

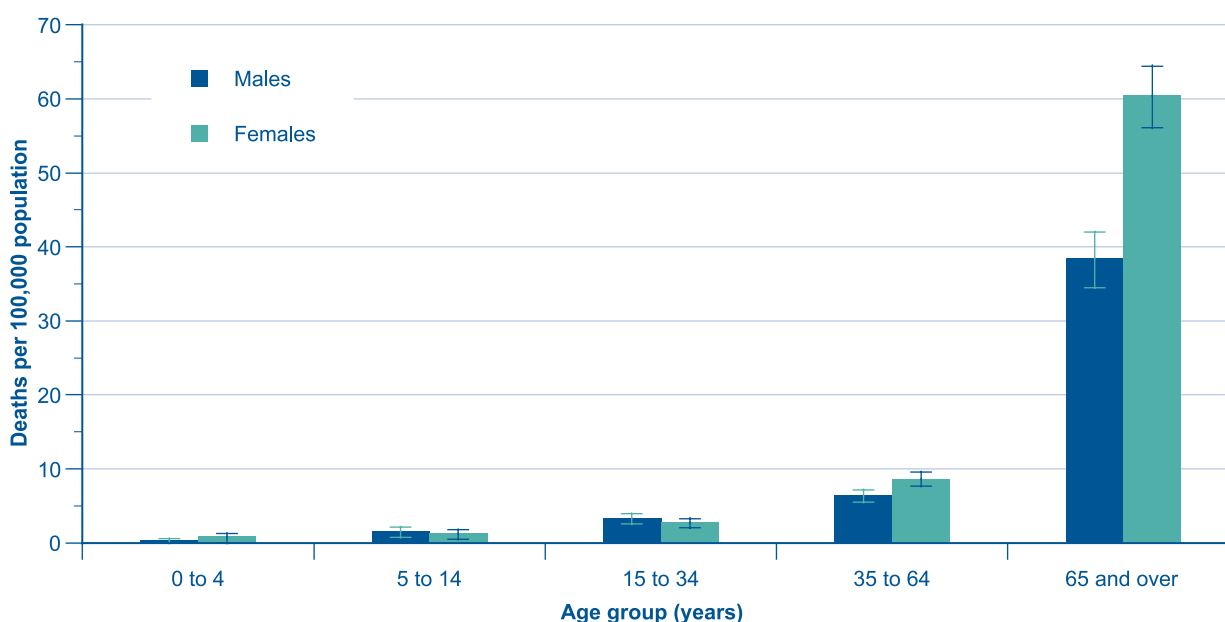
Differentials in asthma mortality

Factors affecting asthma mortality fall into four categories—underlying disease severity (Jalaludin et al. 1999), management and care (Abramson et al. 2001), health behaviours and compliance (Sturdy et al. 2002), and psychological and socioeconomic factors (Castro et al. 2001; Sturdy et al. 2002). Data for many of these characteristics are not available from routine surveys and require specific studies to investigate their contribution to asthma-related mortality. However, data are available on age and sex, geographical area, socioeconomic disadvantage and country of birth, which can be analysed to examine differences across these groups to assist in identifying opportunities for prevention.

Age and sex

Asthma mortality increased substantially with age in both males and females (Figure 4.5). This reflects a similar age trend in all-cause deaths (Dunn et al. 2002). Sixty-one per cent of all deaths attributed to asthma between 1999 and 2003 occurred in people aged 65 years and over. Among people aged 35 years and over, the risk of death due to asthma was significantly higher in females than males, especially for those aged 65 years and over. This is consistent with the higher prevalence of asthma reported in women than men (see Figure 3.4). However, this gender differential occurred predominantly in the age group in which misclassification between COPD and asthma is most problematic. Hence, the extent to which the higher death rate due to asthma among older women compared with older men was due to gender differences in diagnosis and labelling, as opposed to actual gender differences in prevalence and case-fatality rates, remains unknown.

