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OUTDOOR AIR POLLUTION AMONG TOP GLOBAL HEALTH RISKS IN 2010 *Risks Especially High in Developing Countries of Asia*

(13 December 2012) A new systematic analysis of all major global health risks has found that outdoor air pollution in the form of fine particles is a much more significant public health risk than previously known – contributing annually to over 3.2 million premature deaths worldwide and over 74 million years of healthy life lost. It now ranks among the top global health risk burdens.

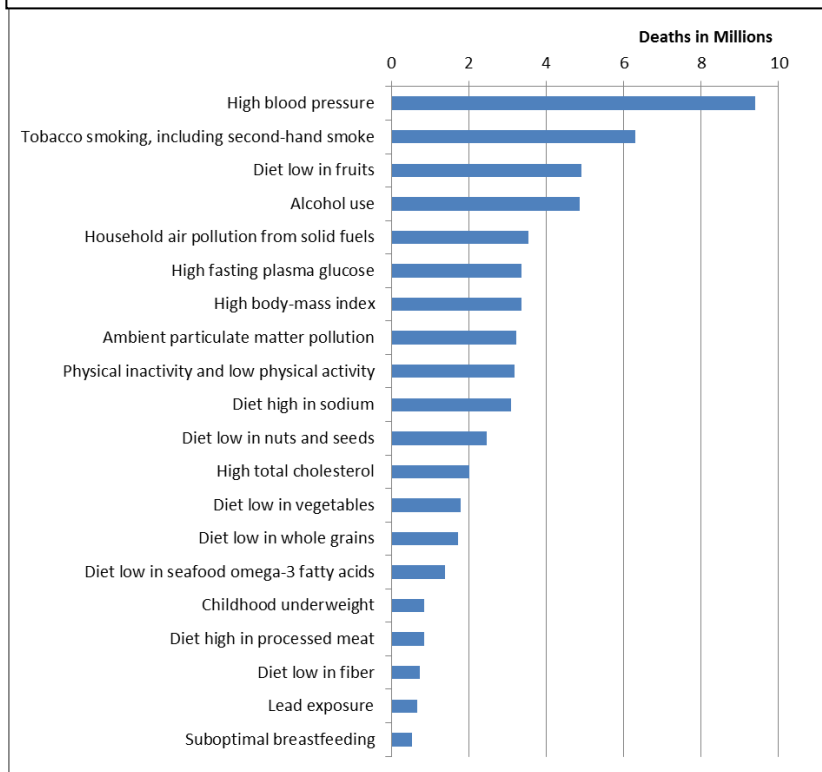
The analysis – the 2010 Global Burden of Disease (GBD 2010) – is being published on 15 December in a special issue of the leading British medical journal *The Lancet*. It applies consistent methods to the largest global database ever assembled to estimate risks of premature mortality and contributions to global health burden¹ from a wide variety of risks: smoking, diet, alcohol, HIV AIDS, household and outdoor air pollution, and many more. For the first time it places outdoor air pollution among the top 10 risks worldwide and among the top five or six risks in the developing countries of Asia. It documents as well that household air pollution from the burning of solid fuels is responsible for a substantial burden of disease in low- and middle income countries.

This new analysis identifies especially high risk levels in the developing countries of Asia where air pollution levels are the highest in the world. Overall GBD 2010 estimates over 2.1 million premature deaths and 52 million years of healthy life lost in 2010 due to ambient fine particle air pollution, fully 2/3 of the burden worldwide. Among other risk factors studied in the GBD, outdoor air pollution ranked 4th in mortality and health burden in East Asia (China and North Korea) where it contributed to 1.2 million deaths in 2010, and 6th in South Asia (including India, Pakistan, Bangladesh and Sri Lanka) where it contributed to 712,000 deaths in 2010. The analysis found that reducing the burden of disease due to air pollution in Asia will require substantial decreases in the high levels of air pollution in those regions.

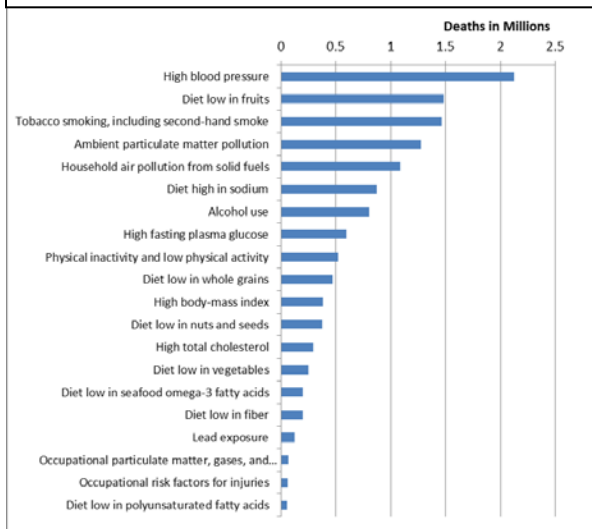
“The study’s findings ... suggest that a large burden of disease in many parts of the world is attributable to particulate matter pollution, which is substantially higher than estimated in previous analyses,” reported *The Lancet* (Lim et al 2012)

¹ Global Health Burden is measured in terms of Disability Adjusted Life Years (DALYs) which can be defined as the number of healthy years of life lost from various risks.

