

5.4 Health-care expenditure due to asthma

Understanding the contribution of asthma to direct health-care expenditure aids understanding of the economic impact of the disease. Furthermore, knowledge of the relative contribution of the various health care-sectors (admitted patient, out-of-hospital medical care and prescription pharmaceuticals) to overall asthma-related expenditure, as well as changes over time, assists in planning interventions to optimise this expenditure.

Health expenditure is a term used to describe the actual amount spent on health-care services. Here, data from the AIHW disease expenditure database are used to describe health expenditure for asthma in Australia. All health expenditure data reported here represent allocated, recurrent health expenditure. For the purposes of this report, the term 'total allocated health expenditure' will be used to refer to the sum of total allocated health expenditure for all health conditions while 'asthma expenditure' is the component of total allocated health expenditure that is attributed to health care for asthma.

In the 2004–05 financial year, asthma expenditure was \$606 million. This represented 1.2% of total allocated health expenditure in that year.

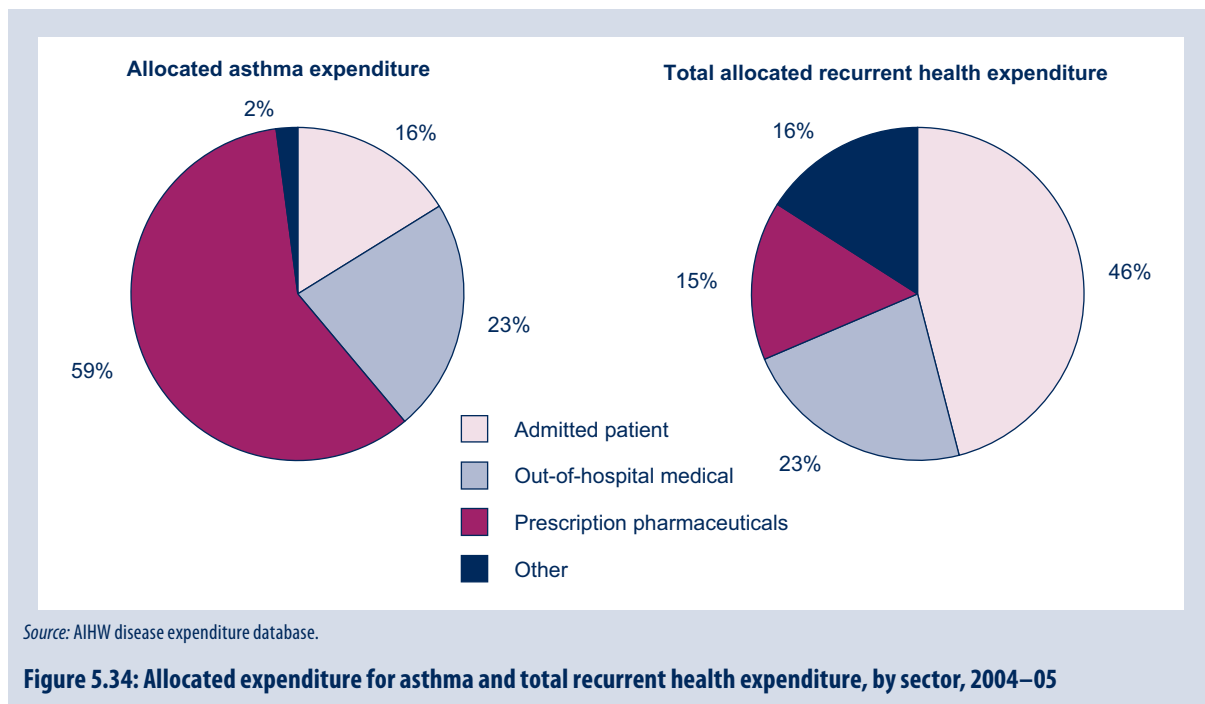
5.4.1 Expenditure by health sector

Health expenditure presented here is assigned to one of four sectors:

1. 'Admitted patient' comprises admitted patient public and private hospital services expenditure (same-day as well as overnight admissions). This category also includes expenditure for medical services provided to private admitted patients in hospitals.
2. 'Out-of-hospital medical' is primarily care in the community from general practitioners as well as specialists, imaging and pathology services. Specifically, it includes MBS unreferred attendances, imaging, pathology, specialist, other medical MBS and any other medical services expenditure for 2004–05 reported in *Health expenditure Australia 2005–06* that has not been counted elsewhere.
3. 'Prescription pharmaceuticals' includes benefit paid pharmaceuticals (Pharmaceutical Benefits Scheme (PBS) and Repatriation Pharmaceutical Benefits Scheme (RPBS) pharmaceuticals), under-copayment prescriptions and private prescriptions.
4. 'Other' expenditure comprises expenditure on optometrical services, dental, community mental health, public health cancer screening and research. For asthma expenditure, the category 'other' only comprises expenditure on research, since the other components are not applicable.

