COVID-19 Weekly Update

Week Ending July 11th, 2020
Prepared by Krista Westrick Payne, PhD
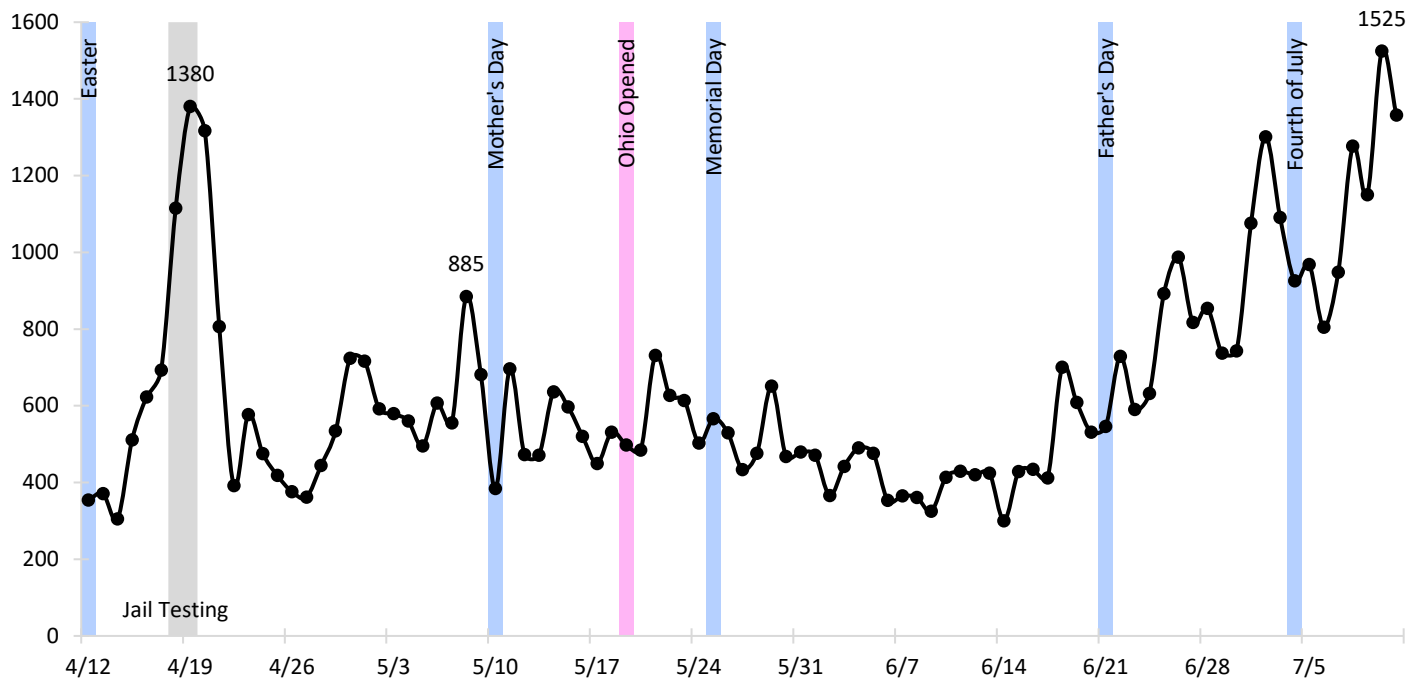
Current Trends in Ohio | State-Level

Every day the Ohio Department of Health reports the total number of cases of COVID-19, hospitalizations due to COVID-19, and COVID-19 deaths for the entire state here: https://coronavirus.ohio.gov/wps/portal/gov/covid-19/home. They also report the change over the last 24 hours in reported cases, hospitalizations, and deaths here: https://coronavirus.ohio.gov/wps/portal/gov/covid-19/dashboards/current-trends. The following report is based on these numbers.

Daily Case Change
Figure 1 represents the daily change in reported cases from April 12, 2020 through July 11, 2020.

- Since middle to late June, the state of Ohio has experienced an increasing trend in the daily change in reported cases.
- On July 10th, Ohio reported its greatest 24-hour change in reported cases since the pandemic began, adding 1,525 cases to the state total. This change is larger than that observed during the jail testing.

