



## Kearney Urban Area – COVID Status Report 16 Oct 2020

### **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 urban areas are Holdrege (~5439 people), Lexington (~10,024 people), and Kearney (~33,835 people), meaning that over half of the residents of TRPHD live in three urban areas, and over a third live in Kearney city alone.

### **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.

Thus "Kearney area" includes Kearney city as well as Elm Creek, Pleasanton, Amherst, Riverdale, Gibbon, Shelton and Axtell.

"Holdrege area" includes Holdrege city, Loomis and Funk.

For presenting data, we selected 3 time frames:

- March 19/ April 1 – Oct 13 (From the beginning of the pandemic to current)
- July 01 – Oct 13 (From the beginning of second sustained period of increase in daily case counts to current)
- Sep 16 – Oct 13 (Previous 4 weeks)

Data is presented as 7-day rolling averages, and as absolute counts in case of cumulative cases



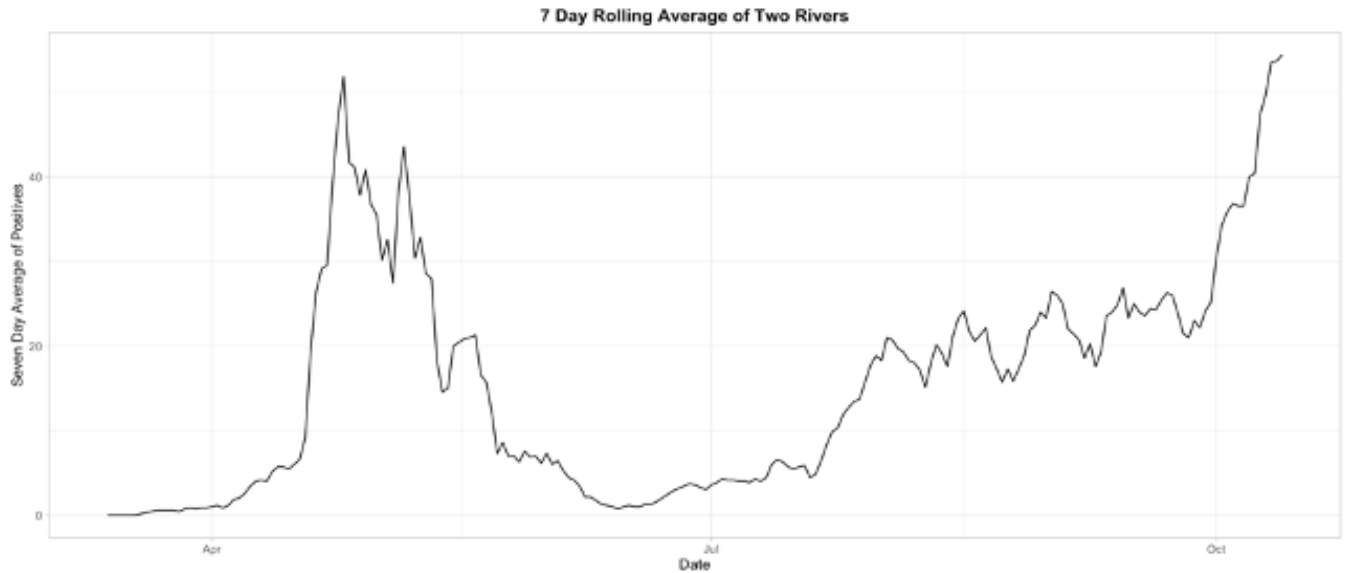
In the second edition of this document, we will look at the overall course of the COVID-19 pandemic in TRPHD, identify two distinct phases and focus on the second phase, largely driven by the continuing rise in newly detected cases in Kearney area. Analyzing data from July 01 – October 13, we will see the progression of cases across all 7 counties in TRPHD. Then we will focus on the past 4 weeks, looking at cases in all major cities in the Dawson/ Buffalo county region. Lastly, we will look at the age-wise distribution of cases in Kearney area to understand the spread of the pandemic in Kearney city.

