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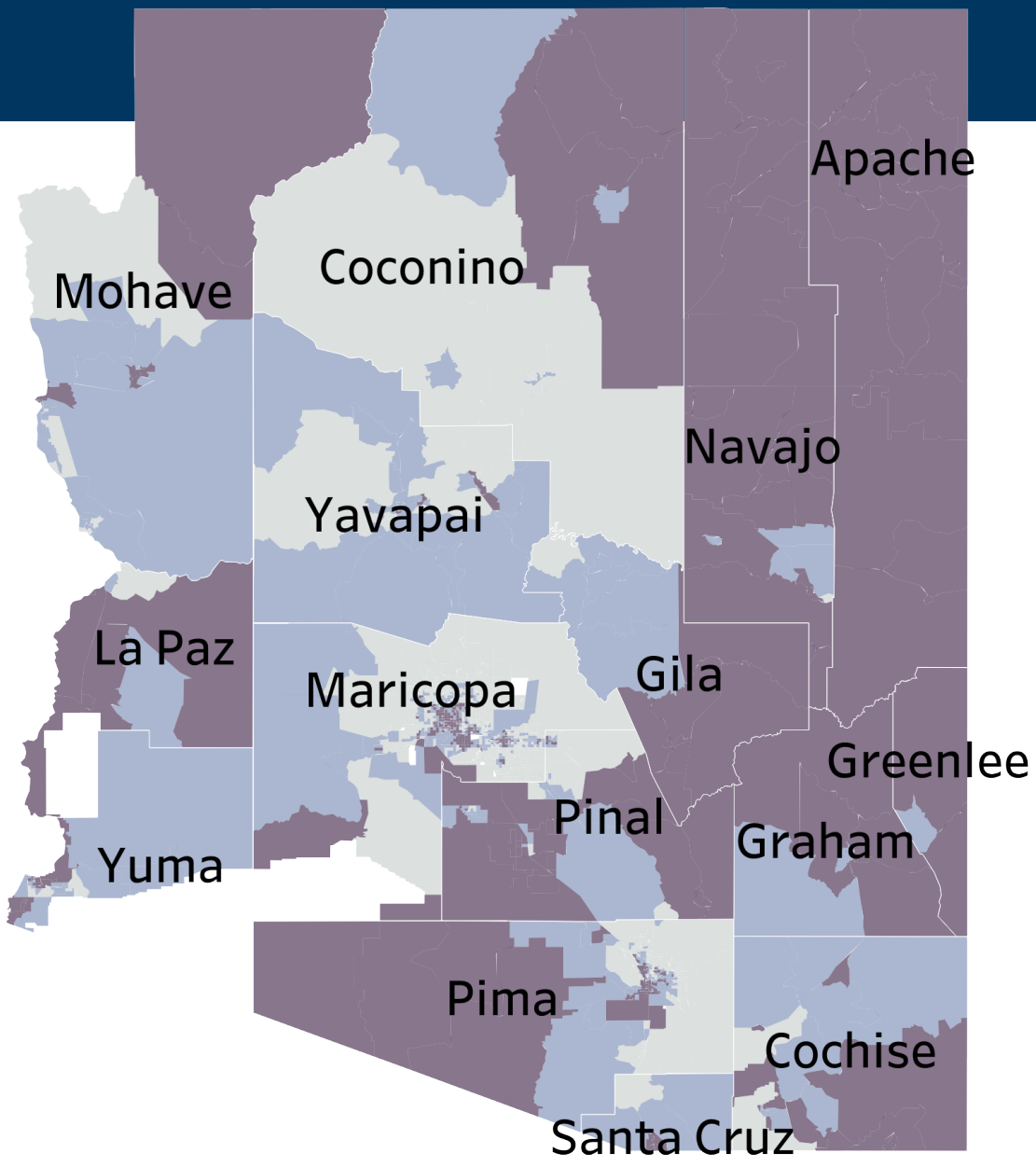
# COVID-19 and Its Outsized Impact On Arizona's Vulnerable Communities: A Statewide Analysis

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# Arizona's Premature Openings Exacerbated COVID-19 Racial Disparities in the State

Data analysis predicted the outsized impact of the pandemic on the state's most vulnerable communities