Figure 1. Trend in 24 Hour Reported Case Change (Includes Probable Cases)

Data Source: Ohio Department of Health State of Ohio COVID-19 Dashboard

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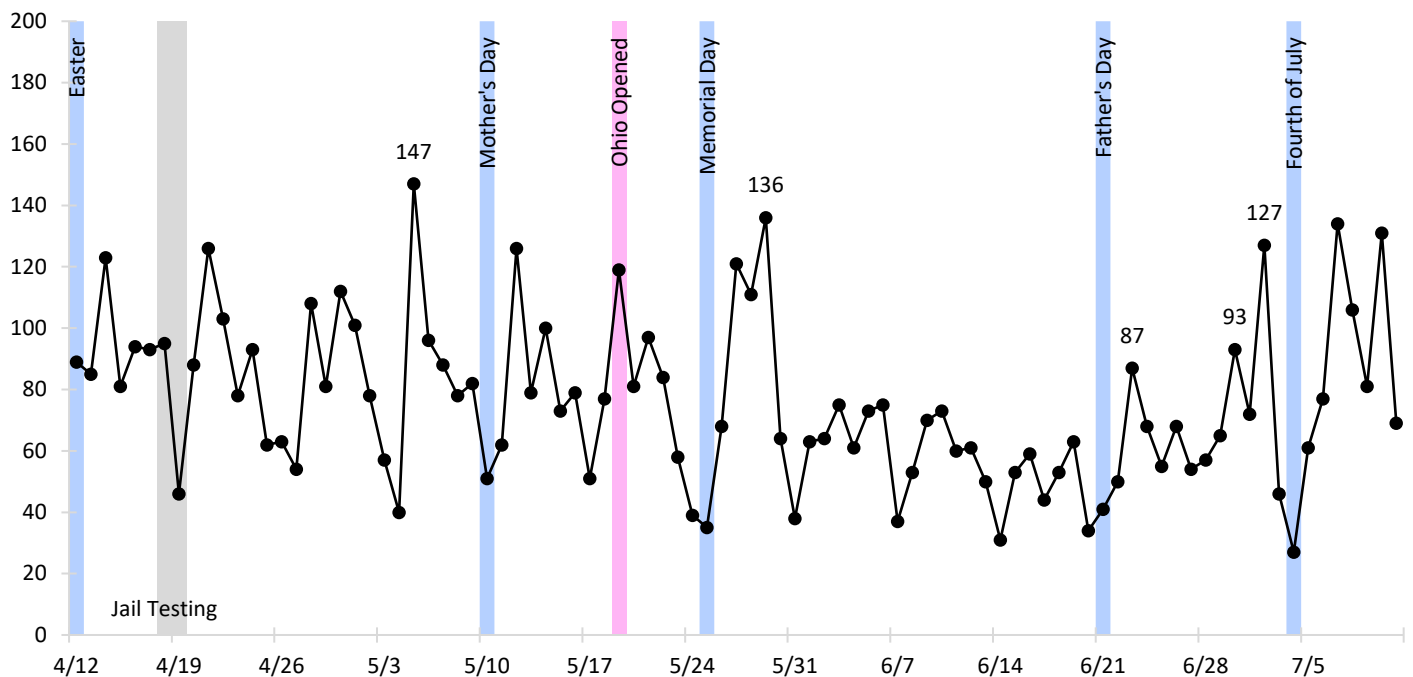
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Daily Hospitalization Change
Figure 2. represents the daily change in reported hospitalizations since April 12, 2020 through July 11, 2020.

- Notice, the daily change in hospitalizations zig-zag up-and-down. While the daily cases also do this, it is more dramatic when we look at hospitalizations, because there are much fewer hospitalizations than cases. This makes it more difficult for the human eye to notice trends. So, although the daily change in hospitalizations was quite low over the past two days, Overall, the state of Ohio continues to experience an increasing trend in hospitalizations. A lot of different factors can influence the daily change—some of which are known to us, and some of which are not.

