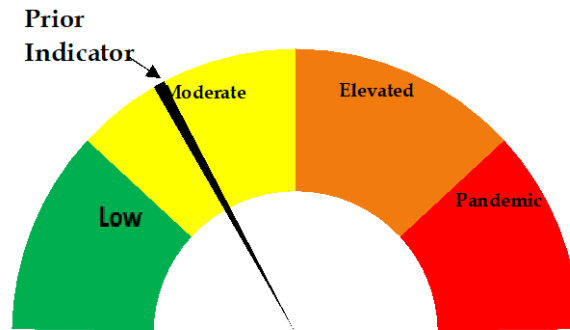


Risk Dial Apr 2, 2021



**Risk Dial for COVID-19
Two Rivers Public Health
Published April 2, 2021**

- ICU and hospital bed availability are within expected levels for this time of the year. COVID-related admissions have accounted for 3% of all occupied beds for the past three weeks (see <https://www.trphd.org/> for details).
- Testing access in the district through TestNebraska continues to decrease over the past month. Testing patterns and contact tracing seem to suggest that testing is largely being utilized prior to personal travel plans.
- Residential and care facilities in recorded two new cases in the past week. See weekly report (Mar 24 - Mar 30) at <https://www.trphd.org/covid-19/weekly-reports.html> for details.
- COVID-19 vaccination continues to be provided via through private clinics, hospitals, and Vaccines For Children (VFC) clinics across the district, including through Two Rivers Health Department.
- All persons aged 16 and over are eligible for the vaccine. Those desirous of receiving the vaccine are advised to contact their physician or register at www.trphd.org
- As of March 30, over 25% of TRPHD's eligible population has been fully vaccinated. This is significantly higher than the Statewide average. See weekly vaccination report at <https://www.trphd.org/covid-19/vaccination-reports.html> for details
- For these reasons, the risk dial is functionally the same as the previous week, risk is still assessed to be "moderate".



Weekly report Mar 24 – Mar 30, 2021

Overview

The weekly report will look at COVID-19 cases in TRPHD across different time periods, presenting graphs showing daily progress of cases and a weekly summary in conclusion

- The tables describe total tests conducted and positive cases across TRPHD. We show positive cases and tests conducted by county, age and gender from **March 24 – March 30** (1 week) and **March 2 – March 30** (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, 2020 – March 30, 2021** (1 year) across all counties.
 - We describe the 7-day rolling average ¹ of positive cases across TRPHD since April, describing cases by age categories (**Apr – Mar**)
 - We further plot the daily deaths in Two Rivers Health Department from March 24, 2020 – March 30, 2021 v/s the 7-day rolling average of cases
 - Lastly, we plot daily tests conducted outside of residential and long-term facilities,² showing daily positives and negatives compared to the 7- day rolling positivity rate. ³
- The second set of graphs describe the daily average of cases (7-day rolling average) from **March 2 – March 30**. 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 final graph shows positive cases in Residential facilities, displaying each week’s cases by the county where the facility is located (**Oct – Mar**)

Just over the one-year mark following the first detected COVID case in TRPHD, the weekly incidence of COVID seems to be decreasing across all counties, although the positivity rate remains stubbornly above 5% in the past few weeks. New incident cases are being closely monitored. Over a quarter of eligible residents in TRPHD have been fully vaccinated, the highest among health districts in the state. Vaccinations are now offered to everyone over 16 years of age. Those eligible for the vaccine are advised to contact their physician or register at Two Rivers Health Department (www.trphd.org). In the meantime, 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 details on average positivity rate, please see appendix 1



Testing Overview

- As of Mar 30, over 43,000 residents of Two Rivers Health District were tested at least once for COVID-19. Over 118,000 tests have been conducted since March 1, and 11,020 of these tests were positive.⁴ TRPHD has publicly notified 117 deaths due to COVID across the district.
- Half of all tests conducted since March 2020 have been laboratory-based Polymerase Chain Reaction (PCR) tests, and the rest have been rapid (antigen) tests.
 - However, over three-quarter 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.²

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

	Mar 24 - Mar 30 (1 week)			Mar 2 - Mar 30 (4 weeks)		
	Total Tests	Positive Results	Positivity Rate	Total Tests	Positive Results	Positivity Rate
Hospital/ Clinic	554	40	7.2%	2416	191	7.9%
TestNebraska	100	12	12.0%	448	44	9.8%
Residential Facility	1783	7	0.4%	7135	11	0.2%
Lab/ Pharmacy	190	6	3.2%	694	29	4.2%
Other	85	4	4.7%	548	19	3.5%
TOTAL	2712	69	2.5%	11,241	294	2.6%

- A total of 7135 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:	Mar 24 - Mar 30 (1 week)			Mar 2 - Mar 30 (4 weeks)		
	Total Tests	Positive Results	Positivity Rate	Total Tests	Positive Results	Positivity Rate
Buffalo	973	0	0.0%	4387	3	0.1%
Dawson	273	1	0.4%	702	1	0.1%
Franklin	0	0	0.0	0	0	0.0
Gosper	8	0	0.0%	38	0	0.0%
Harlan	72	0	0.0%	150	0	0.0%
Kearney	101	0	0.0%	262	0	0.0%
Phelps	245	1	0.4%	1272	2	0.2%
Outside TRPHD	111	5	4.5%	324	5	1.5%
TOTAL	1783	7	0.4%	7135	11	0.2%

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. Tests of persons missing date of birth are excluded from the analysis



