USING NSW HEALTH SURVEY DATA TO MONITOR ASTHMA PREVALENCE AND MANAGEMENT IN NSW

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Asthma is a major public health issue in Australia. State and commonwealth governments recognise asthma as a priority area for both policy development and resource allocation. To inform and evaluate policy in this field, measurements of indicators of the level of disease, time trends, distribution of disease burden, avoidable risk factors, and the institution of effective management practices, are all required. Routine data sources have value for this purpose, but with important limitations.

The most severe adverse outcome of asthma is death; and, on occasions, epidemics of asthma resulting in deaths have alerted authorities to important management problems.[1,2] However, death resulting from asthma is rare, and consequently mortality data are a poor guide to the burden of disease and the need for resource allocation. Fortunately, for most patients with asthma the most serious adverse outcome is admission to hospital. While hospital separation data do provide important insights into the distribution of the disease, both geographically and over time, these data also have limitations. Variation in hospital admission rates may reflect variation in disease prevalence, the effectiveness of disease management, accessibility of in-patient care, or a combination of these factors.

The policy implications of these alternative drivers of hospital separation rates are quite diverse. Other potential routine sources of information, such as medical consultation data (from the Health Insurance Commission) and the use of asthma medicines (from the Pharmaceutical Benefits Scheme) are limited in their interpretability by the lack of data linked to diagnosis. To provide adequate information on the broad range of asthma indicators, it is necessary to conduct health surveys specifically for this task. This article describes how the results from the NSW Health Survey Program have been used for this purpose.

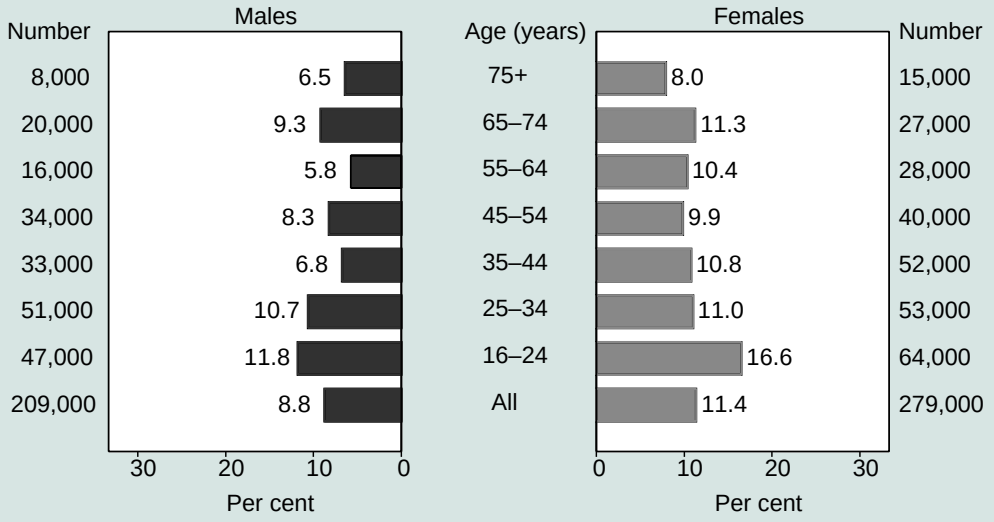
The NSW Health Surveys of 1997 and 1998 collected data on the prevalence of asthma symptoms, the effect of the disease, health service utilisation, and the extent of disease management practices among adults in NSW.[3]

Current asthma—that is, reported symptoms of and/or treatment for asthma within the last 12 months in respondents told by a doctor that they had asthma—was present in 8.8 per cent of men and 11.4 per cent of women. The prevalence of current asthma tended to decrease with age (Figure 1). Higher rates were observed in people born in Australia compared with people born overseas. There was some variation between health areas, with certain rural areas having higher than average rates.

