

Mitigating health effects of climate changes: challenges and opportunities.

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Changes in climate encompass a series of events to which billions of people are inevitably exposed to. Thus, a series of physiologic alterations may occur, the majority of them devoid of any clinical manifestation. Also, the time course of human responses has to be considered when trying to define adverse health consequences of a given environmental change. For instance, extremes of temperature or outbreaks of infectious diseases are examples of events that lead to health effects within a limited time span, leading to little chronic consequences. On the other hand, the exposure of populations to UV radiation or atmospheric pollutants will pay their toll in terms of health effects after decades. To make the situation more complex, there are few environmental situations that exhibit a characteristic fingerprint of their cause. There are few exceptions to this general rule, such as in the case of intoxication for heavy metals or organic compounds derived from industrial processes with long time of residence in the environment. In certain cases, the health burden of climate changes on human health is obvious, such as in the case of landslides, flooding, water and food deprivation. In other situations health consequences will be manifested mostly in terms of increase in the number or in the severity of well defined conditions, such as heart diseases, asthma, cancer and infections. In such scenario, few will die due to hyper or hypothermia during waves of inclement weather, but thousands will die because of heart attacks or respiratory diseases. In general terms, the counts of people affected will depend on the severity of health outcome, the availability of diagnostic tools and time of observation. It is also important to realize that some policies designed to mitigate the emission of greenhouse gases may benefit almost immediately human health. For instance, the stimulation of active transportation, such as walking or bicycling, reduces emissions but also reduces the risk for obesity as well as metabolic and cardiovascular diseases. Reductions of consumption of bovine meat, in addition to reduce the emissions of methane by cattle, also benefits human health by decreasing the risk of cardiovascular disease and cancer. The aforementioned information indicates that immediate health benefits may be achieved by measures designed to minimize climate changes.