

Part V: Chronic diseases

Chapter 12: Asthma

Chapter 13: Diabetes

Chapter 14: Cancer

Chapter 15: Other chronic diseases

Chapter 16: Mental health problems and disorders

A chronic disease is defined here as one which is generally characterised by uncertain cause, multiple risk factors, and a long period of illness, does not improve without treatment and is rarely able to be completely cured (McKenna et al. 1998). The focus of this section of the report is chronic non-communicable diseases. While a number of communicable or infectious diseases can be chronic in nature, such as HIV/AIDS and hepatitis C, these conditions are not included here.

Long-term illnesses and long periods of hospital treatment are commonly associated with older people and not with children. However, a small but significant number of children suffer from chronic diseases. These diseases cause stress on children and their families, and demand substantial amounts of time, energy and personal resources in order to cope with the situation (Jessop & Stein 1989).

There are many different types of chronic diseases and conditions. Some are present at birth, while others may develop at a later stage during infancy or childhood. The wide scope of chronic diseases and conditions encompasses such problems as inborn errors of metabolism, birth defects, unresolved respiratory problems in very low birthweight infants, spina bifida, cerebral palsy, diabetes, haemophilia, cystic fibrosis, severe asthma, muscular dystrophy, cancers, head injuries and seizures. While some children with chronic diseases or conditions of childhood may grow out of them later in life, most will not be able to lead normal lives in the absence of special care or management (Stein 1989). However, if the problem is routinely managed, many children with chronic diseases and conditions can function well and live almost normal lives.

Chronic diseases in childhood are significant for several reasons. An important consideration is that they occur at a time when they threaten the normal trajectory of a child's development. The care of children with chronic diseases is extremely complex and fragmented. Care is frequently very costly and the costs are magnified because the diseases continue over a long time and their cumulative toll on children and their families is high in social, psychological and economic terms. Also, because children with chronic diseases are also growing developmentally and emotionally, their care needs are very different from those of chronically ill adults.

Just as the socioeconomic status of the family can influence child health, it is also an important factor in the outcome of a chronic childhood illness. Family composition, and economic, social and personal resources, greatly influence the ability of a family to meet the needs of a chronically ill child (Jessop & Stein 1989).

Finally, there is evidence that chronically ill children, and their families, are at greater risk of developing psychological and emotional difficulties than other children and their families. The Ontario Child Health Survey estimated the risk of psychiatric disorders for those with chronic conditions to be twice as high as that for healthy children (Cadman et al. 1987). This consequence of chronic illness is preventable.

The majority of children overcome the obstacles that chronic illness presents. However, it is important to normalise as much as possible the life experiences of these children, minimising periods of hospitalisation, and maintaining contact with family and friends.

This next section presents information on a number of chronic diseases and conditions. These include asthma, diabetes, cancer, cerebral palsy, epilepsy, cystic fibrosis and mental health problems. Most of the information is derived from hospital morbidity data and death data.

