

# Global Health Newsletter

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## Staten Island University Hospital

Madi Lindauer, MD MPH

### Americas

#### Train Derails in Ohio Releasing Toxic Chemicals

On February 3, 2023 a freight train derailed in East Palestine Ohio, a 5,000 person town. The 150-car train operated by Norfolk Southern was carrying 20 cars of toxic chemicals such as vinyl chloride, butyl acrylate, ethylene glycol monobutyl ether, ethylhexyl acrylate, benzene and isobutylene. One chemical of great concern is vinyl chloride which is used to make PVC pipes and has been linked to an increased risk of cancer. Burning vinyl chloride gas can break down into compounds such as hydrogen chloride and phosgene (a chemical weapon used during World War I as a choking agent). Due to a mechanical problem, 51 cars derailed and 49 ended up in a derailment pile which caught fire and burned for over two days. Of the 51 derailed cars, 11 contained the hazardous materials. Initially residents who lived within 1 mile of the derailment were evacuated and on February 6<sup>th</sup> the mandatory evacuation was increased to a 1 by 2 mile area which was lifted on February 9<sup>th</sup>.



<https://www.bostonglobe.com/2023/02/17/metro/has-residue-ohio-train-derailment-floated-over-new-england/>

On February 8 the Ohio Department of Natural Resources stated that the chemical spill killed over 3,500 small fish across 7.5 miles of streams. One fox and chickens also died soon after the derailment. Pet owners and caretakers have also noted that since the derailment their animals are sick many of whom have swollen faces and runny eyes.

The Environmental Protection Agency (EPA) have so far tested the air in 530 homes and have not detected any dangerous levels of contaminants. The EPA has also sampled municipal water samples which do not demonstrate any water quality concerns. However, many are skeptical of the results.

Many of those who live in the surrounding area have reported nonspecific health concerns such as sore throats, runny eye, headaches, dizziness and nausea. The odors from the burning chemicals could be smelled for many days after. It is unclear what and if any long term health problems will occur from the train wreck and will probably not be known for many years.

#### Further Reading

<https://www.curbed.com/article/ohio-train-derailment-disaster-buttigieg.html>

<https://www.washingtonpost.com/climate-environment/2023/02/16/ohio-train-derailment-response-toxic-contamination/>

## Middle East/Northern Africa

### Earthquake in Turkey and Syria

On February 6, 2023 at 4:17am a 7.8 magnitude earthquake and series of tremors and aftershocks (over 2,000) occurred in Turkey and Syria. On February 20th an aftershock with a magnitude of 6.3 occurred. The death toll is currently 48,000 people with over 115,000 injuries. It is estimated that 24 million people have been affected and 2.4 million displaced.

The road to recovery will be long and difficult. The immediate aftermath of the earthquake affects health in many ways. Many of whom survived the earthquake are wounded and homeless. It is also more difficult to care for these people as both healthcare facilities and transport links have been destroyed. Turkey has a robust healthcare system; however, even before this earthquake Syria was suffering from a human rights crisis and there were many who fled to Turkey for safety. This number will further increase, placing a greater burden onto Turkey.



<https://www.nytimes.com/live/2023/02/09/world/turkey-syria-earthquake>

One obstacle, many of those who were injured must overcome, are wound infections. Initial injuries occurred from buildings collapsing which caused crush injuries, burns, inhalation of debris, fractures, and large lacerations and wounds from debris. Many suffered from hypothermia and dehydration as they waited to be rescued. These initial injuries have high rates of infection which can lead to amputations, tetanus, sepsis and death. With so many injured it is near impossible to care for everyone.

After disasters there is an increase in infectious diseases. Water-borne diseases such as cholera and hepatitis A thrive in unsanitary conditions caused by damaged water treatment plants and pipes. In addition, overcrowding in shelters with many who are injured and immunocompromised further increases the spread of disease. Prior to this earthquake Syria was already fighting a cholera outbreak. Eastern Mediterranean countries such as Turkey are susceptible to Leishmaniasis which is spread by sandflies who are attracted to crowded housing as they feed on human blood.

Many people in Syria and Turkey suffer from chronic noncommunicable diseases such as hypertension and diabetes and require daily medications, some of which require refrigeration. Those with cancer or persons on dialysis often cannot receive their care due to the healthcare infrastructure disruption. Access to drugs is disrupted as routine medical care is near impossible. Studies have also demonstrated that there is an increase in myocardial infarctions and strokes from the first month to up to three years after an earthquake among survivors. Earthquake-affected individuals also have higher rates of diabetes. Pregnant women are another vulnerable population who often are unable to find adequate care.

