Monitoring National Health Priority Areas in WA
Asthma

Healthy Workforce • Healthy Hospitals • Healthy Partnerships • Healthy Communities • Healthy Resources • Healthy Leadership

WA Health and Wellbeing Surveillance System
Epidemiology Branch

Bulletin 1

Delivering a Healthy WA

Asthma has been identified as one of the seven National Health Priority Areas[1] because it is a condition that imposes a significant burden of disease on the population. In WA, for children aged up to fourteen years, asthma accounted for 20% of the total burden of disease for that age group and about 2.5% for people aged between fifteen and twenty-four[2]. In 2004, asthma was responsible for 4,485 presentations at WA metropolitan Emergency Departments[3] and in 2003-04 accounted for 3,167 admissions[4] to WA hospitals. Claiming 137 lives in WA in the period from 1999 to 2003[5], asthma is a condition that has the potential for health gains and improved outcomes. Better health outcomes for people with asthma are due to improved and more readily accessible therapy, and to more effective management strategies.

The Australian Centre for Asthma Monitoring outlines a number of national indicators that serve to track the progress of strategies to reduce the number of people with asthma and to improve the quality of life for those who do have asthma. The purpose of this bulletin is to provide information that has been collected through the **WA Health and Wellbeing Surveillance System**, on the status of these indicators for the WA population.

The WA Health and Wellbeing Surveillance System surveys over 6,500 Western Australians every year, collecting information on a wide range of health and wellbeing issues, including asthma.

Table 1 presents the prevalence[a] of these indicators in the WA population in 2004. Half of all the people who reported that they currently have asthma were also overweight or obese and more than one in five smoked. Smoking was permitted inside one-sixth of the households where a child with asthma lived.

Key Implications

The results presented in this bulletin suggest there are opportunities for health gains for asthma by:

- *Reducing the proportion of overweight and obese people, particularly women*
- *Reducing the proportion of smokers*
- *Reducing the proportion of people who allow smoking in the home*
- *Recognising the association asthma has with the mental wellbeing of people*

Monitoring asthma in WA

The national asthma indicators monitored by the WA Health and Wellbeing Surveillance System[6] are:

- Prevalence of ever having doctor-diagnosed asthma
- Prevalence of current doctor-diagnosed asthma
- Prevalence of smoking among persons with asthma
- Prevalence of smoking in households where children with asthma reside
- Prevalence of obesity and overweight in people with asthma

Table 1 Prevalence of current and ever diagnosed asthma and known risk factors for asthma, WA, 2004

Indicator	Age of Population	Percent	Estimated No. of people[7]
Prevalence of ever having doctor-diagnosed asthma in males	All ages	18.7%	191,079
Prevalence of ever having doctor-diagnosed asthma in females	All ages	19.3%	184,961
Prevalence of current doctor-diagnosed asthma in males	All ages	11.3%	111,578
Prevalence of current doctor-diagnosed asthma in females	All ages	12.1%	110,166
Prevalence of males with asthma who are overweight or obese	5 yrs & over	52.9%	53,039
Prevalence of females with asthma who are overweight or obese	5 yrs & over	48.8%	56,366
Prevalence of males with asthma who are currently smokers	16 yrs & over	24.2%	18,488
Prevalence of females with asthma who are currently smokers	16 yrs & over	22.2%	20,537
Prevalence of children with asthma who live in houses where smoking permitted inside	0-15 yrs	15.0%	63,998

Source: WA Health and Wellbeing Surveillance System

[a]The term prevalence is equal to the percent or proportion of a population who have a condition.

Department of Health
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Epidemiology Branch

Quality of life and asthma

The WA Health and Wellbeing Surveillance System collects two types of health status information, which can tell us something about the quality of life for those with asthma.

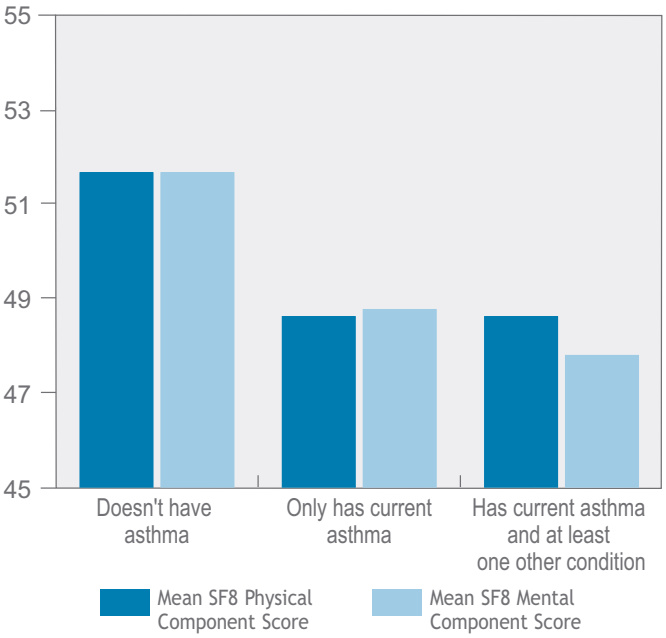
The first uses the SF8 measure, which estimates the effect of conditions, such as asthma, on physical and mental functioning. Two scores are calculated, one for physical functioning and one for mental functioning. The scores are standardised so that a score of 50 is 'an average level of functioning'. Figure 1 compares the mean scores for those with and without asthma.

