

Scientific Studies

The Cost of Environmental Diseases

**“Adverse
environmental
exposures
result in
10,000-25,000
deaths.”**



It's common knowledge that the environment is becoming more and more polluted. A look at any newspaper confirms that. What does this mean though? How does it affect humans? What does it cost us? Or does it?

Two researchers, Boyd and Genuis, at Simon Fraser University in Canada, cite that exposure to environmental hazards contributes to many chronic diseases. They estimated the environmental burden of disease (EBD) in Canada, based on environmental contributions for respiratory disease, cardiovascular disease, cancer, and congenital affliction.

Most diseases result from a combination of lifestyle, socioeconomic status, environmental exposures, cultural, and genetic factors. Though most of these factors have been examined, little has been done to estimate the costs of environmental exposure in relation to disease processes.

The results of the estimation showed a statistically significant impact of adverse environmental exposures on the burden of illness in Canada.

Specifically, adverse environmental exposures result in 10,000-25,000 deaths, 78,000-194,000 hospitalizations, 600,000-1.5 million days spent in hospital, 1.1 million-1.8 million restricted activity days for asthma sufferers, 8,000-24,000 new cases of

cancer, and 500-2,500 low birth weight babies.

Air pollution was cited to cause cancer of the lungs, trachea, and bronchus, primarily from fine particulate matter, benzene, and other chemicals.

The cost of adverse environmental exposures in Canada is estimated between \$3.6 billion and \$9.1 billion Canadian dollars each year, primarily due to respiratory disease, cardiovascular illness, cancer, and congenital affliction.

The data was based on the World Health Organization's (WHO) recently estimated environmental burden of disease, which was globally calculated through comparative risk assessment data and expert judgment. The WHO developed environmentally attributable fractions (EAFs) of mortality and morbidity for 85 categories of disease.

Most importantly noted is that most adverse environmental exposures are preventable through stronger public policy, technological change, education, and avoidance. It is no longer sufficient to simply believe "it is safe".

Reference

Boyd DR, Genuis SJ. The environmental burden of disease in Canada: Respiratory disease, cardiovascular disease, cancer, and congenital affliction. *Environ Res.* 2007 Sep 27; [Epub ahead of print]