Figure 4.5
Deaths due to asthma per 100,000 population, by age group and sex, Australia, 1999–2003

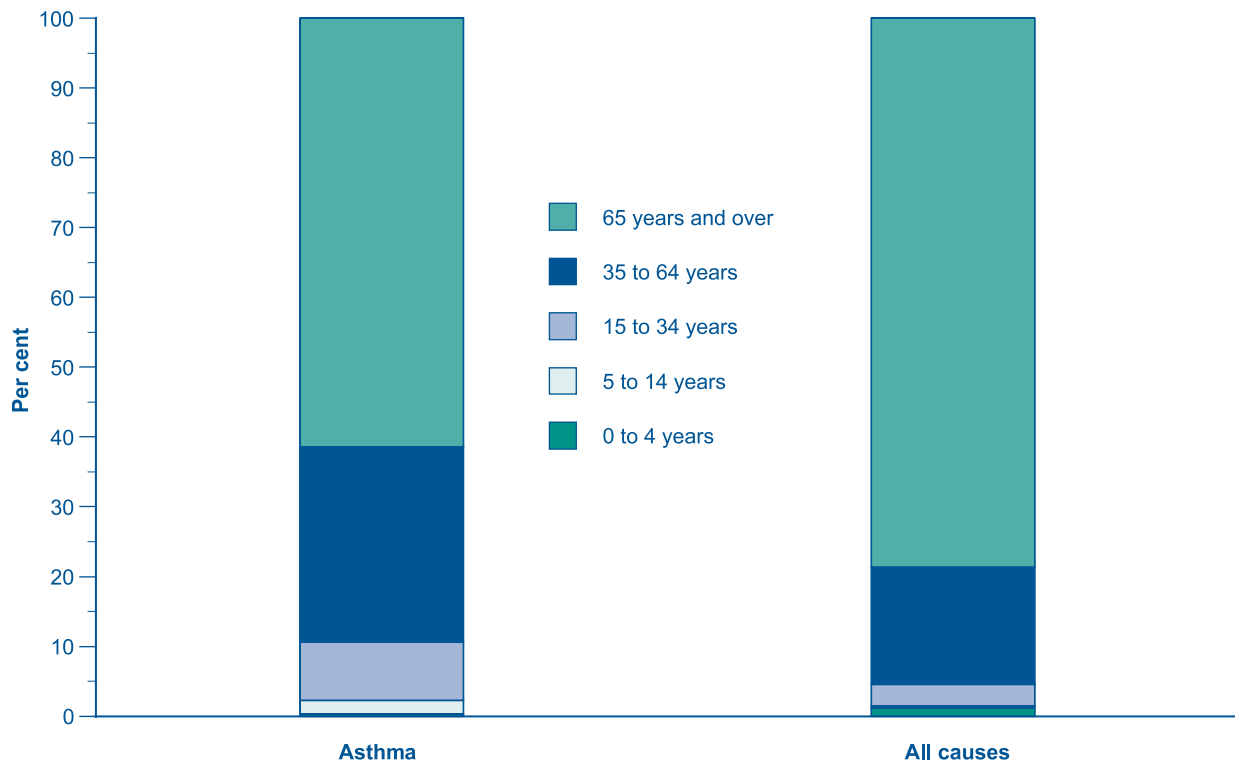


Note: Age-specific death rates for aggregated data from 1999 to 2003. Asthma classified according to ICD-10 codes J45 & J46.

Sources: AIHW National Mortality Database; Australian Bureau of Statistics.

During the period 1999–2003, most deaths due to asthma occurred in persons aged 65 years and over. However, the proportion of asthma-related deaths that occurred at this age was smaller than the proportion of deaths due to all causes in this age group (Figure 4.6). In contrast, deaths among people aged 5 to 64 years represented a larger proportion of asthma deaths than all-causes deaths (38% and 20%, respectively).

Figure 4.6
Age distribution for asthma and all cause mortality, Australia, 1999–2003



Note: Age-specific death rates calculated for aggregated data from 1999 to 2003. Asthma classified according to ICD-10 codes J45 & J46.

Sources: AIHW National Mortality Database; Australian Bureau of Statistics.

States and territories

Death rates due to asthma were slightly lower than average in Western Australia (Figure 4.7). However, the small numbers of deaths in the states and territories with smaller populations mean that the differences have to be interpreted with caution.