The psychological trauma that survivors of disasters is often overlooked. Many individuals have lost family members and friends. Their homes, belongings, savings and businesses destroyed. Many will develop long term mental health problems such as depression, anxiety and post-traumatic stress disorder. Many Syrians have already experienced multiple displacements in recent years due to the war and are living precariously.

### Further reading

<https://www.gavi.org/vaccineswork/5-ways-which-earthquakes-can-threaten-our-health>

# Asia/Pacific

## Nipah Virus Infection in Bangladesh

### What is Nipah Virus?

Nipah virus infection is a fruit bat-borne zoonotic disease transmitted to humans via infected animals or contaminated food and contact between infected persons. The incubation period is between 4 to 14 days with an incubation period of up to 45 days being reported. It was first discovered in 1999 in an outbreak in people and pigs in Malaysia and Singapore and resulted in 300 cases with over 100 deaths. 1 million pigs were killed to help control the outbreak. Since then the outbreaks have primarily been in Bangladesh and India.



To collect sap from a date palm tree, a man peels bark at the top of the tree and attaches a pot to collect the liquid.  
Majority World/LUG via Getty Images  
<https://www.npr.org/sections/goatsandsoda/2016/03/22/470803523/disease-detectives-find-a-really-good-reason-not-to-drink-date-palm-wine>

The clinical presentation in humans varies and can range from asymptomatic to respiratory infections to fatal encephalitis. Initial symptoms are nonspecific, sore throat, myalgias, fever, headaches and vomiting. If the disease progresses it is followed by signs of encephalitis, dizziness, change in mental status and neurological symptoms. Once symptoms of encephalitis begin people progress to coma within 24 to 48 hours. If an individual recovers from the encephalitis, 20 percent, have residual neurological sequel.

Global fatality rate is between 40 to 75 percent. Antivirals are in development but there are no currently approved vaccines or treatments at this time and all care is supportive in nature.

The recommendation for disease prevention is to decrease the risk of bat-to-human transmission by decreasing bat access to date palm sap and other fresh food products. In addition, freshly collected date palm juice should be boiled and all fruits should be washed and peeled before consumption. Any signs of bat bites to fruit should not be consumed. Some transmission from domestic animals have been documented and the recommendation is to handle sick animals with correct PPE.

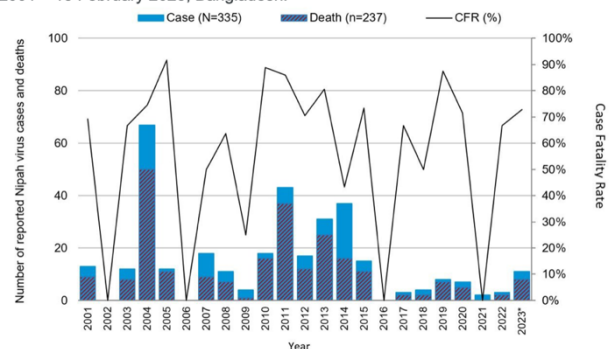
### Current Outbreak in Bangladesh

Between January 4 2023 and February 13, 2023 11 cases have been reported across two divisions in Bangladesh, including 8 deaths (Case Fatality Rate of 73%). Nipah virus infections are seasonal in Bangladesh and occur between December and May, corresponding to the harvest season of date palm sap. The first report of this virus in Bangladesh was in 2001 and the yearly reported cases range between zero and 67. In the last five years the cases have not exceeded eight, until this year. Cases are confirmed with Real Time Polymerase Chain Reaction (RT-PCR) from throat swabs and antibody detection via enzyme-linked immunosorbent assay (ELISA). Of these eleven cases reported seven were male and four female. The median age is 16 years old and the range is 15 days to 50 years. Of the 11 cases, ten consumed date palm sap. The 15- day old is a considered a secondary case. After the diagnosis was made 310 contacts of the infected individuals were identified and they are monitored for 3 weeks from last date of possible exposure.

### Further reading

<https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON442>

**Figure 1.** Number of reported Nipah virus cases and deaths by year, 1 January 2001 – 13 February 2023, Bangladesh.



Source: Bangladesh Ministry of Health and Family Welfare  
\*as of 16 February 2023  
<https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON442>

## Sub-Saharan Africa

### Drought in Somalia

8.25 million people, half the population of Somalia, require humanitarian aid for survival. Due to climate change, Somalia has suffered five consecutive poor rainy seasons which has led to the most severe drought in Somalia's recent history. 25 percent of the Somalia's gross domestic product is from the agriculture sector and 90 percent of the informal employment and exports. This prolonged drought has led to an increase in cost of food and water and has led to conflict in the region. Food inflation has reached 17.5 percent, disproportionately affecting poor households and displaced people. It has displaced more than 1.4 million people and killed 3.5 million livestock. Somalia is also experiencing epidemic outbreaks of measles and cholera. Access to healthcare is extremely limited and it is estimated that only 19 percent of healthcare facilities are fully functional. Malnutrition, especially among children, is overwhelming healthcare facilities. In 2022, Doctors without Borders treated 12,007 patients which is a 33 percent increase from the previous year.