## Overview

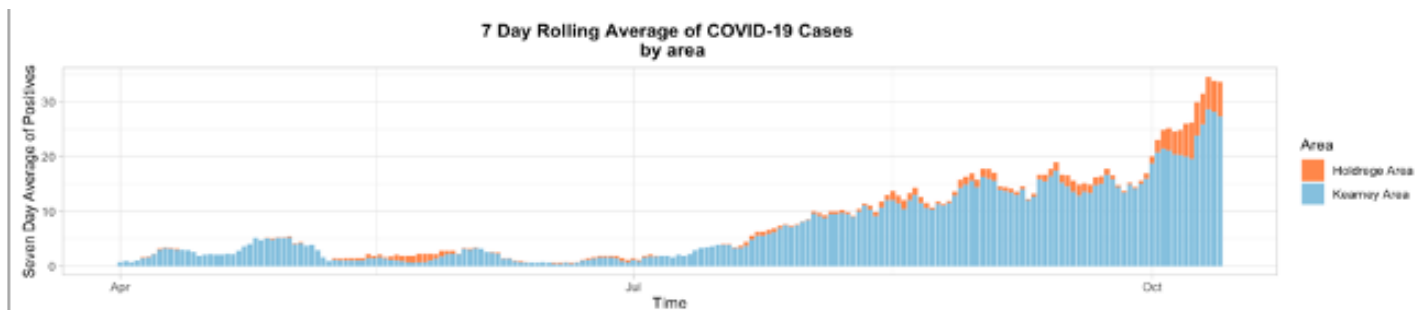
- Figure 1 (a) describes the COVID-19 pandemic for all counties in TRPHD from March 19 2020 to October 13. Figure 1 (b) describes the cases in Holdrege and Kearney areas from April 1 – October 13. The 7-day rolling average of cases crossed 50 in the district last week, surpassing the previous highest number recorded in May.
- Figure 2 describes 7-day rolling average of cases in all counties from Jul 1 – Oct 13 (15 weeks). Figure 3 describes the 7-day rolling average of cases in Buffalo county during the same period. Also shown is the cumulative cases in Buffalo county during this period.
- Figure 4(a) describes 7-day rolling average of cases in selected cities in Buffalo and Dawson counties from September 16 to October 13 (4 weeks). Figure 4(a) describes the same data, presented per 100,000 residents. Kearney city is shown in yellow on both graphs.
- Figure 5 describes the 7-day rolling average of positive cases in Kearney area from Sep 16 – Oct 13, further broken up by age group
- Over 87% of all COVID cases in Buffalo county were recorded after July 1. Kearney urban area accounts for over 95% of all cases reported in Buffalo county since July 1, thus it is the primary driver behind the recent increase in cases in the county.



**Fig 1(a) (below) describes the 7-day rolling average of all COVID-19 cases in TRPHD from March 1- Oct 13, 2020**

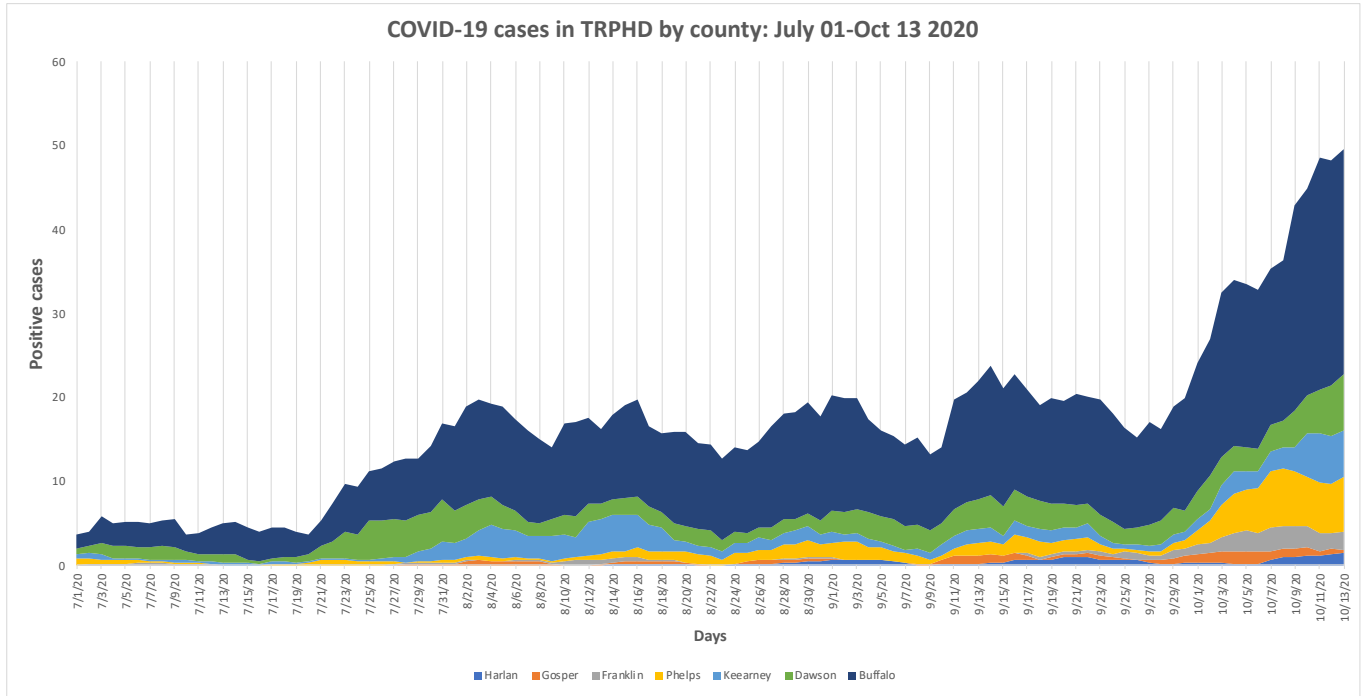


**Fig 1(b) (below) describes the 7-day rolling average of all COVID-19 cases in Kearney and Holdrege areas from April 1- Oct 13, 2020**

