



**TWO YEARS OF COVID DEATHS IN ARIZONA:  
WHERE WE STAND IN EIGHT CHARTS**

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**AZPHA**

Arizona Public Health Association

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## Purpose:

March 16, 2022, marked a full two years since the first reported COVID-19 death in Arizona on March 17, 2020. During those two years, 28,547 Arizona residents have lost their lives due directly to COVID-19, while the total number of pandemic-related [excess deaths](#) now exceeds 38,000. This report provides a summary and graphical perspective of COVID-19 mortality in Arizona over the past two years in comparison to other states and the US. Specifically, this report addresses the following indicators of COVID mortality in Arizona over the past two years:

1. Cumulative COVID-19 mortality rates per 100,000 residents;
2. The percent increase in total all-cause deaths compared to pre-pandemic deaths;
3. COVID-19 deaths compared to pre-pandemic leading causes of death; and
4. The changes in life expectancy in 2020 compared to 2019.

## Methods:

Each of these mortality indicators has been previously documented and reported by AZPHA over the past two years. This report provides an update (and links) to those previous analyses. Readers are referred to those previous reports for more complete details (see References).

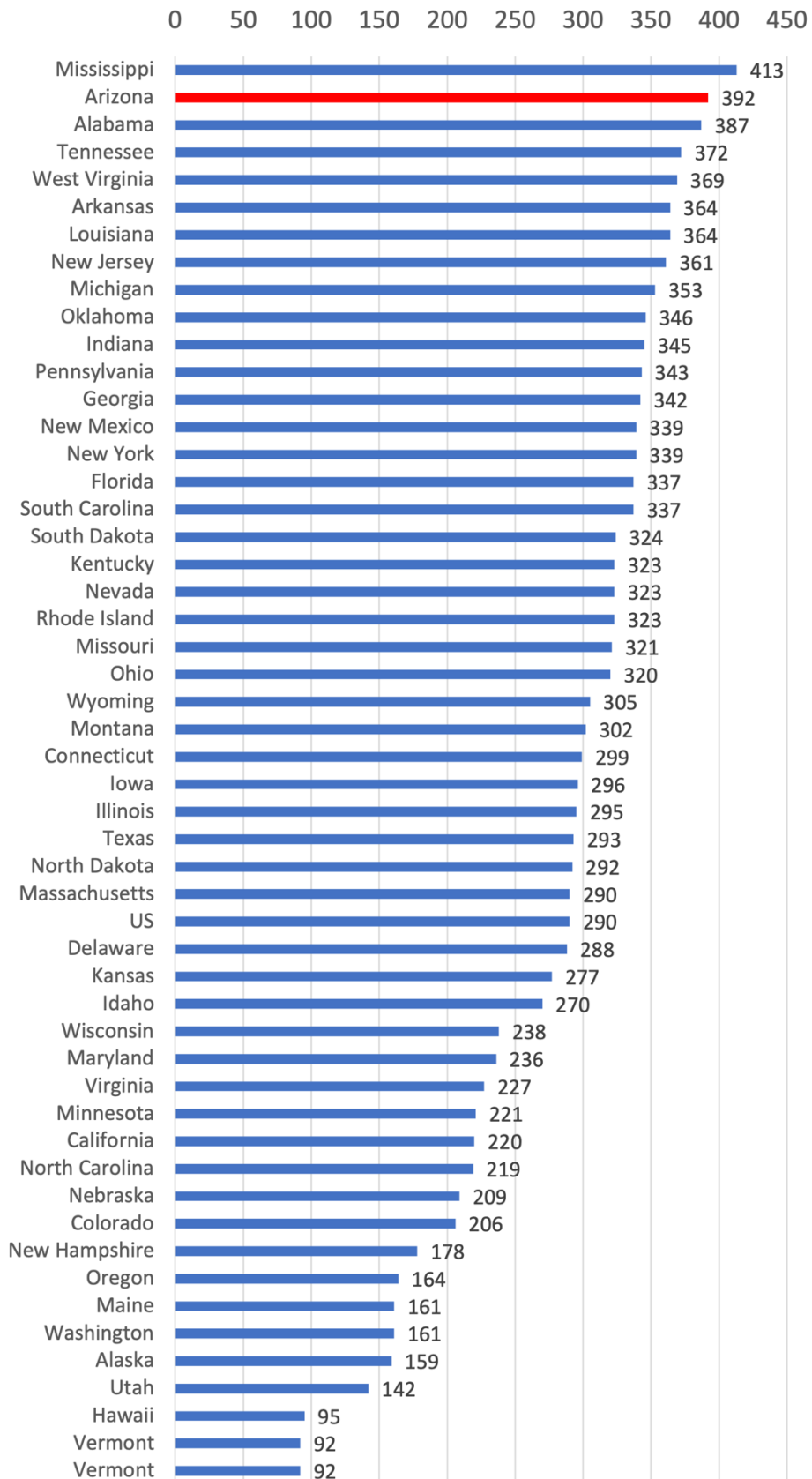
## FINDINGS:

