

# State of American Indian/Alaska Native Children and Families, Part 4:



## NICWA

National Indian Child Welfare Association  
Protecting Our Children • Preserving Our Culture

## Mortality Data

While a population’s health status can be examined using many types of factors (e.g., birth outcomes, life expectancy, specific disease burden and mortality, use and accessibility of health insurance coverage and health care, etc. (National Center for Health Statistics, 2016), life expectancy and mortality data are often used as bellwethers of overall population health because they “represent the cumulative effects of social and physical environmental factors, behavioral and genetic risk factors, and the level and quality of health care” of a population (U.S. Environmental Protection Agency, 2021).

### American Indian and Alaska Native Disparities in Life Expectancy

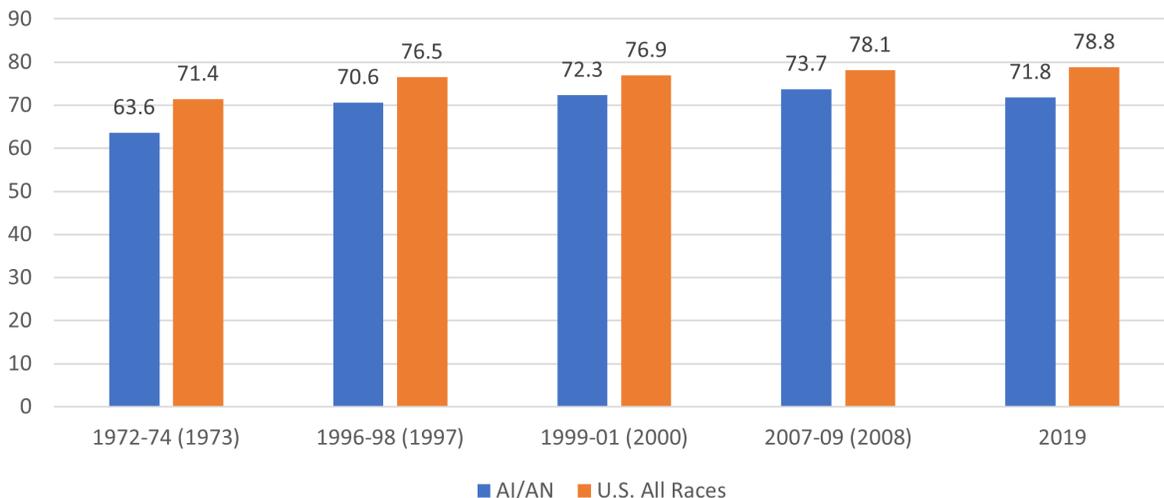
American Indian and Alaska Native (AI/AN) peoples have experienced persistent disparities in mortality outcomes.

Life expectancy at birth for AI/ANs for the three-year period of 1972–1974 was 63.6 years. This was seven years less than the U.S. all races life expectancy of 71.4 years for 1973. By 2007–2009, life expectancy increased to 73.7 years for AI/ANs (four years less than the U.S. all races life expectancy of 78.1 years for 2008) (Indian Health Service [IHS], 2014). In 2019, AI/AN life expectancy at birth was 71.8 years (Arias et al., 2021), while the U.S. all races life expectancy was 78.8 years (Kochanek et al., 2020), a disparity of seven years.

In 2019, the AI/AN population could expect to live 10.1 fewer years than the Hispanic population, seven fewer years than the White population, and three fewer years than the Black population (Arias et al., 2021).

**Figure 1**

*Life Expectancy at Birth for AI/AN and U.S. All Races Population for Selected Time Periods 1972—74 to 2019*



*Note:* Graph developed from data in *Indian Health Service: Trends in Indian Health*, 2014 Edition, by Indian Health Service, 2014; “Mortality Profile of the Non-Hispanic American Indian or Alaska Native Population, 2019,” by E. Arias, J. Xu, S. Curtin, B. Bastian, and B. Tejada-Vera, 2021, *National Vital Statistics Reports*, 70(12), pp. 1–27; and “Mortality in the United States, 2019,” by K. D. Kochanek, J. Q. Xu, and E. Arias, 2020, *NCHS Data Brief*, 395, pp. 1–8.

## American Indian and Alaska Native Disparities in Mortality Rates

Death (or mortality) rates represent a ratio of the number of deaths in a specified population (numerator) to its population size (denominator). Death rates are typically reported per 100,000 population for a specified period (such as a year), although infant deaths are sometimes reported per 1,000 live births. Because health concerns and risks vary considerably across the age span, mortality rates are often calculated for specific age ranges. An age-specific death rate is an expression of the deaths per 100,000 population in a specified age group, such as 1–4 or 35–44 years, for a specified period (Murphy et al., 2021).

When comparing relative mortality risks of a population overall (all ages) to other groups over time, an age-adjusted death rate is used. Age-adjusted death rates are used when comparing different populations because they remove effects that can occur when the populations being compared have different age ranges. The age-adjusted rates are a weighted average of age-specific death rates, where the weights represent fixed population proportions by age (Murphy et al., 2021).

### AI/AN Disparities in Mortality Rates, 2019

The age-adjusted death rate for AI/ANs was 1,036.7 (per 100,000) in 2019 (Arias et al., 2021). The AI/AN mortality rate reported by Arias et al. (2021) was 45% higher than the U.S. all races rate of 715.2 (Kochanek et al., 2020), as well as 40% higher than the non-Hispanic White population, 17% higher than the Black population, and 98% higher than the Hispanic population (Arias et al., 2021).

AI/ANs also had higher age-specific death rates than White, Black, and Hispanic populations at most ages. The largest differences were for age groups 1–4, 25–34, 35–44, and 45–54. For these ages (for both males and females), ratios of AI/AN age-specific death rates to those of the other three populations ranged from a low of 1.61 to a high of 4.01 (Arias et al., 2021).

For 2019, age-specific mortality rates among children showed:

- AI/AN infants (under 1 year old) have a death rate 57% higher (rate ratio of 1.57) than White peers and 49% higher than Hispanic peers (rate ratio of 1.49). However, death rates for AI/AN infants were 40% lower than those of Black infants (rate ratio of 0.60).
- AI/AN 1–4-year-olds die at rates greater than three times higher than White and Hispanic children of the same age (rate ratio of 3.19 and 3.56, respectively). Disparity with Black peers is lower, but the AI/AN death rate is still 61% higher than Black children (rate

ratio of 1.61).