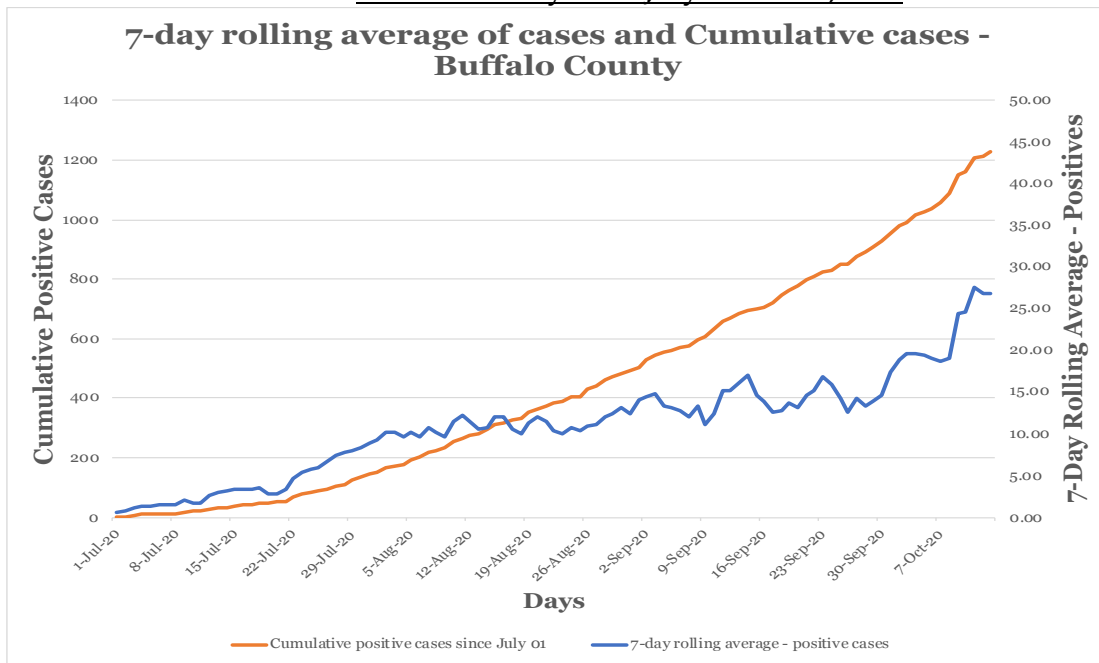




**Fig 2 (below) describes the 7-day rolling average of COVID-19 cases in all counties in TRPHD from July 1 - Oct 13, 2020**

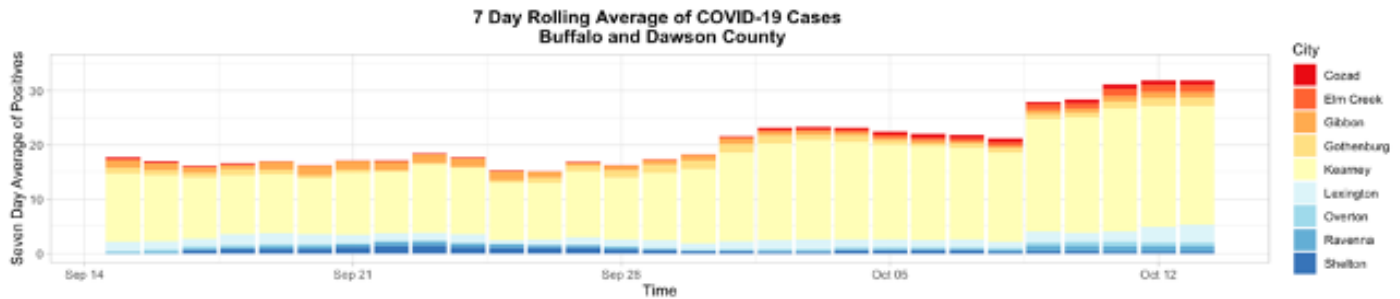


**Fig 3 (below) describes the cumulative cases and 7-day rolling average of COVID-19 cases in Buffalo County from July 1 - Oct 13, 2020**

