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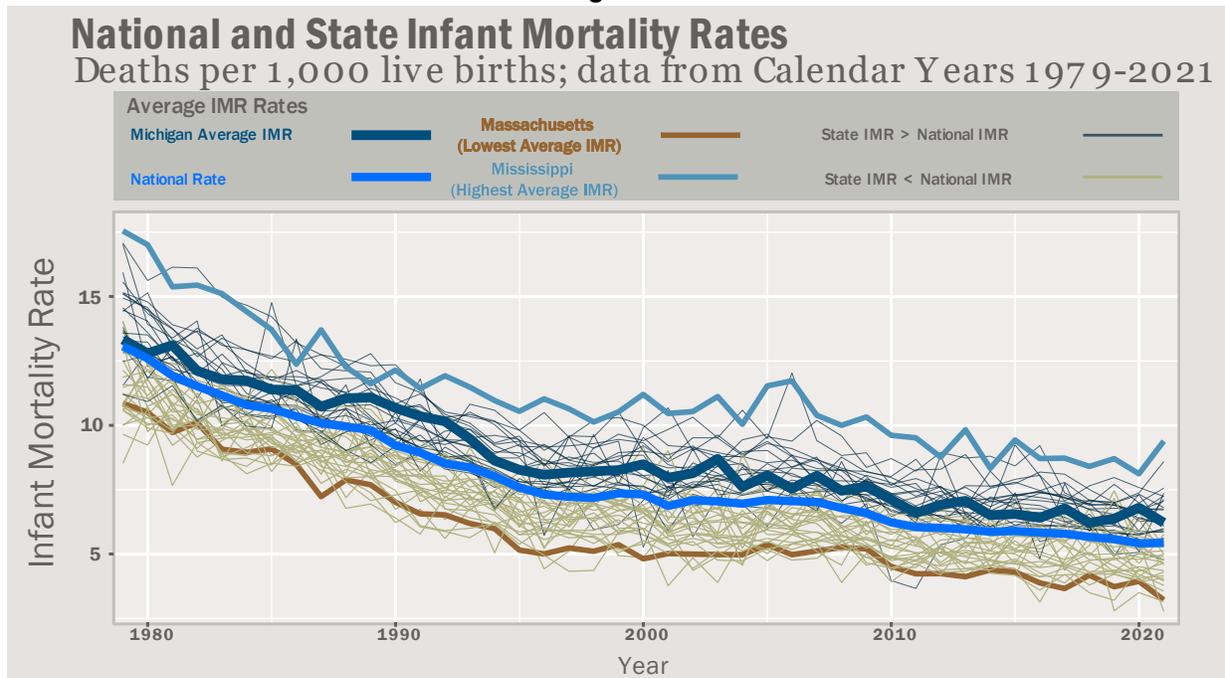
Recent Trends in Sudden Unexpected Infant Deaths: Michigan

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## Infant Mortality, Infant Mortality Rate, and Sudden and Unexpected Infant Deaths

Infant mortality refers to the death of an infant before the first birthday and the infant mortality rate (IMR) records these deaths per 1,000 live births. Sudden and unexpected infant death (SUID) is a category of infant mortality in which the cause is not immediately apparent. Sudden and unexpected infant death-related mortality (SUID-M) includes sudden infant death syndrome (SIDS), accidental suffocation and strangulation in bed (ASSB), and other ill-defined causes of mortality (OIU).<sup>1</sup> From 1979 to 2021, Michigan's average IMR was 8.86 deaths per 1,000 births (40th among the 50 states), compared to the national average of 7.94. As shown in [Figure 1](#), Michigan's IMR has closely followed the national trend, averaging about 12% higher over the 43-year period.

Figure 1



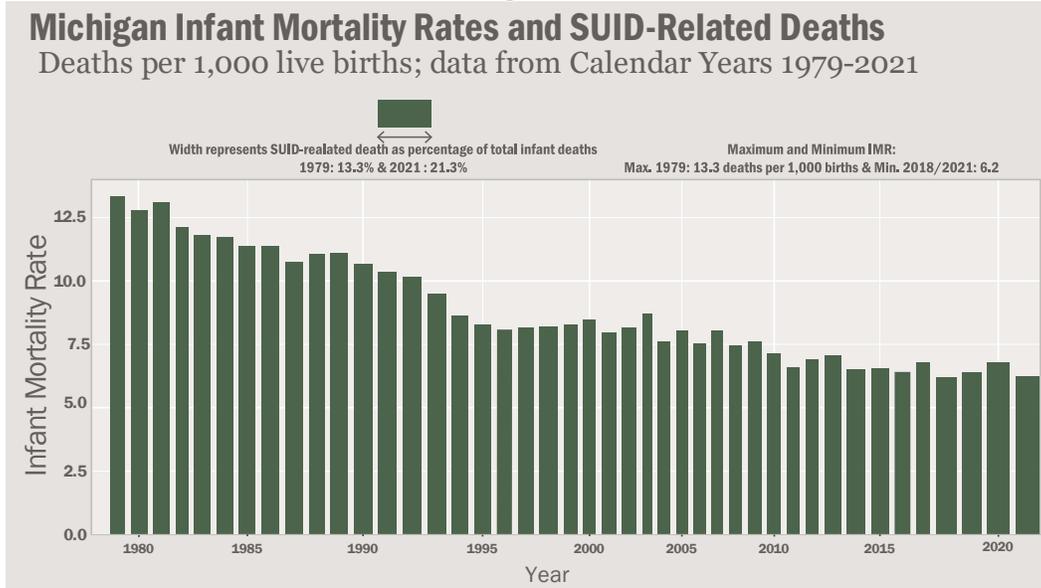
Source: United State Center for Disease Control – WONDER: Wide-ranging ONline Data for Epidemiologic Research