Methods for allocating expenditure to these sectors are provided in more detail in Appendix 1, Section A1.5.

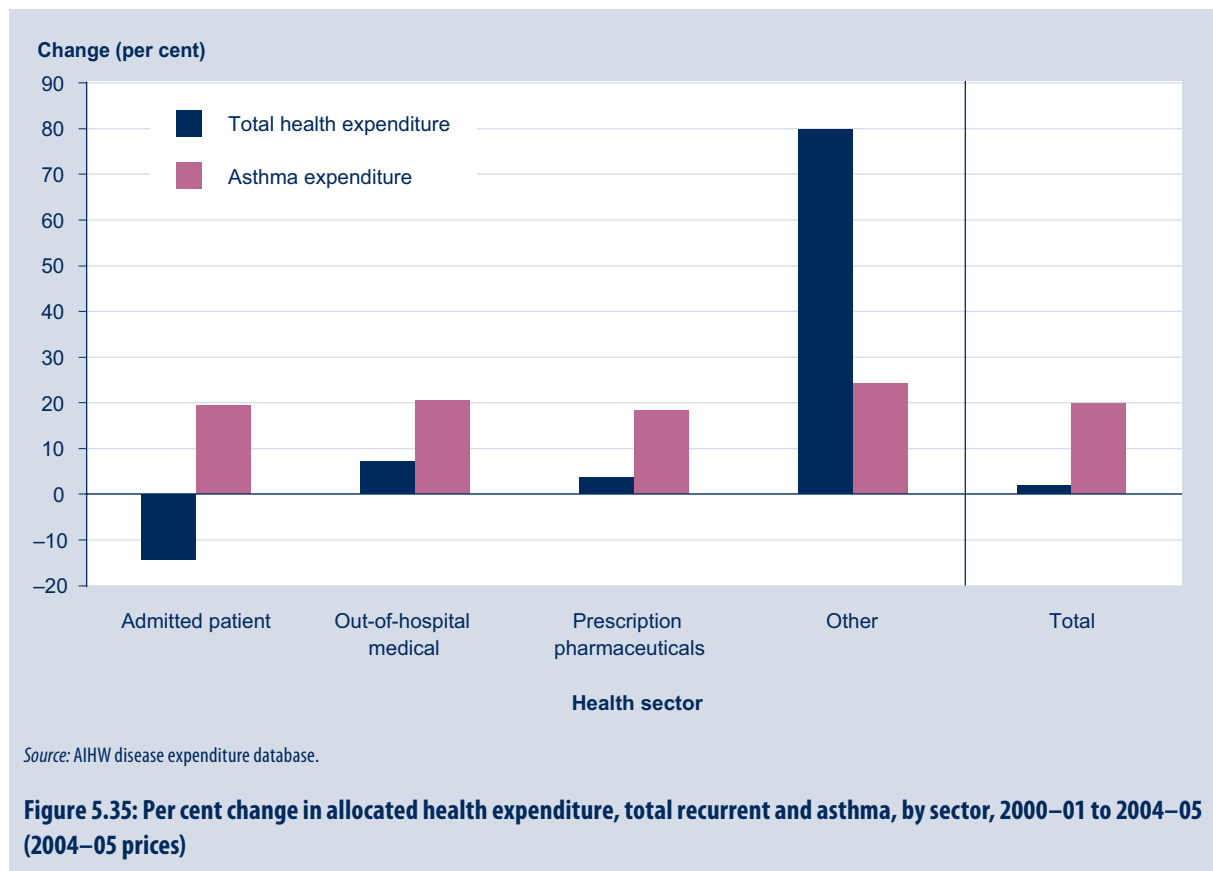
Over half (59%) of all asthma expenditure in 2004–05 was attributed to prescription pharmaceuticals (Figure 5.34). This was substantially higher than the proportion of total health expenditure attributed to prescription pharmaceuticals (15%). On the other hand, a substantially lower proportion of asthma expenditure was attributed to admitted patient hospital care (16%) compared with total allocated health expenditure (46%).