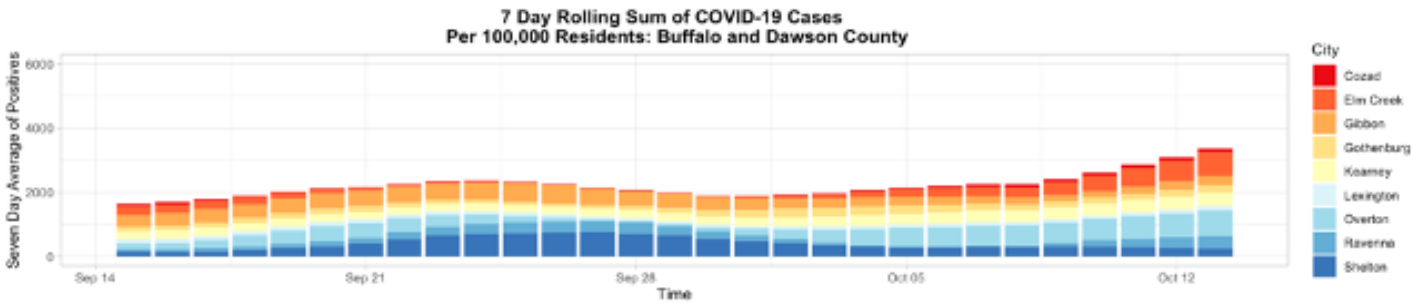




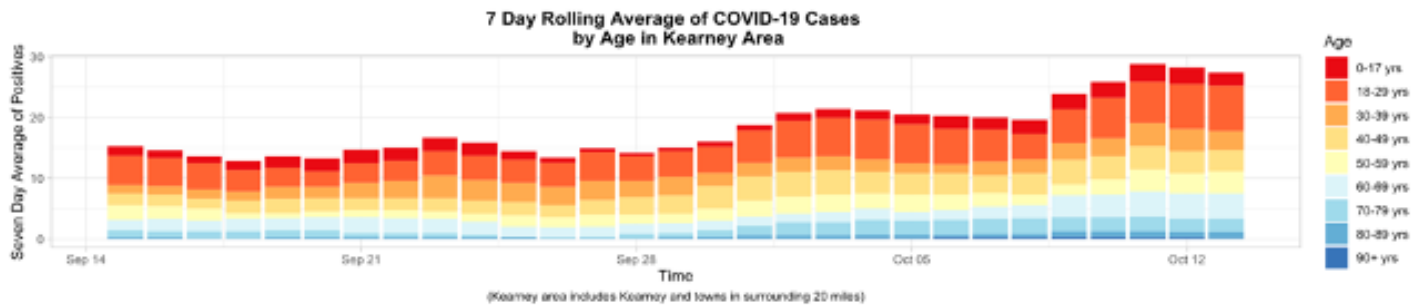
**Fig 4 (a) (below) describes the 7-day rolling average of COVID cases in all cities in Buffalo and Dawson counties from Sep 16- Oct 13, 2020**



**Fig 4 (b) (below) describes the 7-day rolling average of COVID cases (per 100,000 population) in all cities in Buffalo and Dawson counties from Sep 16- Oct 13, 2020**



**Fig 5 (below) describes the 7-day rolling average of COVID cases in Kearney area by age from Sep 16 - Oct 13, 2020**





### Weekly Summary Report

From figure 1(a) and 1(b), some broad trends are noticeable:

- Increase in COVID cases in Kearney urban area has primarily occurred since July. Indeed, over 87% of all cases in Kearney were recorded after July 1.
- The outbreak in Kearney compared to Holdrege area shows the size of the outbreak in Kearney as compared to another urban area where cases have been rising recently.

From figures 2 & 3, it is clear that cases in TRPHD have been rising sharply since July.

- While the outbreak was initially driven by cases in Buffalo county, more recent case increases have been driven by outbreaks in smaller counties in the district.
- The cumulative case count in Buffalo county has risen steadily since July, but the increase has been more rapid over the past few weeks

In figures 4-5, we take a closer look at Kearney city and the Kearney urban area

- Kearney city accounts for a bulk of the cases among cities in Buffalo and Dawson counties over the past month.
- However, smaller cities, especially Overton and Elm Creek have accounted for higher case counts in the past fortnight. Axtell's also showed a higher per-day case count, reflected in the numbers for Kearney urban area
- Although persons aged 18-29 continue to show higher case counts, persons aged 60-79 are showing higher case incidence more recently, especially in the previous week.

- *In summary, Kearney city and Kearney urban area have seen sustained increases in COVID-19 cases since early July. The disease incidence seems to be shifting from mostly young people under 30 to 60-79 year olds. Although some part of the sharp increase in absolute number of cases in Kearney and Buffalo over the past week may be explained by delayed data resolution, the increase over the last week represents a shift in rate of increase from the previous weeks.*