

Key points

- Urgent health service use for asthma reflects, in part, the impact of exacerbations of asthma in the population.

General practice encounters

- During the period 1998-99 to 2003-04, the average number of general practice encounters at which asthma was managed was 14.5 encounters per 100 population per year. This represents 3.7% of all general practice encounters over that period.
- Boys aged 0 to 4 years have the highest rate of asthma-related general practice encounters.
- Overall, the rate of general practice encounters for asthma has declined over the last 6 years, particularly in children aged 0 to 4 years.
- The Asthma 3+ Visit Plan is an incentive scheme designed to promote structured asthma care in general practice. Since its introduction in 2001, it is estimated that 3.9% of people with current asthma or 12.9% of people with moderate or severe asthma have utilised this service.
- Children and older adults with asthma are the most likely to access the Asthma 3+ Visit Plan, and young adults aged 15 to 34 years are the least likely.

Hospital emergency department visits

- Children aged 0 to 4 years have the highest rate of emergency department visits for asthma.
- People aged over 65 years and children aged 0 to 4 years are most likely to be admitted to hospital after going to an emergency department for asthma.

Hospitalisations

- Children, particularly those aged less than 5 years, have higher rates of hospitalisation for asthma than adults.
- There was a 43% reduction in the rate of hospital admissions for asthma among children and a 17% reduction among adults between 1993-94 and 2003-04.
- The average length of stay for people hospitalised for asthma fell from 2.9 days to 2.2 days between 1993-94 and 2003-04.
- The total hospital bed-days occupied by people with asthma decreased by 49% between 1993-94 and 2003-04.
- Among people aged 65 years and over, rates of hospitalisation for asthma are highest in the winter months, whereas, among children, the peaks occur in February and May.
- Among children, boys have higher rates of hospitalisation for asthma than girls, in keeping with the higher prevalence of asthma in boys. However, this trend is reversed after the age of 15 years when more females than males are admitted to hospital for asthma.

- Among people aged 35 years and over, rates of hospitalisation for asthma are higher in people living in more remote areas.
- Indigenous Australians have higher rates of hospitalisation for asthma than other Australians in all age groups.
- Rates of hospitalisation for asthma are higher among people living in more socioeconomically disadvantaged areas.

Asthma requiring mechanical ventilation

- In 2001-02, 15.3 out of every 1,000 hospitalisations for asthma among adults included a period of mechanical ventilation.
- The proportion of hospitalisations for asthma in which mechanical ventilation was instituted increased between 1998-99 and 2000-01.
- The highest proportion of hospitalisations for asthma requiring mechanical ventilation is among 35 to 64 year old adults.
- Persons of non-English-speaking background are more likely to require mechanical ventilation during a hospitalisation than English-speaking persons.

Re-attendances for asthma

- Approximately 8% of people who visit an emergency department for asthma or are admitted to hospital re-attend these services within 28 days.
- The highest rate of re-admissions is among people aged 15 to 64 years. Re-admission rates are higher in females than males.
- Following a hospitalisation for asthma, 5% of people are re-admitted to hospital for asthma within 28 days and a further 2% visit an emergency department.
- Approximately 5% of people who initially visit an emergency department for asthma re-visit the emergency department for asthma and a further 3% are admitted to hospital within 28 days.

Introduction

People with asthma seek health care for non-urgent reasons, such as routine review and prescription of usual asthma therapy, or for urgent management of disease exacerbations or 'attacks'. This chapter presents analyses of data on the use of health care services by people with asthma. In particular, there is a focus on the application of these data to investigate the nature of exacerbations of asthma at a population level. In addition, data on re-attendance for asthma care at emergency departments (EDs) and hospitals are described. These data may be used as an indicator of the quality of health care in the acute and post-acute setting in terms of its impact on the subsequent course of the disease.

Clinicians monitor markers of control of asthma to guide management and changes in medication. Well-controlled asthma indicates that the disease is mild and/or well managed and poor asthma control may indicate poor management. Hence, knowledge of the overall level of asthma control in the population provides some information on the effectiveness of the management of asthma in the community and the need for further efforts in improving asthma management. Most markers of disease control require clinical measures that are not readily available at a population level. However, exacerbations are one marker of poor asthma control that can be measured using urgent health care utilisation data as a proxy for the occurrence of exacerbations. Therefore, these data can be used to monitor levels of asthma control in the population.

There is empirical support for the interpretation of health care utilisation as a population-based indicator of the level of control of asthma (Cowie et al. 2001; de Marco et al. 2003; Herjavec et al. 2003; Vollmer et al. 2002). Additionally, there is evidence that factors that could predispose an individual to poorly controlled asthma have also been associated with greater health care utilisation. These include poor knowledge about asthma (Goeman et al. 2004; Radeos et al. 2001), absence of an asthma management plan (Adams et al. 2000; Fernandes et al. 2003; Radeos et al. 2001), poor self-management skills (Kennedy et al. 2003; Soriano et al. 2003) and limited access to primary care (Christakis et al. 2001). Furthermore, interventions that target improving asthma control through self-management plans and education have been shown to reduce urgent health care utilisation (Castro et al. 2003; Cote et al. 2001). However, the occurrence of exacerbations does not always indicate the presence of severe or poorly controlled asthma. Viral respiratory

tract infections cause disease exacerbations, even in people with otherwise well-controlled asthma (Reddel et al. 1998).