- AI/AN 5–14-year-olds die at rates more than double those of White and Hispanic peers (rate ratio of 2.13 and 2.45, respectively). Disparity with Black youth is lower, but the AI/AN death rate is still 23% higher (rate ratio of 1.23) than Black youth (Arias et al., 2021).

In 2019, AI/AN children ages 1–14 years had higher age-specific death rates than Black, non-Hispanic White, and Hispanic children of the same ages. This pattern continues through late adolescence and into adulthood: in 2019, mortality rates for AI/ANs ages 15–54 were more than double those of Whites and Hispanics of the same age, and AI/ANs have higher age-specific death rates at ages 15–64 than non-Hispanic White, Black, and Hispanic populations. Thus AI/ANs experience higher age-specific death rates at most ages, especially younger ages (Arias et al., 2021).

In 2019, AI/ANs faced higher mortality for most of the top leading causes of death. Notably, approximately 15% of all AI/AN deaths were caused by traumatic events: unintentional injuries, suicides, and homicides (Arias et al., 2021). By comparison, these causes accounted for only 7.6% of deaths of non-Hispanic White persons in 2019 (Heron, 2021). Specifically, among AI/ANs of all ages:

- **Unintentional injuries** (accidents) were the third leading cause of death. The age-adjusted death rate for unintentional injuries for the AI/AN population was approximately twice the rate for White and Black persons (rate ratio of 1.95 and 2.04, respectively) and three times the rate for Hispanic persons (rate ratio of 3.06).
- **Suicide** was the eighth leading cause of AI/AN deaths. The age-adjusted death rate for suicide for the AI/AN population was more than three times the rate for Hispanic and Black persons (rate ratio of 4.01 and 3.85, respectively). While less stark a difference, the age-adjusted death rate for suicide was still 65% higher (rate ratio of 1.65) for AI/ANs than non-Hispanic Whites (Arias et al., 2021).
- **Assault** (homicide) was the 13th leading cause of death for AI/ANs of all ages (Arias et al., 2021). By comparison, homicide was the 20th leading cause of death for White persons (Heron, 2021). Homicide was the fifth leading cause of death for AI/AN males and the seventh leading cause of death for AI/AN females aged 1–54 years (Petrosky et al., 2021). When compared with the non-Hispanic White population, the death rate for homicide was five times higher for AI/AN persons (rate ratio of 5.00 [29.3 : 17.7]) and more than twice as high as Hispanics (rate ratio of 2.67) (Arias et al., 2021).

In 2019, AI/ANs experienced greater mortality from suicide and unintentional injuries than other racial and ethnic populations, and homicide rates among AI/ANs were

higher than for any group except Black persons (Arias et.al, 2021; Heron, 2021).

In addition, chronic liver disease and cirrhosis accounted for 5.2% of all AI/AN deaths in 2019, and were the fourth leading cause of death for the AI/AN population. The age-adjusted death rate for liver disease and cirrhosis among AI/ANs was approximately four times the rate for non-Hispanic Whites (rate ratio of 4.06 [49.7:11.9]) and more than three times the rate for Hispanic persons (rate ratio of 3.43 [49.7:14.6]). The age-adjusted death rate for liver disease for the AI/AN population was more than six times (rate ratio of 6.21 [49.7:7.7]) that for the Black population (Arias et al., 2021).

Thus, while AI/ANs experience greater all-cause mortality and higher mortality for most of the top leading causes of death, disparities in mortality are particularly apparent for chronic liver disease, suicide, and unintentional injuries. These causes, in addition to assault, accounted for approximately 20% of all AI/AN deaths in 2019.

### AI/AN Disparities in Mortality Rates in Recent Decades

Evidence suggests some of the disparities evident in 2019 have persisted or even worsened over time. An Indian Health Service (2014) comparison of the AI/AN age-adjusted mortality rate for years 1979–1981, at 1,216.7 per 100,000, was 1.3 times higher than the 2007–2009 three-year rate of 943.0. The AI/AN rate for 2007–2009 (943.0)

was only 22% greater than the comparable U.S. all races rate (774.9) for 2008. Further, comparison of 2007–2009 AI/AN death rates and 2008 U.S. all races mortality rates showed the following disparities:

- Unintentional injuries—AI/AN rate 141% greater;
- Motor vehicle crashes—AI/AN rate 207% greater;
- Poisoning—AI/AN rate 118% greater;
- Firearm injury—AI/AN rate 16% greater;
- Suicide—AI/AN rate 60% greater;
- Homicide—AI/AN rate 86% greater; and
- Chronic liver disease and cirrhosis—368% greater.

However, some mortality disparities, especially those related to infants and children, have shown improvement over time. Below, trends related to infant, child, and adult mortality are explored.

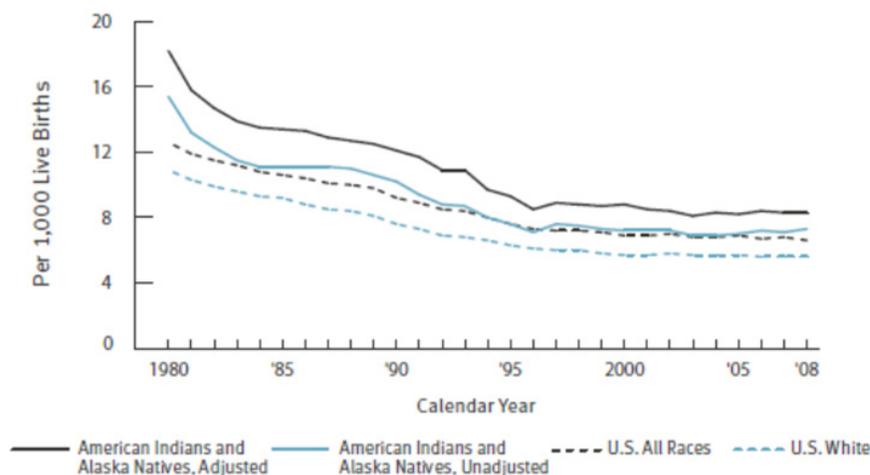
### Infant Mortality

According to the Indian Health Service (2014), the infant mortality rate for AI/AN dropped from 25.0 (rate per 1,000 live births) in 1972–1974 to 8.3 in 2007–2009, a decrease of 67%. The 2007–2009 rate was 26% higher than the U.S. all races rate of 6.6 for 2008.

