



Public Health Association  
AUSTRALIA

## Environmental Chemical Exposures and Human Health

### Policy Position Statement

- Key messages:** Human exposure to chemicals in the environment is an increasing concern. Many chemicals have not been assessed for effects on ecosystems and human health, and the health impacts of exposures to chemical combinations remains largely untested. Exposure to some chemicals has been linked to a range of conditions including asthma, allergy, autoimmune disease, cancer, neurological impairment, birth defects and infertility. PHAA believes a precautionary approach to chemical use is required.
- Key policy positions:**
1. A comprehensive inter-sectoral national strategy should be developed, to reduce the impact of chemical exposures on the health of Australians, especially children, Aboriginal and Torres Strait Islander people, workers and people of low socioeconomic status.
  2. The protection of children and other vulnerable groups from environmental health hazards and the inclusion of the welfare of these groups in health impact assessments and policy development should be done on an ongoing basis.
- Audience:** Federal, State and Territory Governments, policy makers and the general public.
- Responsibility:** PHAA Ecology and Environment Special Interest Group.
- Date adopted:** 26 September 2018
- Contacts:** Dr Peter Tait, and Dr Lea Merone, Co-Convenors Ecology and Environment SIG

# Environmental Chemical Exposures and Human Health

## Policy position statement

### PHAA affirms the following principles:

1. Australia is a signatory to the Rio Declaration on Environment and Development which states:  
*“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities.”<sup>1</sup>*
2. Guiding principles for the Australian Charter for Environmental Health include the protection of human health.<sup>2</sup>
3. Protecting the health of children and young people and providing them with a safe, clean environment is important in order to reach and maintain their full potential.
4. Australia needs a comprehensive policy and an active regulatory framework to protect the population from adverse effects of chemical exposure.
5. Governments, industry, academic and medical communities, and individuals all have responsibility to reduce the burden of disease from environmental chemical exposure.

### PHAA notes the following evidence:

6. More than 140,000 new chemicals and pesticides have been synthesised since 1950. Of these materials, the 5,000 that are produced in the greatest volume have become widely dispersed in the environment and are responsible for nearly universal human exposure. Fewer than half of these high-production volume chemicals have undergone any testing for safety or toxicity.<sup>3</sup>
7. A further dimension of chemical pollution is the global rise of contaminated hot-spots: cities and communities, homes and schoolyards polluted by toxic chemicals, radionuclides, and heavy metals released into air, water and soil by active and abandoned factories, smelters, mines and hazardous waste sites.<sup>4</sup>
8. People of low socioeconomic status may be more likely to be employed in occupations with higher levels of chemical exposure (e.g. mining, construction, and manufacturing) and to live in more contaminated communities.<sup>3</sup>
9. Some chemical contaminants may be passed onto the next generation, both prenatally and during pregnancy and breastfeeding.<sup>5-8</sup>
10. Children are uniquely susceptible and vulnerable to environmental hazards compared with adults.<sup>8</sup>

11. Exposure to some chemicals has been linked to a range of health conditions including asthma,<sup>9, 10</sup> allergies,<sup>11</sup> autoimmune diseases, cancers,<sup>12, 13</sup> neurological impairment,<sup>14</sup> birth defects and infertility.<sup>15</sup>
12. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS), under the Department of Health, assesses the risks of industrial chemicals and provides information to promote their safe use.
13. Other than FSANZ testing of chemicals in foods, Australia has no surveillance system to measure or monitor chemical body burden or health related outcomes arising from exposures.<sup>4</sup>
14. There is limited ad hoc research about chemical exposures in Australia and the regulatory framework is based on a 'proceed until danger is proven' approach, rather than a precautionary principle.
15. Evidence generation on Australia's chemical exposure related health burden falls well below international standards.<sup>16</sup>
16. Evidence on environmental exposure health impacts is not being adequately integrated into national policy decisions and strategies for disease prevention.
17. Reduction in environmental exposures reduces body burdens and thus health risks, although through the cumulative characteristics of some chemicals, return to 'safe' levels may take decades.<sup>17</sup>
18. Governments and regulatory agencies across the globe, including Australia, are faced with the urgent task of prioritising chemicals for regulation and eradication.
19. In 2007, Europe introduced a chemical regulation framework "REACH" placing responsibility on industry to manage the risks from chemicals and to provide safety information on the substances: "No data = No market". REACH also demands the progressive substitution of the most dangerous chemicals.<sup>18</sup> In Australia, the burden of proof remains with the exposed.
20. Individuals and communities are not being provided with all available information about chemical exposures they may experience, the cumulative effects of such exposures, and how to minimise harmful exposures.

### **PHAA seeks the following actions:**

21. A precautionary, prevention-oriented approach institutionalised at all levels of government, central to all policy development, program implementation and decision-making about chemical licensing and use should replace the current reactionary approaches to environmental contaminants.
22. Primary prevention based on set tangible goals for reducing or eliminating toxic environmental exposures must be the central approach.
23. Absence of human harm must be proven before chemicals are licensed. The burden of proving safety should be shifted to manufacturers prior to new chemical approval.

24. Mandatory post-market studies for new and existing agents, and periodic renewal applications for chemical approval should be required.
25. Australia's chemical regulatory authorities must actively pursue the process of prioritising and assessing Australia's existing chemicals for safety to the environmental and human health, recognising the risks of low dose exposures.
26. Chemicals that children are exposed to prenatally and those being detected in newborn babies must be fast-tracked for immediate assessment.
27. Reform to reduce adverse chemical exposures will need to encompass these essential changes:
  - Require manufacturers and importers (introducers) to provide details of the risks to human health and the environment, of all chemicals and products to the Australian Pesticide and Veterinary Medicines Authority (APVMA) and NICNAS.
  - Actively facilitate transition towards safe alternatives to harmful chemicals.
  - Make information about the effects of chemicals on human and environmental health publicly available.
  - Rapidly phase out the most hazardous chemicals on the market.
28. Epidemiologic and hazard assessment research must be strengthened in areas in which the evidence in Australia is unclear, especially workplace exposures, in utero and childhood exposures, and exposures that appear to have multigenerational effects.
29. To redress the gap in scientific knowledge routine human biomonitoring programs must be initiated as exists in Europe, North America and across Asia.<sup>16</sup>
30. Awareness of chemical risks and information for people to reduce or eliminate exposures whenever possible need to be promulgated.

### **PHAA resolves to:**

31. Collaborate with government and non-government organisations to develop and implement a comprehensive inter-sectoral national strategy to monitor and reduce the adverse impact of chemical exposures on the health of Australians, especially vulnerable groups.
32. Advocate to relevant Commonwealth and State/Territory Ministries, Statutory Authorities and other organisations seeking support for substantial funding for research aimed at:
  - a. Understanding the causes and consequences of environmental chemical exposures to individuals, particularly with an emphasis on vulnerable populations.
  - b. Identification and implementation of strategies that reduce environmental chemical exposure health risks.

**ADOPTED 2018**

**(First adopted 2011, revised 2015)**

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