Figure 4.7
Deaths due to asthma per 100,000 population, by state and territory, Australia, 1999–2003



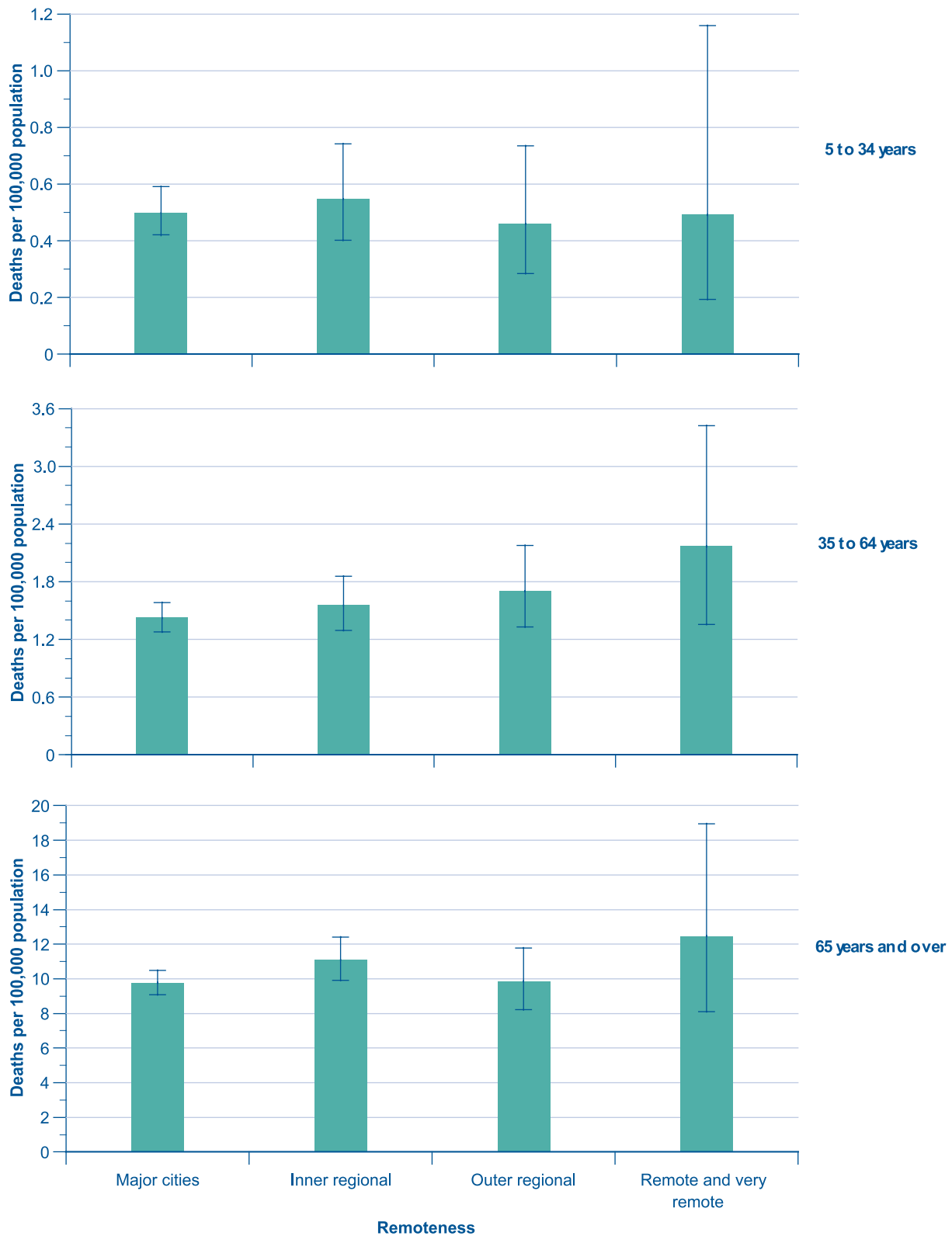
Sources: AIHW National Mortality Database; Australian Bureau of Statistics.