## SUMMARY

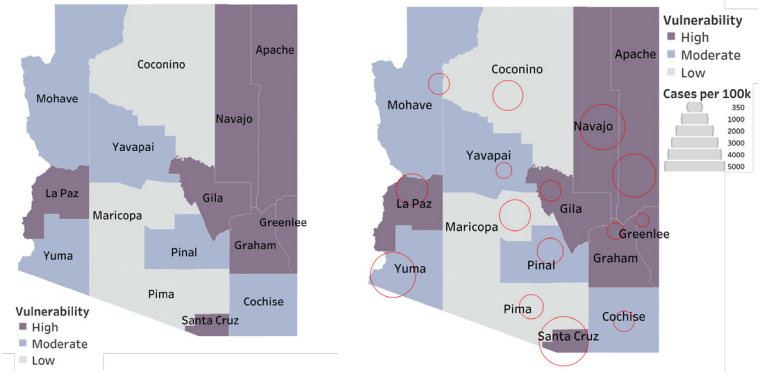
As the coronavirus pandemic continues to spread rapidly throughout the country, and concerns rise that racial minorities and other vulnerable populations are being hit the hardest by all of its impacts, Surgo Foundation has aggregated the breadth of its data resources and analysis to better illuminate opportunities to address inequities. Here, we focus on Arizona, where the viral impact is growing rapidly, to serve as a case study for analyzing multiple dimensions of this public health crisis through the lens of vulnerability. We find that **our granular data and analysis predicted the outsized impact of the pandemic on Arizona's most vulnerable communities.** Through aggregating dozens of datasets and integrating them with Surgo's COVID-19 Community Vulnerability Index (CCVI), we have found that these underlying vulnerabilities, identified months before the pandemic hit its peaks, have exacerbated the impacts of policy decisions and led to significantly higher viral spread in Arizona's Native American and border regions. Specifically, the data reveals:

1. Border counties are driving recent rapid per-capita case growth in Arizona, joining the already hard-hit Native American communities.
2. Counties that Surgo identified as highly vulnerable in early March have been *disproportionately hit by the surging case growth in the weeks following the stay-at-home order lifting*. In early June, the most vulnerable urban communities had relatively equal per-capita case rates; today they have rates that are 15% higher than other urban counties.
3. Vulnerable communities are required to travel *up to twice as far* to access a test site.
4. Dramatic drops in social distancing in inland counties Coconina and La Paz may point toward the *newest threat of rising per-capita case growth*.

This report summarizes the findings from our July 2020 deep dive into Arizona, and the data that illustrates the dimensions of the pandemic and its outsized impact on Arizona's vulnerable communities.

# INTRODUCTION

The ongoing COVID-19 pandemic continues to claim lives across America, and we have seen dramatic discrepancies in the impact of this pandemic on vulnerable communities—ones that may not be able to mitigate the impact of the virus without additional support and resources.




In March 2020, in order to identify those vulnerable communities in advance and shape the public response, Surgo Foundation developed a modular, hyper-local index, the COVID-19 Community Vulnerability Index (CCVI), in order to quickly assess and act on the disproportionate impact of viral outbreaks in these communities.

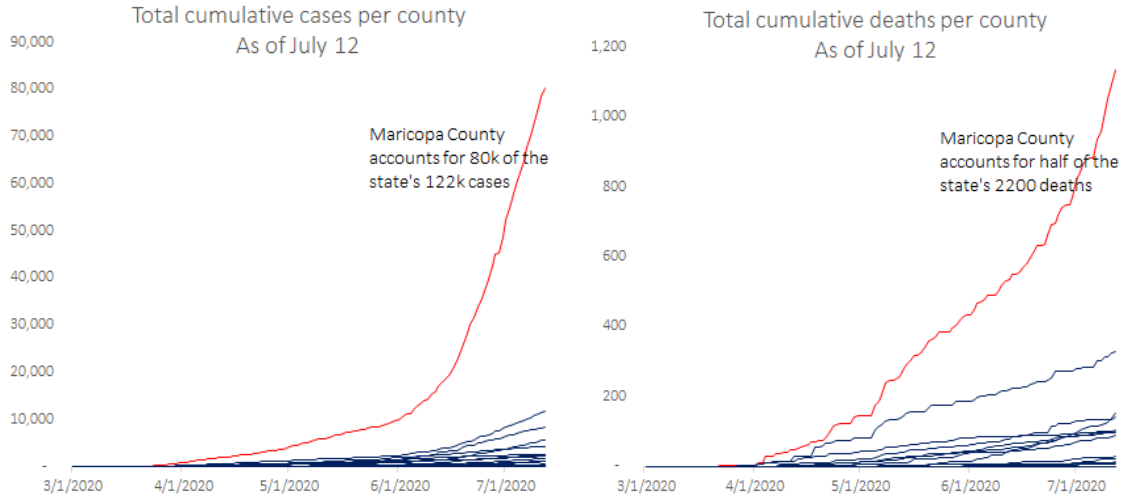
Since we launched this vulnerability index, we have seen that it gives us *predictive power* to anticipate which communities may be more susceptible to rapid case growth, and arm policymakers with the information they need to mitigate those impacts. This statewide analysis of Arizona is intended to show other states how they can use the index to get ahead of the virus rather than be overwhelmed by it after it is too late.

