



# Cookstoves and Non-Communicable Diseases

## THE IMPACT OF NON-COMMUNICABLE DISEASES

Non-communicable diseases (NCDs), including cardiovascular disease, cancers, and chronic lung diseases, result in more deaths worldwide than all other causes of death combined. In 2008, 63 percent of deaths globally were caused by NCDs. By 2030, these conditions are expected to cause 75 percent of deaths worldwide. Two million people die annually as a result of exposure to cookstove smoke, more than half of whom die from NCDs. Effectively addressing NCDs will involve moving beyond a focus on treatment toward preventive interventions that minimize environmental and behavioral risk factors.

Non-communicable diseases also hinder national productivity and economic development by overloading healthcare systems and impacting the well-being of the global workforce and their families. In 2010, the World Economic Forum classified chronic disease as a global economic risk equal to the global financial crisis in terms of cost.

## NCDs AND HOUSEHOLD AIR POLLUTION

Household air pollution (HAP) caused by smoke from cooking and heating with solid fuels is the most widespread risk factor for NCDs in the developing world, impacting nearly 100 percent of the poorest 3 billion people. Moreover, despite the fact that millions of people in developing countries are moving out of poverty and into the middle class, continued population growth results in more people being exposed to HAP today than in any previous period of human history.

The link between HAP and NCDs is well established. HAP causes lung cancer and chronic lung disease, and is the leading risk factor for these diseases among non-smoking women in developing countries. HAP increases the risk of delivering low birth-weight babies, who are then at increased risk of developing NCDs later in their lives.

Emerging evidence suggests that HAP may also cause cardiovascular disease, cancers of the digestive system, and cervical cancer. Therefore, widespread adoption of clean cookstoves among the poor in developing countries is essential in preventing NCDs caused by HAP.

## CLEAN COOKING SOLUTIONS CAN PREVENT NCDs AND IMPROVE LIVES

Clean cookstoves and fuels are evidence-based, cost-effective methods to prevent and control NCDs at the global, regional, national, and local levels. For example, estimates in a recent *Lancet* article suggest that introducing 15

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# HAP is the leading risk-factor for NCDs among non-smoking women in the developing world

million clean cookstoves in India every year for the next ten years could avoid more than 1.2 million deaths from chronic lung disease alone. Clean cookstoves have profound health, social, and economic benefits across the globe. HAP is a major risk factor for acute lower respiratory infections, including pneumonias, which are responsible for 20 percent of child mortality worldwide. Two million deaths each year, many of them in children, can be prevented by addressing the cause and effects of exposure to cookstove smoke. Preventing HAP through cleaner, safer cookstoves can also prevent major side effects of inefficient and polluting cooking, including blindness and burns.

## THE GLOBAL ALLIANCE FOR CLEAN COOKSTOVES

The Global Alliance for Clean Cookstoves is a United Nations Foundation led public-private partnership to save lives, improve livelihoods, empower women, and combat climate change by creating a thriving global market for clean and efficient household cooking solutions. The Alliance's '100 by 20' goal calls for 100 million households to adopt clean and efficient stoves and fuels by 2020. The Alliance is working with public, private, and non-profit partners to help overcome the market barriers that currently impede the production, deployment, and use of clean cookstoves in the developing world.

The Alliance is also working with global, regional, and national partners, including the World Health Organization, the Centers for Disease Control and Prevention, the National Institutes of Health and the American Cancer Society to raise awareness about the role of clean cookstoves in preventing NCDs and to strengthen the evidence base on the link between HAP and human health.

For more information:

**Email:** [info@cleancookstoves.org](mailto:info@cleancookstoves.org)

**Phone:** +1 202 650 5345

**Web:** [www.CleanCookstoves.org](http://www.CleanCookstoves.org)

**Facebook:** [www.facebook.com/Cookstoves](http://www.facebook.com/Cookstoves)

**Twitter:** [www.twitter.com/Cookstoves](http://www.twitter.com/Cookstoves)

## Discovering the HAP-NCD Link

Dr. M.R. Pandey was the first doctor to publish a link between household air pollution and chronic bronchitis during a 1984 study in rural Nepal. Despite the fact that men are more likely to develop chronic bronchitis, Dr. Pandey was surprised to observe similar rates of disease among men and women, as well as unexpected cases among young women. After further analyses, the very first evidence linking HAP and chronic bronchitis emerged, spurring global research that has established the causal link between chronic lung disease and HAP.

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