Urban, rural and remote areas

Death rates for asthma were slightly higher in outer regional and remote areas than in major cities among persons aged 35 to 64 years ($p=0.02$; Figure 4.8). In this age group, the death rate due to asthma among persons living in remote and very remote areas was 1.58 times higher than the rate among persons living in major cities (95% CI 1.00 to 2.48 times). This trend was independent of related variation in socioeconomic status. There was no significant relation between death rates due to asthma and level of remoteness among persons aged less than 35 years or 65 years and over (see Appendix 1, Section A1.3 for method of analysis). The finding of a higher death rate due to asthma in outer regional and remote areas among adults aged 35 to 64 years is consistent with observations on regional variation in all-cause mortality rates and with previous studies showing increased asthma mortality in rural areas (Castro et al. 2001; Dunn et al. 2002; Jones & Bentham 1997; Tong & Drake 1999).

It is possible that part of this increased risk in remote areas can be attributed to the distance people are located in relation to acute medical facilities and, hence, their access to prompt treatment for severe attacks. Other plausible explanations include differences in exposures influencing disease severity and exacerbation risk, and differences in access to effective long-term asthma management.

Figure 4.8
Deaths due to asthma per 100,000 population, by remoteness, people aged 5 years and over,
Australia, 1999–2003



Notes

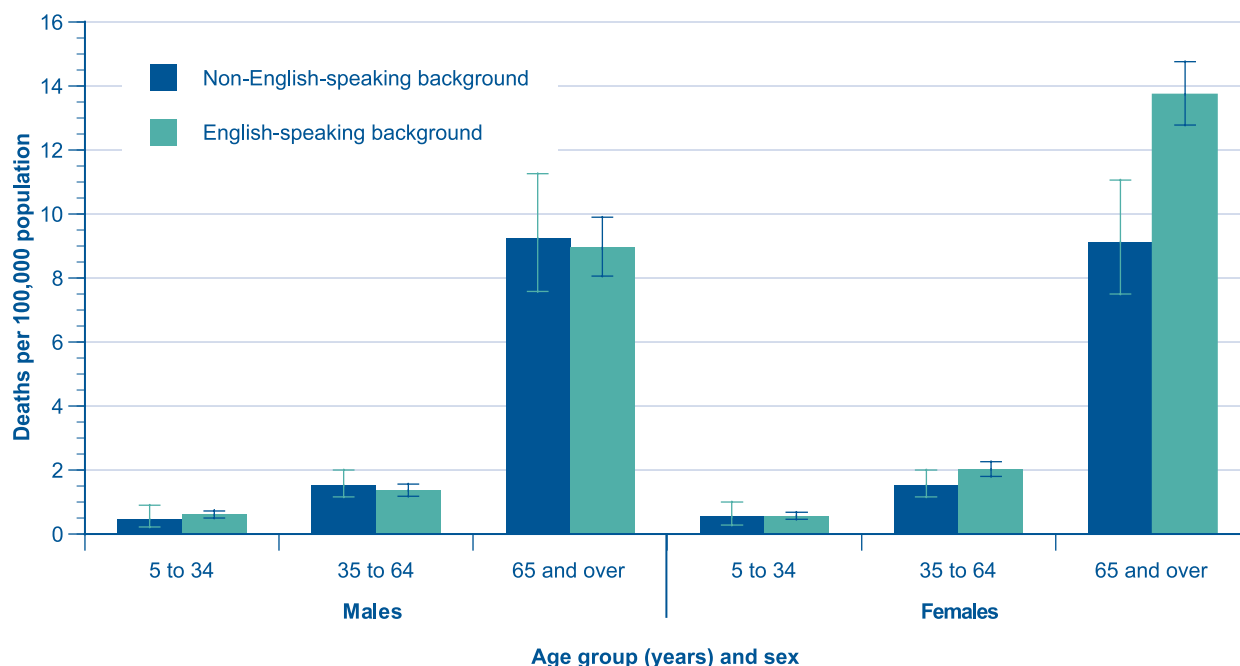
1. Death rates for aggregated data from 1999 to 2003.
2. Asthma classified according to ICD-10 codes J45 and J46.
3. Remoteness classified according to the Australian Standard Geographic Classification (ASGC) categories of remoteness.
4. Y axis has different scale for each age group.