# KEY FINDINGS

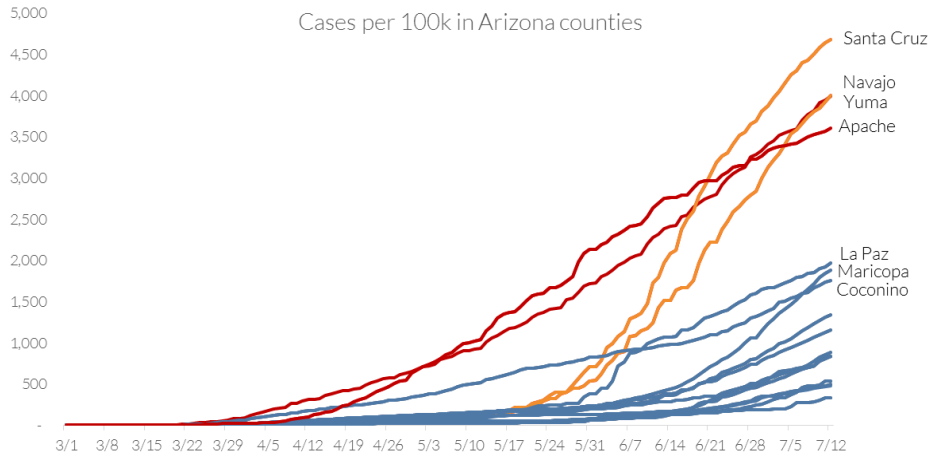
Today, as Arizona emerges as a 'hot spot' for viral spread, Surgo has integrated our vulnerability analysis of the state with dozens of indicators of pandemic impact and responsiveness. As we look at the emerging crisis in Arizona and focus on the state's vulnerable communities through this targeted lens, key themes emerge, illustrating opportunities to address pandemic impacts directly in the communities most affected:

**While a large number of cases and deaths come from Arizona's urban centers, border counties are driving rapid per-capita case growth in Arizona, joining the already hard-hit Native American communities.**

Not surprisingly, the vast plurality of cases and deaths in Arizona are in Maricopa County, which accounts for nearly half of Arizona's total population.



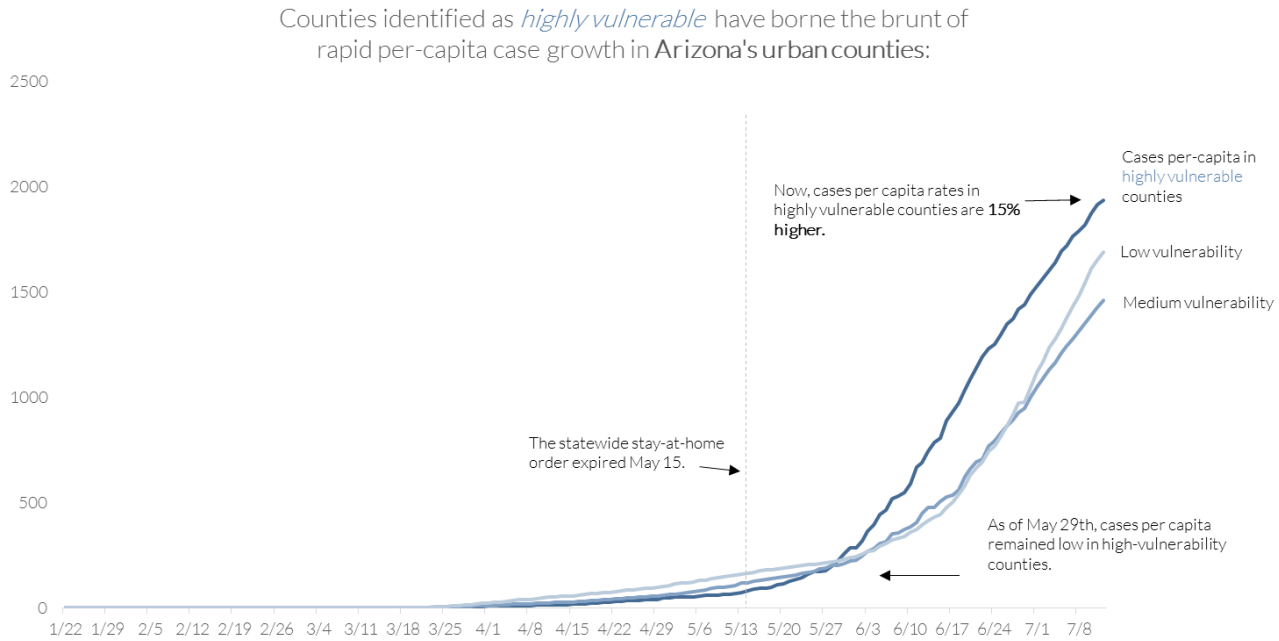
But focusing exclusively on these highly populated counties will ignore troubling trends across the state. Soaring case growth in Yuma and Santa Cruz Counties—situated along the U.S.-Mexico border—has pushed those counties to join Navajo and Apache Counties in leading the state in per-capita cases.[1]