Figure 2. Trend in 24 Hour Reported Hospitalization Change

Data Source: Ohio Department of Health State of Ohio COVID-19 Dashboard

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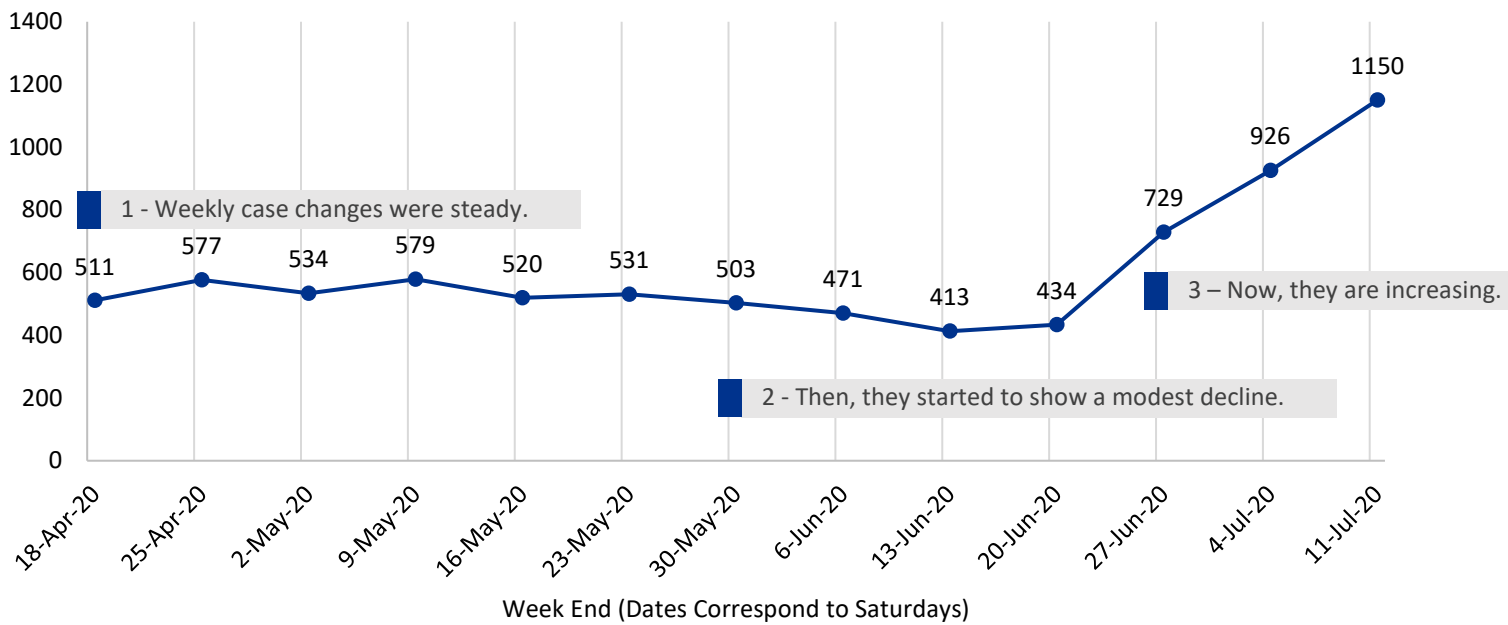
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Average Weekly Case Change

In the previous section, the "zig-zag" trend and the "known and unknown" effects on changing daily rates were mentioned. One way to clear some of the murkiness is to look at averages. Medians are a type of average used to investigate changes in behaviors/phenomena over time. They lie at the midpoint of a set of values. Because of this, there is an equal chance that any one value will fall above or below the median. Unlike the arithmetic mean—what is generally thought of when we discuss averages—the median is not influenced by extremely high or extremely low values. The next two figures visualize weekly medians in daily case, hospitalization, and death changes. The dates on the bottom (the X-axis or horizontal axis) correspond to the weekly end dates/Saturdays.

- Figure three makes the trend in daily case reporting clearer—Ohio's weekly cases have continued to increase. For the week ending on July 11, the average new cases more than doubled (1,150) from the average of the week ending on June 20th (434).

Figure 3. Trend in 24 Hour Reported Case Change - Weekly Medians (Includes Probable Cases)