Since 2008, the AI/AN infant mortality rate has remained relatively stable, although it has remained higher than the all-races rate and the rate for White infants. In 2018, the AI/AN infant mortality rate at 8.15 was 44% higher than the U.S. all races rate of 5.67. The AI/AN rate (8.15)

Figure 2

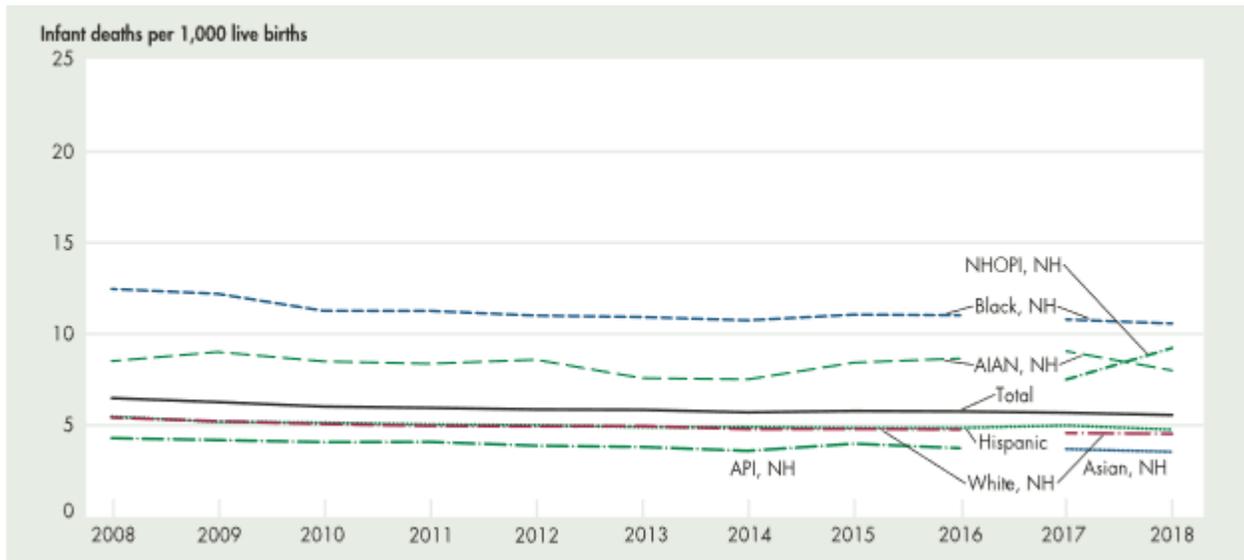
AI/AN, U.S. All Races, and White Infant Mortality, 1980—2008



Note: Adapted from *Indian Health Service: Trends in Indian Health*, 2014 Edition, by Indian Health Service, 2014.

**Figure 3**

*AI/AN, Black, Hispanic, White, NHPI, Asian, and U.S. All Races Infant Mortality, 2008—2018*



Note: Adapted from “Infant Mortality” by Federal Interagency Forum on Child and Family Statistics, 2021, *America’s Children: Key National Indicators of Well-Being, 2021*.

was less than non-Hispanic Black infants (10.75), and Native Hawaiian and other Pacific Islanders (9.39), but still considerably higher than Hispanic (4.86), non-Hispanic White (4.63), and Asian (3.63) infants (Ely & Driscoll, 2020).

The AI/AN infant mortality rate was 9.21 in 2017 and 8.15 in 2018 (Ely & Driscoll, 2020). The findings of Arias et al. (2021) suggest the AI/AN infant mortality rate was closer to 7.0 in 2019, while Kochanek et al. (2020) reported the U.S. all races infant mortality rate in 2019 (5.58) did not change significantly from the rate in 2018. These data suggest a downturn in AI/AN infant mortality over the last few years (of available data), as well as a decrease in disparity with the U.S. all races rate for 2019.

### Child Mortality

A comparison of child mortality rates for AI/AN and White children (ages birth through 18 years) for 1999 to 2009 by Wong et al. (2014) showed that for all child age groups (1–4 years old, 4–9 years old, 10–14 years old, and 15–19 years old), AI/AN children died at rates more than double White children (rate ratios ranged from 2.12 to 2.76). The leading cause of AI/AN pediatric death was unintentional injuries (across all age groups), with death rate ratios from 2.57 to 2.98 compared with White children. Motor vehicle crashes caused the greatest number of unintentional injury deaths for all ages, with death rates for AI/ANs two to four times higher than rates for White children. Rates for other leading pediatric causes of unintentional injury death,

including drowning, fire, poisoning, and firearm-related unintentional deaths, were also significantly higher for AI/AN children than White children.

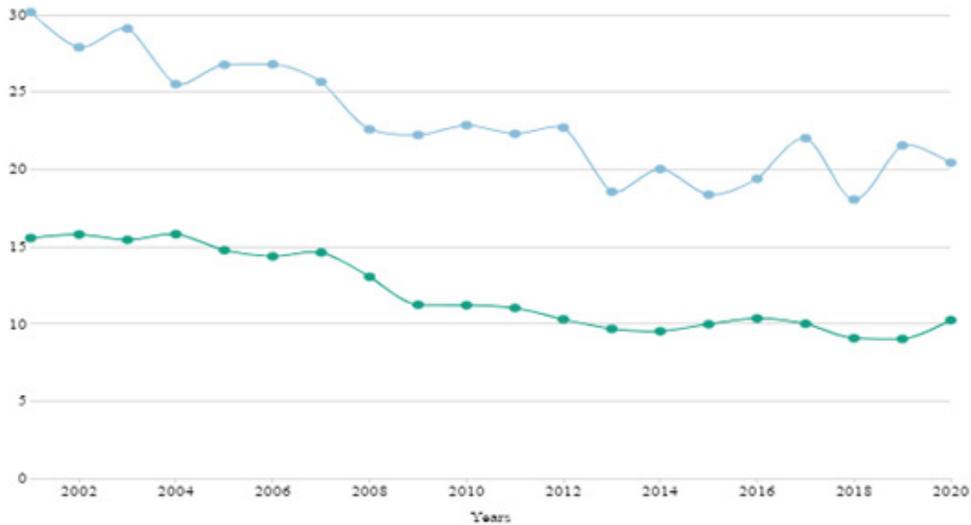
Data available from the National Vital Statistics System at the Centers for Disease Control and Prevention (CDC) (2022) show unintentional injury mortality among AI/AN children and youth (0–19 years of age) has declined overall between 2001–2020 (See Figure 4 on the next page). However, as the graph below illustrates, unintentional injury mortality among AI/AN children and youth has remained approximately double that of their White counterparts for the last 20 years.