Figure 1 shows that having asthma with or without other conditions significantly decreased both mental and physical functioning.

The second health status indicator is a single question that asks people to compare their health now with their health twelve months ago. Figure 2 presents the results for this indicator.

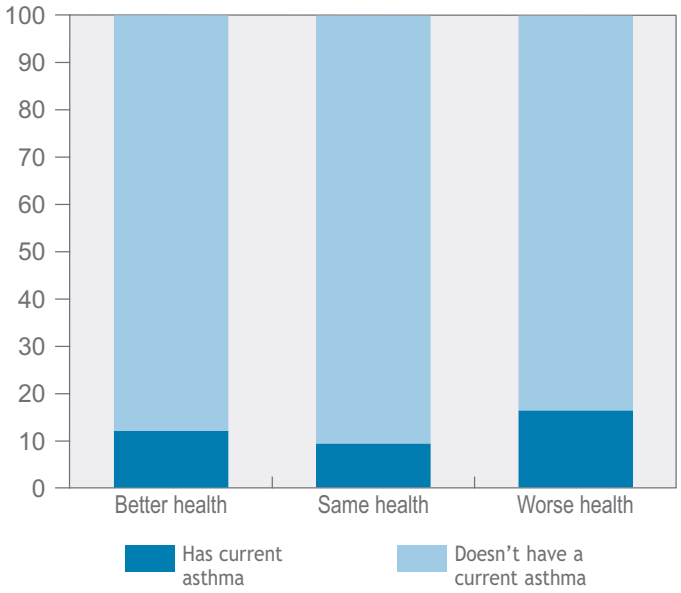
Figure 2 shows that people who rated their health as worse now than it was 12 months ago were more likely to have asthma (16.3%) compared with people who rate their health as being the same (9.3% have asthma) or better (12% have asthma).

Figure 1 Mean scores for physical and mental functioning by condition, persons aged 25 years and over, WA, 2004



Source: WA Health and Wellbeing Surveillance System

Figure 2 Percent who currently have asthma by present health compared with health 12 months ago, persons aged 16 years and over, WA, 2004



Source: WA Health and Wellbeing Surveillance System

Profiling people with asthma

Table 2 shows that asthma is primarily a condition found in the younger age groups. Most hospitalisations for asthma are among children from birth to four years of age[4] and thirty per cent of metropolitan Emergency Department presentations for asthma are at Princess Margaret Hospital for Children. However, deaths due to asthma usually occur among people over the age of 65 years[5].

Table 2 Percent of people who report currently having asthma by age group, WA, 2004

Age group	% of Males	% of Females
Children aged 0 to 15 years	15.4	12.5
People aged between 16-24 years	15.2	17.1
People aged between 25-44 years	10.9	11.0
People aged between 45-64 years	6.4	11.9
People aged 65 & over years	7.7	8.6

Source: WA Health and Wellbeing Surveillance System

A greater proportion of boys up to the age of fifteen who live in homes where smoking is permitted inside, men aged 16 and over who are smokers or who once smoked, and women aged 18 and over who are overweight or obese, reported having asthma.

Table 3 shows that the prevalence of asthma was higher for certain groups of people who are in risk categories.

Table 3 Percent of people who report currently having asthma by risk category, WA, 2004

	Percent of males with asthma		Percent of females with asthma	
Risk category	Have risk factor	Do not have risk factor	Have risk factor	Do not have risk factor
Children with asthma living in a home where smoking is permitted inside (0-15 years)	▲25.2	15.4	13.1	12.5
Smokes now or in the past (16+ years)	▲11.7	7.8	12.7	11.3
Overweight or obese (18+ years)	9.9	9.4	▲14.8	10.2

▲ *Indicates that the difference is statistically significantly higher for those who are in the risk category compared with those who are not in the risk category.*

Source: WA Health and Wellbeing Surveillance System

People share characteristics, for example a person can be female, a smoker, of normal weight and live in a socially disadvantaged area. Table 4 shows the likelihood of an adult reporting currently having asthma when a combination of personal characteristics was taken into account. The "odds ratio" indicates how much more or less likely a person was to report having asthma[b]. An odds ratio greater than one indicates an increased likelihood and an odds ratio less than one indicates a decreased likelihood of reporting asthma. Characteristics associated with an increased likelihood among adults of reporting asthma were having a mental health problem, being obese, not having enough money to get by each week, being male, living in an area that is classified as the most disadvantaged socially and economically[8] and being a current smoker. Table 4 also shows that being able to save money regularly and living in areas classified as the middle range of socio-economic disadvantage were associated with a decreased likelihood of reporting asthma.

