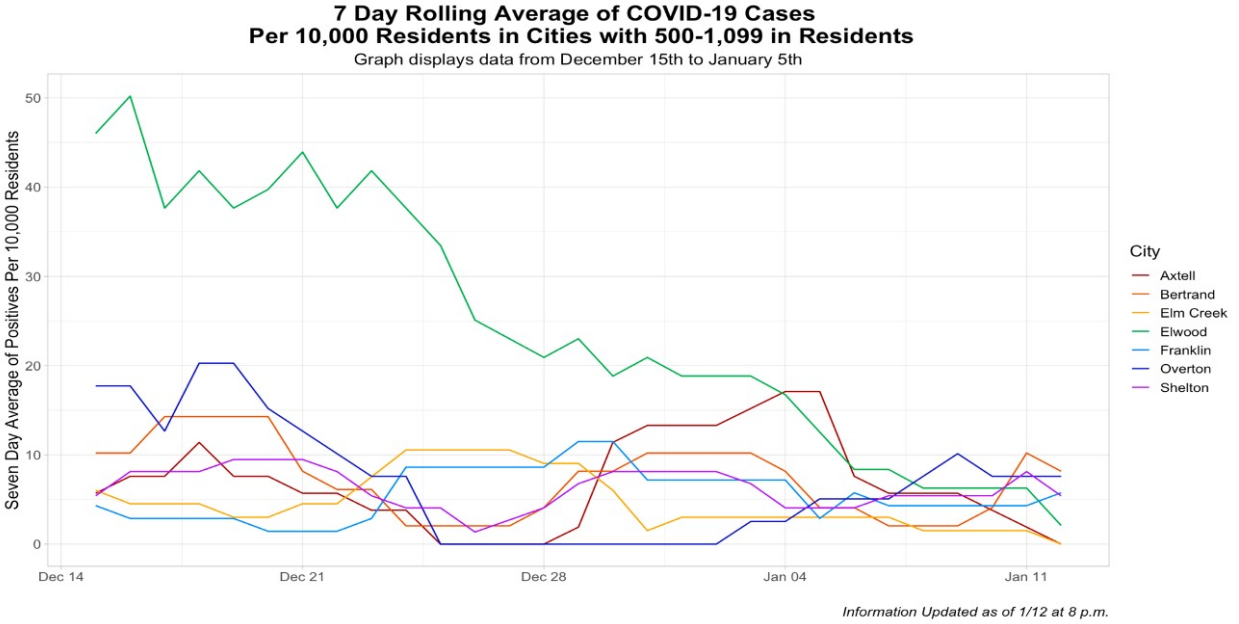
- The following bar graph describes the 7-day rolling averages by **city** for the past four weeks **(Dec 15 – Jan 12)** in TRPHD. The graph above shows cities with population above 1100 and the one below shows the graph for cities with less than 1100 residents. The scale is different for both graphs.





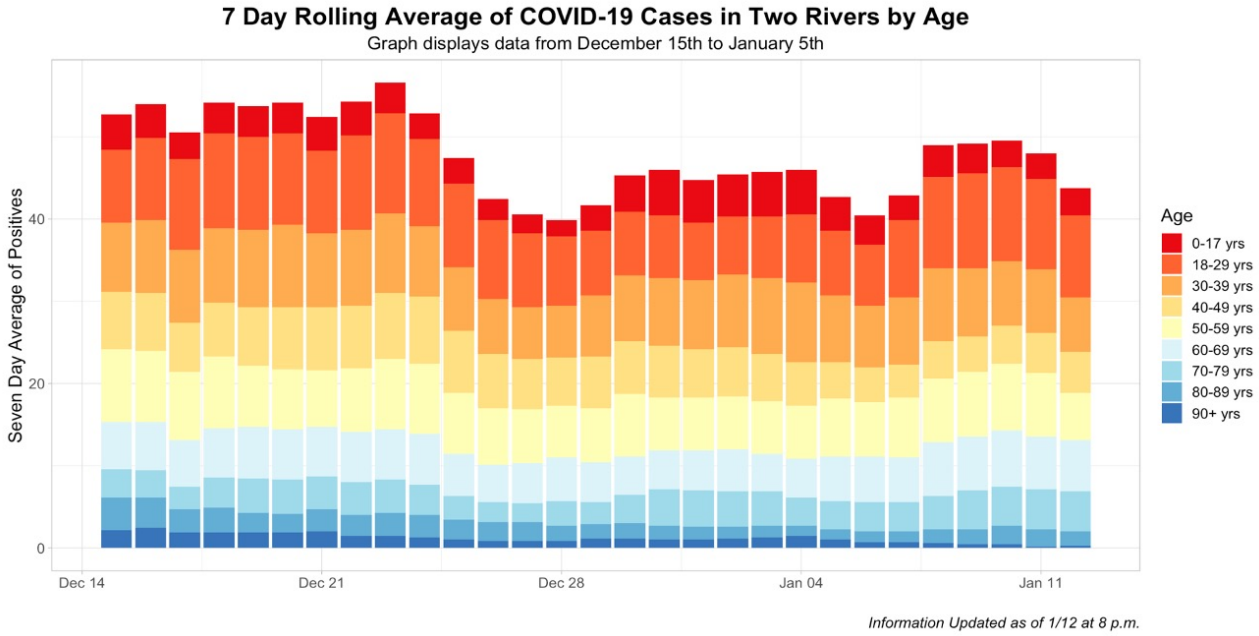
- The following line graph describes the 7-day rolling average of COVID cases per 10,000 population in **cities** across TRPHD for the past four weeks **(Dec 15 – Jan 12)** [9]
- The top graph describes shows cities with population above 1100 and the one below shows the graph for cities with under 1100 residents. The scale is different for both graphs.