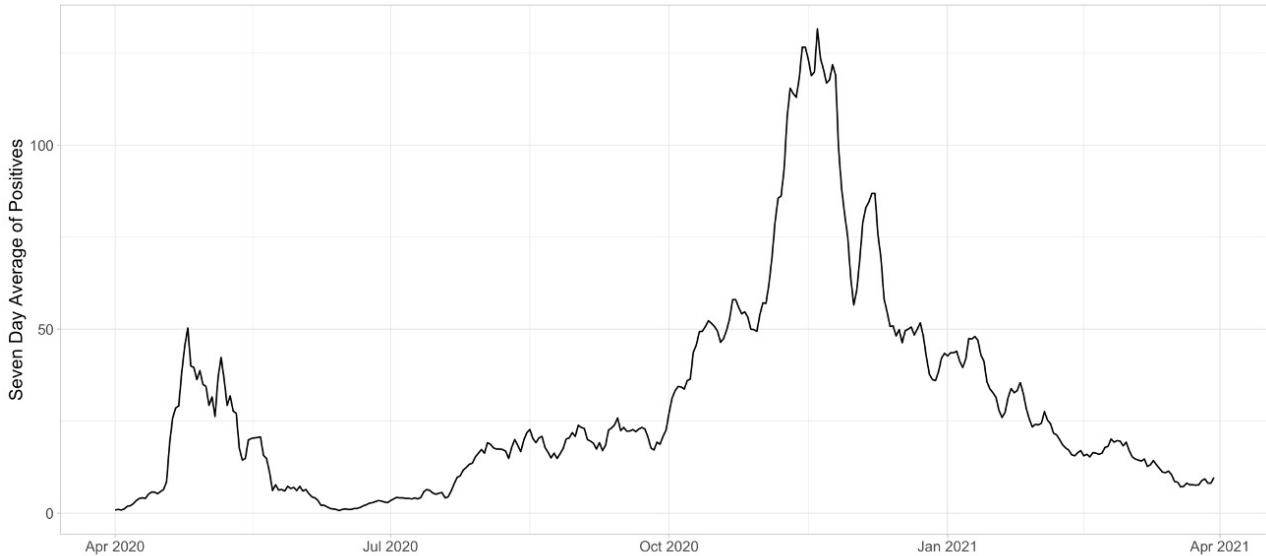
Excluding residential facilities, a total of 4106 tests were conducted in the past 4 weeks. The following table gives details of positive cases in the past week and past 4 weeks by county, age categories and gender.

	Mar 24 – Mar 30 (1 week)			Mar 2 – Mar 30 (4 weeks)		
	Total tests conducted	Positive cases	P. rate (%)	Total tests conducted	Positive cases	P. rate (%)
County						
Buffalo	502	32	6.4%	2403	168	7.0%
Dawson	283	14	4.9%	1046	63	6.0%
Franklin	7	0	0.0%	62	2	3.2%
Gosper	8	1	12.5%	25	2	8.0%
Harlan	16	2	12.5%	69	7	10.1%
Kearney	39	1	2.6%	167	9	5.4%
Phelps	71	11	15.5%	310	30	9.7%
Data missing/ not disclosed	3	1	33.3%	24	2	8.3%
Total	929	62	6.7%	4,106	283	6.9%
Age (in yrs)						
0-17	130	4	3.1%	476	19	4.0%
18-29	252	17	6.7%	1091	74	6.8%
30-39	142	11	7.7%	612	47	7.7%
40-49	118	12	10.2%	502	44	8.8%
50-59	113	13	11.5%	522	48	9.2%
60-69	97	3	3.1%	461	33	7.2%
70-79	53	2	3.8%	232	14	6.0%
80-89	16	0	0.0%	135	4	3.0%
90+	8	0	0.0%	75	0	0.0%
Total	929	62	6.7%	4106	283	6.9%
Gender						
Female	502	29	5.8%	2342	134	5.7%
Male	422	33	7.8%	1743	149	8.5%
Data missing/ not disclosed	5	0	0.0%	21	0	0.0%
Total	929	62	6.7%	4,106	283	6.9%

- The graph below describes 7-day rolling average of COVID-19 across TRPHD from **April 1, 2020 – March 30, 2021**.
- The second graph describes 7-day rolling average of COVID-19 cases by age across TRPHD for the same time period. The height of the graph corresponds to total cases and the thickness of each colored band corresponds to each age group.