[https://www.thelancet.com/cms/attachment/9bf29ffa-c193-4dc4-98e2-fdad6171346a/fx1\\_lrg.jpg](https://www.thelancet.com/cms/attachment/9bf29ffa-c193-4dc4-98e2-fdad6171346a/fx1_lrg.jpg)

Some Somali's have left the country and settled in refugee camps in Kenya such as Dabaad Refugee Complex which has a population of over 300,000 people (half of which are children) and 95% are from Somalia. People that live in the camp are unable to go to school or work outside which leaves them dependent on humanitarian assistance. The complex was supposed to close in 2022 but the opposite has occurred, there has been an increase in the number of people who have entered. In 2022 alone an estimated 45,000 people fled Somalia due to the drought to the Dabaad Refugee Complex.

### Further reading

<https://reliefweb.int/report/somalia/humanitarian-partners-seek-us26-billion-assist-76-million-people-somalia-2023-enso>

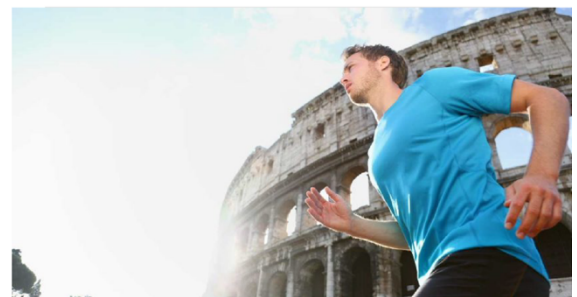
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(23\)00290-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(23)00290-8/fulltext)

<https://www.msf.org/donors-must-urgently-send-funds-humanitarian-situation-deteriorates-kenya>

## Europe

### Increasing Physical Activity could save the EU Billions

A new report done in the European Union (EU) by the Secretary-General of The OECD and the Director-General of the World Health Organization (WHO), *Step up! Tackling the Burden of Insufficient Physical Activity in Europe*, makes the economic case for investing more into physical activity policy. It found that 45% of people say they never exercise and one third of people have insufficient levels of physical activity. Lower socioeconomic groups, older people and women are less likely to participate in regular exercise. It was also found that since the COVID-19 pandemic there has been a decrease in physical activity. This lack of physical activity contributes to an increase in noncommunicable diseases (NCDs) which leads to a decrease in a person's health and burden on economies. The WHO recommends 150 minutes of exercise per week. According to the publication, if physical activity increased to the recommended levels it would prevent 11.5 million new cases of NCDs in the EU by 2050 (3.8 million cases of cardiovascular diseases, 3.5 million cases of depression, 1 million cases of type 2 diabetes and 400,000 cases of cancer). Today, Germany, France and Italy have the highest burden of insufficient physical activity on health care expenditure in the ED and it is estimated that these 3 countries will spend between 1 to 2 billion euros treating diseases linked to insufficient physical activity between 2022



Representational image. Photo: Maridav/Shutterstock

<https://www.onmanorama.com/lifestyle/health/2023/02/18/increasing-physical-activity-could-save-lives-money-who-report.html>

and 2050. The model created also demonstrated that increasing physical activity gives back 1.7 euros for every 1 euro invested and would reduce the total health expenditure by 0.6%.

Policy recommendations to increase physical activity are targeted at schools, work, healthcare settings, programs to increase sports participation, information and communication policies, and urban design, environmental land transport policies. These urban design, environment and transport policies are targeted to improve road safety, increase parks, trails and green spaces and invest in cycling lanes and better public transportation.