Within these four counties currently bearing the brunt of per-capita case growth, ~337,000 people (78% of their population) live in census tracts that Surgo has identified as highly vulnerable, because they share high-risk social, structural, and epidemiological characteristics that we have seen lead to faster growth and more deaths across the country.

### Vulnerable urban counties account for a growing proportion of cases in Arizona, and were disproportionately impacted by a premature re-opening of public places.

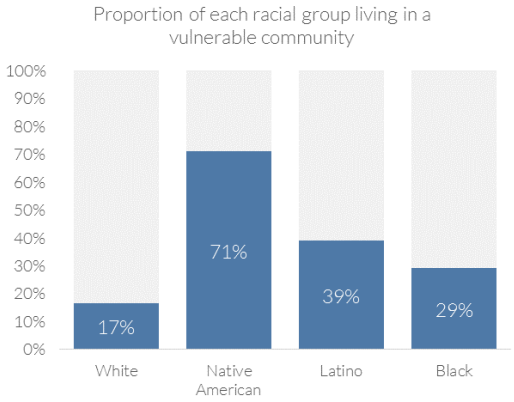
Among urban counties we saw nearly equal per-capita case rates just one month ago—but now, due to a rapid increase since then, *highly vulnerable urban communities have a 15% higher per-capita case rate*. This increase coincides with a 2-week lag after the stay-at-home order was lifted, illustrating how policy decisions disproportionately impacted communities that are especially vulnerable.



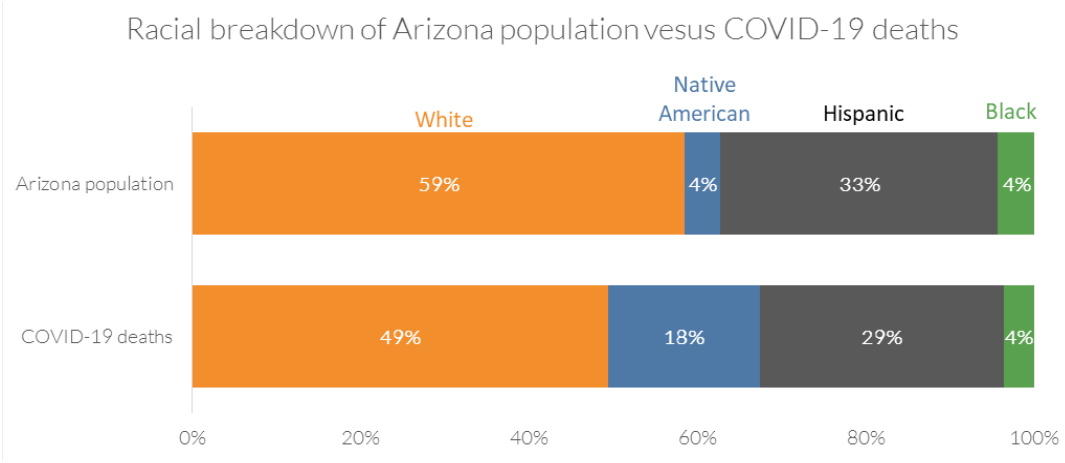
Interestingly, highly vulnerable urban counties do not currently have a higher death rate, giving us a reason for optimism. This may be due to a lag between infection rates and death rates, an improvement in healthcare leading to better outcomes. Or, it may reflect the underlying demographics of infected people in vulnerable counties.