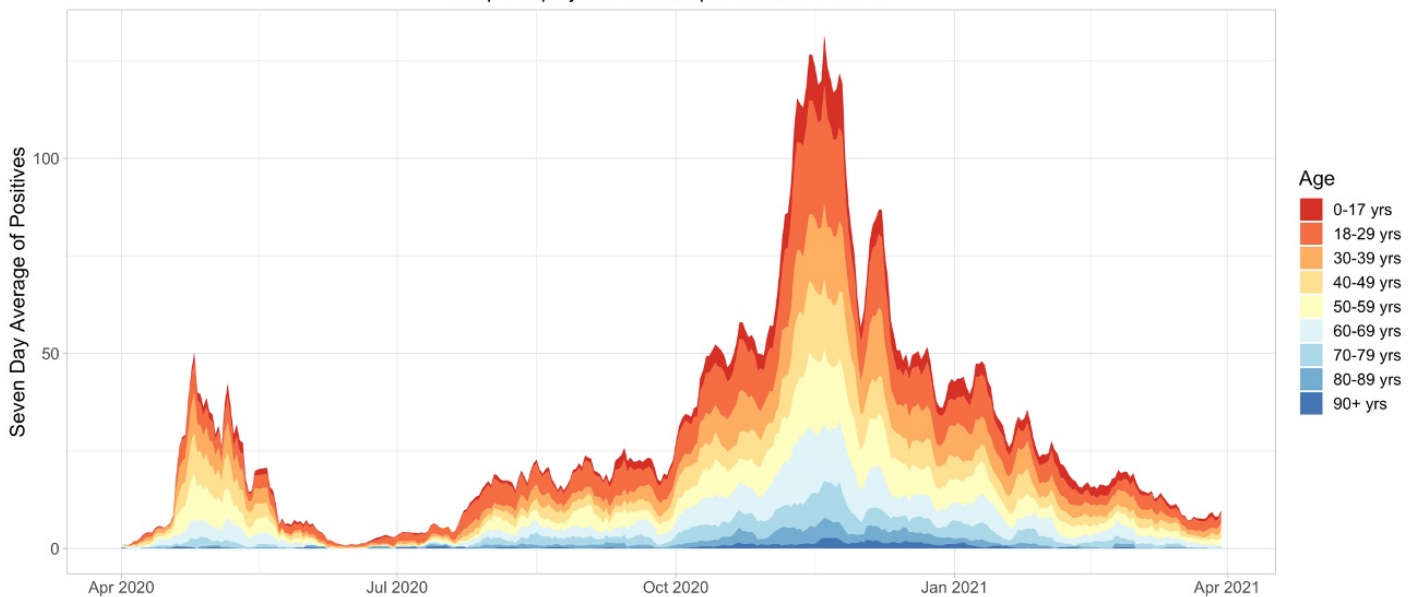
7 Day Rolling Average of Two Rivers

Graph displays data from April 1st to March 30th



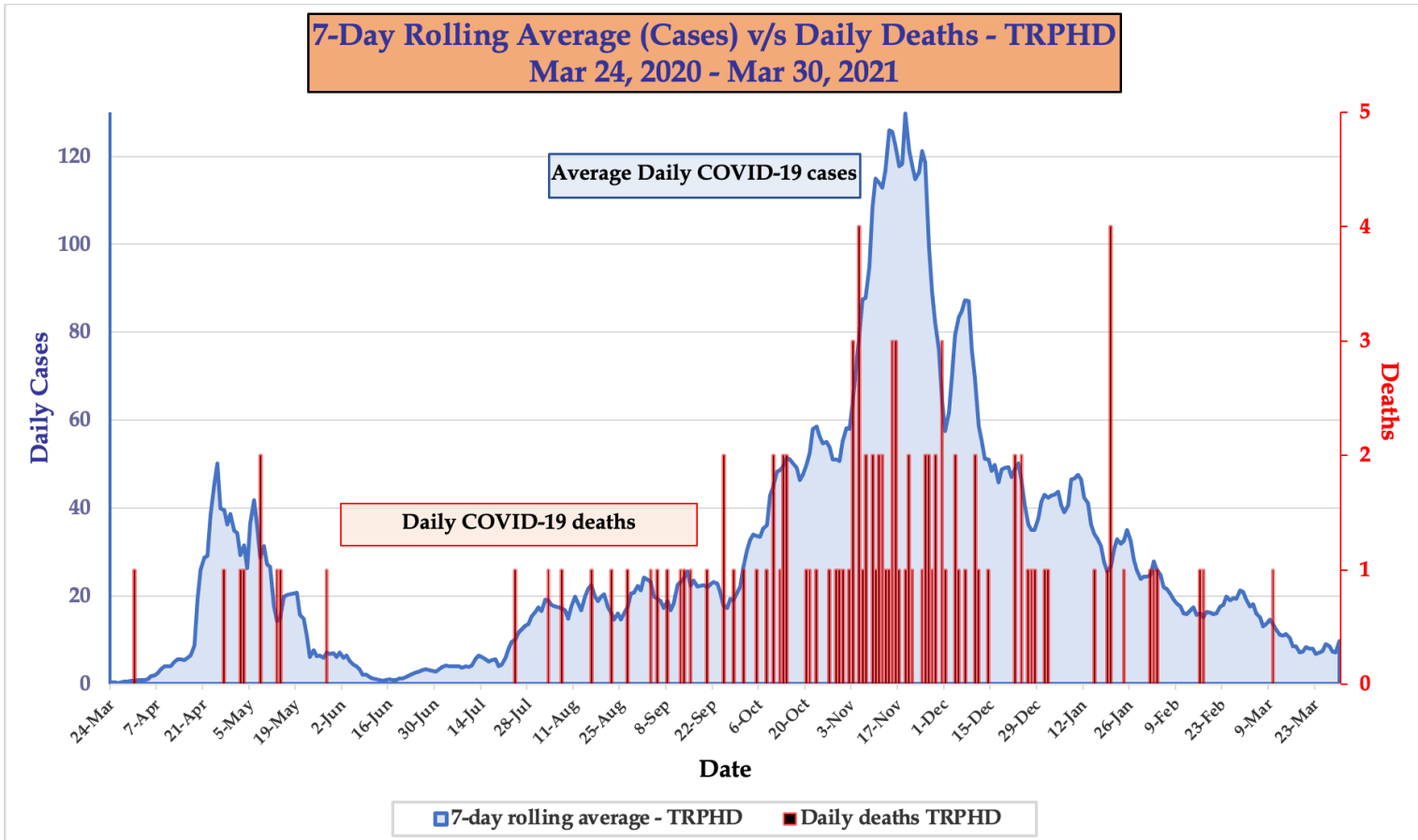
7 Day Rolling Average of COVID-19 Cases in Two Rivers by Age