### **1. Cumulative COVID Mortality Rates ([CDC Data Tracker](#))**

Over the course of the pandemic, Arizona has competed with just a handful of other states in terms of having the highest cumulative COVID-19 mortality rate. However, only Mississippi has exceeded Arizona's COVID-19 mortality rates during the whole course of the pandemic. States vary on when and how often they submit updated data to the CDC and comparisons at a given point in time may not reflect the most recent data from each state and may not be comparable.

However, since the start of 2022, Arizona has *most consistently* had the second highest COVID-19 mortality rate of all the states and is 35% higher than the US rate. **Figure 1** shows the overall Covid mortality rate per 100,000 for all 50 states.

Figure 1. Cumulative COVID Death Rates per 100,000 by State (CDC data as of 03/17/22)



## 2. Increased Overall Mortality Rates in 2020, 2021 (AzPHA report)

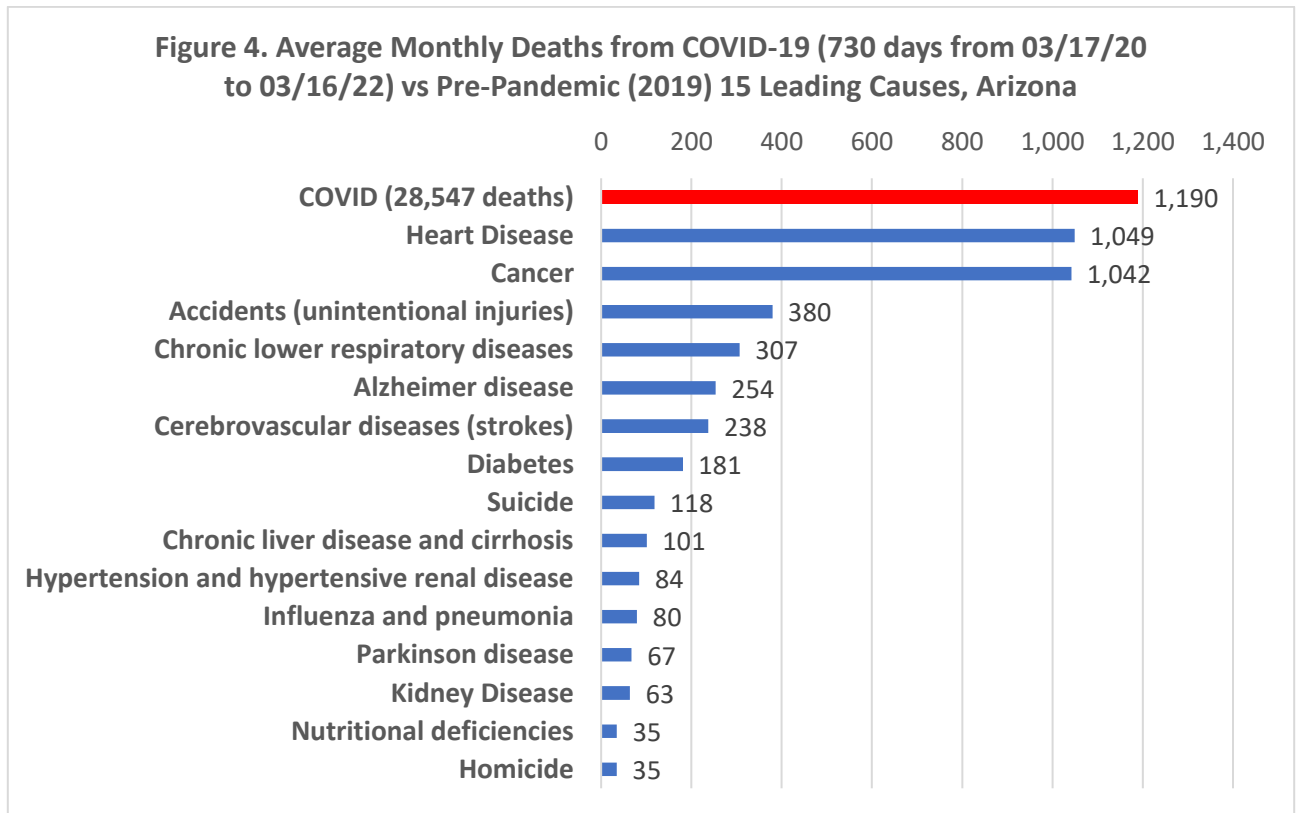
All states experienced an excess of deaths in 2020 and 2021 compared to the pre-pandemic (2017-19) average number of deaths. While most of the increased deaths were directly attributable to COVID-19 deaths (74% in the U.S., 58% in AZ), many other causes of death were also elevated during the pandemic, including heart disease, strokes, Alzheimer’s, diabetes, and other respiratory diseases. These other causes could represent misclassified COVID-19 deaths as well as deaths indirectly related to COVID-19 due to denied or delayed access to health care and over-burdened hospitals.

As shown in **Figures 2 and 3**, Arizona had the greatest percent of excess deaths of any state in both 2020 (29%) and 2021 (38%).