12. Asthma

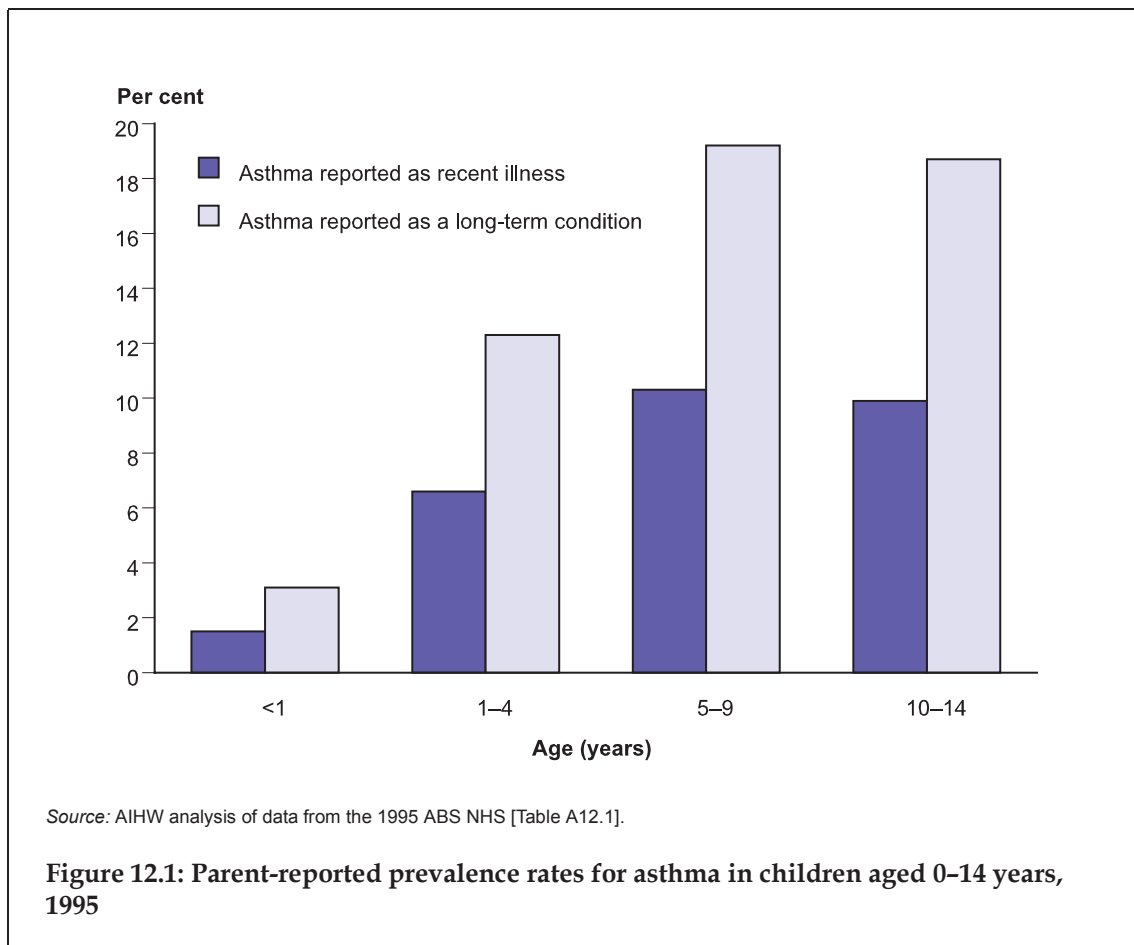
Asthma is a disease characterised by recurrent episodes of wheeze, shortness of breath and sometimes cough. The disease is of unknown cause but tends to run in families and is closely linked to allergy. The role of environmental and developmental factors in either causing or protecting against asthma has been the subject of intense interest but, based on the available evidence, has not yet been firmly established. Symptoms may occur spontaneously, or in response to one of a wide range of trigger factors, such as pollen, physical activity, cold weather and tobacco smoke. In the majority of people, asthma can be effectively controlled by a combination of using regular preventer medications, taking reliever medications as required for symptoms, and avoiding or controlling certain trigger factors. In some people with severe disease or in those in whom effective disease management has not been implemented, adverse outcomes may include poor quality of life, interference with work, study or other activities, need for urgent medical care including hospitalisation, and, rarely, premature death. Death attributable to asthma is extremely rare in children (National Asthma Campaign 1998).

It is difficult to quantify the prevalence of asthma, as prevalence depends on whether it is measured as the occurrence of self-reported wheeze, as a diagnosis by a general practitioner based on symptoms, or by a combination of symptoms and lung function tests (Woolcock et al. 2001). It is estimated that over 2 million people in Australia are affected by asthma (ABS 1998b). Of all people with asthma, approximately 30% are children aged 0–14 years. Australia ranks among the highest prevalence rates for childhood asthma in the world (Robertson et al. 1998), with the prevalence of asthma on the rise. Over the last two decades, population-based studies have estimated that the prevalence of current wheeze in Australian children has been increasing at a rate of 1.4% per year (Woolcock et al. 2001). In view of the severe impact of the disease on children's lives and the growing costs of treating asthma on the health care system in Australia, asthma was endorsed as the sixth National Health Priority Area in 1999.

This chapter covers information on asthma prevalence, morbidity and mortality. Information for this chapter is derived from three sources: parent-reported prevalence of asthma from the 1995 ABS National Health Survey; hospitalisation data from the AIHW National Hospital Morbidity Database; and death data from the AIHW Mortality Database.

Prevalence of asthma

The indicator for asthma prevalence is the number of children aged 0–14 years who were reported to have asthma in a given year as a percentage of all children aged 0–14 years. The prevalence of asthma as a recent illness (experienced in the 2 weeks prior to the interview) and as a long-term condition (current condition having lasted, or expected to last, for 6 months or more) in children aged 0–14 years is shown in Figure 12.1.



