

## Health of residents of Port Augusta

### SUMMARY

#### Respiratory illness in pre-school children in Port Augusta

In 1993, preschool children in Port Augusta had the highest prevalence of asthma, dry cough and hay fever in South Australia; the second highest prevalence of wheeze in the past 12 months and excessive head colds; and third highest prevalence for ever wheezed and bronchitis<sup>1</sup>. There are no published reports exploring the reasons for these high rates in Port Augusta, but exposure to particulates from outdoor air pollution, including coal-fired power stations, is a possible contributory factor. No comparable published studies have been done since that time to assess trends in these rates.

#### Lung cancer in residents of Port Augusta

In the three years 2005-2007, there were 36 cases of newly diagnosed lung cancer in Port Augusta residents, at a rate double the expected number. When the analysis was extended to cover the period 1998-2007, a total of 82 cases of newly diagnosed lung cancer were identified at a rate 1.45 times that expected<sup>2</sup>. While cigarette smoking in the decades preceding diagnosis is likely to be the major contributing factor for lung cancer, exposure to particulate matter, a known risk factor for lung cancer, during these same decades cannot be excluded as a contributing factor in some of these cases, especially in cases who were not smokers. However, there was inadequate data on the smoking history of the cases to allow for this to be quantitatively assessed.

<sup>1</sup> Volkmer RE, Ruffin RE, Wigg NR, Davies N. The prevalence of respiratory symptoms in South Australian preschool children. 1. Geographic location. *J. Paediatr. Child Health* 1995;31; 112-115.

### DISCUSSION

This study was based on data collected in 1993 from 14,124 families in South Australia with a child aged 4 years 3 months to 5 years of age. The sample represented 73% of the State preschool population of that age. Data from this well designed population-based study was analysed to determine the geographical distribution of respiratory symptom prevalence within South Australia.

The Adelaide region prevalence rates for the respiratory symptoms (asthma, ever wheezed, wheeze in the past 12 months, bronchitis, dry cough, hay fever, eczema and excessive head colds) were similar to the State prevalence rates, while the rates in Post Pirie, Port Augusta and Whyalla (the "Iron Triangle") were significantly higher than the State prevalence rate for all symptoms except eczema.

For Port Augusta, the prevalence of asthma was the highest in the State (30.7% [28.1-33.3] compared to the State rate of 22.5% [22.1-22.9]). The prevalence for dry cough was also the highest for the State at 46.1% [43.4-48.9] compared to the State

rate of 33.7 [33.3-34.1]. Hay fever prevalence rates in Port Augusta were also the highest in the State (38.8% [ 36.0-41.6] compared to the State rate of 29.7% [29.3-31.1]).

The prevalence for wheeze in the past 12 months and excessive head colds were the second highest in the State while “ever wheezed” and “bronchitis” rates were the third highest in the State.

The study authors recommended further research to determine potential reasons for the significant geographic variation in prevalence rates, including cultural or social clustering of children at risk, the transfer of populations to sites of perceived lower risk, age of housing, indoor allergen exposure, outdoor industries, indoor and outdoor pollution by particulates and gases and outdoor allergens.

## <sup>2</sup> Correspondence between the Port Augusta City Council and SA Health

As a result of concern about higher levels of cancer among residents of Port Augusta, the Port Augusta City Council sent a letter to the Minister for Health on 18 December 2009 requesting information on official statistics for cancer. On behalf of the Minister, the South Australian Cancer Registry responded on 5 February 2010.

While the overall cancer rate (for newly diagnosed cancer) for residents of Post Augusta (for the three years 2005-2007) was consistent with the rates for South Australia as a whole, there was an unexpected and statistically significant increase in the rate of lung cancer for Port Augusta. There were 36 cases of lung cancer newly diagnosed during these 3 years with a rate double the expected number [Confidence Interval 1.41-2.78]. This was attributed to smoking rates being increased in Port Augusta compared to South Australians generally (citing data for the period 1990-2003 where 32.6% of Port Augusta residents aged 15 years or over reported being smokers compared to the State rate of 25.7%).

Subsequent correspondence between the Council and Cancer Registry (Letter from the Council dated 25 February, follow-up letter dated 20 April and reply from the Chief Executive, SA Health dated 23 April 2010) highlighted the fact the exposures of interest for lung cancer will pre-date the diagnosis of cancer by several decades. A further analysis for lung cancer in Port Augusta between 1998 and 2007 was conducted where 82 cases were identified with a rate 1.45 times higher than expected [Confidence Interval 1.15-1.8].

The response acknowledged that fine particulate matter, emitted by cars, trucks and coal-fired power plants and factories, is a known risk factor for lung cancer, but that such exposure would have occurred several decades prior to diagnosis. The letter concluded by stating that

“[W]hile it is important for the City Council of Port Augusta to make sure that the air quality in Port Augusta is optimal and that local industry conforms to EPA [Environmental Protection Agency] standards, it is also important that the Council continues to support programs that lead to a reduction in tobacco smoking among Port Augusta residents”.

The Council, in a subsequent letter to the Minister for Environment and Conservation dated 27 May 2010, noted that the Council had limited authority to ensure that air quality is optimal and that this is rather the role of the EPA. The Minister was asked to provide advice as to how the EPA will ensure that air quality in Port Augusta is optimal and that local industry confirms to EPA standards. At the end of December 2011 no reply had been received from the Minister to this letter.