The decline in unintentional injury deaths since 2001 is primarily driven by decreases among the eldest youth (age 15–19) (see Figure 5 on the next page); rates among this age group were above 60 from 2001–2003, but have not risen above 45.92 since 2011. In addition, unintentional injury deaths among 10–14 year olds also decreased, from a high of 17.36 in 2001 to rates at or below 10.21 from 2011–2020 (CDC, 2022).

Mortality among AI/AN children ages 0–19 years due to motor vehicle accidents declined precipitously between 2001 and 2020, with age-adjusted death rates falling from a high of 21.03 in 2001 to a low of 9.85 in 2020. Further, rates for AI/AN children have remained below 12.31 since 2012. However, due to similar declines among White children, motor vehicle injury mortality among AI/AN children and youth has remained approximately double that of their

**Figure 4**

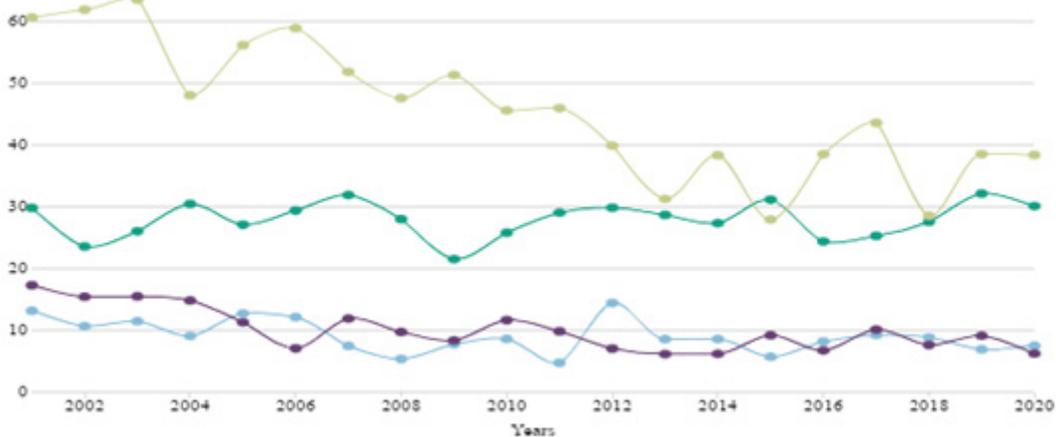
*Unintentional Injury Mortality, AI/AN and White Children Ages 0–19 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

**Figure 5**

*Unintentional Injury Mortality, AI/AN Children Ages 0–4 Years, 5–9 Years, 10–14 Years, and 15–19 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

White counterparts for the last 20 years (see Appendix, Graph A.1) (CDC, 2022).

Unfortunately, while unintentional injury mortality among AI/AN children and youth (0–19 years of age) has been on the decline, fatal injury mortality (which includes unintentional injury as well as violence-related deaths) follows another pattern. After trending downward for most years from 2001–2013, fatal injury mortality for AI/AN children and youth began trending upward starting in 2014. As Figure 6 below illustrates, fatal injury mortality among AI/AN children and youth has remained approximately double that of their White counterparts for the last 20 years (CDC, 2022).

The increase in fatal injury mortality since 2013 was primarily driven by violence-related deaths. Violence-related deaths include homicide, legal intervention deaths, and suicide. Legal intervention deaths occur when a person is killed as a result of injuries inflicted by a law enforcement officer or another person with legal authority to use deadly force. Mortality among AI/AN children and youth for violence-related deaths has remained more than double that of their White counterparts for the last 20 years (see Appendix, Graph A.2). Violence-related deaths of AI/AN children and youth (0–19 years) between 2001–2020 reached a low in 2007, with AI/ANs having an age-adjusted death rate of 9.91. The same year, the death rate for White peers was 3.77 (AI/AN: White rate ratio of 2.63). Violence-related deaths between 2001–2020 peaked in

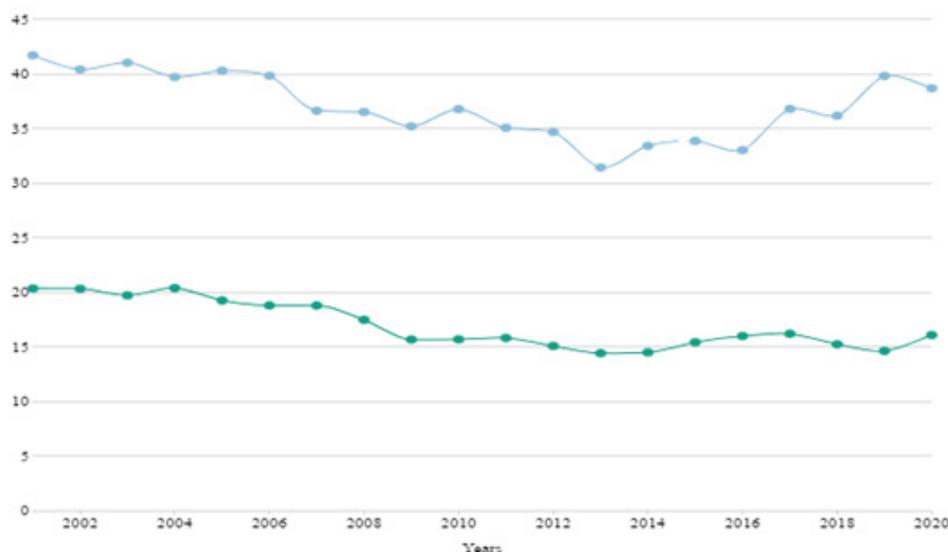
2018 for both AI/AN and White 0–19-year-olds, with AI/ANs having a death rate of 17.64 and Whites a death rate of 5.74 (rate ratio = 3.07). For 2020, AI/AN children ages 0–19 years died of violence-related injuries at rates 3.1 times higher than White counterparts (16.84:5.40) (CDC, 2022).