## Socioeconomic and structural discrepancies manifest in an outsized impact of COVID-19 on Arizona's Native American population.

Native American Arizonans are 4.3x more likely to live in vulnerable communities compared to white Arizonans, with more than 70% of Native Americans living in a vulnerable census tract (compared to 17% of white Arizona residents).[2]




In the Native American community particularly, this underlying vulnerability and the speed of case growth is translating into a disproportionate representation of Native Americans among the COVID-19 death tolls. In fact, *Native Americans make up 4% of the population of Arizona, but account for 18% of all COVID-19 deaths.*[3]




This discrepancy in the impact on Native Americans cannot easily be explained by age, the most primary indicator of mortality risk: While the average white Arizona resident lives in a census tract that comprises more than 20% of people aged 65+ (a much higher rate of older populations than the national average of 15%), the average Native American lives in a census tract with nearly *half* of that—on average, just 12% of the population in census tracts where Native Americans live is aged 65 or older.

In reality, other indicators of vulnerability point toward the likely underlying cause of disproportionate impact on these communities. The average Native American in Arizona lives in a community[4] where:

- access to clean water is severely restricted: about 30% of the population of Navajo Nation does not have running water in their homes[5]
- the per capita income ($17,191) is nearly half that of white Arizonians ($33,811)

- 13.1% of people experience crowding in their households (versus only 3.1% of white Arizonans)
- people have access to only 16.5 ICU units per 100,000 people, 1.4x less than white Arizonans (23.3 ICU per 100,000 people)

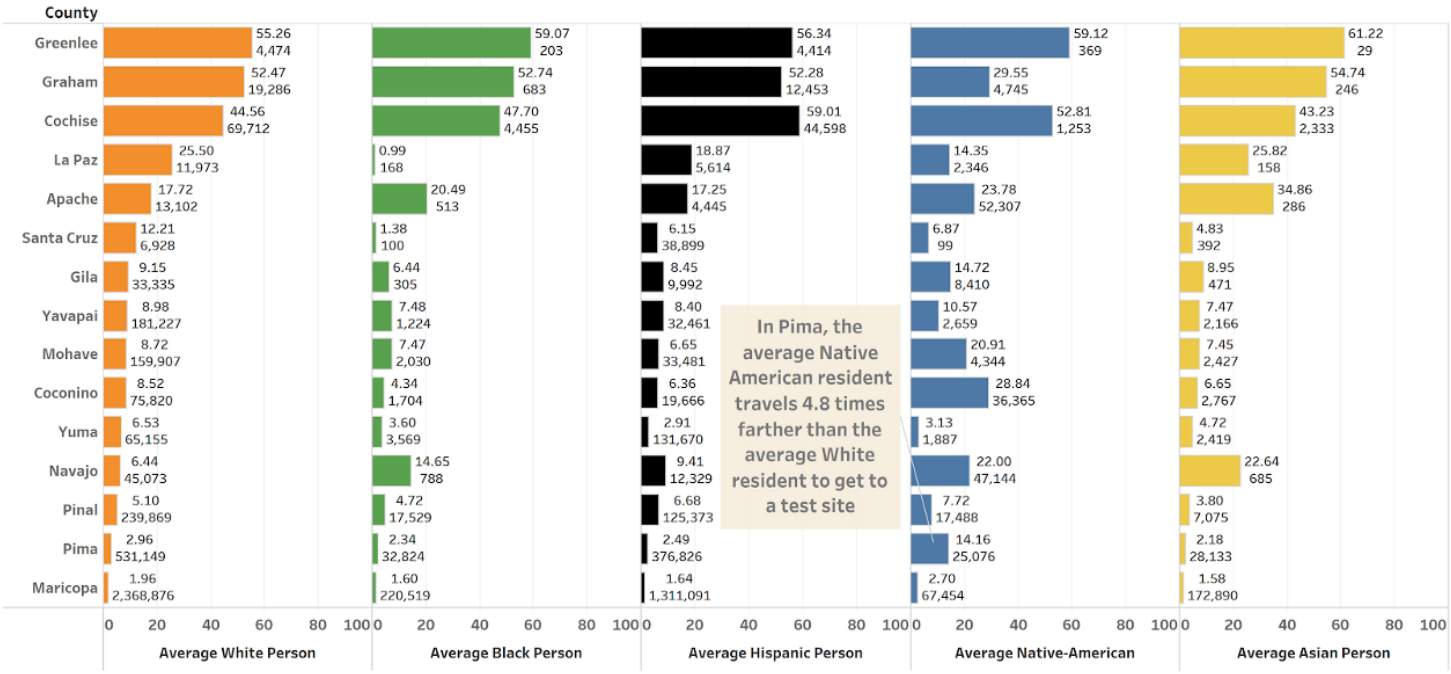
All of these structural indicators signal high vulnerability in the Native American communities, and point toward the reasons we are now seeing the outsized, devastating impacts of the pandemic.