Data Source: Henry County Health Department analysis of Ohio Department of Health State of Ohio COVID-19 Dashboard
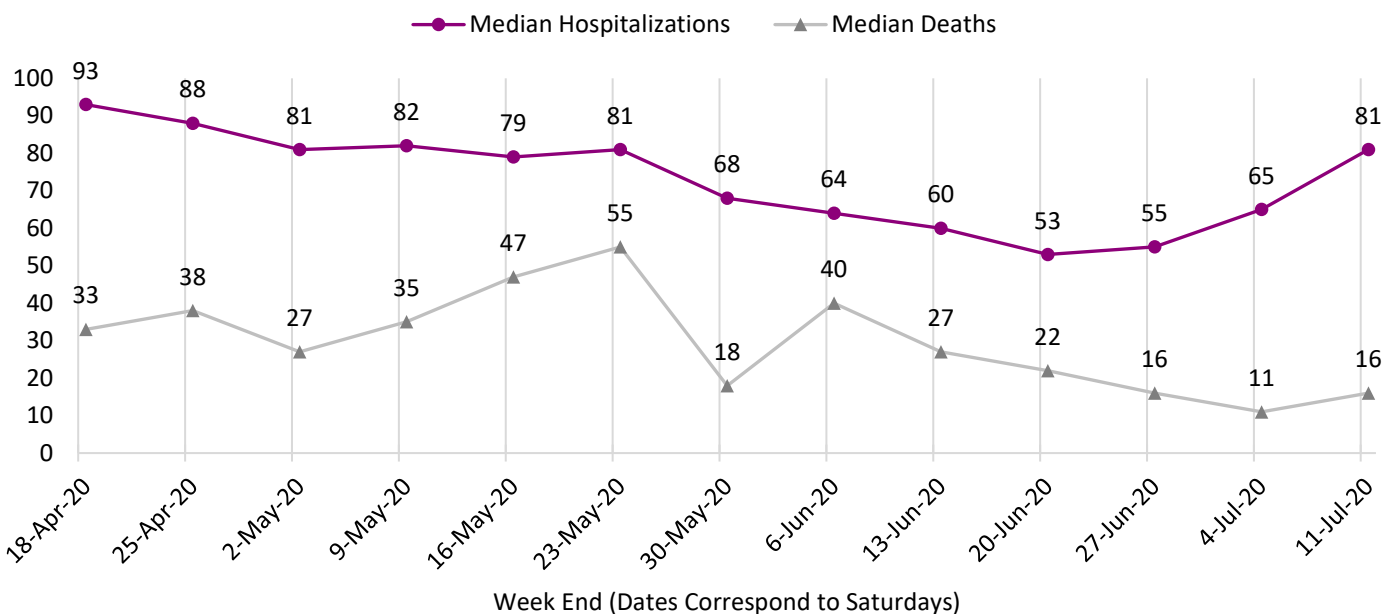
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Average Weekly Changes in Hospitalizations & Deaths

- The average increase in hospitalizations continues.
- This number is significant when testing parameters change. For much of the pandemic testing was limited because of a shortage of supplies and capacity. The increase in cases noted in the previous sections occurred at the same time testing increased in many areas AND many states began to lift restrictions on individuals' actions. In statistics, we call these confounding events. If the increase in cases did NOT correspond to an increase in hospitalizations, one could conclude with greater confidence the increase in cases was possibly being driven by an increase in testing. However, if an increase in cases DID correspond to an increase in hospitalizations, we are more confident in the conclusion the increase in cases is being driven by community spread.
- Notice, I am using terms related to confidence. *These are conclusions based on the best available data at the current time*. Like all things, there is always the potential for error. Be assured, population scientists are bound by ethical standards to ensure we do our best to report the data as accurately as possible while protecting the privacy and rights of individuals these data are based on.
- The median daily change in hospitalizations for the past week was 81, a continued increase. Recall, the initial increase came two weeks after the slight uptick in cases. The last week the state of Ohio's median hospitalizations were 81 was the week ending on May 23. Given the timing of the progression of COVID-19, this provides *further* evidence the increase in cases is being driven by community spread and not increased testing.
- The trend associated with deaths no longer appears to be trending down. The median number of deaths for the week ending on July 4 was 11, whereas for the week ending on July 11 it has increased to 16.

Figure 4. Trend in 24 Hour Reported Hospitalization and Death Change - Weekly Medians

Data Source: Henry County Health Department analysis of Ohio Department of Health State of Ohio COVID-19 Dashboard

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Current Trends in Ohio | County-Level

Weekly Totals for Henry County and Neighboring Counties

- *Note*: The Y (vertical) axes of the two figures below are NOT the same. While they are both reporting number of total confirmed cases, Wood and Lucas Counties have much higher values than Henry and the other counties.
- Most of Henry County and its neighbors have seen an increase in the number of reported probable cases. Exceptions include Defiance and Putnam counties. While ALL counties reported new cases over the past seven days, the total number for Defiance and Putnam counties was lower this week compared to the week before.