For homicide and legal intervention specifically, mortality among AI/AN children and youth has remained at least 2.5 times higher than White counterparts for the last 20 years (see Appendix, Graph A.3). The age adjusted death rate AI/AN children ages 0–19 years increased 42% between 2017 and 2020, perhaps marking an upward trend. For 2020, AI/AN children ages 0–19 years were killed by homicide and legal intervention at rates 3.4 times higher than White children (5.57:1.64) (CDC, 2022).

With regard to suicide, data show mortality among AI/AN youth (10–19 years of age) has been trending upwards since 2001. Self-inflicted injury deaths of AI/AN youth between 2001–2020 reached a low in 2002, with AI/ANs having an age-adjusted death rate of 9.98 per 100,000. The rate in 2020 (22.01) was more than double the 2002 low and represented a 220% increase. For White youth, the rate in 2020 (7.41) was 50% higher than the rate in 2002 (4.95). Suicide mortality among AI/AN youth (10–19 years) has remained at least double that of their White counterparts for the last 20 years. Most recently (2018–2020), AI/AN youth self-inflicted injury mortality rates have been at least triple those of White youth (CDC, 2022).

**Figure 6**

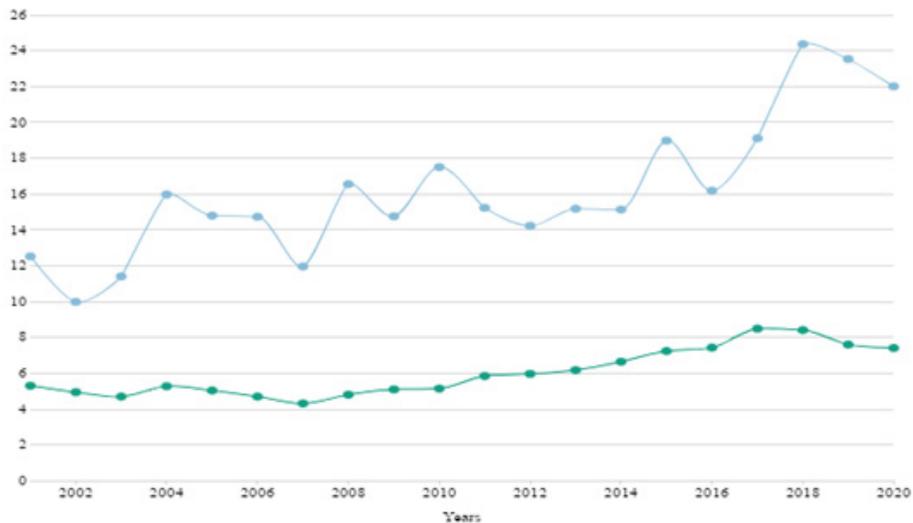
*All Fatal Injury Mortality, AI/AN Children Ages 0–19 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

**Figure 7**

*Suicide Mortality, AI/AN and White Children Ages 10–19 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

Notably, the recent decline in self-inflicted injury deaths for AI/AN youth from 2018–2020 are driven by decreases among AI/AN girls; rates for boys remained stable (29.45, 30.64, and 30.46 for 2020) (see Appendix, Figure A4) (CDC, 2022).

For the years 2015–2020, the national suicide rate among AI/AN youth (10–19 years) averaged between 16.19 and 24.36 per 100,000. During the 2015–2020 period, South Dakota had the highest rate (93.9), followed by Alaska (61.6). Montana, Minnesota, and Utah all had rates above 30 per 100,000. North Dakota, Colorado, and Arizona also had rates above the national average (rates above 25 per 100,000) for 2015–2020. In the preceding period of 2010–2014, South Dakota had the highest rate (44.7), followed by Montana (41.3), Minnesota (40.2), Alaska (40.1), North Dakota (39.2), Arizona (24.1), and Washington (23.7) (CDC, 2022). These data demonstrate that there is variability both over time and by region for suicide rates. Novins et al. (1999) suggest the dynamics underlying suicidal ideation among AI/AN youth vary significantly with the cultural contexts of their tribes.

### Adult Mortality

Unfortunately, data available from the National Vital Statistics System at the Centers for Disease Control and Prevention (CDC, 2022) show suicide mortality among AI/AN adults (20–54 years of age) has been increasing overall since 2001. For AI/AN adults age 20–54 years, the

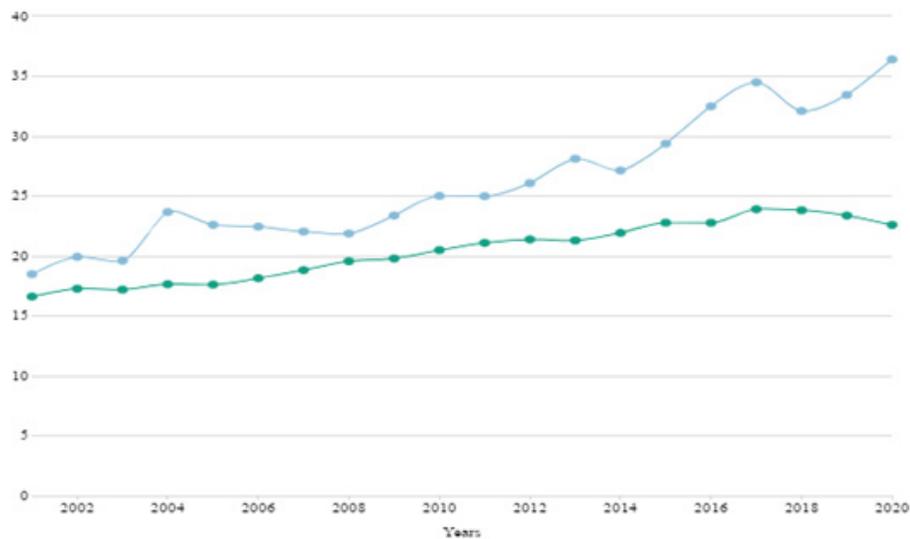
death rate from self-inflicted injury nearly doubled between 2001–2020 (18.5–36.4), rising 97%. By comparison, the White rate in 2020 (22.6) was 36% higher than the rate in 2001 (and 44% higher at its peak, 23.9, in 2017). In 2020, AI/AN adults (20–54 years of age) were 61% more likely to die from suicide than their White counterparts (CDC, 2022).