Graph displays data from April 1st to March 30th



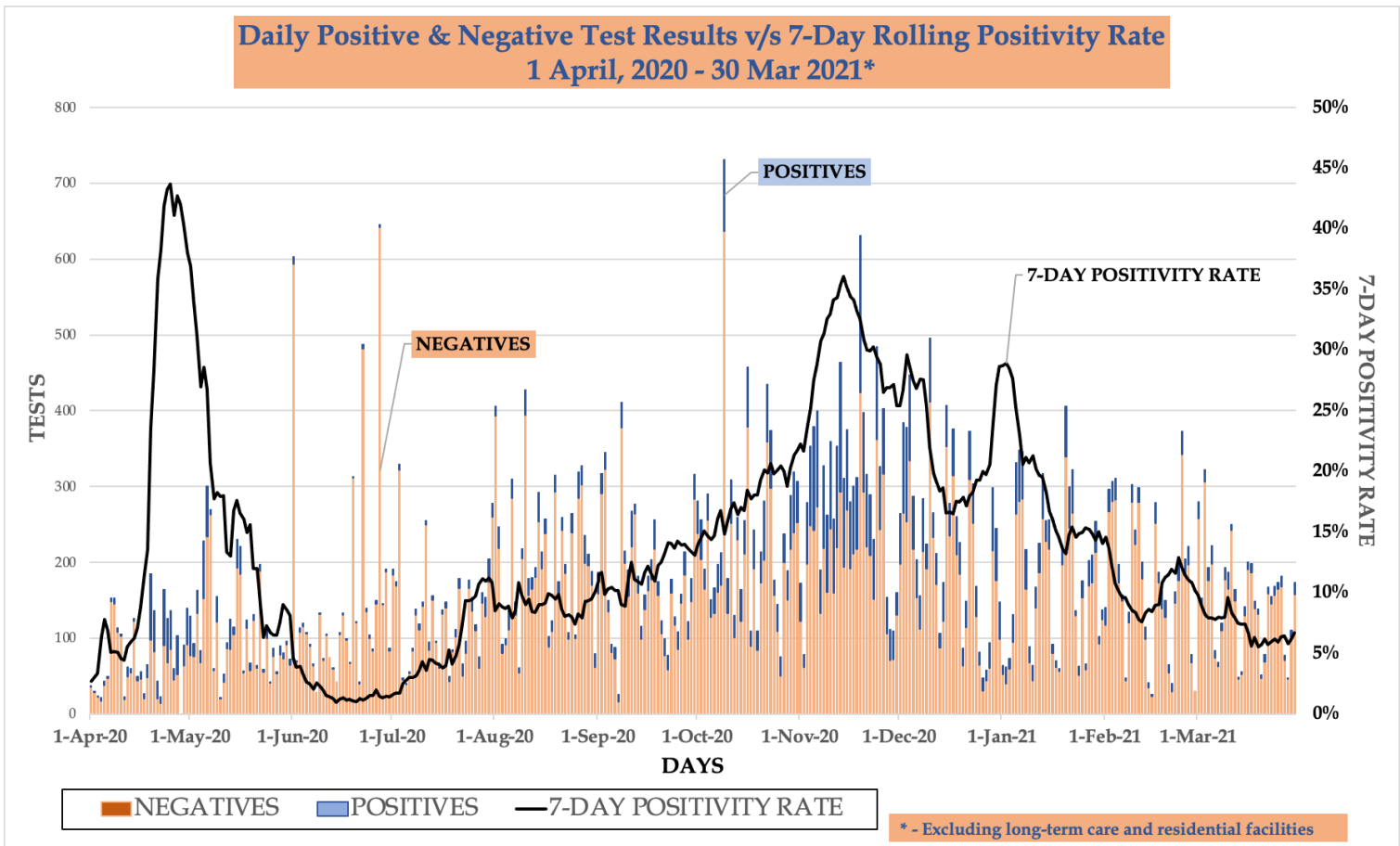
Information Updated as of 3/30 at 8 p.m.

- The graph below describes the 7-day rolling average of positive cases in TRPHD plotted against daily deaths due to COVID-19⁵ 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.



⁵ 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 **daily tests conducted** across Two Rivers Health District from April 1, 2020 – February 2, 2021. The height of each bar corresponds to the actual number of tests done that day. Total tests are further divided into **negative and positive results** ⁶.
- Also shown is the **average test positivity rate (7-day rolling average)** as a running line. Only tests outside of residential facilities were included. ⁷



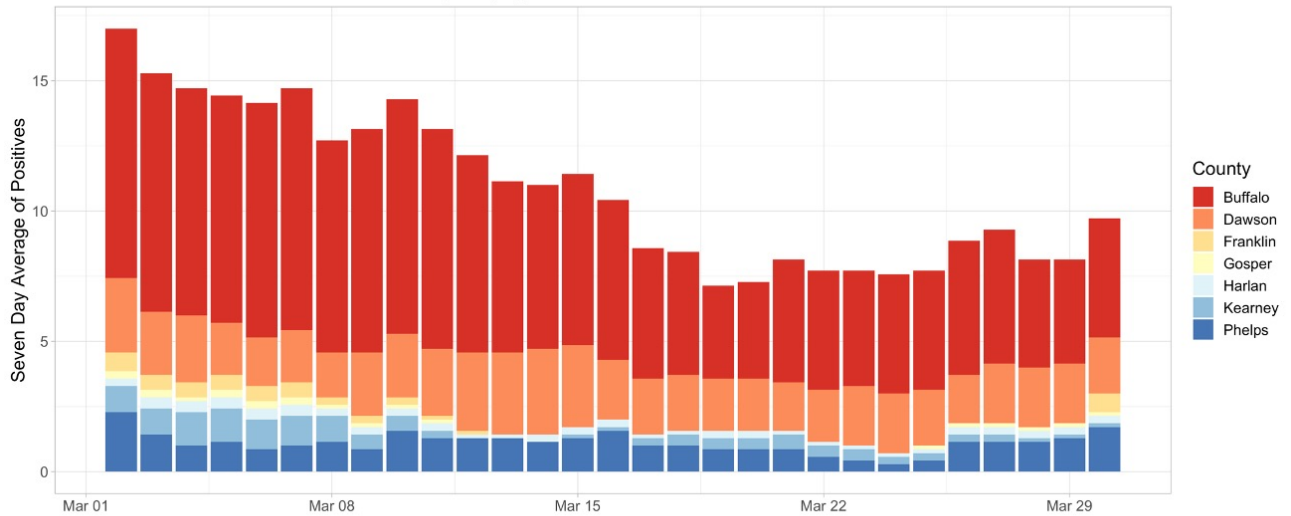
⁶ For information on total tests and test positivity rate, please see appendix 1

