



---

# MEMORANDUM

---

Date: April 27, 2021

To: The Honorable Chair and Members  
Pima County Board of Supervisors

From: C.H. Huckelberry  
County Administrator *CHH*

Re: **Confusion over COVID-19 Reporting and Infection Risk**

At the last Board meeting, Supervisor Steve Christy raised a concern regarding different reporting information from the *New York Times* tracker, Carnegie Mellon COVIDCast dashboard and John Hopkins COVID-19 United States Cases by County Tracker and that these dashboards and trackers were reporting cases far less than those reported through Arizona Department of Health Services' (ADHS) dashboard.

The difference is how the data is reported. The referenced *New York Times*, Carnegie Mellon and John Hopkins reporting identifies cases per 100,000 per day. The ADHS' dashboard, upon which the County relies for information, reports a rolling seven-day case average.

During the period in question, ADHS was reporting approximately 60 COVID-19 cases per 100,000 per week. If you multiply the *New York Times* tracker of 9 cases per day by seven days you will get 63 cases per week. Hence, there is little difference between the infection rate reported for Pima County on a per 100,000 resident basis between the various data sources.

Attached is a more detailed explanation of this issue.

CHH/anc

Attachment

c: Jan Leshar, Chief Deputy County Administrator  
Carmine DeBonis, Jr., Deputy County Administrator for Public Works  
Francisco García, MD, MPH, Deputy County Administrator & Chief Medical Officer,  
Health and Community Services  
Terry Cullen, MD, MS, Public Health Director, Pima County Health Department

## COVID Reporting and Nomenclature Definitions

- **Daily case numbers:** Represents the number of new COVID-19 cases that are reported to public health per day.
- **Rolling seven-day case average:** Represents the average number of new COVID-19 cases over the last 7 days.
  - This allows a better representation of new cases as reporting may fluctuate when compared to the daily case numbers
  - The seven-day rolling average and COVID-19 cases numbers by week do not account for population size and make comparison across populations (E.g. Counties or States) difficult.
- **COVID-19 case numbers by week:** Represents the total number of COVID-19 cases within a set week of time (E.g. Morbidity and Mortality Weekly Report (MMWR) Week)
  - This allows for comparison of COVID-19 across set weeks, while the 7-day rolling average looks at the last 7 days regardless of set time boundaries (E.g. weeks)
- **COVID-19 case numbers by week per 100K:** Represents the total number of COVID-19 cases within a set week of time (E.g. Morbidity and Mortality Weekly Report (MMWR) Week), divides those new cases by the estimated Pima County population, and multiplies by 100,000
  - The result (E.g. 56 COVID-19 cases per 100,000 population) allows for comparison of new COVID-19 cases by week across different population sizes (E.g. Arizona Counties)
  - *Example:* 56 Cases/100K from April 11, 2021- April 17, 2021 is saying there were 56 new COVID-19 cases for every 100,000 residents of Pima County for that week.
- **COVID-19 case numbers by day per 100K:** Represents the total number of COVID-19 cases within a set day or rolling 7 or 14-day average, divides those new cases by the estimated Pima County Population, and multiplies by 100,000
  - *Example:* 7 Cases/100K for April 19, 2021 is saying there were 7 new COVID-19 cases for every 100,000 residents of Pima County on April 19, 2021

In addition to the [ADHS Dashboard](#), there are a number of other well-known websites and institutions that compile and display data on the spread of the COVID-19 pandemic. Though they present data in different ways, the underlying data is essentially the same. For example, at the time this is being written the [New York Times](#) tracker has the Pima County case count at 9 cases per 100,000 **per day** over the **past 14 days**, while the [Carnegie Mellon COVIDCast dashboard](#) displays the case count at 7 cases per 100,000 **per day** over the past **7 days**. The [John-Hopkins COVID-19 United States Cases by County tracker](#) displays the case count at 7 cases per 100,000 **per day** over the past **7 days**. In comparison, the ADHS Dashboard shows from April 11, 2021-April 17, 2021 Pima County to have 56 cases per 100,000 **per week**. All four dashboards are correct and are simply presenting the data in different ways.

Even when the metrics being presented are the same, there can be minor discrepancies between the various dashboards. This is caused by differences in how the dashboards pull the data and how frequently those data sets are updated. Some pull from national data sets hosted by the Department of Health and Human Services, while others pull directly from a compilation of state and municipality data sources. Though differences may exist when presenting equivalent metrics, the differences are relatively minor, and more importantly the overall magnitude and direction of the trend are generally consistent and in agreement.