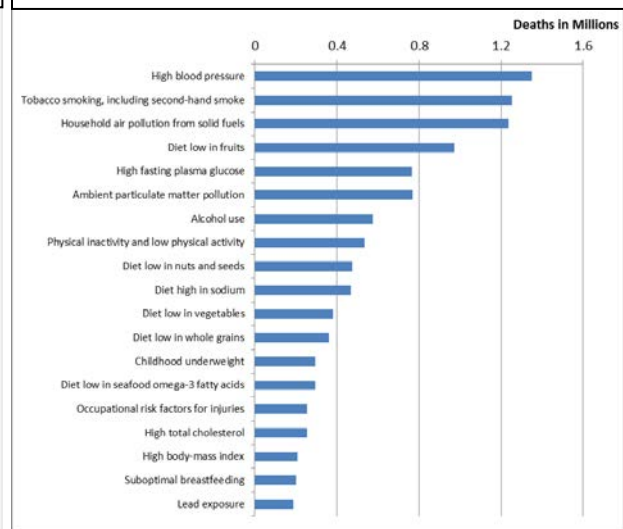
Global Deaths Attributable to 20 Leading Risk Factors 2010



Deaths Attributable to 20 Leading Risks in East Asia 2010



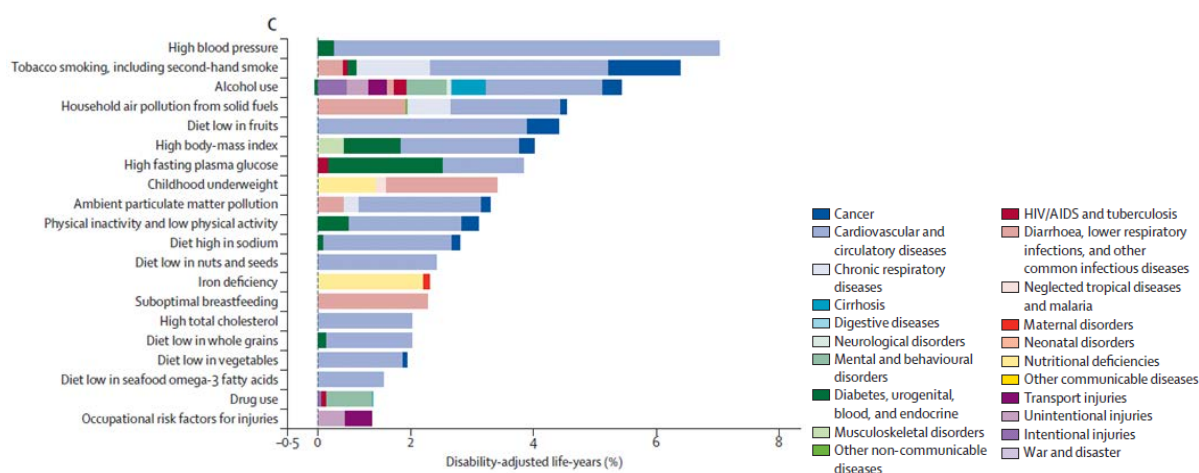
Deaths Attributable to 20 Leading Risks in South Asia 2010



Earlier GBD assessments reported much smaller air pollution-related burdens of disease. Air pollution's increased importance in this 2010 update results from two major factors:

- First, new global estimates of particulate air pollution exposure in both urban and rural areas, based on ground-level measurements and satellite remote sensing and global chemical transport models, were able to much better capture full population exposure.

Global disease burden attributable to 20 leading risk factors



- Second, a new detailed analysis of the relationship between outdoor levels of air pollution and effects on mortality and illness – based on the latest health effects research - resulted in significantly increased estimates of effects for each incremental increase in pollution.

Because exposure to air pollution affects cardiovascular disease and other leading causes of disease and death worldwide, the global burden of disease due to air pollution is substantial.

“There is a wide range of risks that affect global health,” said Bob O’Keefe, Vice President of the Health Effects Institute² and Chair of Clean Air Asia. “However this landmark analysis places air pollution among the top risk factors in the world today with the greatest impacts among people in the developing countries of Asia, underscoring the need for effective action to reduce exposure.

The 2010 GBD was produced by a rigorous scientific process involving over 450 global experts and led by the Institute of Health Metrics and Evaluation (IHME) at the University of Washington along with its partner institutions: the World Health Organization, the University of Queensland, Australia, Johns Hopkins University, and Harvard University. Its extensive analysis was subjected to detailed peer review to ensure the highest quality of analysis, and a consistent and comparable approach to ensure that the many risk factors could be assessed using the same techniques. Within the larger GBD project, the outdoor air pollution analyses were conducted by an international team led by Dr. Aaron Cohen of Health Effects Institute and Dr. H Ross Anderson of St. Georges, University of London.

GBD 2010 is being released as part of a Symposium sponsored by IHME and *The Lancet* at the Royal Society in London on 14 December 2012. For further information on the air pollution analysis contact Bob O’Keefe (+1 617 488 2311 rokeefe@healtheffects.org) or Aaron Cohen (acohen@healtheffects.org)

² The Health Effects Institute is an independent, non-profit research institute funded jointly by the US Environmental Protection Agency, industry, foundations and development banks to provide credible, high quality science on air pollution and health for air quality decisions.