5.4.2 Changes in expenditure between 2000–01 and 2004–05

After adjusting for inflation, asthma expenditure increased by 1.8% in all sectors combined during the period 2000–01 to 2004–05, which was much less than the 19.7% increase in total allocated health expenditure over this period (Figure 5.35). The largest increase in asthma expenditure was for ‘other’ expenditure, which rose by 79.9% between 2000–01 and 2004–05, representing an average annual growth of 15.8%. This annual growth in ‘other’ expenditure for asthma is solely attributable to a relative increase in research funding for asthma. In comparison, the growth in research funding for total allocated health expenditure was 24.2% (5.6% per year). In the admitted patient sector, asthma expenditure decreased by 14.3% while total allocated health expenditure for admitted patients increased by 19.6%.

There was a rise in out-of-hospital medical services expenditure for asthma, which includes unreferral attendances, imaging, pathology and other medical services, between 2000–01 and 2004–05. There was an increase in the cost per service for unreferral attendances, imaging and other medical services over that period. There was also an increase in the number of claims for imaging, pathology and other medical services for asthma in 2004–05 compared to 2000–01. However, there was a decrease in the number of unreferral attendances for asthma over this period. The net increase in the spending on out-of-hospital medical services for asthma between 2000–01 and 2004–05 can be attributed to the combination of these effects.



Kenny et al. (2005) quantified the costs of services and products for asthma to both individuals and the health sector using data from a cohort study of people with asthma in New South Wales. Survey participants were identified from the community ($n = 208$) and from people who had attended an emergency department for asthma ($n = 37$). While the sample was not representative of people with asthma in New South Wales, the study provided information about the range of costs and the major cost components. General practitioner visits were the most frequently used health service and the annual cost of these visits ranged from \$0 to \$649 per person. Medications to manage asthma, including non-prescription drugs, were the most commonly used products, with the annual cost to individuals ranging from \$0 to \$668 per person. Prescription medications were the only product cost to the health sector and ranged from \$0 to \$2,757 per person over the year. While only 8% of the study participants were admitted to hospital for their asthma during the year, hospital admissions were the largest component of the cost to the health sector with the annual cost per person ranging from \$0 to \$23,766.

5.4.3 Other economic impacts of asthma

Direct health expenditure for asthma care is only one component of the costs of asthma. However, at present there are few data on other aspects of the economic burden of asthma: for example, personal expenditure related to asthma and costs incurred by families and carers of people with asthma. The impact of asthma on social and economic participation, including ability to work or study, engage in social interaction and perform other expected roles, also contributes to the economic burden attributable to asthma.



Methods to value individual components of these ‘indirect’ costs in financial terms are controversial and not universally regarded as valid (Drummond et al. 1997). The nature of these costs is such that they often do not relate exclusively to asthma, and the component attributable to asthma cannot be reliably determined. One approach to quantifying the economic impact of asthma, and other diseases, more broadly than simply by measuring direct health-care expenditure, is the ‘burden of disease approach’, which has been implemented in the Global Burden of Disease Study (Murray & Lopez 1994). In this approach, the impact of disease is quantified in terms of impact on survival (‘years of life lost’) and impact on functional capacity (‘years of life disabled’). The combined effect of both of these impacts is summarised as disability-adjusted life years (DALYs), which quantify the burden attributable to a specific disease. One DALY represents one year of lost ‘good health’. It is a summary measure that reflects the overall impact of a particular disease due to morbidity and mortality. The DALY is one measure for capturing the indirect costs of specific diseases by quantifying the impact on an individual’s experience of life in less-than-ideal good health (AIHW: Mathers et al. 1999).

In 2003, asthma was estimated to account for 2.4% of the total disease burden in Australia as measured by DALYs (AIHW: Begg et al. 2007).

The cost to individuals of having asthma has also been estimated recently in the cohort study of people with asthma in New South Wales described earlier (Kenny et al. 2005). The median costs per person were \$89 per year (range \$0 to \$4,882). The median costs included \$8 for services and \$40 for medications and asthma-related equipment (Kenny et al. 2005).

Summary

In summary, there are substantial health costs both to government and to individuals attributable to asthma care. However, the overall increase in the direct health-care costs attributable to asthma has been modest, largely due to the decrease in hospital admissions for asthma over recent years.