⁷ For information on residential facilities, please see appendix 3

- The following bar graph describes the 7-day rolling averages of COVID-19 cases by **county** for the past four weeks (Mar 2 – Mar 30).
- The second graph describes the same data per 100,000 population.⁸

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

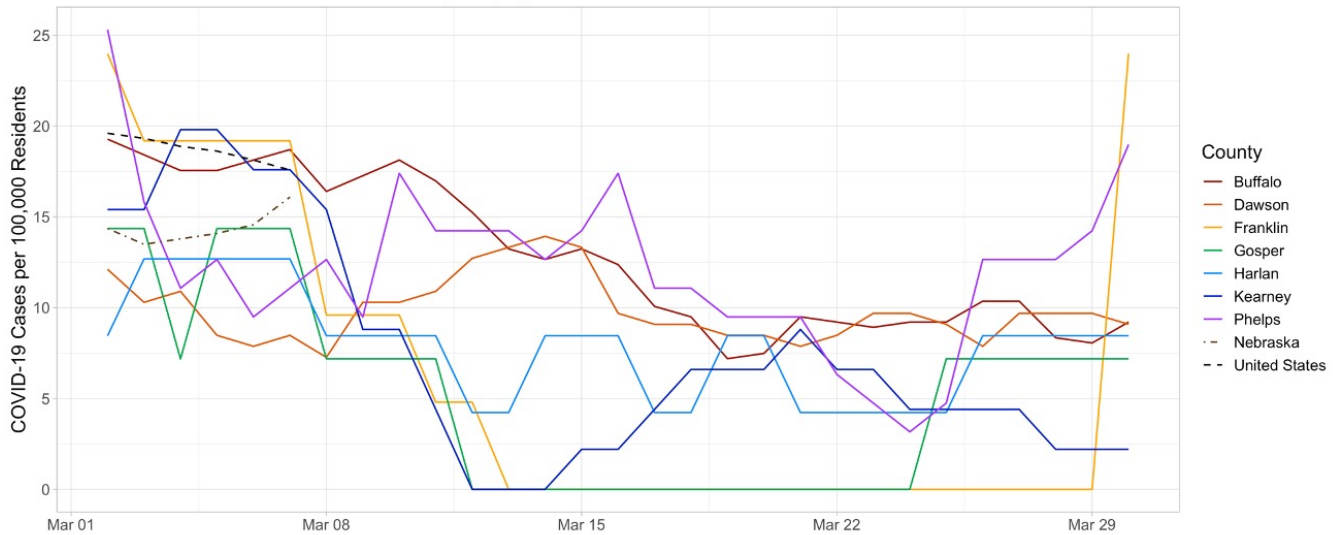
Graph displays data from Mar 2nd to March 30th



Information Updated as of 3/30 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 Mar 2nd to March 30th



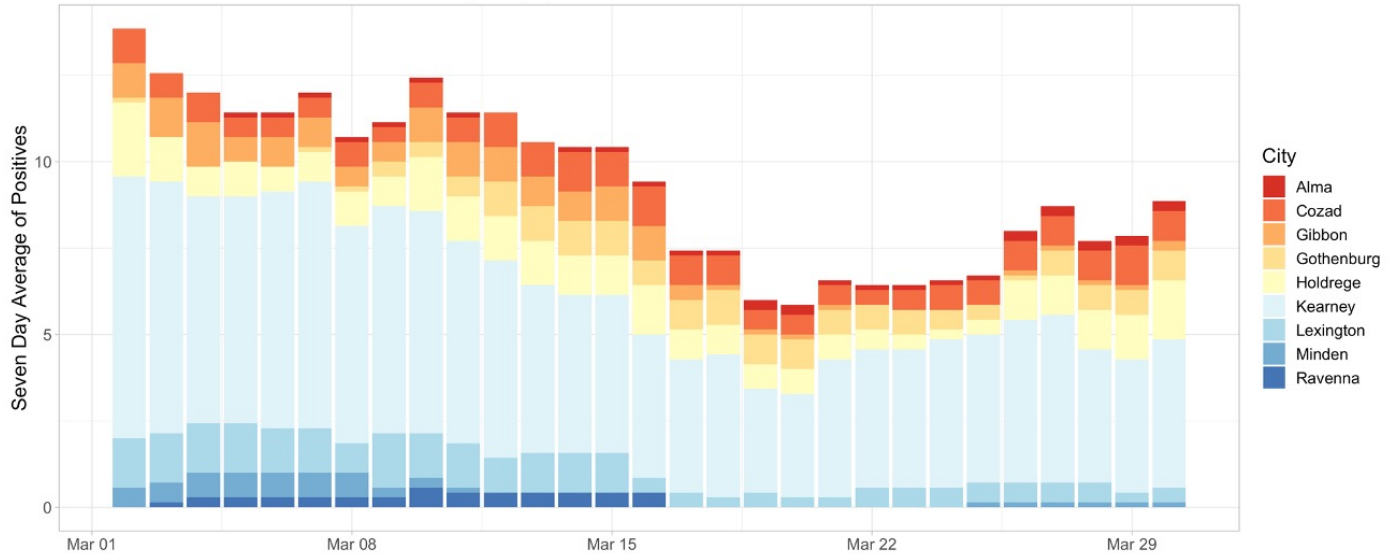
Information Updated as of 3/30 at 8 p.m.