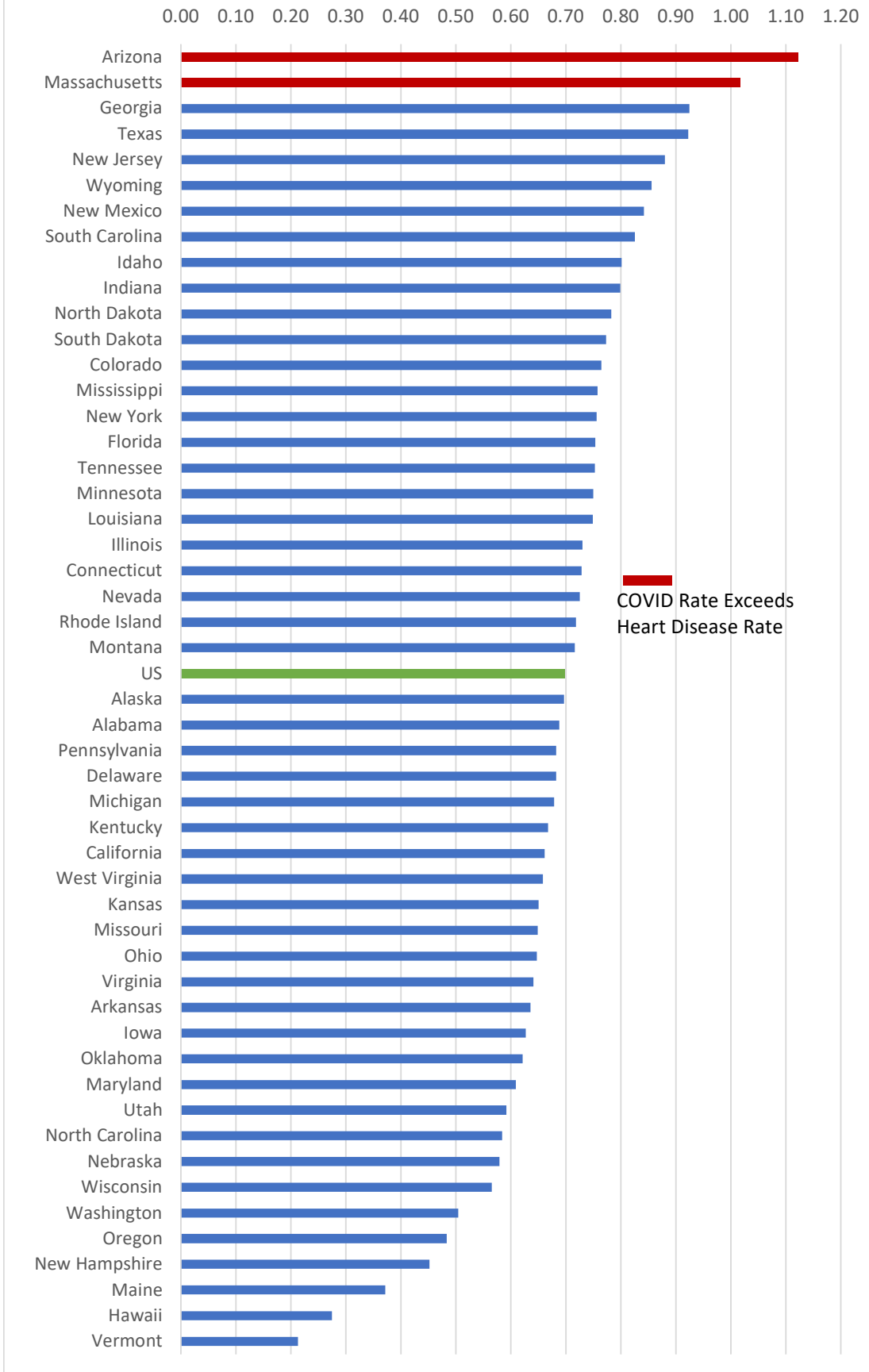
### 3. COVID-19 Deaths Compared to the Usual Leading Causes of Death ([AzPHA report](#))

While COVID-19 has become the third leading cause of death in the U.S., Arizona, COVID-19 deaths have surpassed both heart disease and cancer deaths. Figure 4 shows the average number of monthly deaths from COVID-19 vs the pre-pandemic 15 leading causes of death.