#### Further reading

[https://read.oecd-ilibrary.org/social-issues-migration-health/step-up-tackling-the-burden-of-insufficient-physical-activity-in-europe\\_500a9601-en#page5](https://read.oecd-ilibrary.org/social-issues-migration-health/step-up-tackling-the-burden-of-insufficient-physical-activity-in-europe_500a9601-en#page5)

<https://www.who.int/europe/news/item/17-02-2023-new-who-oecd-report--increasing-physical-activity-could-save-the-eu-billions-annually>

## What's New at Northwell's Center for Global Health?

Daniel Leon MBA PMP

### Guyana Addresses Mental Health

The Center for Global Health (CGH) at Northwell, recently sent global program manager Saleha Atif, Zucker Hillside Psychiatry physicians, Dr. Lauren Hanna, Dr. Sohag Sanghani, Dr. Georgios Petrides, and patient care manager Liezl Mangubat to Georgetown to attend the Guyana Mental Health and Well-being (GWB) Conference. The Conference, which is organized annually by the Guyanese Ministry of Health, University of Guyana, and Columbia University, is intended to raise awareness, share information, facilitate collaboration, and generate interest in addressing issues related to healthcare in Guyana.

During the conference, the Northwell Psychiatry team presented on the basics, stigmatization, and implementation of Electroconvulsive therapy (ECT) in Guyana, as a treatment for people suffering from severe mental health issues. The team also highlighted the potential benefits of using ECT in the country, as well as the necessary steps for successful implementation. Among presenters were officials from the Pan American Health Organization (PAHO) and Columbia University discussing topics ranging from suicide to injury and trauma prevention. Also in attendance were Guyanese Minister of Health, Dr. Frank Anthony and President of Guyana, Irfaan Ali.

“The GWB conference gave us a chance to connect with other global health enthusiasts focused on the improvement of healthcare in Guyana. The country needs more events like these; they really get you excited about the future” said Saleha Atif of the event.

For more: [https://www.facebook.com/watch/live/?ref=watch\\_permalink&v=468863158678352](https://www.facebook.com/watch/live/?ref=watch_permalink&v=468863158678352) to watch a recap of the event

### Advanced Trauma Life Support for Guyana

Northwell Health recently provided Advanced Trauma Life Support (ATLS) training and certification for 16 surgical professionals from Georgetown Public Hospital Corporation (GPHC) in Guyana. The program, recognized by the American College of Surgeons, aims to improve the care of injured patients by providing a systematic approach to trauma assessment and management. The training was led by Northwell LJI trauma surgeon, Dr. Matthew Bank, and included GPHC's new chief medical officer and trauma surgeon, Dr. Navin Rambarran.



Northwell at the GWB conference with Minister for Health Frank Anthony and Guyanese president Irfaan Ali



Guyanese Surgeons receive ATLS training at Northwell

“It was a great experience which not only achieved its objective of our certification but also resulted in stronger ties among counterparts” said Dr. Rambarran of the training. Northwell and the Center for Global Health plan to expand the scope of their training programs in Guyana, as well as develop training programs for other specialties that would increase the country’s access to adequate health care.

### **Northwell Biomed Powers Global Progress**

Northwell Health's Center for Global Health (CGH) is teaming up with the Northwell Biomedical Services team to support medical equipment initiatives in Guyana, Ecuador, India, and Ukraine. The focus will be on creating online training and video resources for medical staff at CGH global core sites. These resources aim to assist medical professionals in maintaining donated and locally sourced medical equipment for long-term use.



*Northwell team members preparing medical equipment for use*

Northwell Biomedical Services has assisted CGH in the safe delivery of over \$100,000 dollars' worth of equipment used for initiatives ranging from providing COVID-19 relief efforts in Guyana and Ecuador to supporting Ukrainian victims of war with medical supplies. This collaboration is part of Northwell's ongoing efforts to improve the sustainability of medical equipment used in underserved communities worldwide.

## **Upcoming Lectures/Conferences**

### **At home: Unaccompanied minors in France, an adolescence in exile**

This is the story of Aïcha, Kady, Madihawa and Moussa: four young teenagers from Mali and Côte d’Ivoire who arrived in France after crossing the Mediterranean Sea; four young teenagers who are trying to have their child status recognized by French institutions; four unaccompanied minors who should be protected and cared for by France’s child protection services but who can only rely on the solidarity of citizens and charities like Médecins Sans Frontières and Utopia 56.

Their day-to-day lives in France and the stories, told in the mini-series "At Home", reveal the institutional violence of the French state against children whose rights are trampled underfoot. In four episodes, this series attempts to relate an adolescence in exile, interspersed with childhood dreams, solitude, determination, violence and hope.

Watch the videos: <https://www.msf.org/home-unaccompanied-minors-france>

### **Johns Hopkins Center for Global Health panel about Turkey Earthquake**

Recording of the BSPH/CHH special event panel discussion on the humanitarian response to the devastating earthquakes in Türkiye and Syria.

<http://hopkinshumanitarianhealth.org/news-events/event-videos/>