## Infant Mortality in Michigan

From 1979 to 2021, both the number of births and the IMR in Michigan decreased significantly. In 1979, 13.3 infants died per 1,000 births; however, by 2021, this figure had dropped to just over 6.2. [Figure 2](#) illustrates the decline in the IMR and the proportion of infant deaths attributed to SUID classifications. During this period, total births in Michigan decreased by 27.4%, while infant deaths fell by 66.1%. Thus, the decline in the IMR reflects more than just a reduction in annual births. Eighty percent of the IMR decline occurred in the 25 years between 1979 and 2004. Since 2004, the IMR has remained relatively stable, ranging from 8.1 to 6.2 deaths per 1,000 births. The decline in overall infant mortality was driven by a reduction in SUID-related deaths, which dropped by 57.0% between 1979 and 2004. Most of the decline in SUID-M occurred before 2003, with a continued decrease until 2011, when the number of deaths reached 86. However, since then, SUID-M has risen, with 139 deaths reported in 2021.

<sup>1</sup> "About SUID and SIDS", United States Centers for Disease Control and Prevention, [cdc.gov/sids/about/](https://cdc.gov/sids/about/). Retrieved 9-9-24.

Figure 2

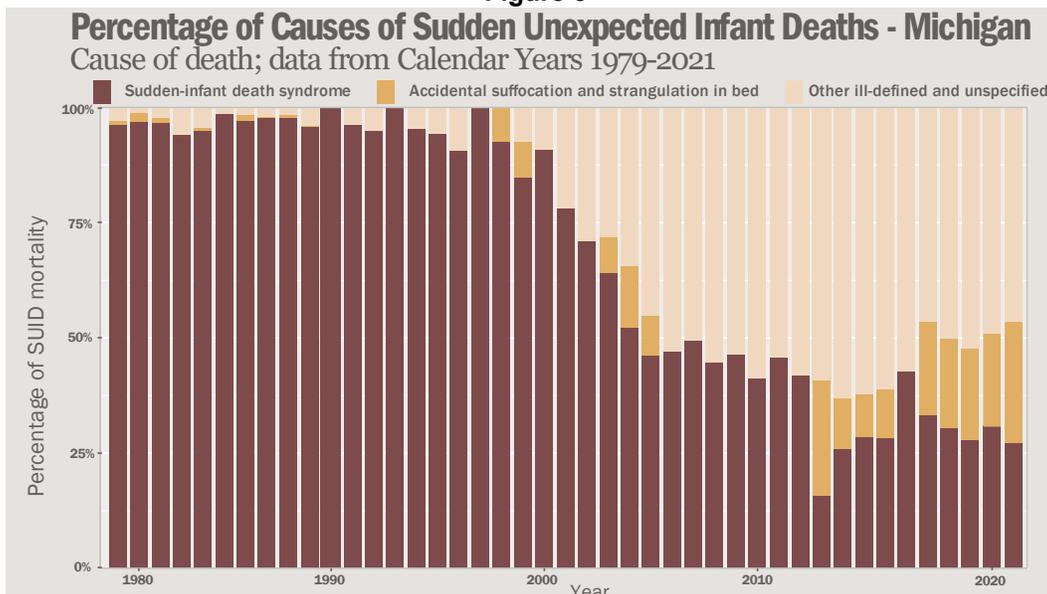


Source: United States Center for Disease Control – WONDER

### Michigan SUID-Related Infant Mortality

As overall infant mortality declined, SUID-related deaths began to constitute a larger share of infant deaths, with the highest proportions recorded in 2018, 2020, and 2021 (at 18.3%, 19.8%, and 21.3%, respectively). In 1979, SUID-related deaths accounted for 13.3% of infant deaths, reaching a low of 8.6% in 2003. The distribution of SUID-M has changed over time. From 1979 to 1981, Michigan averaged 259 SIDS deaths, 3.3 ASSB deaths, and 5.7 OIU deaths annually. From 2019 to 2021, these averages shifted to 38 SIDS deaths, 29 ASSB deaths, and 65.33 OIU deaths. Figure 3 illustrates this change in the allocation of SUIDs across these categories. Despite a decline in SIDS deaths (from 248 in 1979 to 38 in 2021) and a significant increase in the number of mothers reporting back sleeping as the primary sleep position for their infants, the lack of further decline—and recent increase—in SUID-M since the early 2000s highlights the need for additional research. One hypothesis is that deaths once classified as SIDS may now be categorized as ASSB or OIU. A 2006 paper in the *American Journal of Epidemiology* noted that after 1999, SIDS deaths declined more rapidly than SUID-M overall, a trend reflected in Figure 3.<sup>2</sup> Improved reporting could help policymakers identify and address risk factors to prevent SUID-M.

Figure 3



Source: United States Center for Disease Control – WONDER

<sup>2</sup> Shapiro-Mendoza CK, et al., "Recent national trends in sudden, unexpected infant deaths: more evidence supporting a change in classification or reporting", *American Journal of Epidemiology*, p.762-769, April 15, 2006.