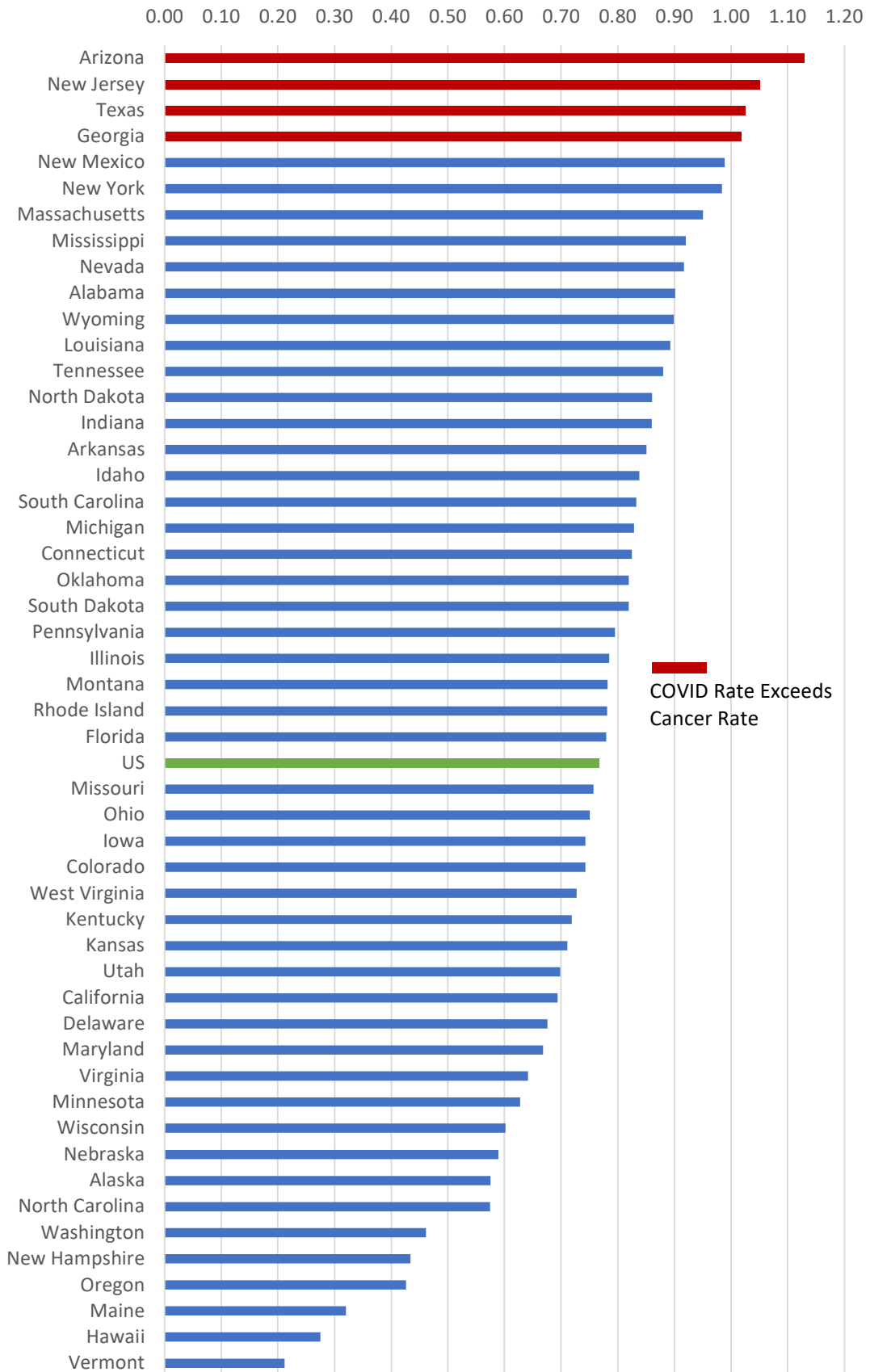


The two usual pre-pandemic leading causes of death in the US and in every state are heart disease and cancer. Arizona remains the only state in which COVID-19 has been the leading cause of death. In four other states – Georgia, Massachusetts, New Jersey, and Texas – COVID-19 was the second leading cause of death since the first death. **Figures 5 and 6** show the ratio of the annualized COVID-19 death rates compared to rates of heart disease and cancer. Ratios >1.0 indicate that the COVID-19 death rate exceeds the death rate for heart disease or cancer.

**Figure 5. Ratio of Annualized Rates of COVID-19 Deaths per 100,000 (as of 03/13/22) to Heart Disease Death Rates in 2019**



