

Climate Change Code Blue Case Studies

Extreme Weather

It's August 2024. Six days ago, a Category 4 hurricane tore across several Caribbean islands, ravaging everything in its path. As part of an emergency response crew, you have been asked to travel to one of the main islands to deliver health care to the island's people. When you arrive, you learn that millions of islanders are suffering major losses from the hurricane. The infrastructure is in tatters. The island's several major manufacturing and pharmacy production facilities, as well as public facilities such as hospitals and clinics have been torn off their foundations. Bridges and roads are impassable throughout much of the island. In fact, you have learned that the entire electrical grid has shut down due to storm damage. The entire island is running off generators. Much of the local crop production such as bananas, coffee, and citrus has been decimated. Subsistence farmers have lost most of their livestock. Tourism, which is one of the island's primary industries, will most certainly take a long-term hit from the storm.

Islanders have lost their homes, their jobs, and their way of life. Many have lost family members either to direct damage from the storm, or from subsequent health issues. The emotional toll the storm has had on people is incalculable. People are evacuating, but the process is slow. You have heard on the news that some cities in the U.S. are taking in hundreds of thousands of people displaced by the hurricane – families starting all over again in a different part of the world. The goal of the emergency response crews is to assist people in finding safe and dry shelter, clean water, and access to electricity. You are working to get medications to islanders, which has been particularly difficult considering many life-sustaining medications require refrigeration – such as insulin. You are concerned about the standing water nearly everywhere on the island, which can lead to water-borne illness. Standing water also provides more breeding ground for mosquitoes that carry disease. While the community at large is absolutely affected, you are shocked by the medical care within the health system. Hospitals are utterly unable to provide safe and effective care for patients, considering the massive infrastructure damage and supply shortage. This morning, you and another responder spent four hours manually providing breaths for a patient whose intensive care ventilator no longer had access to power from the generator. Staff shortages in every industry are immense, but you are particularly concerned about the health industry – it seems that the system is so fragile, it is on the verge of collapse. There are hundreds of thousands in need of medical care, and you are not confident they will receive it.

You have learned through your contacts at home that there are shortages in IV fluids, medications, and supplies that are manufactured on the island in many major health care systems in the U.S. The damage to the production facilities was so significant that regions across the U.S. are struggling to find replacement equipment to take care of patients several thousand miles away from the Caribbean island. The storm was less than a week ago – it certainly seems that these challenges will continue for the foreseeable future.

While several international foreign aid organizations have committed to addressing the crisis, it's not clear when or how this will happen. People are dying, work on infrastructure is slow, and conditions for aid workers are dangerous.

As an informed citizen, work with your fellow table mates to brainstorm some reasonable climate action items that could help the islanders and the immense effects of this extreme weather disaster. Do your best to take into consideration everyone who will be impacted by this issue.

Climate Change Code Blue Case Studies

Extreme Heat

It's August 2024. Record high temperatures have struck the Midwest. Daytime temps have reached over 100F for eight days in a row, and night temps have stayed 85F or greater during that period. Emergency department admissions due to heat exhaustion, dehydration, and cardiac and respiratory disease exacerbation have skyrocketed. A few of your family and friends have reported being temporarily subdued by the heat. Community centers and arenas in both rural and urban areas are flooded with those who don't have air conditioning in their homes, and they are running out of space. Children and the elderly are encouraged to stay in air-conditioned environments 24 hours a day, which has made it very difficult for some elderly living alone to get groceries and medications.

There is a water use ban in effect throughout the Midwest. Due to the heat, crops such as corn and soybeans have already sustained significant damage, which is impacting the agricultural sector throughout the U.S. In fact, several farms have reported livestock losses, a couple of up to 20%. Work on infrastructure has halted, as even night work for construction crews is too dangerous in the heat. In addition, the 2024 Olympics, which were scheduled to be in Chicago, IL, were cancelled due to a high probability of heat injury and illness to the athletes and spectators. It is expected that this cancellation will be devastating to several small businesses in the city. A few neighborhoods have experienced intermittent power outages due to a high volume of air conditioners pulling energy from the electrical grid. While your city's mayor has committed to taking care of you and your fellow citizens, you and your family aren't sure how long the support will last. The forecast shows at least another week of record high temperatures, and the sheer geographical area in need far exceeds the scope of FEMA. A few neighbors on your street have already left town to spend a few weeks up north.

As an informed citizen, work with your fellow table mates to brainstorm some reasonable climate action items that could help your family, your city, and your region in the face of this heat disaster. Do your best to take into consideration everyone who will be impacted by this issue.

Climate Change Code Blue Case Studies

Air Pollution

It's August 2024. Record high temperatures have struck the Midwest. You've lived here most of your life, but you have noticed that the summers have gotten hotter and more humid than they were during your childhood. In fact, even the air feels thick. It's tough to breathe in the heat, and it seems that you can almost smell the particulates in the air. Perhaps there is some truth to this, because your local weather station has warned citizens to stay indoors due to high levels of particulate and ozone matter – and it's worse in big cities. Homes and buildings are running lighting and air conditioners 24/7, and far more people are driving even short trips due to the heat. People seem to be burning more fuel to stay safe, which seems to make the situation worse. In addition, soot and dust from wildfires several hundred miles north has settled in pockets of your city. The hazy cloud around the inner city is visible from a distance.

