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

(DELHI - 13 February 2013) Outdoor air pollution contributed to over 620,000 premature deaths and nearly 18 million healthy years of life lost in India in 2010, according to a new systematic analysis of all major global health risks presented today at a special Workshop organized by the Centre for Science and the Environment, the Indian Council of Medical Research, and the Health Effects Institute at the India Habitat Center. Worldwide, this analysis – the 2010 Global Burden of Disease (GBD 2010) - 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. Outdoor air pollution now ranks among the top global health risk burdens.

GBD 2010 was published on 15 December 2012 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. The India-specific analysis was calculated from this larger global effort, using detailed estimates of air pollution exposure at the national level as well as India-specific levels of baseline mortality and incidence of the five leading causes of death in India. The results were presented today at the Dialogue Workshop by Dr. Aaron Cohen, Principal Epidemiologist of the Health Effects Institute (HEI)² and Co-Chair of the GBD Ambient Air Pollution Expert Group.

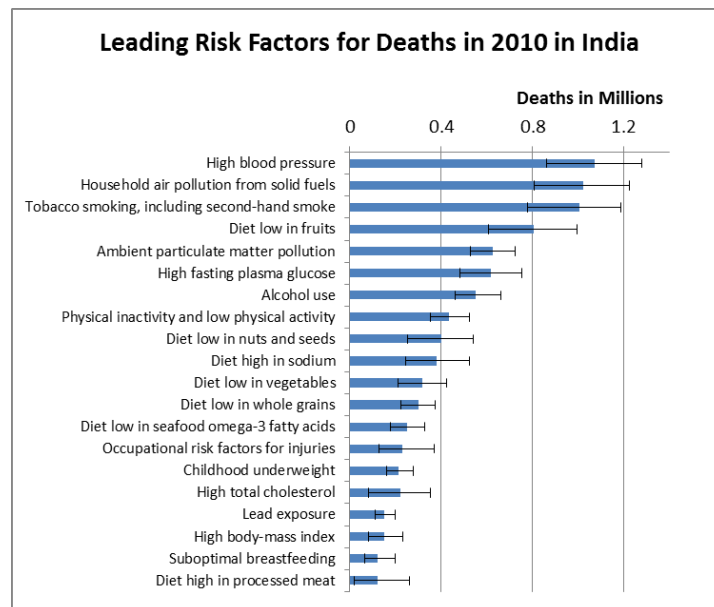
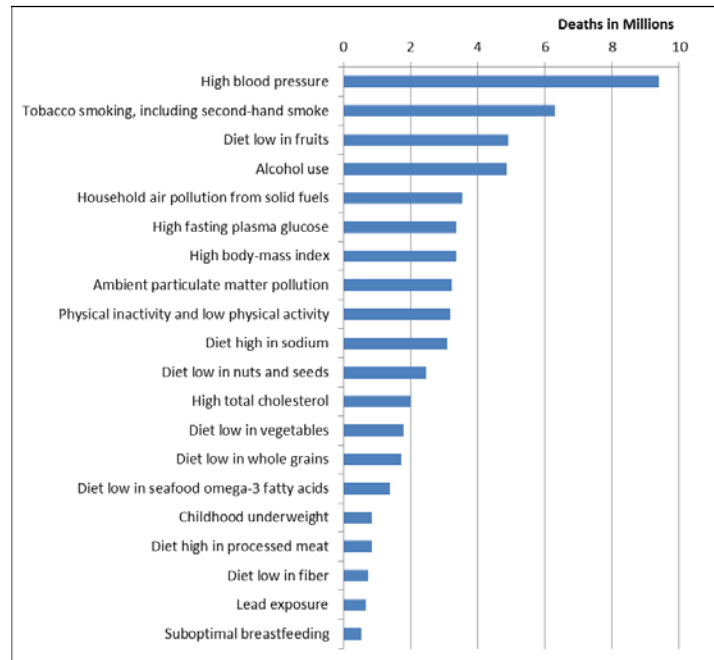
This new analysis identifies especially high risk levels in India and the developing countries of Asia where air pollution levels are the highest in the world. Among the risk factors studied in the GBD, outdoor air pollution ranked 5th in mortality and 7th in health burden in India where it contributed to 627,000 deaths and 17.7 million healthy years of life lost in 2010. 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. 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.

Overall GBD 2010 estimates that fully *two-thirds* of the global health burden worldwide is found in the developing countries of South, East, and Southeast Asia. “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.