- In the 1995 ABS National Health Survey, 16% of children aged 0-14 were reported to have asthma as a long-term condition. The proportion increased with age and peaked in children aged 5-9 years, where 19% were reported as having asthma as a long-term condition.
- Almost 20% of school-aged children were reported to have asthma as a long-term condition. Half of these children had taken an action for their asthma in the past fortnight.

The prevalence of asthma-associated symptoms is shown in Table 12.1.

Table 12.1: Parent-reported prevalence rates for asthma-associated symptoms in children aged 0-14 years, 1995 (per cent)

Asthma-associated symptoms	Age (years)				
	<1	1-4	5-9	10-14	0-14
Woke at night with coughing	7.1	18.3	22.6	17.8	18.8
Wheezy chest after physical exertion	..	9.7	14.3	17.7	14.2 ^(a)
Bout of coughing during physical exertion	..	11.8	15.1	13.2	13.5 ^(a)
Has wheezy/whistly chest	16.7	22.9	26.6	25.9	24.4

.. Not applicable

(a) For children aged 1-14 years.

Source: AIHW analysis of data from the 1995 ABS NHS.

- In 1995, most asthma-associated symptoms were more common among children aged 5–9 years than among children in other age groups. A wheezy chest after physical exertion was most common in the 10–14 years age group.