Most people with asthma (67.5 per cent) reported that it had not interfered with their activities at all during the

FIGURE 1

CURRENT DOCTOR DIAGNOSED ASTHMA BY AGE AND SEX, PERSONS AGED 16 YEARS AND OVER, NSW 1997 AND 1998

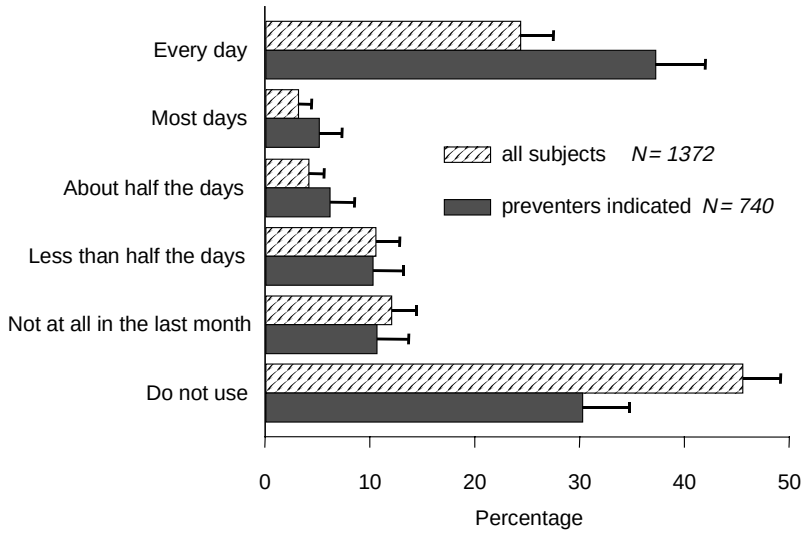


Note: Estimates based on 35,025 respondents (17,531 in 1997; 17,494 in 1998). 55 (0.2%) not stated for current doctor diagnosed asthma.

Source: NSW Health Surveys 1997 and 1998 (HOIST). Epidemiology and Surveillance Branch, NSW Department of Health.

FIGURE 2

DISTRIBUTION OF FREQUENCY OF USE OF PREVENTER MEDICATIONS AMONG ALL SUBJECTS WITH CURRENT ASTHMA AND SUBJECTS WITH ASTHMA FOR WHOM PREVENTERS ARE INDICATED



Note: Upper 95 per cent confidence intervals are shown.

preceding 12 months. However, for 11.6 per cent of people with asthma, the disease interfered with activities 'a lot' or 'extremely'; and 6.9 per cent had 10 or more days in the preceding year in which they could not go about their normal activities or tasks because of asthma. Sleep disturbance due to asthma occurred on 10 or more nights in the preceding month in 9.3 per cent of respondents with current asthma.

Health service utilisation for asthma is an indicator of the severity of disease and the accessibility of health care. Nearly nine percent of respondents had visited their general practitioner (GP) for the treatment of asthma three or more times in the preceding year. Overall, 6.4 per cent reported having visited a hospital Emergency Department because of an exacerbation of asthma in the past year; and, of these, one quarter (1.7 per cent of all with current asthma) had attended on more than one occasion in that time. Admission to hospital is a rare event for most adults with asthma—only 3.5 per cent had been admitted for an exacerbation within the preceding year.

Two key elements of asthma management are the regular use of medications that prevent asthma, and the possession of a written asthma management plan.[4] However, not all patients with asthma require these interventions. Data from the NSW Health Survey were used to identify a sub-group of people with asthma for whom current guidelines would recommend use of preventer medications.[5] These were people who reported one or more of the following:

- sleep disturbed by asthma 3–4 nights or more in the last month;
- used medication to relieve the symptoms of asthma half the days, or more, during the last month;
- asthma interfered with ability to work, study, or ability to manage day-to-day activities to a moderate, or greater, extent during the last month;
- visited a GP for an attack of asthma three or more times in the last 12 months.