Sources: AIHW National Mortality Database; Australian Bureau of Statistics.

Culturally and linguistically diverse background

Older women from non-English-speaking backgrounds had lower death rates due to asthma than older women from English-speaking backgrounds (Figure 4.9). This difference in death rates is attributable to the lower prevalence of asthma among older, non-English-speaking women (see Figure 3.9). The case-fatality rate due to asthma, in all age groups, is similar in people of English-speaking and non-English-speaking backgrounds (Figure 4.10).

Figure 4.9
Deaths due to asthma per 100,000 population, by sex and English-speaking versus non-English-speaking background, people aged 5 years and over, Australia, 1999–2003

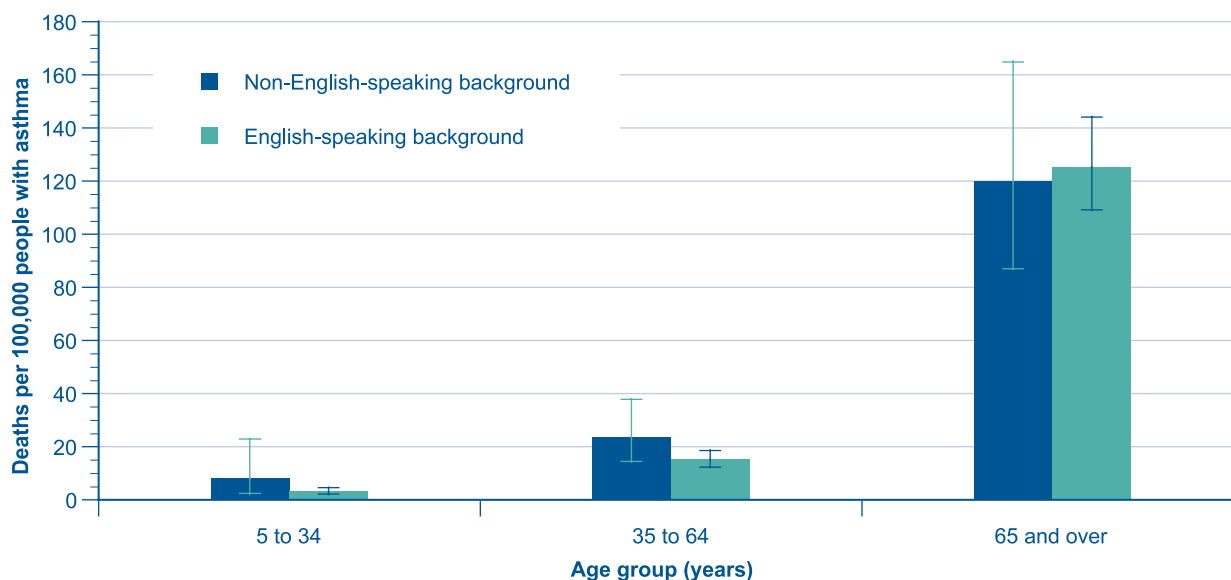


Notes: Death rates for aggregated data from 1999 to 2003. Asthma classified according to ICD-10 codes J45 & J46. For definition of non-English-speaking background and English-speaking background see Glossary.

Sources: AIHW National Mortality Database; Australian Bureau of Statistics.

Figure 4.10

Deaths due to asthma per 100,000 people with asthma, by English-speaking versus non-English-speaking background, people aged 5 years and over, Australia, 1999–2003



Notes: Death rates for aggregated data from 1999 to 2003. Asthma classified according to ICD-10 codes J45 & J46. For definition of non-English-speaking background and English-speaking background see Glossary.