- Almost one-quarter of children (24.4%) had a wheezy/whistly chest, and 18.8% were reported to wake up at night with coughing.

Hospitalisations

Asthma is one of the most frequent reasons for the hospitalisation of children. The indicator is the number of hospitalisations due to asthma in children aged 0–14 years in a given year as a rate per 100,000 children. Time series in hospitalisation rates for asthma are shown in Table 12.2.

Table 12.2: Hospitalisation rates for children aged 0–14 years for asthma, 1993–94 to 1999–00 (per 100,000 children)

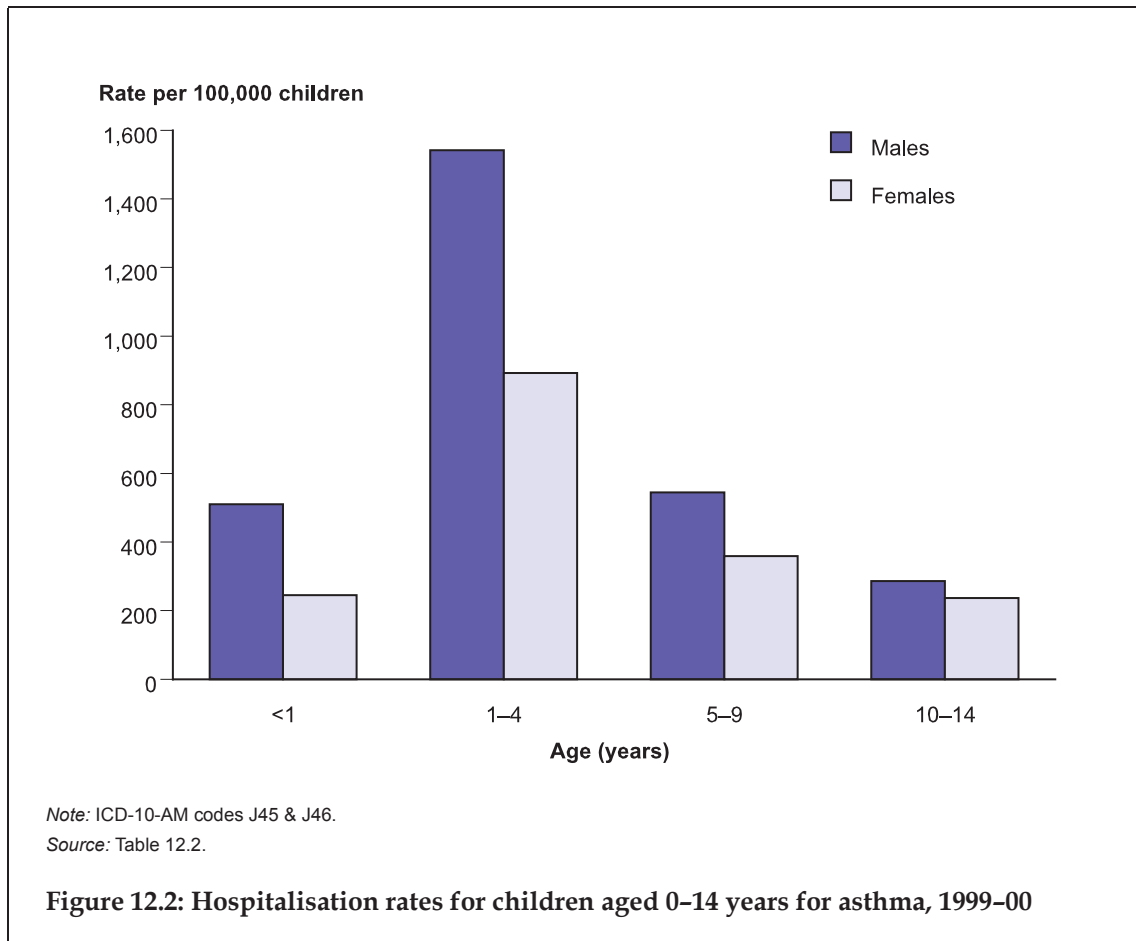
	Age (years)	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99	1999–00
Males	<1	1,193.8	1,216.8	1,013.6	1,015.6	798.5	705.8	510.5
	1–4	2,130.9	2,105.2	2,106.4	2,122.4	1,723.4	1,954.4	1,542.3
	5–9	903.3	740.6	785.1	693.2	662.9	698.2	544.9
	10–14	527.7	435.0	423.4	373.0	390.0	367.9	286.6
	0–14	1,128.4	1,038.0	1,035.6	992.6	866.3	926.4	724.6
Females	<1	574.6	503.9	413.8	437.0	329.9	320.6	245.2
	1–4	1,185.0	1,158.9	1,158.2	1,193.2	945.0	1,115.1	892.4
	5–9	549.6	483.9	493.0	417.3	387.8	452.1	359.1
	10–14	442.1	372.2	354.1	328.1	328.3	294.3	236.8
	0–14	686.0	629.2	620.0	597.0	513.4	568.7	453.8
Persons	0–14	912.9	838.9	833.1	799.9	694.5	752.2	592.8