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 graphs describes the 7-day rolling averages by city for the past four weeks (Mar 2 – Mar 30) 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

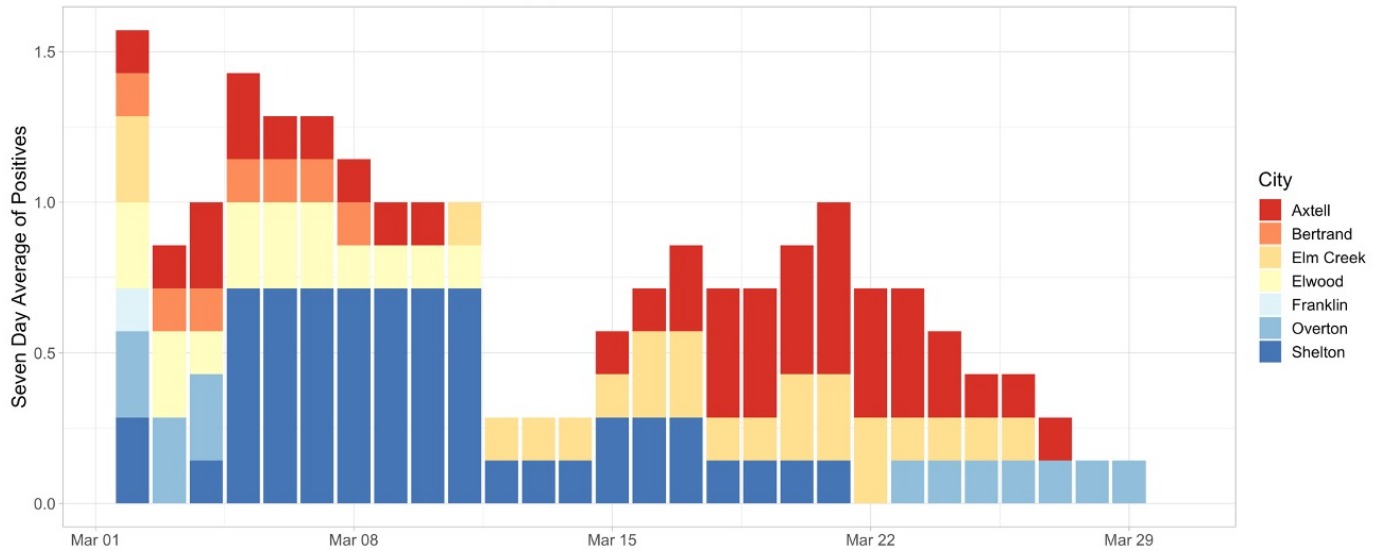
Graph displays data from Mar 2nd to March 30th



Information Updated as of 3/30 at 8 p.m.

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

Graph displays data from Mar 2nd to March 30th

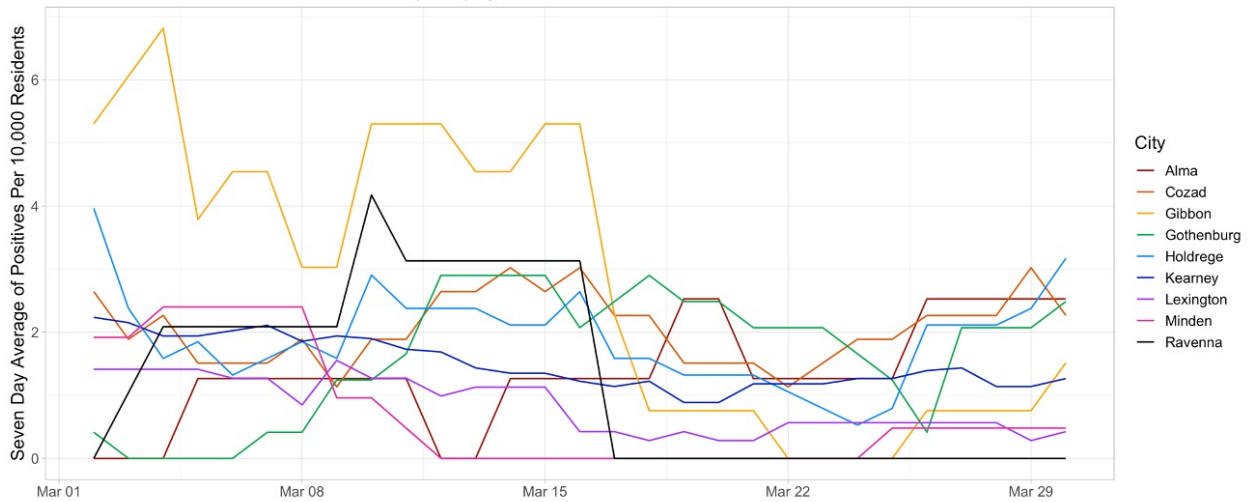


Information Updated as of 3/30 at 8 p.m.

- 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 (Mar 2 – Mar 30) ⁹
- 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
Per 10,000 Residents in Cities > 1,100 Residents**

