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## Impact of Climate Change in Respiratory Health and The Importance of Green Cities and Sustainability in Reducing the Burden of Respiratory Diseases

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### Abstract

Climate change has increased the frequency, intensity, and geographic distribution of extreme weather events such as heatwaves, severe winter conditions, floods, droughts, hurricanes, thunderstorms, wildfires, and dust storms. These events have had direct effects on mortality and morbidity, particularly in respiratory diseases; as well as indirectly increasing the prevalence of food, water, and vector borne diseases. The adverse impacts are unequally distributed across countries and global regions, and the scale of recent changes in the climate are unprecedented.

The effects of climate change widen existing health and social inequities, with the most vulnerable countries (low-income countries) likely to experience the greatest hazards. Climate change is also linked to worsening of air pollution. Increased temperatures affect pollutant production and dispersion of air pollutants as a result of changes in different factors especially in urban areas. In some regions, dust storms are becoming more frequent as a result of global warming, changing wind patterns and desertification. Exposure to dust can cause respiratory symptoms, and dust can be a carrier of pathogenic microorganisms, allergens, and fungal spores. Promoting infectious respiratory diseases.

Climate change also increases the risk from emerging diseases as a consequence of changes in species range and diversity. Extreme temperature, wildfire smoke, dust storms, and allergen exposure currently pose the biggest threats to people with chronic respiratory diseases such as Chronic Obstructive Pulmonary Disease, asthma and Pulmonary Fibrosis. Aspects of pharmacological management of these diseases may also contribute to climate change. There are significant differences in the carbon footprint of inhaler devices, reflecting whether they contain a propellant gas, what they are made from, how they are manufactured and transported, and whether they can be reused or recycled. Selection and correct use and disposal of inhalers by patients can have important implications for global warming, and inhalers with less environmental impact are being developed.

The promotion of green cities, contribution to correct waste disposal, effective measures the impact air pollution and wide use and distribution of sustainable energies have proved to reduce climate change, thus reducing also the impact in respiratory diseases, prevalence, morbidity and mortality.