### Vulnerable populations across the state need increased access to testing, a key containment strategy, to mitigate the future impact.

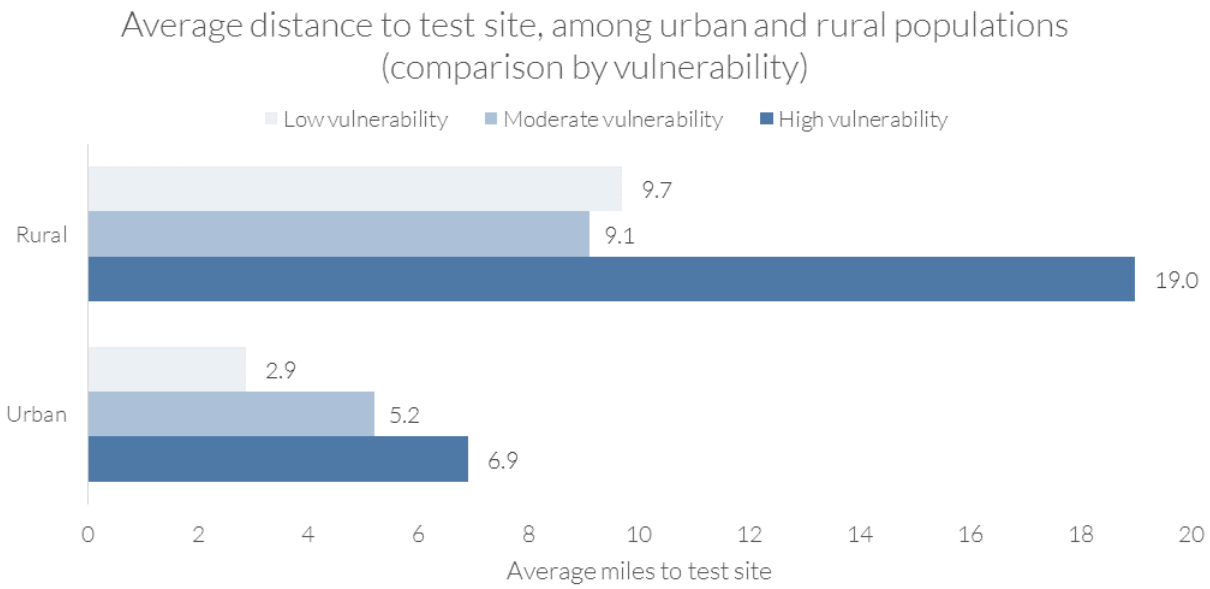
Enormous effort has gone into distributing testing to these hard-hit communities. In fact, Navajo County has the highest number of per capita test sites in the state, with nearly 12 test sites offering molecular/diagnostic testing[6] per 100,000 people, four times the rate of more populated, denser Maricopa County.

However, within Navajo County, Native Americans on average have to travel[7] more than three times further than white residents to get to a test site. This trend repeats itself in half of Arizona's counties, to even more dramatic results—in Pima County, for example, Native Americans travel nearly five times further than white residents to get to a test site (see callout in visual below).

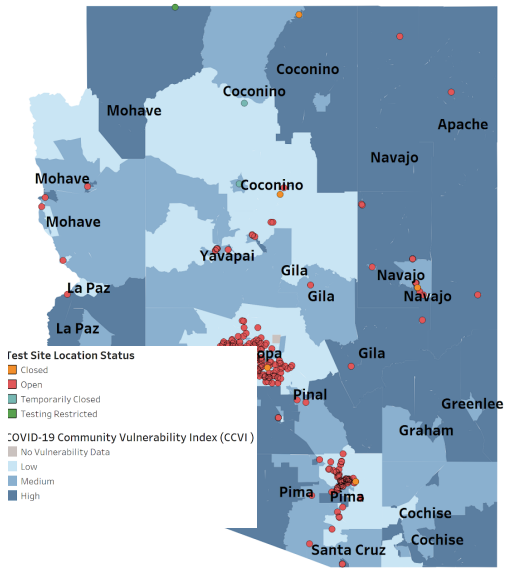
**Arizona: Average distance to closest open molecular testing sites (population weighted by race)**




Across the state and across racial groups, we find that highly vulnerable communities are expected to travel significantly further to get to a testing site. In urban Arizona, nearly two million people live in highly vulnerable census tracts and must travel 2.4x further than the three million people living in low-vulnerability areas. The same pattern exists in rural Arizona, where people in highly vulnerable areas must travel nearly twice as far to get to a test site (19 miles away, on average).



