



# Addressing the Challenges of Non-communicable Diseases: *Environmental Risk Factors*

*“Non-communicable diseases have emerged as growing health problems for countries in every corner of the globe.”*  
- U.S. Secretary of Health and Human Services Kathleen Sebelius

## GLOBAL BURDEN OF NCDs

Non-communicable diseases (NCDs), such as cancer and heart disease, represent an urgent and growing global public health emergency. NCDs are a critical challenge for countries all around the world and at every stage in development.

Evidence has demonstrated a direct correlation between environmental factors, such as air and water quality, and NCDs.

## HOW DO ENVIRONMENTAL RISK FACTORS AFFECT NCDs?

According to World Health Organization, environmental health comprises the aspects of human health that are determined by physical, chemical, biological, social, and psychosocial factors in the environment. Many of those aspects play a direct role in the development of NCDs. Outdoor urban air pollution, household air pollution (especially from inefficient cookstoves), mold, toxic chemicals such as lead and benzene, radiation, and secondhand smoke all cause or exacerbate one or more major NCDs.

Much of the world’s disease burden related to environmental factors involves air quality. Each year, polluted urban air causes over 800,000 deaths, and polluted indoor air causes nearly 2 million deaths. The elderly, children, and the unborn are particularly vulnerable to environmental risk factors. Fetal exposure to toxic chemicals can contribute to the development of NCDs such as diabetes later in life.

## PREVENTION STRATEGIES

Proper environmental management is the key to avoiding

### **Environmental risk factors:**

- *Outdoor air pollution*
- *Household air pollution*
- *Impure water*
- *Toxic chemicals*
- *Mold and other natural toxins*
- *Radiation*

or delaying many NCDs. Because almost all environmental risk factors are modifiable, governments and individuals can proactively attend to the associated dangers through policy and healthy lifestyle behaviors, such as applying sunscreen to avoid skin cancer from excessive UV light exposure. Many environmental factors contribute to multiple NCDs; for instance, hazardous chemicals from outdoor air pollution contribute to lung disease, heart disease, cancers, neurological disorders, and others. Country-level policy interventions such as air quality regulations provide an alternative to traditional biomedical treatments in that they can address multiple NCDs at the same time.

## U.S. GOVERNMENT INITIATIVES

The United States is an active player globally in efforts to address environmental risk factors and NCDs. For example, the U.S. government has taken on a leading role in the Global Alliance for Clean Cookstoves, a public-private partnership aimed to prevent NCDs such as emphysema by creating a thriving market for clean and efficient cookstoves. Also, the U.S. Environmental Protection Agency is partnering with the Indonesian government to improve air quality and public health through the “Breathe Easy, Jakarta” program. Collaborative initiatives such as these emphasize country-based strategies to address the global burden associated with NCDs.