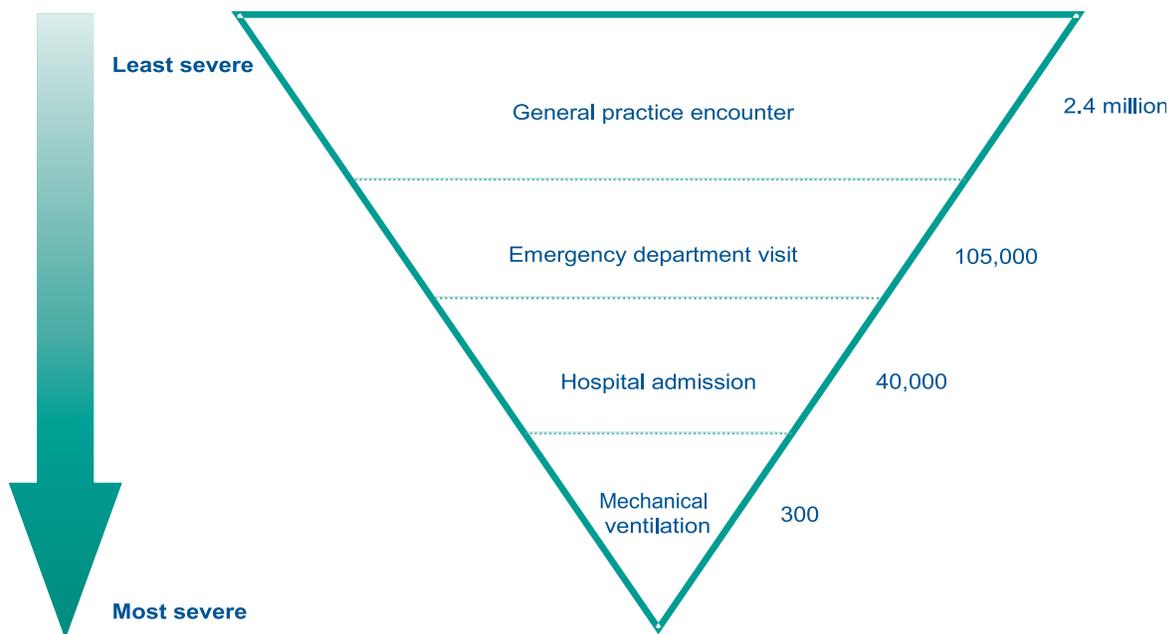
People with asthma who experience exacerbations of their disease may self-manage the episode or seek urgent medical care from their general practitioner. In more severe cases, they may seek care from a hospital emergency department. There is a relationship between severity of the exacerbation and type of health care used (Figure 5.1), which allows data on health care utilisation to be interpreted, indirectly, as evidence about the incidence and severity of disease exacerbations.

General practitioners provide the largest volume of care. However, this includes maintenance and review care for asthma as well as management of asthma exacerbations (represented by the wide area at the top of Figure 5.1). Emergency departments and hospitals are generally only used for the management of exacerbations of asthma. Figure 5.1 illustrates that, while exacerbations of greater severity make up a small proportion of asthma exacerbations, they require greater levels of intervention and this is reflected in the type of health care used (indicated by the arrow in Figure 5.1). The small area at the bottom of Figure 5.1 represents a subset of the most severe exacerbations that are life threatening. Some of these patients require assisted (mechanical) ventilation in the intensive care unit. The categories presented in Figure 5.1 are not mutually exclusive. A proportion of those cases managed by general practitioners subsequently visit an ED, which, for some patients, results in admission to hospital.

In summary, health care use attributable to exacerbations of asthma is an indicator, albeit imperfect, of the level of control of asthma in the community. The nature and intensity of health service use gives a further indication of disease control by reflecting the severity of the exacerbations of asthma.

Figure 5.1

Types of health service use, with approximate number of episodes of care for asthma in one year and severity of asthma exacerbations



5.1 General practice encounters

General practitioners (GPs) play a central role in the management of asthma in the community. This role includes assessment, prescription of regular therapy, education and review, and managing acute exacerbations of disease for most people with asthma. It is important to monitor data on general practice encounters for asthma to provide information on trends and differentials in the use of health care resources for asthma and in accessibility to general practice care for patients with asthma. Variations in resource utilisation and accessibility provide important information for policy and planning purposes, including the development and evaluation of community interventions.

Asthma-related visits to general practitioners may occur for a variety of reasons, including: the acute or reactive management of asthma symptoms; a review during or following an acute episode; or a visit for maintenance activities such as monitoring and prescription of regular medications. The GP may initiate an opportunistic review when the patient visits for another condition or the patient or the GP may schedule a structured asthma review visit.

With the introduction of a number of strategies to improve the management of asthma in general practice, there was an expectation that the number of planned review encounters would increase (at least initially), while visits for acute episodes or exacerbations of asthma would decrease. Although there is information on the number of review visits for which specific re-imbursment is claimed under the Practice Incentive Program (PIP) (see the section on 'Asthma 3+ Visit Plan PIP claims'), there is no data source that can provide information, separately, on the rate of acute and review asthma-related general practice encounters.

This section presents information on all asthma-related general practice encounters. These estimates are based on data from the Bettering the Evaluation and Care of Health (BEACH) survey (AIHW GPSCU 2002), which are derived from a set of encounters reported by a rolling random sample of general practitioners. Rates are expressed as population-based rates and as proportions of all general practice encounters. For more details about BEACH data and methods see Appendix 1, Section A1.3. A summary of these data is provided in Appendix 2, Table A2.10. This section also reports data on PIP claims for reimbursement for structured general practice review visits for asthma (the Asthma 3+ Visit Plan).