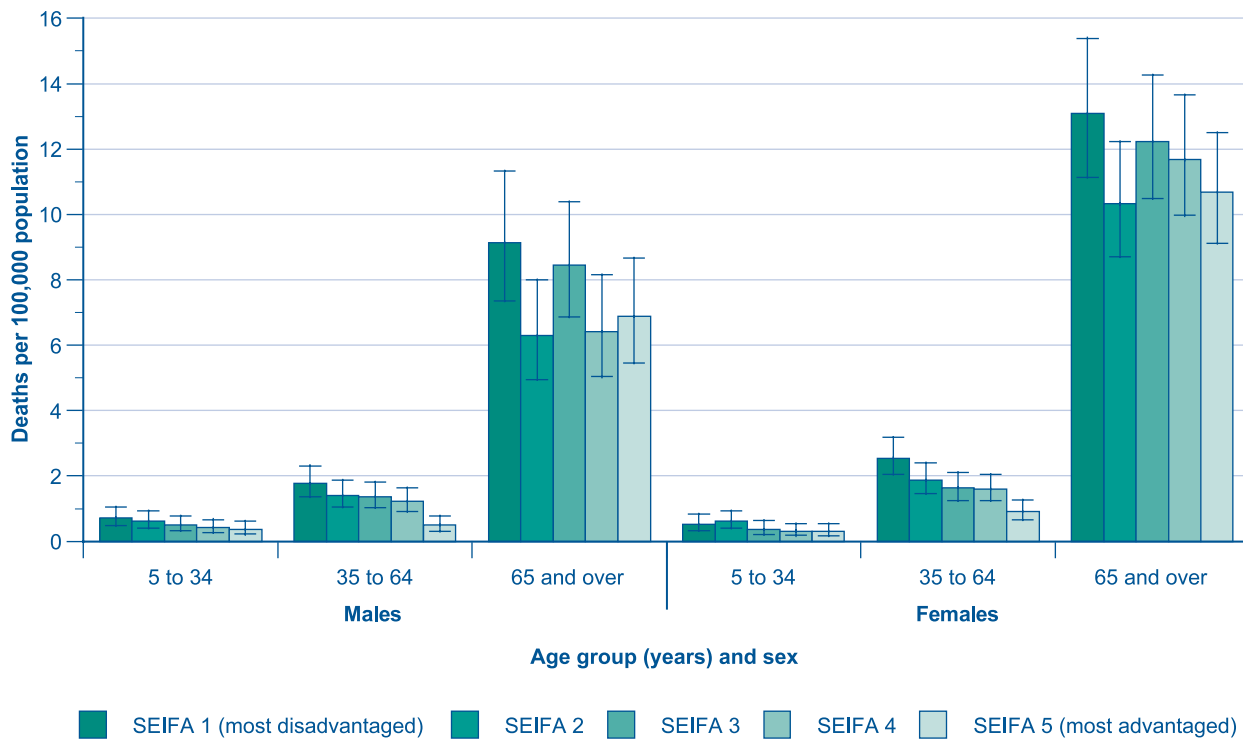
Sources: AIHW National Mortality Database; National Health Survey, Australian Bureau of Statistics.

Socioeconomic disadvantage

Socioeconomic status reflects a complex interplay of factors such as ethnicity, education, income, occupation and geographic location. Overseas studies have found an increased risk of death from asthma related to race (Castro et al. 2001; Grant et al. 2000), lower socioeconomic status (Castro et al. 2001; Grant et al. 2000), and lower income and education (Grant et al. 2000). In Australia, all-cause mortality is correlated with the degree of socioeconomic disadvantage, particularly among men (Dunn et al. 2002).

The relation between levels of relative socioeconomic disadvantage and mortality risk were assessed using a locality-based index (SEIFA, see Appendix 1, Section A1.12). There was a significant relation between increasing levels of socioeconomic disadvantage and higher death rates for asthma in those localities among persons aged 5 to 64 years. This trend was not significant among persons aged 65 years and over (Figure 4.11). This trend was strongest in the 35 to 64 year age group, in which the death rate due to asthma in the two most disadvantaged quintiles was 3.2 times higher in males and 2.4 times higher in females than the death rate in the most advantaged quintile (95% CI 1.98 to 5.14 times in males, 1.67 to 3.40 times in females). This association was independent of related variation in the degree of remoteness.

Figure 4.11
Deaths due to asthma per 100,000 population, by age group, sex and socioeconomic status, people aged 5 years and over, Australia, 1999–2003



Note: Death rates for aggregated data from 1999 to 2003. Asthma classified according to ICD-10 codes J45 & J46.

Source: AIHW National Mortality Database; Australian Bureau of Statistics.