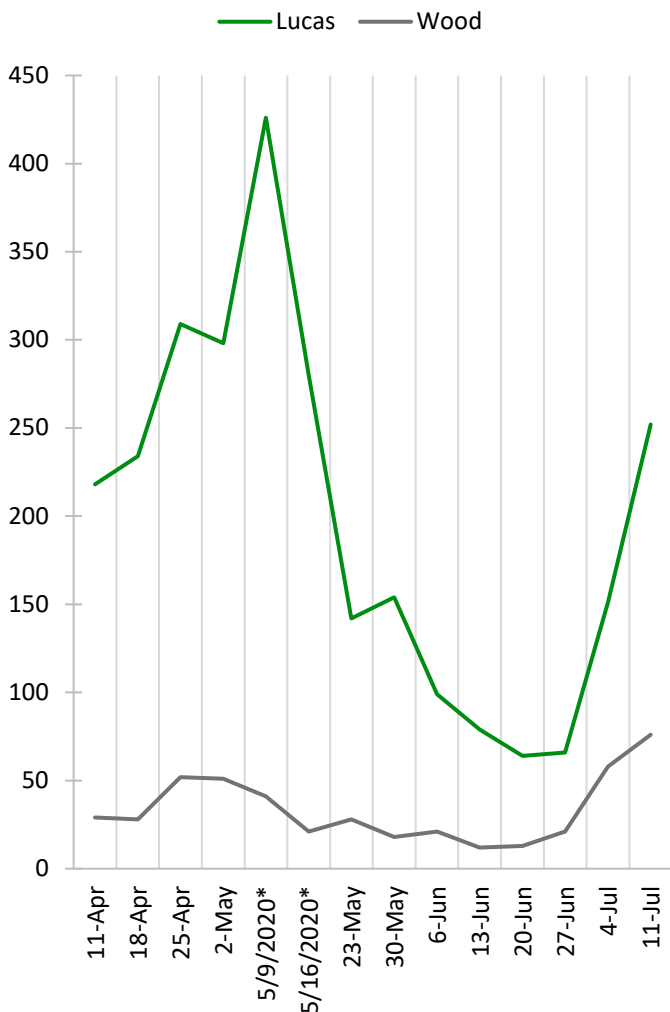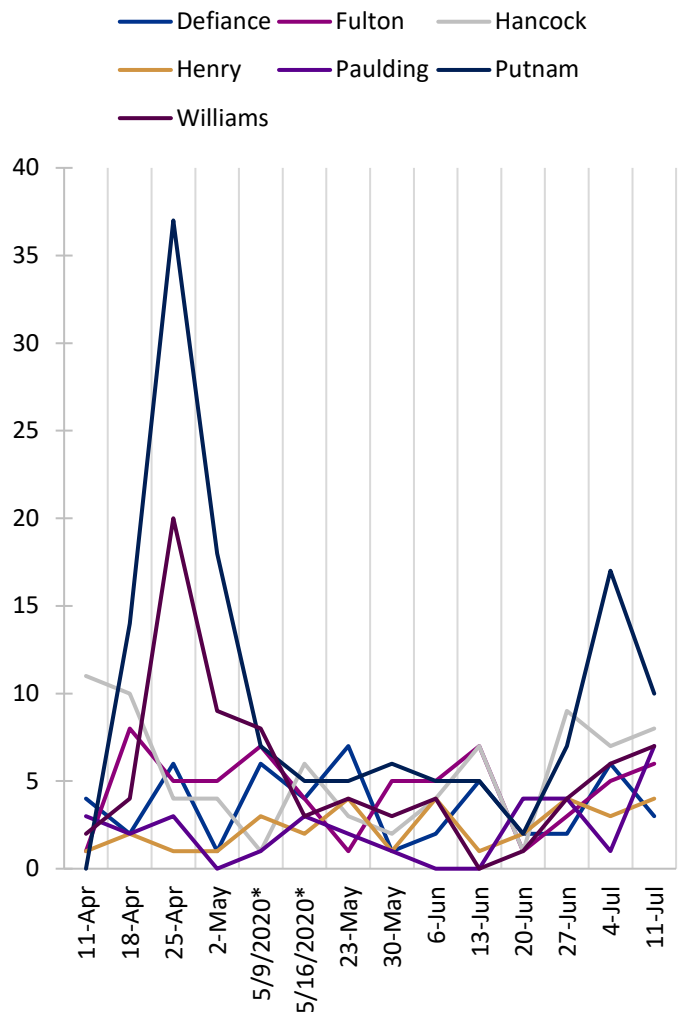Figure 5. Saturday-to-Satruday Change in Reported Probable Cases by County