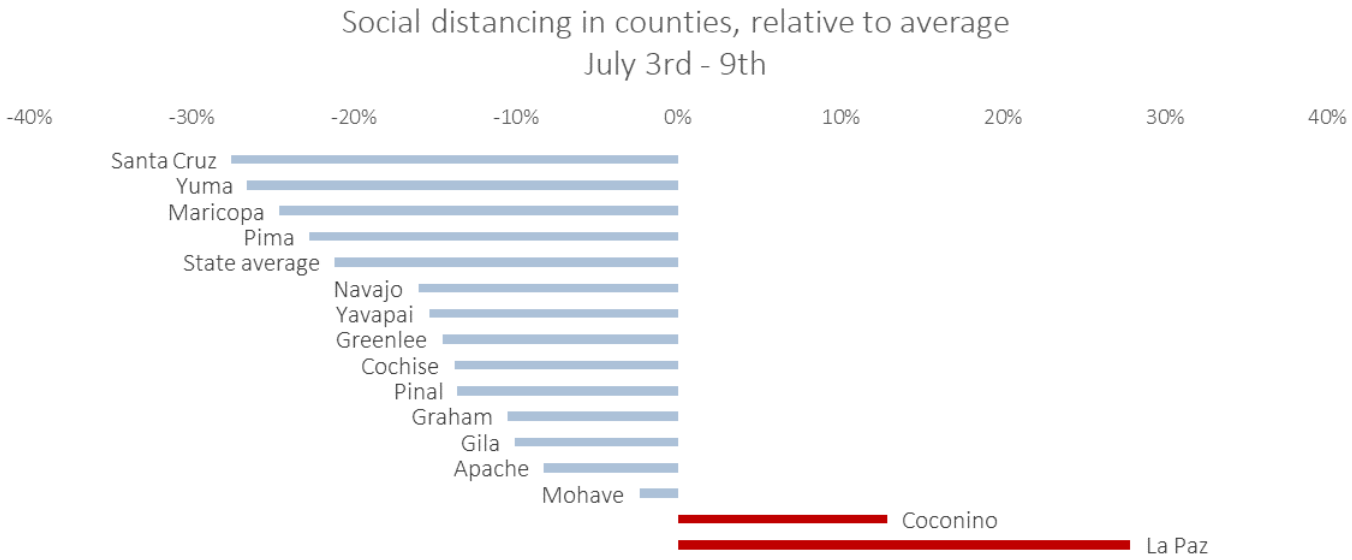

To slow the rapidly accelerating case growth in these communities, and the disproportionate impact both in mortality but also secondary factors such as economic, educational, and secondary healthcare, test site access for these communities must be prioritized and increased. The map to the right shows how test sites are clustered in urban areas, serving high proportions of the population but leaving millions of highly vulnerable people (in the dark blue regions) without convenient access to an open test location.