While the national self-inflicted injury rates among AI/AN adults (20–54 years) have averaged between 29.4 and 36.4 per 100,000 for the years 2015–2020, suicide mortality rates were much higher in some states around the U.S. During the 2015–2020 period, Alaska had the highest rate (81.2), followed by Idaho (71.3) and South Dakota (70). Montana, Minnesota, and Utah all had rates above 50 per 100,000. North Dakota, Colorado, New Mexico, Wyoming, and Arizona also had rates above the national average (rates above 40 per 100,000) for 2015–2020. In the preceding period of 2010–2014, Alaska had the highest rate (65), followed by Nevada (47.1), Wyoming (46.8), South Dakota (43.6), Montana (41.8), and Idaho (40.5) (CDC, 2022).

Data available from the National Vital Statistics System at the Centers for Disease Control and Prevention (CDC, 2022) show unintentional drug overdose deaths among AI/AN adults aged 20–59 increased steadily between 2001–2020. While there was little difference in overdose mortality rates between AI/ANs and Whites from 2001–2018, disparate outcomes for AI/ANs emerged in 2019 and continued to increase in 2020. The age adjusted

**Figure 8**

*Suicide Mortality, AI/AN and White Adults Ages 20–54 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

overdose death rate in 2019 for AI/ANs aged 20–59 years was 49.8, while it was 43.2 for White peers. In 2020, the AI/AN overdose mortality rate for this age group grew to 71.2, while the White rate was 54.9 per 100,000.

Overdose mortality rates were higher among AI/AN men than women for the 2001–2020 period, but both sexes experienced a sharp increase in mortality from 2019–2020.

While the average AI/AN unintentional drug overdose death rate nationally among AI/AN adults (20–59 years) was 47.52 per 100,000 for the years 2015–2020, the corresponding local rates were much higher in some states around the U.S. During the 2015–2020 period, Minnesota had the highest rate (166.4), followed by Maine (127.3), Wisconsin and Massachusetts (93.5, 93.4 respectively), Washington (85.5), and Michigan (71). North Carolina, Utah, North Dakota, Wyoming, Maryland, California, and Alaska all had rates above the national average (rates above 47.52 per 100,000) for 2015–2020.

## Discussion

AI/AN mortality rate changes over time suggest improvements in individual level health and safety behaviors (e.g., seatbelt use among teens) have resulted in lower mortality rates for some causes of death. In areas such as infant mortality, disparities appear to be narrowing. However, relative inequalities in AI/AN mortality remain for most indicators, with higher risk of premature

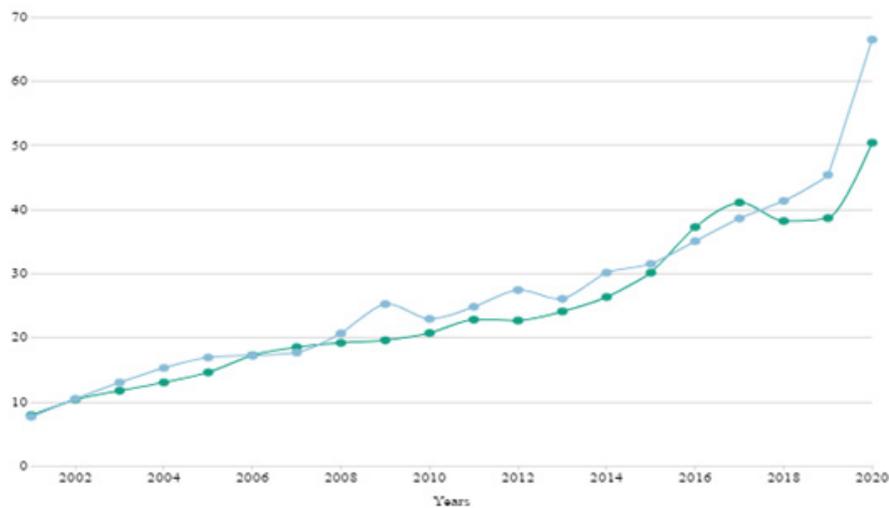
death among AI/ANs persisting (especially in comparison with the White population) over time. It is troubling that violence-related deaths among children are increasing, as well as mortality related to suicide and behavioral health concerns among adults. With higher rates of early, sudden, and violent deaths among both children and adults in AI/AN communities, AI/AN people experience traumatic losses and bear witness to painful experiences of friends, extended family, and other people known to them in their communities (Sarche & Spicer, 2008).

It should be noted that most of the data presented here is national in scope, so likely obscures geographic and community-level differences. The variation in self-inflicted injury mortality between states demonstrates this to some extent. However, even state-level data may not be representative across all communities in a state. Census population estimates also present challenges to the reliable calculation of mortality statistics for the AI/AN population. In addition to concerns about the accuracy of census counts, especially on tribal lands, determining who is considered AI/AN in a given context can be an issue for debate. AI/AN identity has political, cultural, and racial components, and may be defined differentially for any given analysis. There was no universal standard for defining AI/AN applied to the data sources reviewed and included in this brief.

The greatest concern with regard to AI/AN mortality data relates to misclassification of AI/ANs on death certificates. Numerous studies have found that when people determine

**Figure 9**

*Unintentional Drug Poisoning (Overdose) Mortality, AI/AN and White Adults Ages 20–59 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

the race or ethnicity for another in data records, race is often misclassified (Polubriaginof et al., 2019; Villegas et al., 2016). Death certificate data completed by funeral directors and entered into the National Vital Statistics System (NVSS) is no exception. Misclassification on death certificates has been shown to be especially common for AI/AN people (Arias et al., 2021; Espey et al., 2014). For example, Arias et al. (2016) found that during three time periods, 1979–1989, 1990–1998, and 1999–2011, only 51–55% of AI/AN decedents who self-identified as AI/AN in census records were correctly identified on their death certificates. However, census record and death certificate race matched nearly 100% for both the White and Black populations in the three decades studied. Further complicating the issue of misclassification among AI/ANs is a study linking Indian Health Service patient registration records with NVSS mortality data for years 1990–2009. The study found racial misclassification resulted in significant underestimates of all-cause death rates, but AI/ANs were misclassified less often in counties with high concentrations of AI/AN peoples versus areas with lower concentrations of AI/ANs (Espey et al., 2014; Jim et al., 2014).

