

Summary of Indigenous health: respiratory disease

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This summary of respiratory disease in the Australian Indigenous population is one of a series in the *AIHW Journal*. The objective of the series is to provide statistical information about specific areas of Indigenous health. Future summaries will focus on specific health conditions such as eye disease, cardiovascular disease and diabetes. The series draws largely on published information, some of which may be re-analysed to provide clearer comparisons between Indigenous and non-Indigenous people.

Introduction

Respiratory diseases are major causes of illness and death in the Indigenous population and have contributed to high rates of hospitalisation and mortality since at least the 1980s [1, 2]. In addition to medical reasons, factors contributing to respiratory diseases include socio-economic disadvantage, poor environmental living conditions, substantial poverty, and a lack of basic health services [3].

Despite the fact that many infective respiratory conditions are vaccine-preventable, they are still the most common disorder in children under 5 years of age [4]. Surveillance has been conducted in many Indigenous communities, but there is still little formalised documentation of the management for respiratory disease in Indigenous children. Insufficient attention has been directed generally to preventive strategies including increasing rates of immunisation and breastfeeding, and reducing exposure to cigarette smoke [5, 6].

Mortality and hospitalisation

In 1999-2001, disease of the respiratory system was the fourth most common cause of death for Indigenous males (8.2% of all deaths) and the fifth most common cause of death for Indigenous females (8.2%) living in Queensland, WA, SA, and the NT combined [7]. The number of Indigenous deaths from respiratory disease was more than four times the number expected from rates for the non-Indigenous population. Importantly, respiratory disease was responsible for more than 9% of the excess deaths of Indigenous people.

The leading respiratory cause of death for both Indigenous males and females living in WA, SA and the NT combined in this period was chronic lower respiratory disease, for which cause there were around five times more deaths than expected (Table 1).

Table 1 Respiratory disease: numbers 1 of Indigenous deaths and standardised mortality ratios (SMRs) 2, by sex, WA, SA and the NT, 1999-2001.

Category of respiratory disease	Males		Females		Persons	
	Number	SMR	Number	SMR	Number	SMR
All respiratory diseases	134	5.2	92	4.5	226	5.0
Pneumonia and influenza	10	12.5	6	15.0	16	13.3
Chronic lower respiratory diseases	66	4.7	51	5.0	117	4.8
Other respiratory disease	58	5.3	35	3.5	93	4.4

Source: Derived from data provided by the AIHW National Mortality Database and ABS low series population projections

Notes: 1. The numbers and SMRs in this table have not been adjusted for the likely under-identification of Indigenous people in deaths registrations, and could be up to 30% higher.

2. Standardised mortality ratio (SMR) is the ratio of the actual number of deaths identified as Indigenous and the number expected from the age-specific rates of the same-sex non-Indigenous population.

Hospitalisation

In 1999-2000, hospitalisation rates for respiratory disease were much higher for Indigenous people than for non-Indigenous people (Table 2) [8]. During this period, respiratory disease accounted for 15.2% of the 51,880 hospital separations (completion of an episode of hospital care – discharge, transfer to another hospital or care facility for

dying) of Indigenous males in Australia (excluding those for renal dialysis). For Indigenous females, hospitalisation for respiratory disease was responsible for 14.4% of 53,351 separations (excluding those for renal dialysis and pregnancy-related conditions). Rates for Indigenous people were particularly high in infancy and early childhood. Source: Lehoczky et al., 2002

Table 2 Numbers and proportions of Indigenous separations for respiratory conditions 1 and Indigenous: non-Indigenous rate ratios, 2 by sex and condition, Australia, 1999-2000.

Principal diagnosis	Males			Females		
	Number of separations ⁴	Proportion of separations	Rate ratio ²	Number of separations ⁴	Proportion of separations	Rate ratio ²
Acute URTI ³	1047	2.0	1.7	956	1.8	2.5
Influenza and pneumonia	2417	4.7	4.6	2114	4.0	4.9
Other acute LRTI ³	1802	3.5	4.7	1613	3.0	5.7
All ARI ³	5266	10.2	n/a	4683	8.8	n/a
Other URT ³ conditions	338	0.7	0.4	383	0.7	0.4
Chronic LR ³ diseases	1879	3.6	3.0	2322	4.4	4.1
Other respiratory diseases	397	0.8	1.9	281	0.5	2.6
All respiratory diseases	7880	15.2	2.6	7669	14.4	3.2
All separations ¹	51880	100.0		53351	100.0	

- Notes:
- 1 Separations for dialysis and pregnancy-related conditions have been excluded in the calculation of the proportions to provide a better indication of the proportional impact of respiratory conditions within the overall Indigenous burden of disease.
 - 2 Rate ratio is the Indigenous rate divided by the non-Indigenous rate.
 - 3 URTI-Upper respiratory tract infection, LRTI-Lower respiratory tract infection, ARI-Acute Respiratory Infection, URT-Upper respiratory infection, LR-Lower respiratory.
 - 4 These figures under-estimate the actual numbers of hospital separations, so caution should be exercised in interpretation of the numbers and rate ratios.