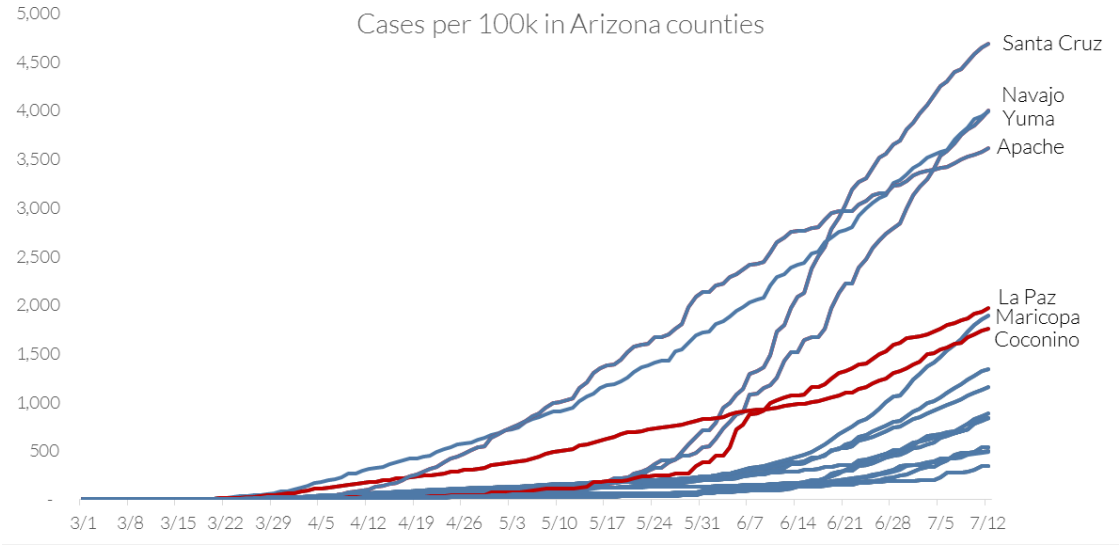

Notably, Coconino, a county which has sustained increasing case growth and is quickly rising to the top of the state in per-capita infection rates, has only one open test site for residents.

## Recent increases in social mobility may point toward the next hot spots for viral case growth.

As seen in the data above, two counties—La Paz and Coconino—are quickly emerging as new leaders in per capita infection rates. An analysis of recent social distancing data[8] may point to the underlying causes. In late June, La Paz and Coconino Counties led the state in mobility, registering 44% and 23% increases over pre-pandemic periods, respectively—meaning they are not only *not* social distancing, but there is evidence that people may be traveling around more than they otherwise would. By early July, the news of increased cases may have taken hold, as the numbers have fallen to 28% and 13% for La Paz and Coconino Counties, respectively.




This significant reduction in social distancing within these populations may be driving their rise in case growth:




**Taken together, this data illustrates a pandemic impact in Arizona that is multi-faceted, and will require a comprehensive approach.**

From the quickly growing case rates in border counties, to the ongoing crisis in Native American communities exacerbated by underlying vulnerabilities, to new emerging hot spots where increasing mobility may be driving viral growth, the impact of the COVID-19 pandemic in Arizona varies in ways that reflect the diversity and discrepancies across the state. Only by looking at the impact through the lens of multiple datasets can we see how individual communities need individualized responses.

Critically, this data highlights the need to prioritize vulnerable populations across the state, bringing the full breadth of our resources to a precise, targeted response in order to mitigate the impact before it claims more lives.

Questions, concerns, comments? Get in touch at covid19@surgofoundation.org.

## TECHNICAL NOTES:

All data are as of July 12, 2020. Case and death data are from the JHU Github repository, which tracks daily confirmed cases from February 24 onwards. Testing location data was compiled from GISCorps a testing repository maintained through validated, crowdsourced data. Social distancing analyses based on mobile data from Unacast's Data for Good Initiative.

### Endnotes:

1. COVID-19 case and death data for Arizona is taken from Johns Hopkins University's Coronavirus Resource Center, https://coronavirus.jhu.edu/us-map.
2. Surgo Foundation's CCVI includes minority status as a vulnerability theme. However, for the purposes of this analysis, that theme has been excluded to clarify the impacts of other structural vulnerabilities affecting these minority groups.
3. Deaths represented in the chart are only among those where race is known (85% of all deaths). Racial groups represented in state totals are limited to the four groups with documented COVID-19 deaths for comparative purposes (representing 94% of the state population)
4. The primary unit of analysis for all demographic and sub-county analysis in this report is the census tract.
5. https://www.cbsnews.com/news/coronavirus-navajo-nation-running-water-cbsn-originals/
6. This was calculated by dividing all the sites offering molecular/diagnostic testing by the county population, then multiplied by 100,000 to normalize. We exclude sites offering antibody testing and any sites with testing restrictions or closures. Testing location data was compiled from GISCorps, a testing repository maintained through validated, crowdsourced data.
7. Calculated as the county-level average of straight line distances from the center of each census tract to the closest site offering molecular/diagnostic testing, weighted by population of each race/ethnicity.
8. Near real-time social distancing data were gathered at the county level from Unacast's analysis of mobile phone location data. At the time of this writing, data were collected from over 2,500 mobile phone applications, from February 24 to July 9, 2020, inclusive. Social distancing is reflected as a percentage change in the distance travelled when compared to pre-pandemic averages. A negative number represents more social distancing, and a positive number represents less social distancing.