

ASTHMA DEATHS IN ALABAMA: A DECADE IN REVIEW

Asthma is a chronic lung disease that cannot be cured. However, asthma symptoms may be controlled using effective self-management strategies, monitoring of early symptoms, appropriate medication use and efforts to reduce exposure to environmental triggers.¹ Deaths due to asthma are rare, but still occur in Alabama and across the United States (US). According to death certificates from 2000-2010, an average of 66 Alabama residents died each year due to asthma.² This fact sheet will illustrate patterns of asthma death rates in Alabama from 2000-2010, and identify the most impacted populations.

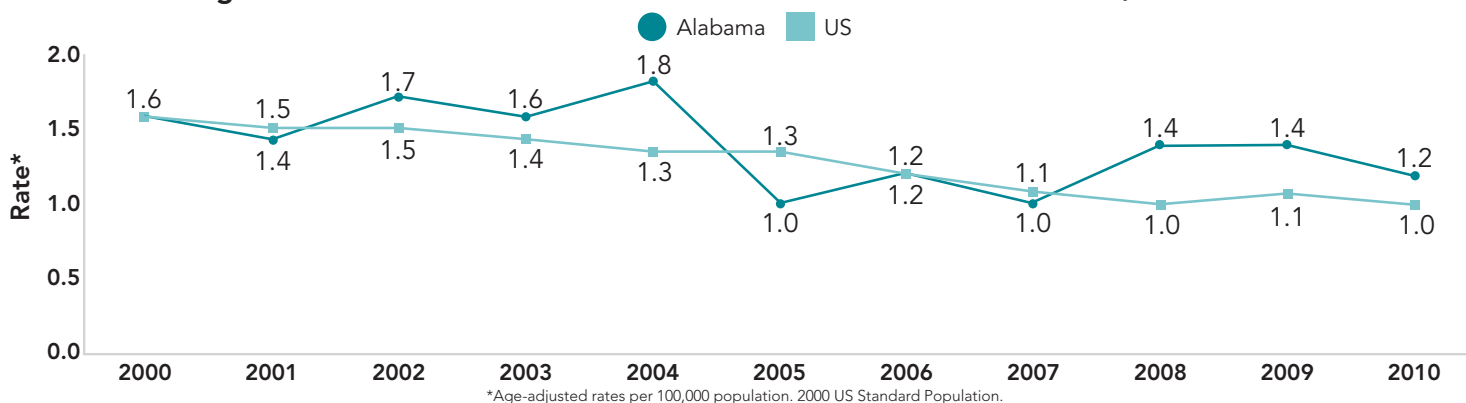
Data were retrieved from the Centers for Disease Control and Prevention's (CDC), Wide-ranging Online Data for Epidemiologic Research (WONDER). Information was queried from the data set listed in the references section of this fact sheet.³ Non-overlapping 95% confidence intervals were used to determine **statistical significance**. A **disparity** was defined as a higher asthma death rate based on statistical significance.

This fact sheet will describe asthma deaths with respect to an underlying cause of death definition. CDC WONDER defines the underlying cause of death as the disease which initiated the train of events leading directly to death.³ Codes used to define asthma deaths are provided in the footnotes section.

This fact sheet will discuss asthma death rates rather than the actual numbers of deaths. Crude rates were calculated by dividing the number of deaths by the US Census population estimate and then multiplying by 100,000. This gives the death rate per 100,000 individuals. Age adjusted rates were calculated additionally by adjusting for a specific population.