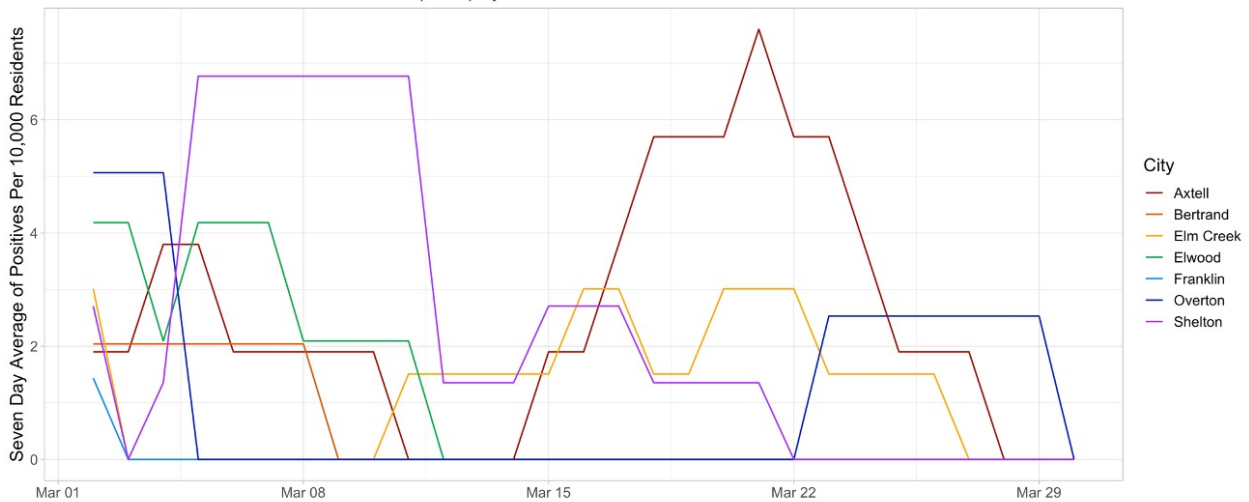
Graph displays data from Mar 2nd to March 30th



Information Updated as of 3/30 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 Mar 2nd to March 30th



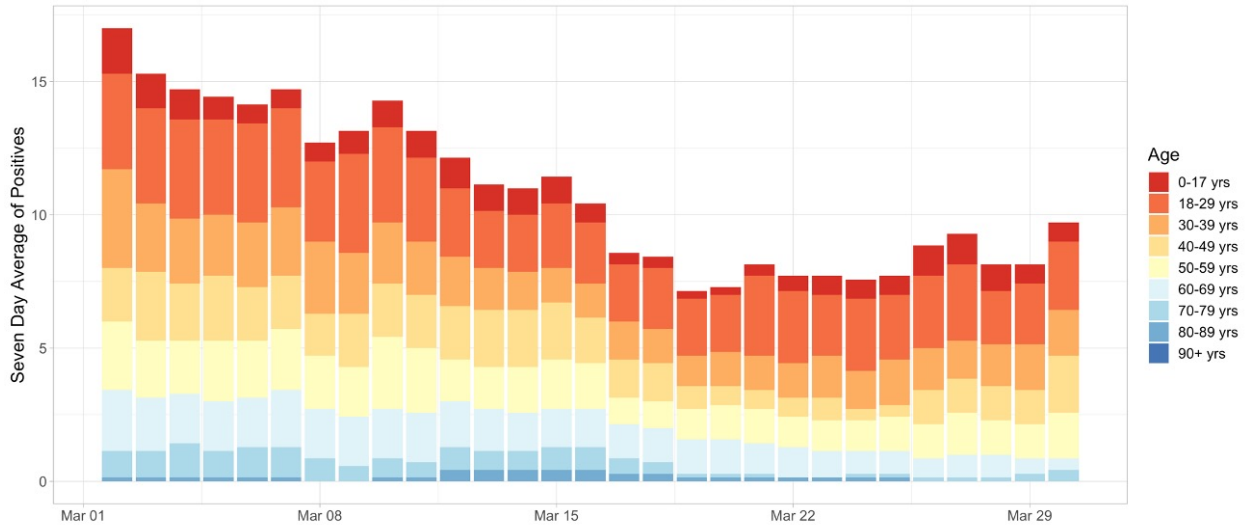
Information Updated as of 3/30 at 8 p.m.

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)

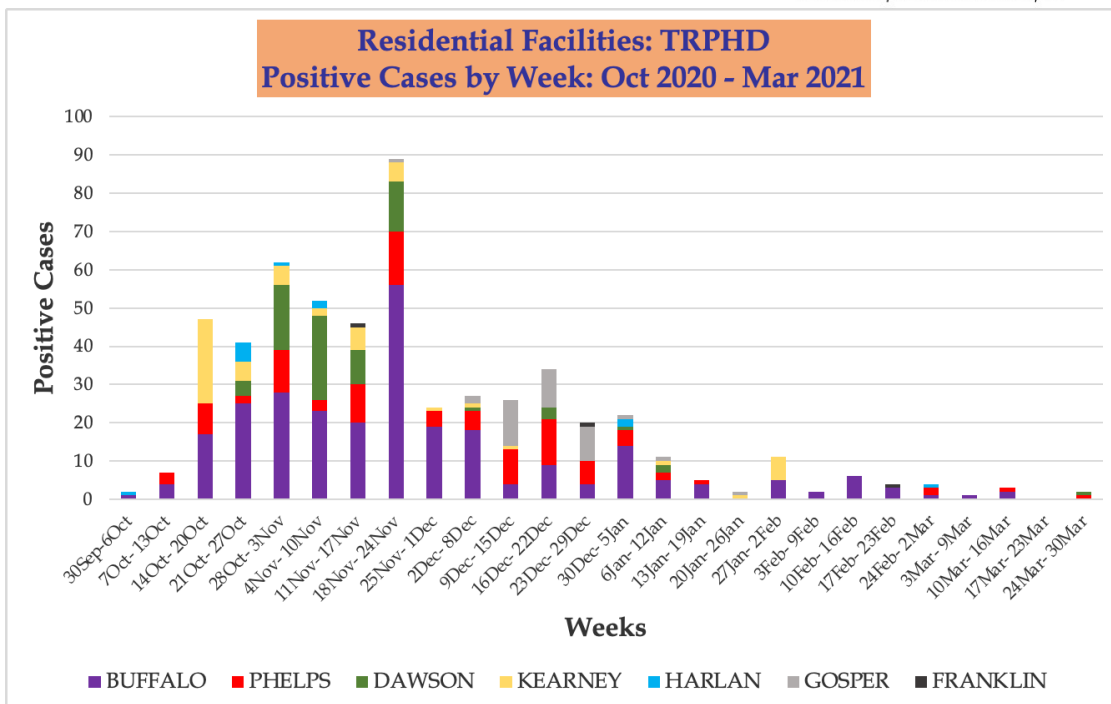
- The first graph below describes the **7-day rolling average** of cases from **Mar 2 – Mar 30** by age. The height of the graph corresponds to total cases and the thickness of each colored band corresponds to each age group.
- The second graph shows the distribution of cases per week in **residential facilities** in the district, broken up by county (**Sep 30 – Mar 30**). 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 Mar 2nd to March 30th



Information Updated as of 3/30 at 8 p.m.