Note: ICD-9-CM code 493 (1993–94 to 1997–98) and ICD-10-AM codes J45 & J46 (1998–99 to 1999–00).

Source: AIHW National Hospital Morbidity Database.

- Hospitalisations for asthma among children aged 0–14 years decreased between 1993–94 and 1999–00. The rate fell by 35%, from 912.9 to 592.8 per 100,000.
- The hospitalisation rate was consistently between 1.6 and 1.7 times higher for boys than for girls in all years examined.

The hospitalisation rate for asthma among children aged 0–14 years in 1999–00 is shown in Figure 12.2.

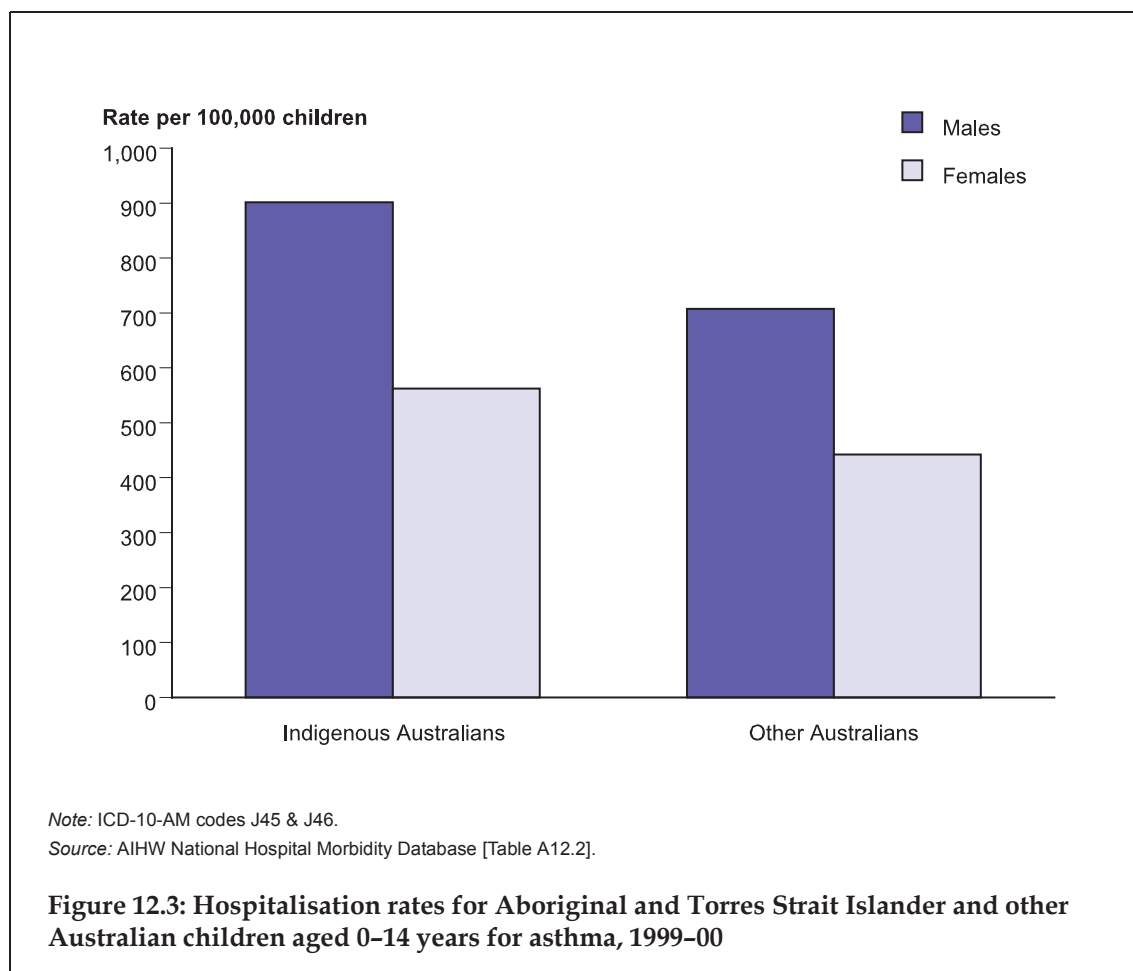


- In 1999-00, there were 22,983 hospitalisations of children aged 0-14 years for asthma. This included 6,653 (29%) hospitalisations for severe asthma.
- Boys were hospitalised more often than girls in all age groups, with the greatest difference among infants. The rate was 724.6 per 100,000 boys, compared with 453.8 per 100,000 girls.
- The hospitalisation rate was highest among children aged 1-4 years. Among boys, the rate was almost 3 times that for infants. There was a similar pattern for girls.

The impact of asthma can also be examined in terms of the length of time children spent in hospital. In 1999-00, there were 41,952 hospital bed days for which asthma was the principal diagnosis, with an average length of stay of 1.8 days. Asthma was also responsible for an additional 14,079 bed days where it was not the principal diagnosis but where it had to be managed during hospitalisations for other conditions.