In general, research indicates that at the national level, 30% or more of individuals who self-identify as non-Hispanic AI/AN are routinely misclassified to a different race/ethnicity (Arias et al., 2021; Espey et al., 2014). This means that most mortality data reported for AI/AN populations represent significant undercounts. Arias et

al. (2021) highlight their study of the 2019 AI/AN mortality data found 34% of self-identified non-Hispanic AI/ANs were classified as a different race on their death certificate (28% were misclassified as White). A key reason the all-cause mortality data for 2019 reported by Arias et al. (2021) are highlighted in this report, in lieu of other data (such as the most recent CDC data in WISQARS, or AI/AN data included by Heron, 2021), is that Arias et al. (2021) adjusted for misclassification. Arias et al. (2021) linked 2010 decennial census data with National Vital Statistics System mortality data to produce adjustment factors.

Most mortality data presented by mainstream sources with AI/AN populations included as a racial group will not have been adjusted (unless researchers indicate otherwise). The Web-based Injury Statistics Query and Reporting System (WISQARS) used to produce the 2001–2020 trend data in this report (CDC, 2022) does not specify they have been adjusted for racial/ethnic misclassification, so may represent undercounts of true prevalence, especially the most recent data.

Finally, mortality data usually come with a time lag. Due to the time needed to investigate certain causes of death and to process and review death data, final annual mortality data for a given year are typically released 11 months after the end of a calendar year (Ahmad et al., 2022). With the need to adjust for racial misclassification, the delay for accurate data related to AI/AN people is even longer. The data reviewed here were the best available as

**Table 1***Provisional Number and Rate of COVID-19-Related Deaths by Race/Ethnicity: National Vital Statistics System, United States, 2020–2021*

Race/Ethnicity	2020		2021	
	Deaths involving COVID-19	Age Adjusted Death Rate	Deaths Involving COVID-19	Age Adjusted Death Rate
AI/AN	4,615	190.8	5,027	198.5
Black	61,401	154.8	61,626	146.8
Native Hawaiian Other Pacific Islander	691	123.5	1,170	199.8
White	232,555	74.1	303,595	100.6
Asian	13,523	67.2	13,587	64.0
Hispanic	69,069	164.8	72,685	157.8
Multiracial, non-Hispanic	1,141	31.9	2,003	49.8

Note: Adapted from “Provisional Mortality Data—United States, 2021,” by F. B. Ahmad, J. A. Cisewski, and R. N. Anderson, 2021, *Morbidity and Mortality Weekly Report*, 71(17), pp. 597–600.

of this writing. Arais et al. (2021) present the most recent all-cause mortality data available for AI/ANs that ensured adjustment for racial misclassification, and the highest year included in the WISQARS trend data (CDC, 2022) at present is 2020.

The true impacts of the COVID-19 pandemic on AI/AN all-cause mortality remain to be seen.

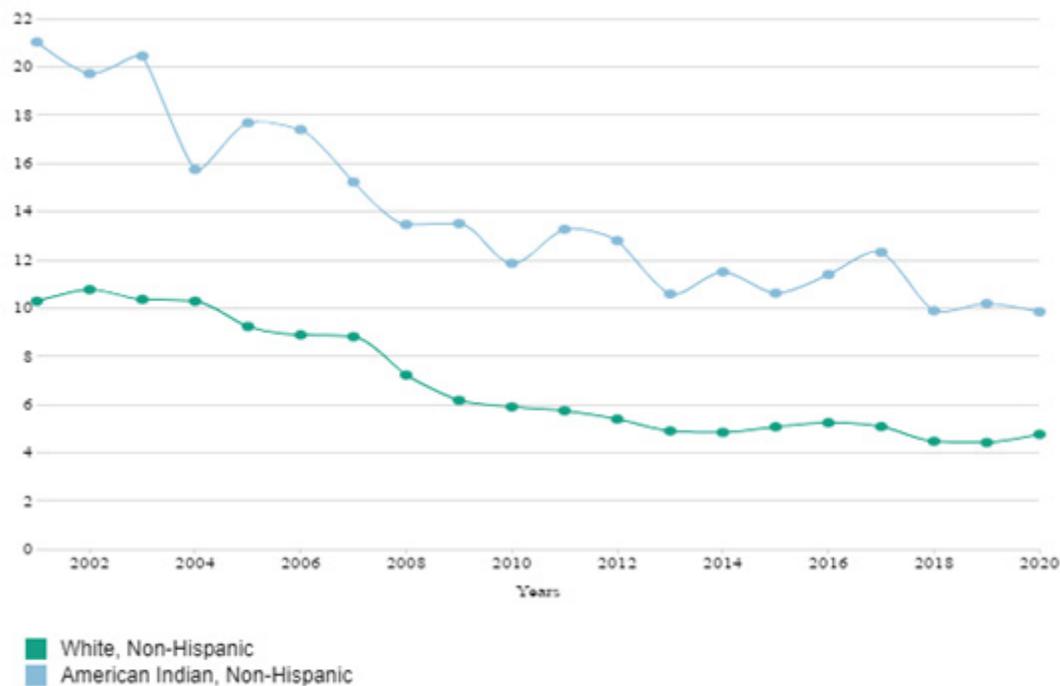
This means that impacts of the COVID-19 pandemic on AI/AN mortality data were not discussed here. Preliminary data released by the CDC in April 2022 (Ahmad et al., 2022) indicates that AI/ANs had the highest age-adjusted death rate of any racial or ethnic group for COVID-19 related deaths in 2020, and close to the highest rate in 2021 (the highest rate, 199.8, was among Native Hawaiians and other Pacific Islanders; AI/ANs were a close second with 198.5). In addition, a study published in the journal *Pediatrics* noted that AI/AN children experienced a significantly higher rate of caregiver death during the COVID-19 pandemic compared with non-Hispanic White children (Hills et al., 2021).

These data also do not give information about attendant impacts on mortality that may occur with the pandemic, although clues already seem evident. For example, Ahmad et al. (2022) note that 2021 saw the highest death rate since 2003, with increases in many leading causes of death, including unintentional injuries. Ahmad et al. (2022) note these data are provisional, and therefore incomplete.