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.

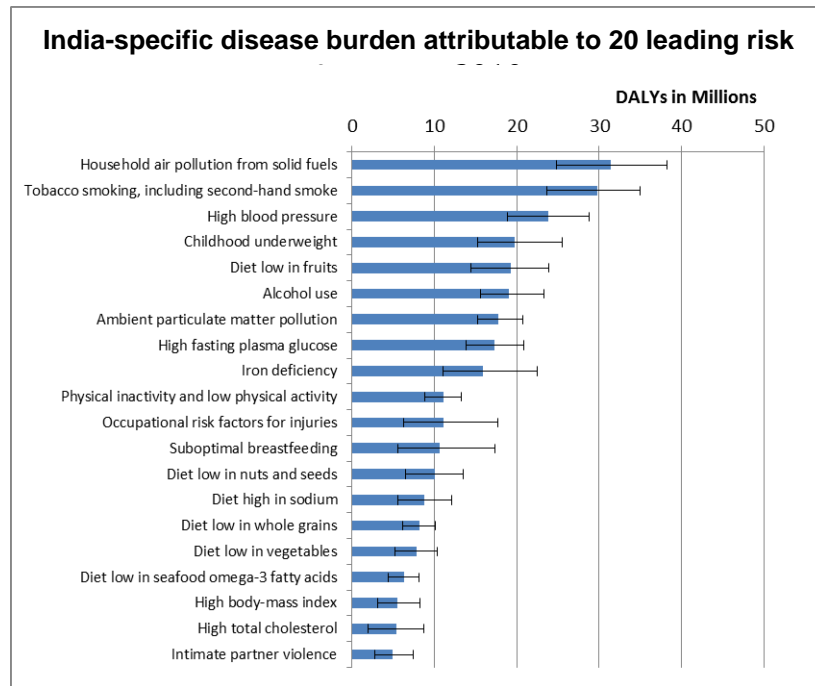
Global Deaths Attributable to 20 Leading Risk Factors 2010



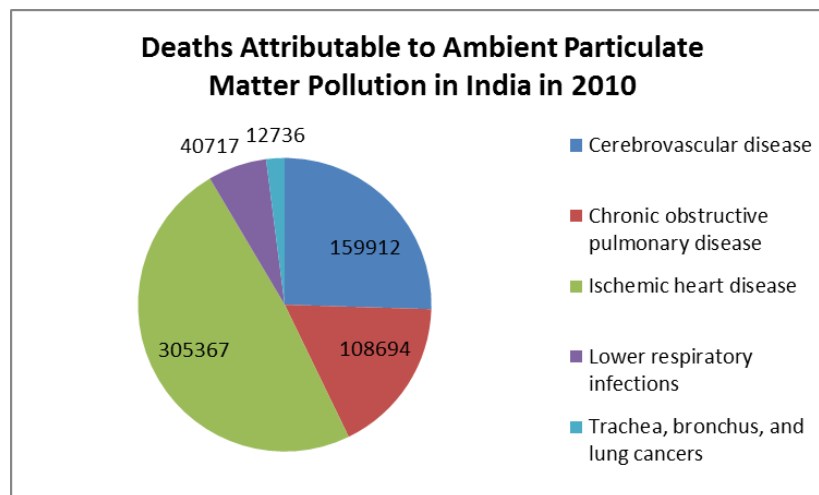
Earlier GBD assessments reported much smaller air pollution-related burdens of disease. Air pollution's increased importance in this 2010 update results from two major factors:

- 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.

- 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 from countries around the world - resulted in significantly increased estimates of effects for each incremental increase in pollution.



GBD 2010 found a substantial rise in cardiovascular diseases – ischemic heart disease (which can lead to heart attacks), cerebrovascular disease (strokes), and chronic obstructive pulmonary disease (COPD) - throughout the world (including in India and the other developing countries of Asia). Because recent evidence in many countries has documented that exposure to air pollution affects these forms of cardiovascular disease, among 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 Institute 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 India and the other 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 was released as part of a Symposium sponsored by IHME and *The Lancet* at the Royal Society in London on 14 December 2012 (complete results available at <http://www.thelancet.com/themed/global-burden-of-disease>). For further information on the air pollution analysis contact Bob O'Keefe (+1 617 283 5904; rokeefe@healtheffects.org) or Aaron Cohen (acohen@healtheffects.org)