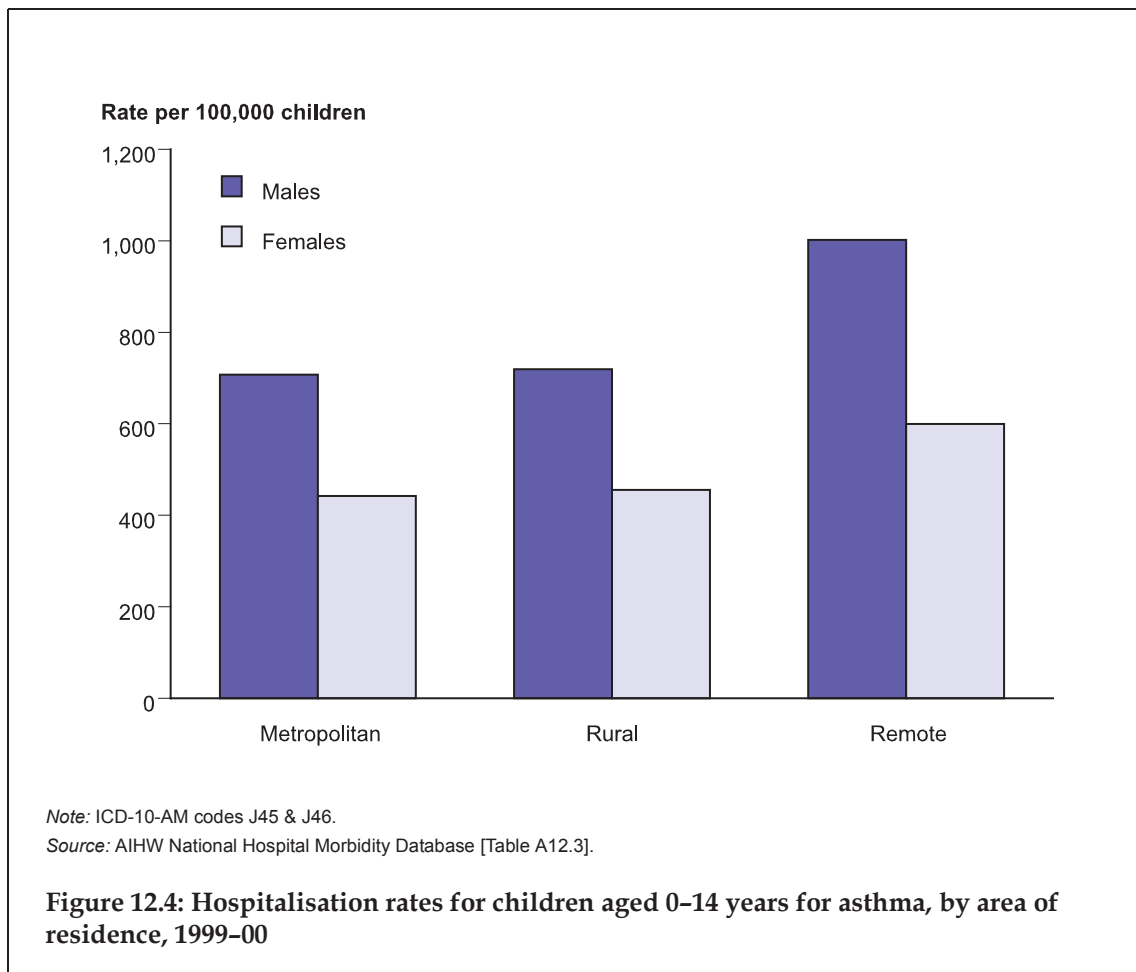
Aboriginal and Torres Strait Islander children

The hospitalisation rate for asthma among Aboriginal and Torres Strait Islander and other Australian children is shown in Figure 12.3.



- In 1999-00, the hospitalisation rate for asthma was higher for Aboriginal and Torres Strait Islander children than for other Australian children (735.8 compared with 578.4 per 100,000).

Children in metropolitan, rural and remote areas



- In 1999-00, the hospitalisation rate for children aged 0-14 years for asthma was highest for those living in remote areas (804.8 per 100,000 children). The rates of hospitalisation for asthma were similar for children in rural and metropolitan areas (591.1 and 578.1, respectively).
- Across all areas, rates were higher for boys than for girls. For instance, the rate for children aged 0-14 years in remote areas was 1,002.1 per 100,000 boys, compared with 599.7 per 100,000 girls.

Deaths

Death from asthma is uncommon in children. Between 1991 and 2000, there were 141 deaths of children aged 0–14 years due to asthma – the average death rate over the 10-year period was around 0.4 per 100,000 children.

Table 12.3: Asthma deaths in children aged 0–14 years, 1991–00

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Number	16	11	17	12	20	13	15	12	13	12
Rate per 100,000 children	0.4	0.3	0.4	0.3	0.5	0.3	0.4	0.3	0.3	0.3

Note: ICD-9 code 493 (1991 to 1996) and ICD-10 codes J45 & J46 (1997 to 2000).

Source: AIHW Mortality Database.

- While the death rate from asthma among children aged 0–14 years did not show a definite decline between 1991 and 2000, deaths from asthma in all ages have been reported to have fallen by 28%, from a peak of 964 in 1989 to 685 in 1998 (Woolcock et al. 2001).
- The highest average death rate was for children aged 10–14 years (0.6 per 100,000 children), and was lowest for infants (0.1 per 100,000 infants).

Burden of disease attributable to asthma

In 1996, asthma was the leading cause of the total disease burden in children, estimated to account for 18.2% of the total disease burden (38,882 DALYs). The burden was greater in boys (56% of total) than in girls (44%). The asthma disability burden accounted for the majority (99%) of the total burden of asthma (38,492 YLD). The asthma mortality burden (391 YLL) contributed only 1%.

