

VIEW POINT

Children's Environmental Health

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Estimating the burden of disease that may be attributable to various causal factors is popular with scientists, decision makers, and lay persons. Although some have questioned the validity of the methods used (1), the estimates provide compelling evidence of the causes of mortality and morbidity which guide research and public health efforts.

It is estimated that 23% of all premature deaths globally are due to environmental factors such as pollution, radiation, occupational hazards, housing, transport and the availability of safe water and sanitation (2). Moreover, among children aged 0-14, the proportion of deaths attributed to environmental factors may be as high as 36%. This is because children and young people are more vulnerable to the environmental determinants of disease since they are still growing and developing, their immunity to disease is not fully developed, and they have different patterns and levels of exposure.

Worldwide, the diseases with the largest environmental
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burden are diarrhea, lower respiratory tract infections, unintentional injuries, and malaria. It is estimated that 94% of diarrhoeal diseases are associated with unsafe drinking water and poor sanitation, 40% of lower respiratory infections in developing countries are linked to indoor air pollution related to solid fuel use, 44% of injuries arise from workplace and transport accidents, and 42% of malaria infections are associated with land use practice such as deforestation, water resource management, and location of housing.

Hazardous environments are a threat to children's health in both low and high income countries but the burden is disproportionately higher in developing regions where 25% of all deaths may be environmental compared with 17% in developed areas. This disparity is mainly due to communicable disease as a consequence of increased exposure to traditional risks such as unsafe water and poor sanitation, exacerbated by a lack of access to health care. However, the environment retains a major influence on the

health of children in transitional and developing countries where factors such as the built environment, road traffic, and industrialization contribute to obesity and injury. Chemicals in household products, cosmetics, and toys may have neurological, endocrinological and immunological effects.

Interventions to prevent childhood environmental disease are available but what is needed is the translation of research findings and knowledge into protective policies combined with political commitment to action. Concern about the effect of the environment on children's health was first featured on the world health agenda in the early 1990s. Since then there have been regular international and regional conferences on this theme of Children's Environmental Health. Action can be taken to recognize, control, and prevent environmental threats to children's health at the individual, local, national, and global level. For example since 2004, European countries have been committed to develop Children's Environmental Health Action Plans. The UK's strategy is a good example of what can be achieved at the national level (3). However it is the front-line health professionals dealing with young

people, their families and communities who have the greatest opportunity to respond to environmentally linked diseases. Resources are available to help them to collect data, undertake research, and raise awareness (4,5).

There are signs of improvement. Progress is being made towards the achievement of the United Nations Millennium Development Goal number four, to reduce child mortality by two-thirds, between 1990 and 2015 (Figure 1). Deaths of children aged 0-4 in 2008 totaled 8.8 million, a 30% reduction compared with 1990. However, there are still nearly three million deaths among children each year from diarrhea and pneumonia. Increased efforts to introduce protective policies backed by political commitment are needed if we are to achieve a healthy environment for healthy children.

A healthy environment for children is one which promotes healthy behaviour and well being. It should encourage physical activity by providing access to well-managed open spaces and it should minimize exposure to pollution, eliminate hazards, and control new technologies.

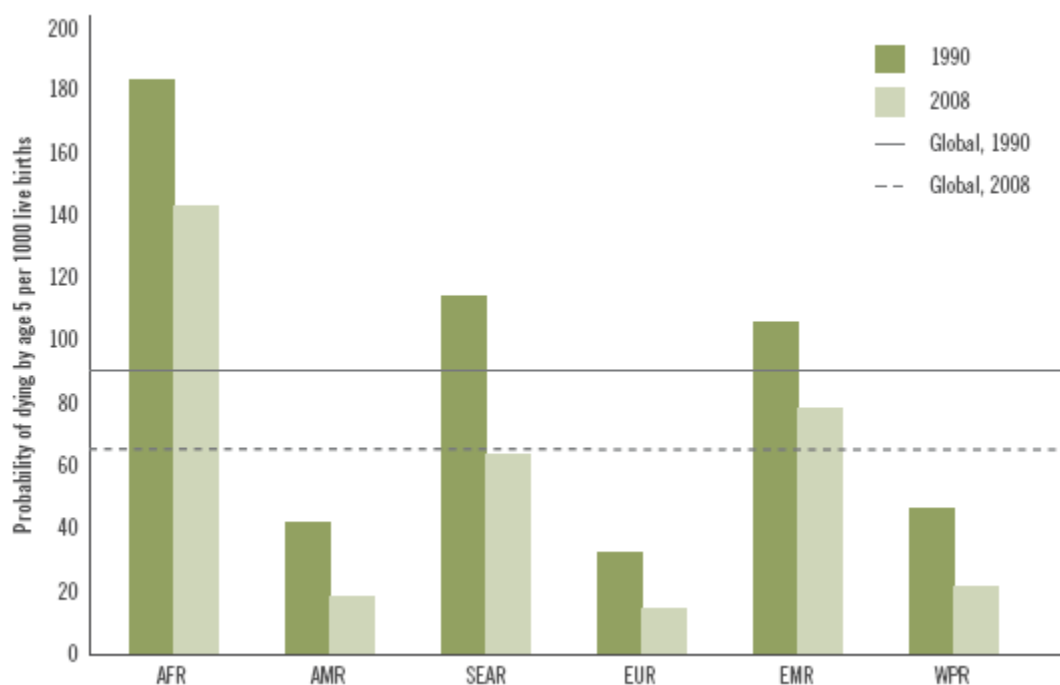


Figure 1. Mortality rate in children under 5 years old by WHO region, 1990 and 2008, Source: World Health Organization, world health statistics 2010⁶.

Health professionals must play their part by ensuring access to safe and affordable water and sanitation in homes and schools. We must also promote hygiene in the general population and especially among caregivers. We should implement measures to protect children from injuries at home, on playgrounds, and at school. We should lobby for the enforcement of road safety measures. It would be wise to form partnerships with other sectors to advocate for child-friendly urban planning to including safe open areas, playgrounds and sports facilities. We should implement best practice with regard to diet, physical activity, food and nutrition. We should ensure that children can breathe clean air by promoting measures to improve indoor air quality in housing, childcare centers and schools as well as work to reduce emissions of outdoor air pollutants from transport and industry. Finally we should promote legislation to minimize exposure to chemicals, physical and biological agents, and hazardous working environments.

Since awareness of children's environmental health first emerged, much progress has been made but it can be further improved. As our understanding of the link between the environment and children's health evolves, areas for further improvement will be identified and further action will be required.

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