These criteria identified 54 per cent of people with current asthma aged 16 to 54 years. Of these individuals, no more than 43 per cent were using preventer medications effectively; that is, on most days of the preceding month (Figure 2). Further analysis revealed that younger adults were more at risk of non-compliance with regular use of preventer medications. However, gender and rural (as opposed to urban) residence were not risk factors for non-compliance. Less than half of those with more severe asthma, for whom preventer medications were indicated, had a written asthma management plan. This tended to be least common in those who purchased their medications for the relief of asthma symptoms 'over the counter'.

Future health surveys, using a similar methodology, have the potential to extend the knowledge gained from this survey by examining time trends in these indicators. More challenging tasks lie ahead, such as how to use health surveys to identify the impediments to implementation of effective management. When the avoidable risk factors for asthma have been identified with more certainty, future surveys will have an important role in monitoring exposure to those risk factors.

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REFERENCES

1. Inman W, Adelstein A. Rise and fall of asthma mortality in England and Wales in relation to use of pressurised aerosols. *Lancet* 1969 ; ii: 279–84.
2. Pearce N, Grainger J, Atkinson M, Crane J, Burgess C, Culling C, et al. Case-control study of prescribed fenoterol and death from asthma in New Zealand, 1977–81. *Thorax* 1990; 45: 170–5.
3. Public Health Division. Report on the 1997 and 1998 NSW Health Surveys. Sydney: NSW Department of Health, 2000; www.health.nsw.gov.au/public-health/nswhs/hsindex.htm.
4. National Asthma Campaign. *Asthma Management Handbook*. 4th edition. Melbourne: National Asthma Campaign Ltd, 1998.
5. Marks G, Jalaludin B, Williamson M, Atkin N, Bauman A. Use of 'preventer' medications and written asthma management plans among adults with asthma in New South Wales. *Med J Aust* 2000; 173: 407–10.

PREVALENCE AND MANAGEMENT OF DIABETES IN NSW: IS CARE ADHERING TO THE CLINICAL GUIDELINES?

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Diabetes is among the most costly of health conditions both for the person with diabetes and its complications and for the health service providing care.[1] There is now good evidence that optimal standards of care for people with diabetes will ultimately reduce the burden of the disease on individuals and the community.[2]

In 1996, the NSW Principles of Care and Guidelines for the Clinical Management of Diabetes Mellitus (the Guidelines) were developed by an expert group of clinical and public health professionals, and consumer representatives.[3] The Guidelines were aimed at improving the primary care of diabetes and reducing its complications. Since 1997, these Guidelines have been disseminated through primary care and professional

TABLE 1

PRINCIPLES OF CARE AND CLINICAL MANAGEMENT GUIDELINES AND THE KEY INDICATORS FOR MEASURING CONFORMITY TO BEST PRACTICE DIABETES MANAGEMENT.

Principles of Care and Clinical Management Guidelines	Corresponding Indicator(s)
It is a fundamental right of people with diabetes to have access to general **education** about diabetes, its effects and self management skills	Proportion of people with diabetes who have ever seen a diabetes educator.
It is a fundamental right of people with diabetes to have access **to dietary assessment and education**	Proportion of people with diabetes who have ever seen a dietitian.
It is a fundamental right of people with diabetes to have access to **regular clinical screening** and **ongoing care**.	Proportion of people with diabetes who have ever seen an eye specialist. Proportion of people with diabetes who have ever seen a podiatrist.
Ensure a comprehensive opthalmological examination is carried out every 1-2 years	Proportion of people who have had the back of their eyes checked for diabetes-related eye problems at least once in the last 12 months.
Measure blood pressure every visit	Proportion of people who had their blood pressure measured in the last 3 months.
Examine feet at every visit or every six months	Proportion of people who had their feet checked for signs of ulcers, infections and abnormalities by a health professional at least twice in the last 12 months.
Measure cholesterol every 1-2 years or 3-6 months if abnormal or on treatment	Proportion of people who had their cholesterol measured in the last year.