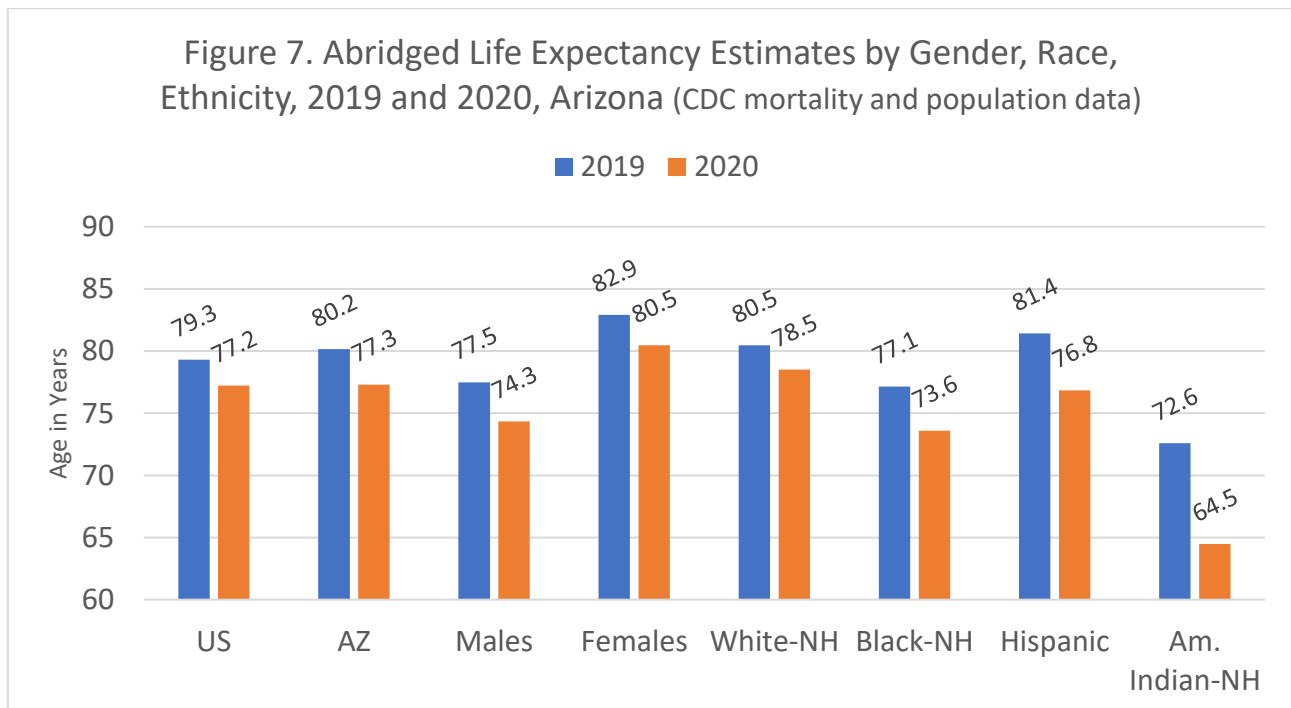
**Figure 6. Ratio of Annualized Rates of COVID-19 Deaths per 100,000  
(as of 03/13/22) to Cancer Rates in 2019**



#### 4. Declines in Life Expectancy in 2020 in Arizona ([AzPHA Report](#))

An abridged period life table approach was used to determine life expectancy in Arizona for the overall population, as well as by gender, race, and ethnicity for 2019 and 2020. Abridged life tables use fewer more [readily available](#) age categories, and give slightly higher estimates of life expectancy than complete life tables based on 100 single-year of age categories. For example, recent CDC analyses ([Arias et al, 2022](#), [Murphy et al, 2021](#)) indicated a life expectancy of 78.8 years in the US in 2019 while an abridged analysis indicated a life expectancy of 79.3 years.

