

# Effects of Global Climate Change on Oral Health: Overview

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## Commentary

Climate change has been shown to have an impact on human health, particularly dental wellbeing, rendering this an urgent and current issue. Globally averaged Surface Air Temperature (SAT) surpassed 1°C beyond pre-industrial standards in past decade, and it is expected to significantly rise to 1.5°C by next decade and 2°C by 2050. Such pace of global climate change and perhaps a rise in average SAT globally are linked to increasing chances of poor health consequences that are currently observable. Medical practitioners are responsible for safeguarding their patients' health and establishing climate-resilient healthcare delivery systems that can survive the difficulties posed by natural disasters. In addition to offering patient treatment, oral healthcare delivery systems must exhibit robustness in the face of harsh weather and, as the COVID-19 pandemic has demonstrated, pandemics. GHG emissions have risen in the last generation as a result of human activity, resulting in higher mean global temperatures, increasing unusual weather extremes, increasing ocean levels, and catastrophic rainfall issues. The following are some of the significant health concerns associated with these possible scenarios:

### Excessive heat exposure

Heat exhaustion can present itself in a number of ways. Patients using diuretics or specific serotonin reuptake inhibitors for medical reasons are more vulnerable to the impacts of thermal exposure. Antibiotics which are not very useful in higher temperature, individuals who may be more sensitive to health emergencies, and critical medicines which are not very efficient in intense temperatures all enhance the impact of accidental emergency medical events with in dental environment.

### Declining quality of air

Asthma cases have risen substantially, and are linked to conditions like more extreme wildfire outbreaks, longer/intense pollen seasons, higher air contamination, and amid escalating ozone level in air. Antihistamines, which include bronchodilators, and sucrose, which can induce dry mouth, are commonly prescribed for asthma. Tooth decay is caused by dry mouth as well as sugar exposure.

### Unsubstantial distribution of food and water

Despite accessibility of safe drinking water being an important agenda in all of UN's Sustainable Development Goals, as per the World Bank Water Overview, yet more than 2 billion people lack access to potable water and more than 4 billion people lack appropriate sanitation. Personal hygiene and particularly oral hygiene habits may appear less important or difficult without access to drinkable water, resulting in increased cases of oral illness and worse dental health issues leading to poor standard of living. Moreover, gastrointestinal disorders such as diarrhoea, vomiting, and malnutrition are often caused by polluted water and lack of proper sanitation system.

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## Global warming and subsequent weather extremities

With rising temperatures, severe weather conditions will occur more often and severe. dentists may encounter great obstacles such as power outages, crashed communications, destroyed or unavailable clinical documentation, and compromised or destroyed dental clinics, along with physical injuries, restricted transport system, and interrupted food distribution chains.

Several issues have the ability to stymie dental service delivery, leaving patients without access to care and jeopardizing the financial security of dental offices and staff. It is important to assess practice preparation and prepare for resiliency in advance of extreme occurrences.

## Effects of COVID-19

Adverse weather conditions jeopardize efforts to stop the spread of the covid-19 infection. For people in mass shelter camps, suffering forced relocation, or hospitalized for climate-related disease or injury in institutions flooded with coronavirus affected patients, maintaining social distance and regular hand washing routine are extremely difficult. Bad w Weather exposure routes, poor ventilation, pulmonary illness, and severe COVID-19 provide greater health hazards to people with weak immunity.

Familiarity with scientific publications showing the effects of change in climate on healthcare should motivate the development of future actions, which might be as following:

- Prolonged power failures, office damage, patient's medical files being lost, lost communications, and interrupted healthcare supply distribution networks are all things to be prepared on.
- Designing strategic planning to manage patients experiencing oral discomfort or acute crises when clinics are unavailable via tele-dentistry
- Developing professional and personal economic stability plans
- Addressing drug storage with in workplace
- Antibiotic overuse should be avoided.
- Recognizing potential kidney, pulmonary, and cardiac risks and consequences; include climate-risk screening questionnaires in the routine clinical examination
- Being aware of oral symptoms of health hazards associated with climate change exposure routes

Negative impacts of climate change on people's health, particularly their dental health. Recognizing and managing adverse climatic influence on a person as well as a population requires providing proper awareness; which may be reconfigured to ensure that all people have equal access to treatment, and that services are delivered in a coordinated manner.

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