Acute respiratory infections (ARI)

Information on the incidence of ARI among Indigenous children is scarce, but longitudinal data on 66 Aboriginal children living in remote areas of the NT in the mid 1990s found that there was an average of five episodes of respiratory illness necessitating clinic attendance during the first year of life [9].

In 1999-2001 ARIs caused relatively few deaths among Indigenous people living in WA, SA and the NT (Table 1). For hospitalisation in Australia in 1999-2000, ARIs were responsible for around one-tenth of hospitalisations of Indigenous males, and for more than one-twelfth of those of Indigenous females (excluding those for renal dialysis and pregnancy-related conditions) (Table 2) [8]. Influenza and pneumonia were the most common specific conditions requiring hospitalisation, with rates for Indigenous

males and females 4.6 and 4.9 times respectively those for non-Indigenous males and females.

Chronic respiratory conditions

Just over half (52%) of all deaths from respiratory diseases within the Indigenous population of WA, SA and the NT in 1999-2001 were caused by conditions in the ICD-10 group 'Chronic lower respiratory diseases' (Table 1). The actual impact of chronic respiratory conditions is likely to be much greater however, as many of the deaths coded to the group 'Other respiratory disease' could also be considered as chronic lower respiratory diseases.

Chronic lower respiratory diseases were responsible for 3.6% of Indigenous male hospital separations in Australia in 1999-2000, and for 4.4% of Indigenous female separations (Table 2). Indigenous:non-Indigenous separation

rate ratios were for 3.0 for males and 4.1 for females.

According to the 2001 National Health Survey (NHS), 33% of Indigenous people reported that they had a long-term respiratory condition, compared with 30% of non-Indigenous people (after adjusting for differences in the age structures of the two populations) [2].

Specific chronic respiratory conditions

The main chronic lower respiratory diseases are emphysema, chronic bronchitis, bronchiectasis, and asthma. There is virtually no detailed information on the prevalence of emphysema and chronic bronchitis among Indigenous people, but it is likely that rates will be very high due to the higher prevalence of smoking in the Indigenous population [10].

In the NHS (2001) asthma was the specific respiratory condition most commonly reported by both Indigenous people (17%) and non-Indigenous people (12%), but was reported more frequently by Indigenous people than by non-Indigenous people for every age group [11]. Indigenous people living in remote areas reported having asthma slightly less frequently (15%) than did those living in urban and rural areas (18%) [2] but other evidence is inconsistent [12, 18, 13].

Bronchiectasis, which now occurs rarely in developed countries (except in patients with cystic fibrosis), is still a major problem for Indigenous children, particularly in central Australia. The recent prevalence in this region is 1.5% among children aged 15 years or younger, and the median age at diagnosis for children with bronchiectasis is 4.8 years [14]. Almost 95% of children with bronchiectasis had had at least one previous admission for pneumonia, with a median age of 6 months for the first admis-

sion.

Summary

Respiratory disease, like many other disorders afflicting Indigenous people, results in high morbidity and mortality. Much of this can be directly attributed to the poor environmental and socioeconomic conditions in which many Indigenous people live, exacerbated, in some cases, by less than optimal medical management [15].

Reducing the impact of ARI among Indigenous populations will require broad-ranging environmental changes. These changes include improvements in housing, waste disposal, and water and power supply [3]. These improvements need to be accompanied by strategies that promote protection from ARI, including, breast-feeding, improved weaning practices, childhood immunisation, frequent washing of hands and faces, cessation of smoking and improved case management. It will be necessary to allocate adequate resources and develop appropriate standard treatment protocols, training, supervision and evaluation.

For chronic respiratory disease the contributing factors that are most applicable to interventions for Indigenous people are smoking, sub-standard/overcrowded housing, and poor nutrition [15]. As well, it is vital that established respiratory conditions among Indigenous people are diagnosed and managed to the same high standards experienced by other Australians.

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