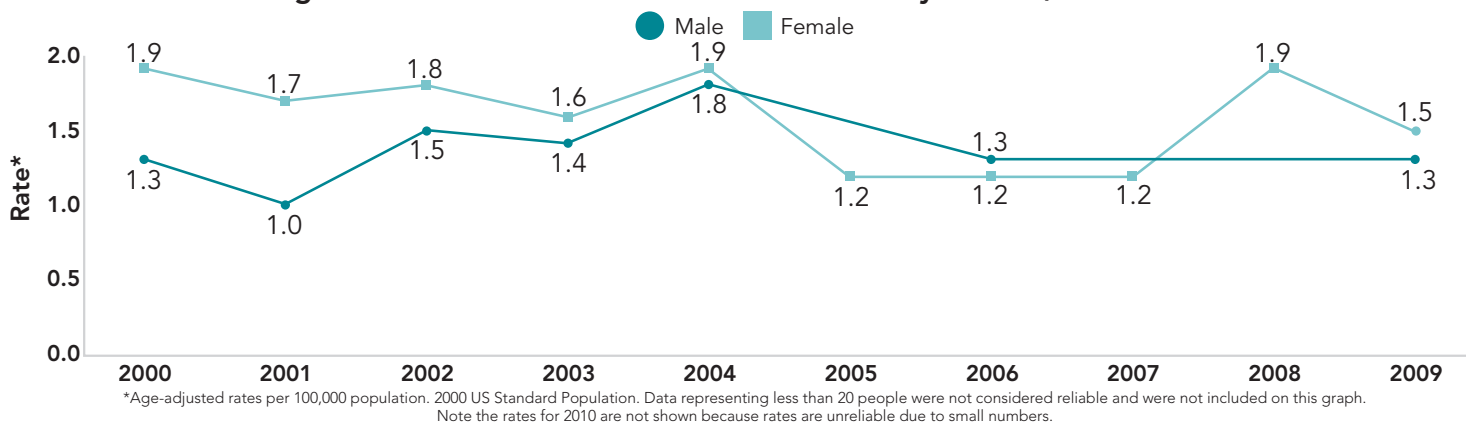
The yearly asthma death rates are provided in Figure 1. The average age-adjusted asthma death rate in Alabama across all years was 1.4 per 100,000 individuals. The average for the same measure in the US was 1.3 per 100,000 individuals. Alabama's average rate is higher, but this difference was not statistically significant.

Figure 1: Rates of Asthma Deaths in Alabama and the United States, 2000-2010³



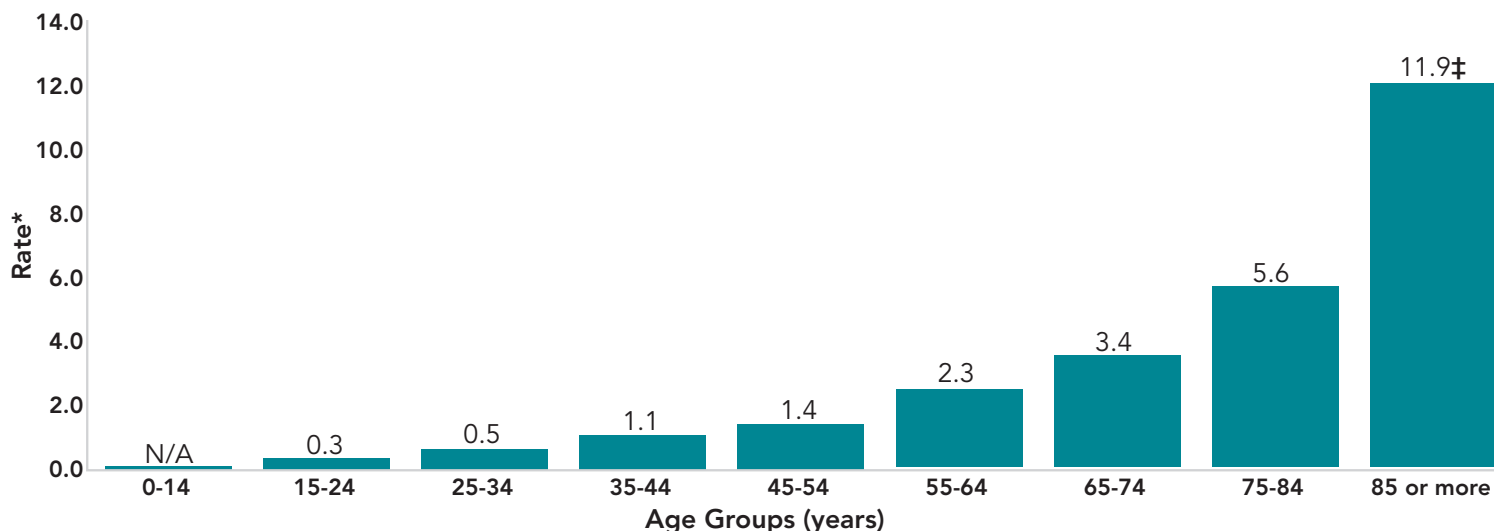
In Alabama, the age-adjusted asthma death rates among females were higher than males during the years 2000-2004 and again in 2008-2009, although the differences were not statistically significant (Figure 2).