# Appendix

**Figure A1**

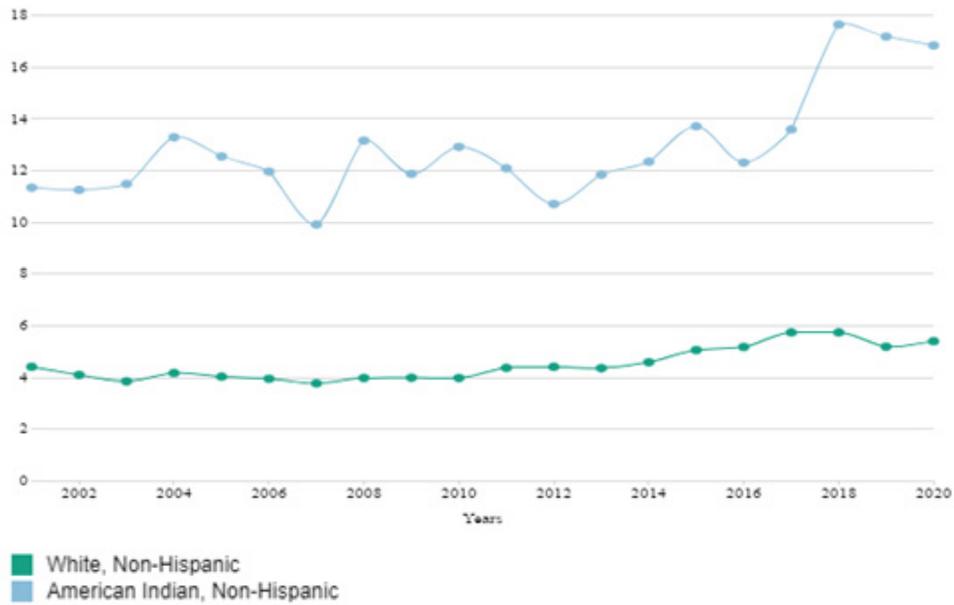
*Unintentional Motor Vehicle Mortality, AI/AN and White Children Ages 0–19 Years, 2001–2020*



*Note:* This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

**Figure A2**

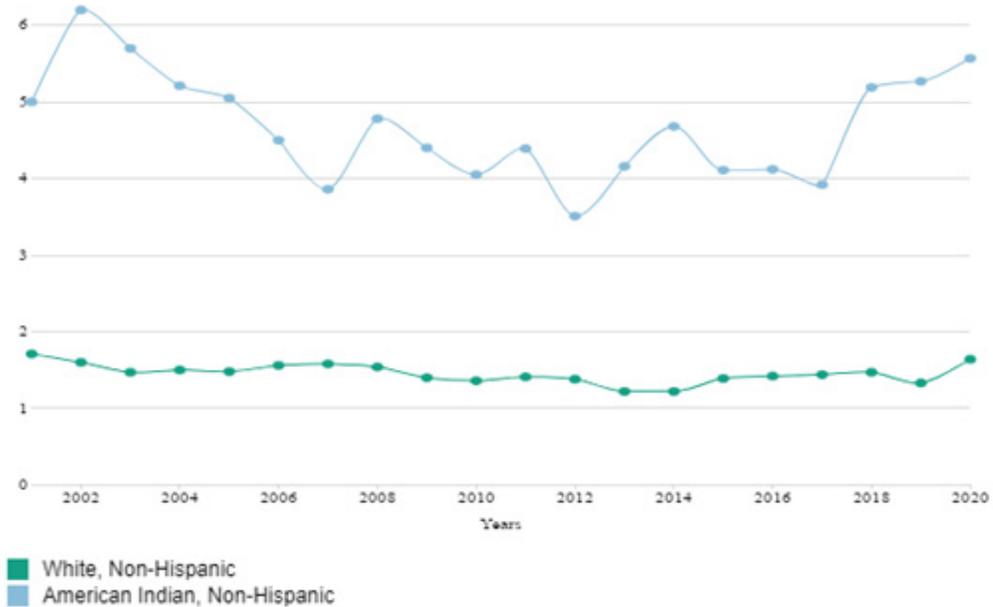
*Violence-Related Injury Mortality, AI/AN Children Ages 0–19 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

**Figure A3**

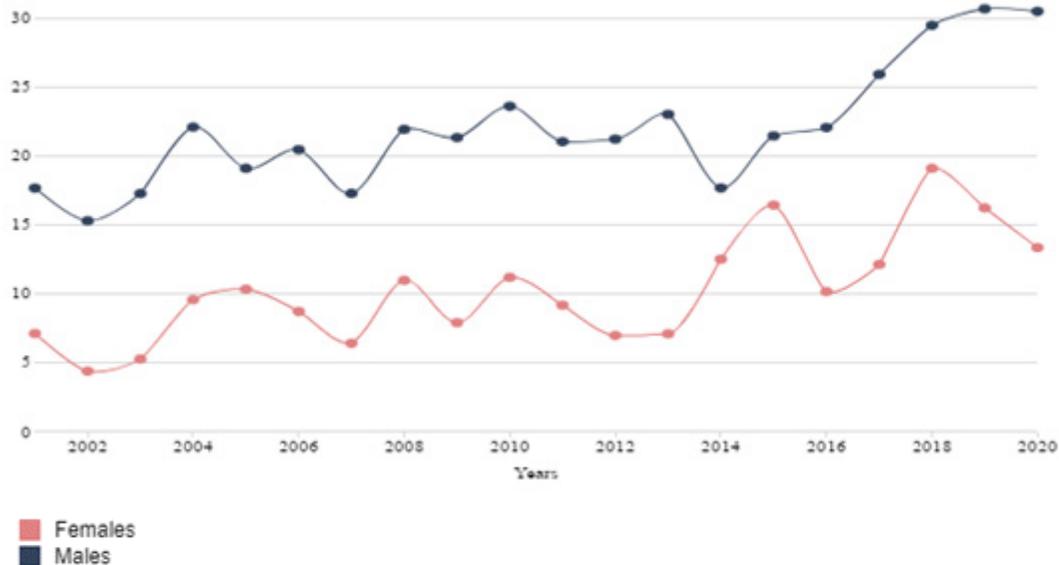
*Homicide and Legal Intervention Mortality, AI/AN and White Children Ages 0–19 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

**Figure A4**

*Self-Inflicted Injury Mortality, AI/AN Male and Female Youth Ages 0–19 Years, 2001–2020*



Note: This graph includes age-adjusted death rates per 100,000. Adapted from *Web-Based Injury Statistics Query and Reporting System, National Vital Statistics System, Explore Fatal Injury Data Visualization Tool, Trends*, by Centers for Disease Control and Prevention, 2022.

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