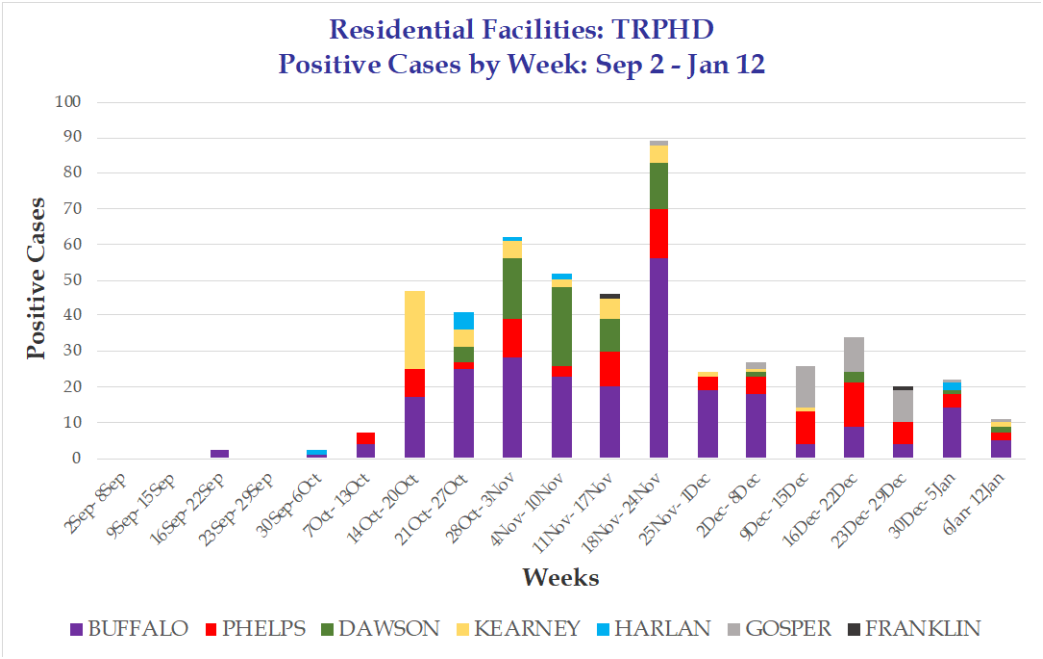




[9] Please note: When comparing cities, we describe rates per 10,000 population. This is roughly equal to the total population of Lexington (~10,000)

- The first graph below describes the **7-day rolling average** of cases from **December 15 – January 12** 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 12).** 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 has increased marginally in the past week.
- Testing uptake seems to have rebounded to some extent across Two Rivers Health District since the previous week. Average tests availed/week are about 2/3rds the weekly average from two months previously.
- Partly as a result of the higher testing rates this week, test positivity rates across the district have dropped. However, about 10% of all tests conducted per week are positive, and between 20-25% of tests conducted outside residential facilities return positive results.
- Deaths due to COVID continue to rise in Two Rivers Health District, a total of 102 persons have died due to COVID-19 in the district thus far. Over 60% of these deaths occurred in the months of November and December.
- Daily case rates in the counties when expressed proportional to the population closely tracked per-capita rates across Nebraska state till about early December. However, over the past month, the declining case rate across all counties Two Rivers Health District stands in contrast to numbers for Nebraska state.

To conclude, COVID testing has risen across Two Rivers Health District in the past week, and positivity rates seem to have dropped across all seven counties. A little over 1% of all persons testing COVID positive in the district have succumbed to the disease thus far. Over 60% of the deaths occurred in November & December alone. ICU availability and COVID-related 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.

Two Rivers
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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.