Figure 2: Rates of Asthma Deaths in Alabama by Gender, 2000-2009³



From 2000-2010, Alabama adults aged 65 years and older accounted for roughly half of all asthma deaths.² As shown in Figure 3, the highest rate of asthma deaths was 11.9 per 100,000 individuals among adults who were 85 years or older. These adults represented a disparate population when compared to the younger individuals.

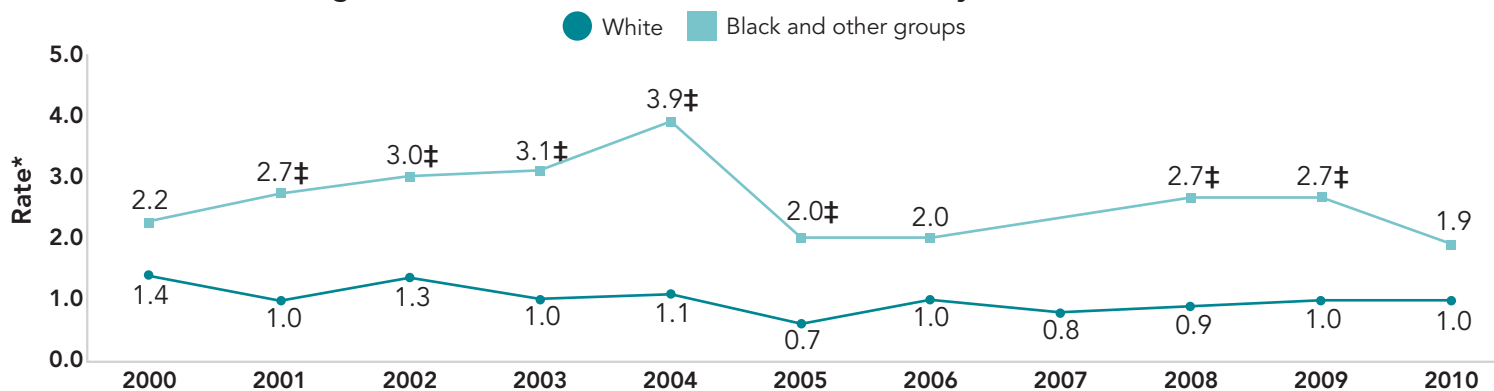
Figure 3: Rates of Asthma Deaths in Alabama by Age, 2000-2010³



*Crude rates per 100,000 population. ‡Statistically significant, based on non-overlapping 95 percent Confidence Intervals. Multiple years of data were combined for this analysis. Data representing less than 20 people were not considered reliable and were not included on this graph.

In Alabama, asthma death rates are analyzed using two race categories: (1) White and (2) Black and other individuals. This method is used to protect the privacy of individuals and to increase the reliability of the statistical results. From 2000-2010, the Black and other individuals represented a disparate population when their age-adjusted asthma death rates were compared to White individuals' rates for the years indicated in Figure 4.

Figure 4: Rates of Asthma Deaths in Alabama by Race, 2000-2010³



*Age-adjusted rates per 100,000 population. 2000 US Standard Population. ‡Statistically significant, based on non-overlapping 95 percent Confidence Intervals. Data representing less than 20 people were not considered reliable and were not included on this graph.

If you have additional questions, please contact the epidemiologist, Aruna Rikhi, at aruna.rikhi@adph.state.al.us.

Footnotes

Asthma deaths were identified using the International Classification of Disease using the Tenth Revision (ICD-10). The specific asthma codes that were used for the analysis of this fact sheet were ICD-10 J45 and J46.

References

1. Akinbami LJ, Moorman JE, Liu X. Asthma prevalence, health care use, and mortality: United States, 2005–2009. National health statistics reports; no 32. Hyattsville, MD: National Center for Health Statistics. 2011.
2. Alabama Center for Health Statistics, Underlying Cause of Death, 1999-2010.
3. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database, released 2012.

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