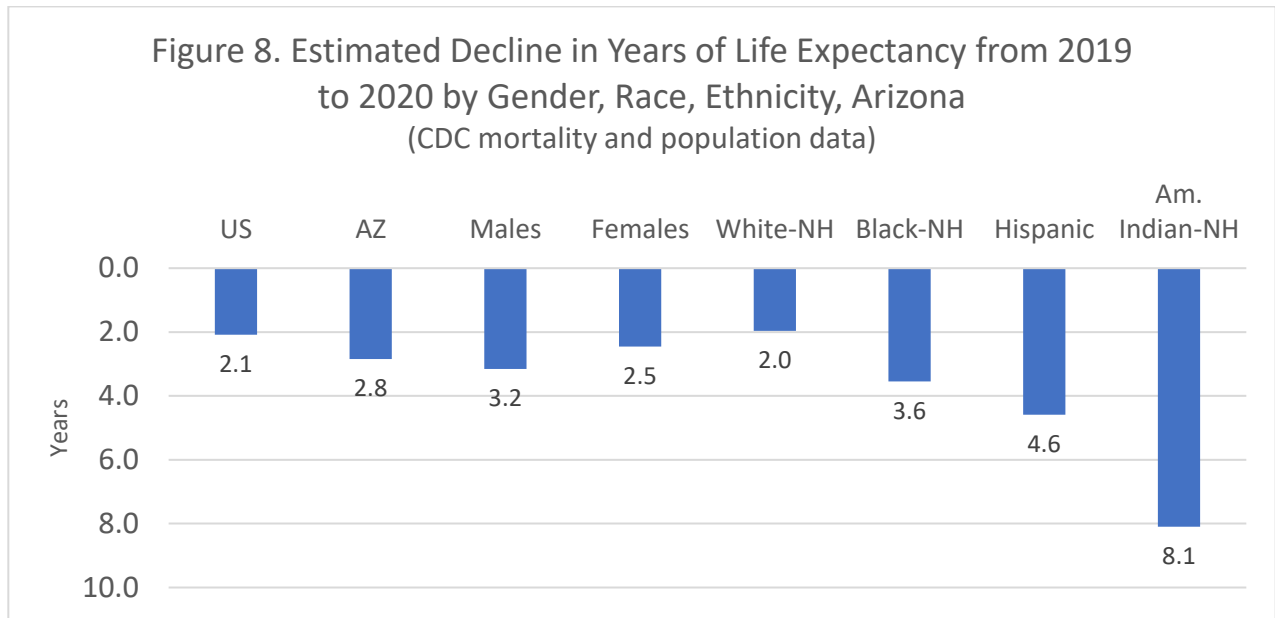
**Figure 7** shows the estimated average life expectancies from birth for 2019 and 2020 for the U.S. and for Arizona overall, as well as by gender, race, and ethnicity in Arizona. Life expectancy varied greatly by gender, race, and ethnicity, as well as by year. Females had a greater life expectancy than males in both years, while non-Hispanic American Indians had the lowest life expectancy in both 2019 (72.6 years) and 2020 (64.5 years).



**Figure 8** (below) shows the decline in life expectancy in 2020 compared to 2019 for each of the demographic categories. The largest declines were in American Indians (8.1 years) and Hispanics (4.6 years). Males had a larger decline than females (3.2 years vs 2.5 years). *For the overall population, the decline in life expectancy in Arizona was 2.8 years, exceeding the US decline of 2.1 years.*



Figure 8. Estimated Decline in Years of Life Expectancy from 2019 to 2020 by Gender, Race, Ethnicity, Arizona (CDC mortality and population data)



## CONCLUSION:

Our evidence review examines the epidemiology of death trends in the U.S. during the first 24 months of the COVID-19 pandemic. When looked at comprehensively, our review suggests that Arizona was the worst performing state in the U.S. in terms of preventing deaths from COVID-19 as evidenced by the fact that Arizona:

- Has the largest percent increase in all-cause mortality during the pandemic;
- Is the only state in which COVID-19 has been the leading cause of death during the pandemic; and
- Currently has the 2nd highest COVID-19 mortality rate in the U.S. averaged over the pandemic.

While the reasons for Arizona's poor performance are [multi-factorial](#), the strong link between pandemic-related death rates and public health policy decisions in Arizona, including prohibitions against proven effective interventions, suggest that a significant reason for Arizona's poor performance are the policy decisions made by the Governor and his appointed health directors during the first two years of the COVID-19 pandemic.

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