It appears that the air quality is starting to affect your community. Your child's outdoor summer programming has been postponed until the air quality improves. This has caused you to scramble to find childcare needs. It appears that other programs and businesses are also on pause, since so few people are spending time outside their home. Work on infrastructure has halted, as work for construction crews is too dangerous due to the air pollution – the heat makes wearing masks outdoors miserable. In addition, the 2024 Olympics, which were scheduled to be in Chicago, IL, were cancelled due to a high probability of respiratory illness to the athletes and spectators. It is expected that this cancellation will be devastating to several small businesses in the city. Personally, you've noticed yourself becoming a little short of breath when you walk outside, and it seems that your allergies have gotten worse since the weather station warned the city of the air problems. In fact, you've read that the ragweed season is almost a month longer than it used to be during your childhood. Fortunately, most of your family is healthy, but you learned that your neighbor's child was hospitalized with an acute asthma exacerbation. An elderly neighbor has also told you that he has had chest pain and has been dizzy. When you learn of these issues, you offer indoor air filters to your neighbors, but you can't help but worry. You're even concerned about the pets who spend most of their time outside. While your city's mayor has committed to addressing the poor air quality, it's not clear how this will happen. The forecast shows at least another week of record high temperatures, and the wildfires up north are still raging.

As an informed citizen, work with your fellow table mates to brainstorm some reasonable climate action items that could help your family, your city, and your region in the face of this air pollution disaster. Do your best to take into consideration everyone who will be impacted by this issue.

Climate Change Code Blue Case Studies

Vector Borne Disease

It's August 2024. Record high temperatures have struck the U.S. You've lived here most of your life, but you have noticed that the summers have gotten hotter and more humid than they were during your childhood. The rain patterns seem to have changed as well. In fact, there are no patterns. There have been a handful of 500- and 1000-year floods in the past decade. One of the most recent rain storms has left standing water in several areas of your city. You've seen on the news that the Zika virus, carried by mosquitoes, has become a threat in your area. The local government has issued a warning to stay away from the standing water, as it is a breeding ground for mosquitoes – especially in the high temperatures.

Most people you know are aware of some diseases that mosquitoes carry such as Malaria and West Nile Virus, but Zika is new to your community. From what you've seen on television, you know Zika causes irreversible brain damage to unborn babies. There have been several reports of babies born across the state with a condition called microcephaly, which results in physical and mental disability. Some health systems and outreach programs are trying to educate citizens about the dangers of Zika, but it doesn't seem like people are listening. Many of your neighbors do not speak fluent English, so the communication about protecting families against Zika is not effective. You know there are several pregnant women in your apartment complex who are at risk of being infected with Zika. Health workers are encouraging pregnant women to stay indoors with the windows closed, but many people in your community do not have air conditioning. The temperature inside your own apartment is over 90 degrees – and that is with the windows open. Pregnant women who have heard the warnings are reluctant to leave the house to go to work. You were surprised to hear that the local health department has even encouraged women to avoid getting pregnant until the risk of the spread of Zika has decreased. Access to contraception in your community is generally poor, which is concerning for many reasons. In addition, the 2024 Olympics, which were scheduled to be in Chicago, IL, were cancelled due to the danger of Zika infection to athletes and spectators. It is expected that this cancellation will be devastating to several small businesses in the city. You are particularly concerned about the dangers of Zika virus on behalf of your sister, who just announced she is 4 months pregnant.

While your city's mayor has committed to addressing the spread of this vector borne disease, it's not clear how this will happen. There is more rain and extremely warm weather in the forecast, and it doesn't appear that the mosquito population will decrease any time soon.

As an informed citizen, work with your fellow table mates to brainstorm some reasonable climate action items that could help your family, your city, and your region in the face of this Zika virus disaster. Do your best to take into consideration everyone who will be impacted by this issue.

Climate Change Code Blue Case Studies

Extreme Flooding

It's August 2024. The month has been marked by three record-breaking rainfalls. You've lived here most of your life, but you have noticed that the summer storms seem more intense than they were during your childhood. The rain patterns seem to have changed. In fact, there are no patterns. There have been a handful of 500- and 1000-year floods in the past decade. The last intense rainstorm was just under a week ago, and your community is still reeling from the floods that followed. News stations have shared that thousands of people are suffering major losses from the flooding which has still not receded. The infrastructure is in tatters. Several rural bridges and roads are impassable. In addition, nearly a quarter of the entire electrical grid is still without power due to storm damage. Much of the city is running off generators. Local agricultural production such as corn, soybeans, and even livestock has been decimated.

The most recent rain storm has left standing water in several areas of your city. You've seen on the news that the Zika virus, carried by mosquitoes, has become a threat in your area. The local government has issued a warning to stay away from the standing water, as it is a breeding ground for mosquitoes – especially in the high temperatures. You are concerned about the dangers of Zika virus on behalf of your sister, who just announced she is 4 mos. pregnant.

Some community members have lost their homes and their way of life for the foreseeable future. Many have lost family members and pets either to direct damage from the storm, or from subsequent health issues. Emergency department admissions have skyrocketed due to injuries from the flooding, water- and food-borne illness, dehydration, and chronic disease exacerbation such as asthma, COPD, and heart disease. The emotional toll the storms and flooding have had on people is incalculable. People are evacuating, but the process is slow. Emergency response crews are working to assist people in finding safe and dry shelter, clean water, and access to electricity. Responders are working to get medications to community members, which has been particularly difficult considering many life-sustaining medications require refrigeration – such as insulin.

While national aid organizations have committed to addressing the crisis, it's not clear when or how this will happen. People have died, work on infrastructure is slow, and conditions for aid workers are dangerous. As an informed citizen, work with a partner to brainstorm some reasonable climate action items that could help the community members in the face of this extreme weather disaster. Do your best to take into consideration everyone who will be impacted by this issue.