Weekly summary



- Testing utilization in the district continues to reduce regularly, especially outside long term and residential facilities.
- Sustained decrease in rates of new infections among persons aged 60 years and over in TRPHD is encouraging. This, coupled with the vaccination rate among seniors (almost two-thirds of residents aged 65 and over in TRPHD are fully vaccinated), is cause for optimism.
- Graphs looking back at the last year indicate that the positivity rate spiked in April and in November, before a slow decline to current levels. Test Positivity Rate outside of long term care facilities is around 5% currently, the first time since early August. New daily deaths over the past year were clustered in November and December, although the most recent COVID death in the district was on the 10th of March.
- As of March 30, over one-fourth of TRPHD's eligible population has been fully vaccinated. This is significantly higher than the Statewide average, and is comfortably the highest proportion of fully vaccinated residents in the district. See weekly vaccination report at <https://www.trphd.org/covid-19/vaccination-reports.html> for details
- ICU bed availability rates over the past weeks seem well within the expected occupancy range for this time of the year. COVID-related admissions have accounted for about 3% of all occupied beds for the past four weeks (see <https://www.trphd.org/> for details)
- COVID-19 vaccination continues to be provided via through private clinics, hospitals, and Vaccines For Children (VFC) clinics across the district, including at Two Rivers Health Department.
- All persons aged 16 and over are eligible for the vaccine. Those desirous of receiving the vaccine are advised to contact their physician or register at www.trphd.org

To conclude, at just over the one-year mark following the first detected COVID case in TRPHD, the weekly incidence of COVID seems to be decreasing across all counties, although remaining stubbornly above 5% in the past few weeks. New incident cases in Phelps county are being closely monitored. Over 25% of eligible residents in TRPHD have been fully vaccinated, the highest among health districts in the state. Vaccinations are now offered to everyone over 16 years of age. Those eligible for the vaccine are advised to contact their physician or register at Two Rivers Health Department (www.trphd.org). In the meantime, residents are advised to continue to adhere to strict preventive measures (social distancing, correct and consistent masking) at all times to protect themselves and others.



APPENDIX 1

Background

The Two Rivers Public Health Department (TRPHD) covers 7 counties in central Nebraska, reaching 97,132 people who live and work in the health district spread across roughly 4663 square miles. Over three quarters of residents live in Buffalo and Dawson county, a tenth live in Phelps county, and the remaining 15% is spread somewhat comparably among the four counties of Kearney, Harlan, Franklin and Gosper in decreasing order of population. The largest cities are Holdrege (pop. 5408), Lexington (pop. 10115) and Kearney (pop. 33867) meaning that well over half the residents of TRPHD live in three cities, and over a third are in Kearney alone. The population of all 7 counties in TRPHD are shown below.

County	Population
Buffalo	49,659
Dawson	23,595
Franklin	2,979
Gosper	1,990
Harlan	3,380
Kearney	6,495
Phelps	9,034
TRPHD total	97,132
Nebraska state	1,934,408
United States	328,239,523

- Data is presented as 7-day rolling averages for daily numbers and absolute counts for cumulative cases. The 7-day rolling average is the sum of all cases reported on that day plus the previous six divided by 7.
- Total (cumulative) cases refer to all COVID cases that have been confirmed by testing in the district since the beginning of the pandemic in TRPHD (March 19)
- All tests refers to all types of tests conducted across the Health District, including laboratory-based PCR and rapid antigen.
- Average positivity rate refers to a seven-day rolling average positivity rate, which is the sum of all cases for that day and the previous six divided by the sum of all tests done in that day and the previous six. This is also the same as the “weekly positivity rate”
- In cases that call for comparison across larger areas (counties v/s state of Nebraska, for eg), we present the count per 100,000 population. 100,000 roughly corresponds to the population of Two Rivers Health District (97,132)
- In cases that call for comparison between cities, (Kearney v/s Minden for eg), we present a count per 10,000 population. 10,000 roughly corresponds to the population of Lexington (10,115), the second largest city in TRPHD.
- Deaths due to COVID-19 are identified in death certificates (usually COVID -19 is the Underlying Cause of Death) and attested by the attending physician or medical examiner/ coroner. Each case is further investigated by TRPHD over telephone - the next



of kin is contacted, condolences conveyed and exit interviews conducted by Department staff before releasing a public notification. For further details on the procedure for COVID-19 death certification, please see <https://www.cdc.gov/nchs/data/nvss/vsrg/vsrg03-508.pdf>

- For calculation, we use the 2019 mid- year census estimate (American Community Survey, ACS) and data from The Atlantic’s COVID tracking project (<https://covidtracking.com/data>)

APPENDIX 2

Total (cumulative) cases per 100,000 population

The total/ cumulative case counts are the **total** cases confirmed by testing in an area (county, city, state or health district) calculated from the first recorded case (in case of TRPHD this is March 19, 2020). This is expressed as a fraction of the total population of the area and standardized to 100,000 persons. A population of 100,000 is used to compare counties as it is comparable to the overall population of Two Rivers Health District (97,032).

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

[(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.