Figure 6. Saturday-to-Satruday Change in Reported Probable Cases by County

Data Source: Henry County Health Department analysis of Ohio Department of Health State of Ohio COVID-19 Dashboard

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Henry County's Confirmed Cases

- As of Saturday July 11, 2020, Henry County had 27 residents confirmed to have contracted COVID-19. Four days later (as of Wednesday July 15), that number had increased to 32.
- These last two figures show the trend in weekly total *confirmed* COVID-19 cases by the date of onset for Henry County, alone. Noting this is by the date of onset is important, because although the health department may learn about a new case in the past week, their symptoms may have begun in the week prior to that. As such, these numbers can change quickly. Comparing Figure 7 to Figure 8 we can see the difference four days can make in a small county like Henry County. It also highlights one of the challenges associated with trying to track data on COVID-19 in "real time."
- ODH has begun reporting on the "presumed recovered" which they define as "cases with a symptom onset date >21 days prior who are not deceased." Currently (as of July 15), Henry County has 21 presumed recovered among the total 32 confirmed cases. There has been a total of 7 hospitalizations, and no deaths.

Figure 7. Weekly Total Confirmed COVID-19 Cases by Date of ONSET for Henry County, OH As of Saturday July 11th, 2020
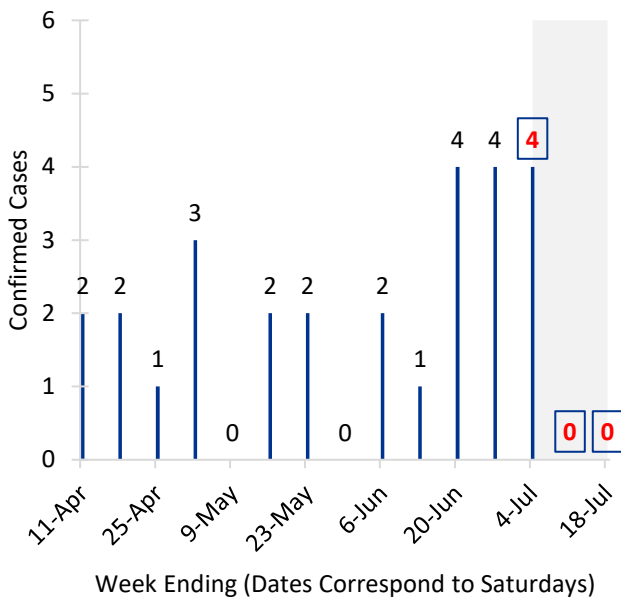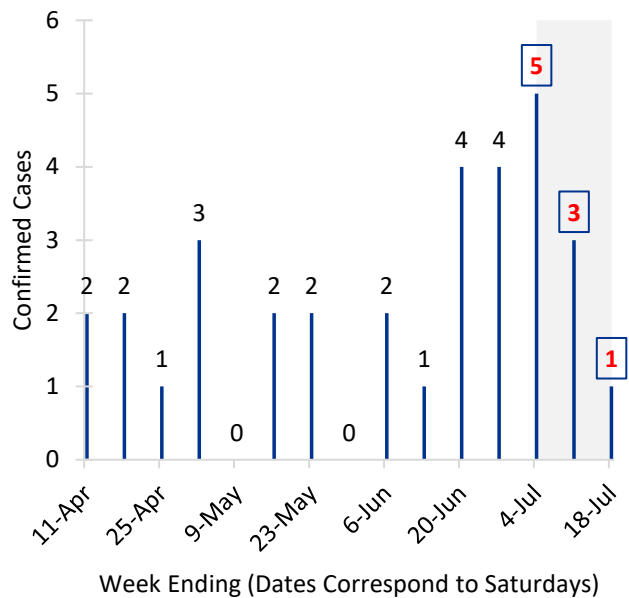

Figure 8. Weekly Total Confirmed COVID-19 Cases by Date of ONSET for Henry County, OH As of Wednesday July 15th, 2020

Data Source: Ohio Department of Health State of Ohio COVID-19 Dashboard