

Preliminary Submission to the Senate Committee on

The impacts on health of air quality in Australia

Submission from

Australasian College of Occupational and Environmental Medicine

Environmental Medicine Working Group (EMWG)

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<http://www.racp.edu.au/page/racp-faculties/australasian-faculty-of-occupational-and-environmental-medicine/>

The following are members of our Environmental Medicine Working Group

The Australasian College of Occupational and Environmental Medicine is a chapter of the Royal Australian College of Physicians. Occupational & Environmental Physicians are highly trained specialists who provide a wide range of services relating to the health of workers and employers. The specialty of Occupational Medicine focuses on the inter-relationships between workers, their workplaces and their work practices. The specialty encompasses prevention, treatment and rehabilitation. It deals with health issues of the individual worker, populations of workers, their interaction with their environment and the "health" of the employing organisation. Occupational & Environmental Physicians consider medical issues within the wider context of their psycho-social, industrial and motivational frameworks.

In summary, Occupational & Environmental Physicians focus on the health effects of the relationship between workers and their work lives, at both an individual and an organisational level.

An Occupational & Environmental Physician may work for the government, the military or a large organisation. Work in private practice is common, providing a range of services including patient treatment, workplace assessments, health surveillance and supervision of vocational rehabilitation. Occupational & Environmental Physicians also provide independent medical opinions on issues such as the worker's fitness to perform certain work duties; the work-relatedness of a worker's condition. They may also perform worker impairment assessments, or provide advice to companies on issues such as illness or injury prevention strategies, or the management of sickness absence. With regards to air pollution occupational physicians are well versed in occupational diseases such as coal workers pneumoconiosis and asbestosis. They understand the relationship between air pollution and disease particularly in the workplace.

Our members specialise in addressing occupational and environmental diseases – local, national and global – caused by damage through work or the environment. We are a voice for the employees in the sphere of employers.

The reason for this preliminary communication to the Senate Committee is to indicate that we are aware of a large number of occupational groups around Australia who are affected by air pollution and should be considered by the Committee.

As a medical faculty concerned with pollution from coal mining and combustion of coal we have advised and helped many companies and community groups deal with this issue. We will be relating for the Committee some of the air quality issues experienced by these communities and resource companies from our perspective but it is vital that they present their viewpoint and hopefully the Committee will see fit to visit some of the environments such as coal mines and nearby communities to understand the experience.

The companies and community groups are dispersed across much of remote Australia and in addition to hearings in capital cities we hope the committee will be able to visit mining regions around Australia

Air pollution is a significant risk factor for multiple health conditions including respiratory infections, heart disease, and lung cancer, according to the WHO. The health effects caused by air pollution may include difficulty in breathing, wheezing, coughing and aggravation of existing respiratory and cardiac conditions. These effects can result in increased medication use, increased doctor or emergency room visits, more hospital admissions and premature death. Studies in Australia continue to document adverse health outcomes from air pollution.

Air pollution and its health impacts: the changing panorama Tord E Kjellstrom, Anne Neller and Rod W Simpson *Med J Aust* 2002; 177 (11): 604-608.

[Box – 3: Adverse respiratory health effects of air pollution¹⁰](#)

- Urban air pollution levels are associated with increased mortality and cardiorespiratory morbidity.
- These health effects occur even at exposure levels below those stipulated in current air-quality guidelines, and it is unclear whether a safe threshold exists.
- Air pollution in Australia and New Zealand comes primarily from motor vehicle emissions, electricity generation from fossil fuels, heavy industry, and home heating using wood and coal.
- In individual patients a direct link between symptoms and air pollution exposure may be difficult to establish and may not change their clinical management. However, avoiding exposure during periods of peak pollution may be beneficial.
- Although there is some evidence that urban air pollution in Australia and New Zealand has been decreasing (through reduced car use, improved emission-control technology and use of more energy-efficient devices in the household and in industry), pollution levels are still unsatisfactory. Further reductions may prevent hundreds of cardiorespiratory hospital admissions and deaths each year.

- Increased mortality.
- Increased incidence of lung cancer.
- Increased frequency of symptomatic asthma attacks.
- Increased incidence of lower respiratory tract infections.

- Increased exacerbation of chronic cardiopulmonary or other diseases, reflected in various ways, including reduced ability to cope with daily activities, increased hospitalisation, increased physician visits and medication, and decreased pulmonary function.
- Reduction of FEV1 or FVC associated with clinical symptoms.
- Increased prevalence of wheezing unrelated to colds, or wheezing on most days or nights.
- Increased prevalence or incidence of chest tightness.
- Increased prevalence or incidence of cough/phlegm production requiring medical attention.
- Increased incidence of acute upper respiratory tract infections that interfere with normal activity.
- Acute upper respiratory tract infections that do not interfere with normal activity.
- Eye, nose and throat irritation that may interfere with normal activities (eg, driving a car), if severe.

The epidemiological evidence shows that air pollution, even at levels below the commonly used air quality guidelines, increases mortality rates. To reduce the burden of disease related to air pollution, Australian governments could choose from a range of policy options that would make the air cleaner in the long term. Worldwide, a major change in priorities is needed to steer economic development towards low-pollution policies.

I would be happy to present further information regarding air pollution to the Senate committee if required

Dr Andrew Jeremijenko

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