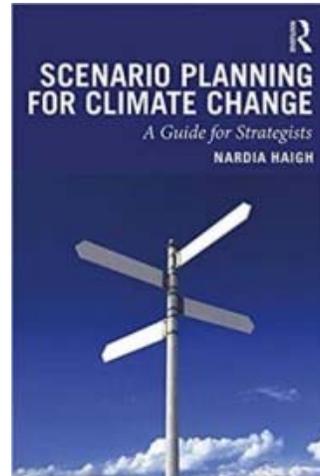


# Summary of Potential Climate Change Impacts: Human Health Impacts

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This summary of current and potential future climate change impacts accompanies the book *Scenario Planning for Climate Change: A Guide for Strategists*, available online from [Amazon](#).



## Overview

The impacts of climate change have been acknowledged as the major public health challenge of the 21<sup>st</sup> century. Health impacts from climate change include malnutrition; heat stress, cardiovascular disease and death; the spread of infectious disease and death from more powerful storms, drought and flooding; water-borne illness and death from contaminated water supplies<sup>1</sup>. According to a 2011 study in the journal *Health Affairs*, the combined costs of premature death and illness in the U.S. due to six climate events - ozone smog pollution, heat waves, hurricanes, mosquito-borne infectious disease, river flooding, and wildfires - was at least \$14B in 2008.<sup>2</sup> For instance, the human health implications of extreme weather were felt in Houston, Texas, which faced a health crisis in the wake of Hurricane Harvey flooding in 2017. Harvey spilled more than 35 million gallons of raw sewage into the streets. Tests revealed levels of *E. coli* 135 times normal. The situation was repeated in 2018 with Hurricane Florence when the water supply for 600,000 North Carolina residents was contaminated from hog livestock farm flooding.<sup>3</sup>

## How are Climate-Related Health Issues Impacting Businesses Now?

Climate-related health impacts are affecting businesses in many ways. Outdoor workers in all sectors, hence their employers, are vulnerable to health problems as a result of climate change, and everyone is susceptible to air pollution and waterborne illnesses.

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In the United States, businesses are suffering productivity losses due to climate change-related human health issues. The Queens School of Business and the Gallup Organization found that absenteeism, workplace accidents and errors go up when employees are disengaged.<sup>4</sup>

Many businesses are affected by climate change impacts now in some way. For instance, in Kuwait, nearly 70% of the population is made up of migrant workers, many of whom work in construction. Though labor legislation now bans work outdoors between 12pm and 4pm because of the intense heat, many work through the hottest hours of the day regardless and are subjected to extreme heat stress and illness.<sup>5</sup> Further, pharmaceutical and healthcare companies are also affected as climate change threatens to undermine new drug development through species extinction and loss of biodiversity. Ben Norbury, senior environment specialist at AstraZeneca, argues climate change is material to their business and could set global health gains back over fifty years.<sup>6</sup>

## How Could Climate-Related Human Health Issues Affect 25 Years from Now?

The World Health Organization (WHO) estimates that up to 250,000 deaths per year worldwide could result from climate change in the years 2030 to 2050. In 2030, direct health costs could amount to \$2-4 billion yearly.<sup>7</sup> Research suggests that outdoor workers will be the first to show signs of adverse health effects, such as chronic kidney disease of non-traditional origin (CKDnT), which has affected sugarcane harvesters in Central America. In Nicaragua, CKDnT is responsible for many premature male deaths.<sup>8</sup> While the exact causes of CKDnT are unknown, the most popular hypotheses focus on chronic dehydration and heat exposure due to long shifts in the fields.<sup>9</sup> As such extreme temperatures could become more common worldwide, outdoor and labor-intensive industries may find their workers similarly compromised.

Humans can adapt like no other species, but even we have limits when health and healthcare are jeopardized. For instance, on one hand, pharmaceutical companies stand to benefit from opportunities to develop new drugs in response to new impacts of climate change on human health.<sup>10</sup> On the other hand, one million non-human species are said to be vulnerable to extinction due to climate change,<sup>11</sup> which may diminish their ability to develop such drugs. According a UN Report 70%, of cancer drugs that are natural or synthetic products inspired by nature.

If human climate-related health impacts were to continue rising, many businesses could be affected by labor issues. Doctors could see more patients presenting with climate-related conditions, especially among vulnerable populations like the elderly, whose population in the U.S. is projected to double by 2050.<sup>12</sup>

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## What Can Organizations Do Now?

- Investigate how climate change human health impacts could affect the organization, and if appropriate, avoid lost productivity, by taking such measures as examining employee health insurance options or redefining the work day. If workers are not healthy, they cannot work.
- Plan for resilience by modernizing facilities to support healthier indoor and outdoor environments to maximize employee productivity and engagement.
- Examine the effects of heat, rainfall, extreme weather and other climate change drivers on business infrastructure, which may affect occupational health and safety.
- Enable greater societal resilience by increasing awareness of climate-related diseases and health impacts within the workforce.<sup>13</sup>
- Create mechanisms to respond to climate-related events quickly and effectively.<sup>14</sup>
- Collaborate and create industrywide information, positions, and potentially voluntary standards to define what climate and health mean at a sector level.<sup>15</sup>
- Adapt quality-assurance systems, risk-management structures, and supply chain management practices to address climate-related risks and opportunities.

**If you would like to learn how to use scenario planning to develop strategic responses to climate change issues such as this, order *Scenario Planning for Climate Change: A Guide for Strategists*.**

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