

LETTER TO THE EDITOR

POLLUTANT EXPOSURES: BACK TO BASICS

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I read with interest the two abstracts reporting research on air pollution and daily hospital admissions in Sydney¹ and air pollution and daily mortality in Sydney². I was, however, concerned when I read that these studies had "estimated the exposure of the Sydney population to air pollution by averaging the available daily exposure data across the network to get a citywide mean". In doing so, the investigators have ignored the spatial variation that is so apparent in air pollution in the Sydney region.

There is no doubt that air pollution in Sydney varies both spatially and temporally. The importance of this is such that the NSW Environment Protection Authority now supplements its Sydney pollution index (a single number representing pollution levels in the whole of Sydney for a whole day) with a regional pollution index (am and pm values for eastern Sydney, south-western Sydney, and north-western Sydney)³. In terms of spatial variation it is clear that ozone (O₃) tends to reach higher levels in Sydney's west and south-west⁴ and that nitrogen dioxide (NO₂) is likely to be higher in concentration in the inner areas of Sydney. Particulates, such as lead, are also likely to be in higher concentration in the inner areas of Sydney⁵ and indeed higher adjacent to heavily trafficked roads than away from such roads. As such, residents living in Sydney's south-west, for example, are likely to be exposed to a very different cocktail of pollutants (and allergens) than residents living in Sydney's inner suburbs.

Some time ago, Whittemore commented that "investigations comparing acute respiratory events with temporal pollutant fluctuations should continue, using better design, better analysis, and better exposure assessment techniques"⁶. Perhaps a more insightful study design would have broken Sydney into regions corresponding to our knowledge of Sydney's varying air pollution problems. In doing so, perhaps daily hospital admissions to hospitals in Sydney's south-west could have been analysed alongside records of air pollution from the monitors in that region.

Readers should also be aware of the limitations of hospital admission data. Such data are only an indicator of the most severe attacks of diseases such as asthma and will not necessarily reflect lesser changes in morbidity such as would be reflected in measures such as hospital attendances or through the use of symptom diaries or peak expiratory flow-rate diaries.

1. Morgan G, Corbett S, Wlodarczyk J. Air pollution and daily hospital admissions in Sydney. *NSW Public Health Bulletin* 1996; 7(12):145.
2. Morgan G, Corbett S, Wlodarczyk J, Lewis P. Air pollution and daily mortality in Sydney. *NSW Public Health Bulletin* 1996; 7(12):146.
3. New South Wales Environment Protection Authority. Quarterly Air Quality Monitoring Report, Part A: EPA Data, October-November-December 1995, 1996; 21(4).
4. Hyde R, Johnson GM. *Pilot study: evaluation of air quality issues for the development of Macarthur South and South Creek Valley regions of Sydney*. Prepared for the NSW Department of Planning; NSW State Pollution Control Commission; Commonwealth Department of Transport and Communications, Domestic Aviation Division. Final Report, December 1990. CSIRO MRL RIR 1885R.
5. Australian Nuclear Science and Technology Organisation, University of New South Wales, Macquarie University. Contributions of Fuel Combustion to Pollution by Airborne Particles in Urban and Non-Urban Environments. Energy Research and Development Corporation, ERDC259, 1995.
6. Whittemore AS. Air pollution and respiratory disease. *Annu Rev Public Health* 1981; 2:397-429.

ADVERTISING CAMPAIGN ON THE DANGERS OF LEAD

In February the NSW Government launched a Statewide television, print and radio advertising campaign addressing lead safety. The theme of this public awareness campaign, which was launched by the Minister for the Environment, Ms Pam Allan, is "Living safely with lead". It is aimed at parents, renovators of older houses, and lead industry workers.

Campaign messages include the importance of being aware of the sources of lead in the environment, and the simple things that can be done to minimise the risk of exposure to lead, such as:

- having a nutritious diet that is high in calcium, iron and zinc;
- using wet sanding and scraping techniques when renovating to prevent the spread of lead dust; and
- washing your hands and face before meals or before smoking if working in a lead industry.

The advertisements focus on the risks associated with different sources of lead, particularly old lead paint in pre-1970 houses and lead dust in and around the home, as well as the risks in the workplace.

There are about 280,000 people in NSW who work with lead or lead products and who are potentially at risk of suffering from the effects from lead. The campaign addresses the potential for exposure at work and from lead taken home from work on clothes, tools and vehicles and which can affect workers' families.

This campaign complements other Lead Reference Centre educational initiatives, including a series of booklets for health care professionals, renovators and parents, and fact sheets targeting individual high-risk groups and ethnic communities. The Lead Reference Centre is also running regional briefings for local government to assist it to develop lead management policies and strategies.

A new Web site on lead (<http://www.epa.nsw.gov.au/leadsafe/>) and the free-call Lead Pollution Line, 131 555 (during business hours) are available to provide information to the community on lead issues. Any of the above printed materials can be ordered by contacting the Lead Pollution Line or by e-mail info@epa.nsw.gov.au.

Contact: Richard Birdsey, Lead Reference Centre
(02) 9879 4988.