Table 4 shows that for adults, being aged less than 25 years almost doubled the likelihood of reporting asthma and was the single most important characteristic among people aged 16 years and over.

Table 4 Significant associations with reported current asthma and personal characteristics, persons aged 16 years and over, WA, 2004

Characteristics	Odds Ratio
Aged between 16 and 24 yrs	1.87
Currently having treatment for mental health problem	1.69
Obese	1.57
Not enough money to get by	1.43
Male	1.36
Living in an area classified as most socially and economically disadvantaged	1.35
Currently smokes	1.31
Aged between 25 and 44 yrs	1.23
Living in an area classified as in the middle range of social and economic disadvantage	0.74
Able to save money regularly	0.64

Source: WA Health and Wellbeing Surveillance System

[a]Binary logistic regression was used to calculate the Odds Ratios. Only results statistically significant at the .05 level are reported. The data are self reported and can be used to identify associations but not causal relationships. The model does not account for other possible associates of reporting asthma, such as environmental factors or interactions between characteristics. Each odds ratio shown indicates an estimated increased likelihood of current asthma, compared to 'reference groups' that were assigned odds of 1. The reference groups used in the regression were people aged 65+ years, females, and people who have never smoked, are not being treated for mental health problems, live in households that can save a lot (perceived household spending power), and live in areas classified as least socio-economically disadvantaged. Each personal characteristic was selected for inclusion in the regression based on bivariate correlation analysis.

Table 5 shows that, for children, the characteristics that increased the likelihood of reporting current asthma were similar to adults. Children reported to have emotional or behavioural problems were twice as likely to report asthma and being male also increased the likelihood of reporting asthma. Children who lived in areas classified as the middle range of social and economic disadvantage were less likely to have asthma.

Table 5 Significant associations with reported current asthma and personal characteristics, children aged up to 15 years, WA, 2004

Characteristics	Odds Ratio
Currently has a problem with emotions or behaviour	1.93
Male	1.28
Living in an area classified as in the middle range of social and economic disadvantage	0.69

Source: WA Health and Wellbeing Surveillance System

Trends over time

The WA Health and Wellbeing Surveillance System started to collect ongoing information in 2002. Table 6 shows whether or not there have been changes since 2002 in asthma indicators in WA. Indicators are presented by sex when there are differences in the trends. The data for 2004 is compared with data from 2002 and 2003. Only statistically significant trends are reported as changes.

Table 6 Indicator trends over time, 2004 compared with 2002 and 2003, WA

Factor	Favourable trend	Little or no change	Unfavourable trend
Prevalence of ever having had asthma for males		✓	
Prevalence of ever having had asthma for females		✓	
Prevalence of currently having asthma for males			✓
Prevalence of currently having asthma for females		✓	
People with asthma who smoke		✓	
Men with asthma who are overweight or obese		✓	
Women with asthma who are overweight or obese			✓
Households with asthmatic child where smoking permitted	✓		

Source: WA Health and Wellbeing Surveillance System

The results in this bulletin provide further evidence to support the goals of the National Asthma Action Plan[9], which include:

- Improving the quality of life and health outcomes for people with asthma
- Reducing the social and economic impact of asthma
- Reducing the prevalence, incidence, severity and risk of asthma

End Notes and References
1. The National Health Priority Areas. Internet address: http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/health-pq-asthma-index.htm
2. Somerford P, Katzenellenbogen J and Codde J (2004) WA Burden of Disease Bulletin No 4 Major Causes of Disease Burden: An Analysis by Age. Epidemiology Intranet website: http://intranet.health.wa.gov.au/corpdocs/hic/Epidemiology/New_Epi/Data/Publications/BOD/BOD5.pdf
3. Produced from the EDIS system for metropolitan Emergency Departments, Department of Health WA. May 2005
4. Produced from the Hospital Morbidity Data System, Department of Health WA. May 2005.
5. Health status report on asthma related mortality for the State. Epidemiology Branch, Department of Health. February 2005. http://intranet.health.wa.gov.au/corpdocs/hic/Epidemiology/New_Epi/profiles/Rpt3.asp
6. The WA Health and Wellbeing Surveillance System is a self-report data collection system using a telephone interview of 550 people monthly who answer questions about their health and wellbeing. For more information contact the Epidemiology Branch or visit the website http://www.health.wa.gov.au/publications/pop_surveys.cfm
7. Populations are estimates based on the 2004 Estimated Resident Population (ABS) extracted from the Epidemiology Rates Calculator.
8. The Australian Bureau of Statistics developed SEIFA 2001. It is a measure of relative social and economic wellbeing assigned to geographic areas. The index used in this report was the index of Advantage/Disadvantage divided into quintiles from 1 most disadvantaged to 5 least disadvantaged.
9. Australian Centre for Asthma Monitoring 2005. Measuring the Impact of Asthma on Quality of Life in the Australian Population - Asthma Data Development Plan 2005. AIHW cat no ACM 4. Canberra: AIHW
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