

## Typhoon Haiyan: Philippines faces long road to recovery

Homes, health infrastructure, and other essential services have been decimated in areas hit by Super Typhoon Haiyan, leaving millions of survivors vulnerable to illness. Yu-Tzu Chiu reports.



The death of 3-day-old infant Althea Mustacia on Nov 16 might have been avoided had ventilators been working at a public medical centre in the Eastern Visayas region of the Philippines's Leyte province. Establishing sustained respiration for the infant who had asphyxia after birth was tragically hampered, however, after power lines went down across the entire region in the wake of Super Typhoon Haiyan, which hit central Philippines on Nov 8.

Filipino health officials say that most hospitals and health facilities in the typhoon-hit areas are seriously damaged. In Tacloban (figure), in the worst-hit province of Leyte, only one public hospital remains functional following Haiyan (one of the strongest storms ever recorded), according to Gloria Balboa, a regional director at the Philippines Department of Health (DOH). "Now we have to rely on private facilities and some additional hospitals set up by international groups", she tells *The Lancet*.

Balboa is in charge of monitoring the health situation in several disaster areas. She says that, in Eastern Samar, the Australian Government has been deploying teams, while international aid continues to arrive. "However, all the hospitals and facilities are not working. And there are fewer medical staff in Eastern Samar, compared with Tacloban."

Although some of the affected people were able to move out, those who have no choice but to stay will face tougher challenges in the near future. Balboa says that the sanitation conditions are worrisome due to the shortage of water. "We are expecting diarrhoea and other infections", she says.

According to DOH, risk of diarrhoea, respiratory illnesses, leptospirosis, and influenza outbreaks remains high.

To prevent water-borne outbreaks, DOH has been coordinating efforts with humanitarian groups and local governments to provide adequate, clean water through water filtration machines.

Humanitarian groups face similar sanitation challenges. According to Allison Gocotano, Assistant Projects Officer at Health Futures Foundation, who helped provide basic medical services in a temporary shelter set up

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in a school in Guiuan, Samar province, about 100 evacuated families have just two toilets to share between them. "Water and sanitation are going to be potential problems unless camp management is well established", he says, adding that the lack of power and regular communication lines makes it much harder to organise people and get things done.

According to Gocotano, typhoon victims at Guiuan hope to see the restoration of electricity as soon as possible but they pessimistically predicted that it might take about a year since all electricity posts were down. After the passage of Haiyan, countless structures fell and most of the roofs of houses were torn away.

Gocotano says, in terms of health care, the safety of immunisation is at risk. The lack of the infrastructure makes it more difficult to maintain reliable cold chains and store vaccines at precisely the right temperature. "All vaccines are in danger because there is no cold chain", he says.

According to WHO, much of the health infrastructure has been seriously damaged in areas hit by the typhoon. Initial assessments have found that 18 of 38 health facilities in affected regions are not functional.

Guiuan, a town of nearly 48 000 people, is one of the hardest-hit areas, with every health facility destroyed, including the only facility

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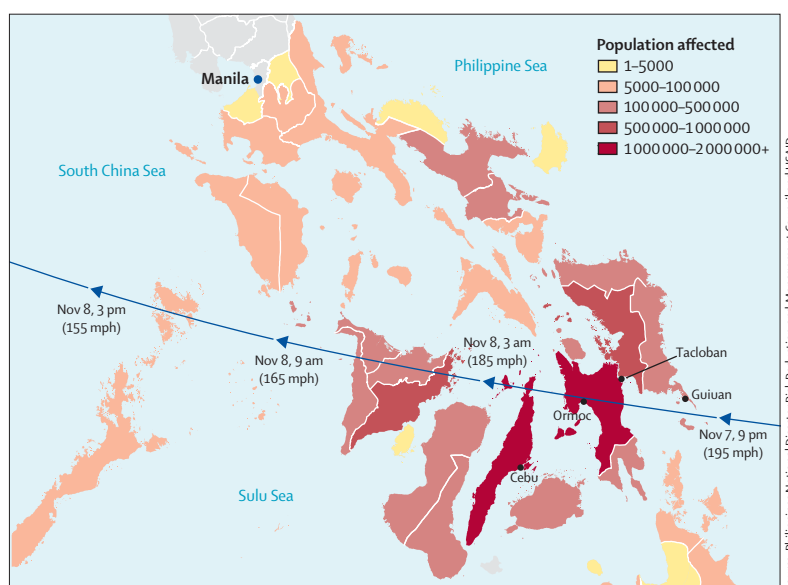


Figure: Map of the Philippines showing the path of Super Typhoon Haiyan and population affected



John Iacellano/Reuters/Corbis

in Eastern Samar province with the capacity to help women with complications in childbirth. WHO has sent reproductive health kits to Guiuan to treat patients with obstetric complications.

WHO estimates that more than 200 000 pregnant women and 130 000 breastfeeding women in all disaster-hit areas in different provinces need specialised prenatal, postnatal, child health, health promotion, and family planning services.

As of Nov 18, the death toll had reached 3976, with 1598 missing, according to the Philippines National Disaster Risk Reduction and Management Council (NDRRMC). The agency's records show that more than 18 000 people were injured after the typhoon while more than 4 million have been displaced.

On Nov 18, Eduardo Del Rosario, head of the NDRRMC, announced that aid has reached all affected areas in Leyte and the nearby provinces of Eastern Samar and Samar. Meanwhile, 87 medical teams, including 43 foreign groups, have been deployed to affected areas. However, providing clean drinking water, key to preventing the death toll from rising, remains incomplete. According to the NDRRMC, water supply in Leyte has been sufficient as of Nov 15 but it remains unavailable at the municipality of Barboza in Antique province and in some in cities and municipalities in the provinces of Capiz and Iloilo.

According to the International Committee of the Red Cross (ICRC), several humanitarian groups have been working in Samar to address the most pressing needs, including food, safe drinking water, and basic health care. ICRC spokesperson Allison Lopez says, in the most severely devastated areas, mainly along the south coast of Samar, water and sanitation are problems. "We've done our assessment...structures can be repaired", she says, adding that ICRC

engineers and Philippine Red Cross staff will start repairing the water-supply system soon.

As part of its initial response to the disaster, the ICRC also delivered basic medical supplies such as dressing materials, antibiotics, painkillers, and intravenous sets to the district hospital in Basey in Samar province. Starting on Nov 18, ICRC and the Philippine Red Cross distributed food and soap to 54 300 people from 10 860 families in Guiuan, Mercedes, and Salcedo, in southeastern Samar.

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According to Pascal Mauchle, head of the ICRC delegation in the Philippines, similar supplies and essential items, such as tarpaulins and blankets, will be soon shipped to 8500 victims on small isolated islands near Guiuan.

At least seven provinces have been affected by the disaster (Samar, Leyte, Cebu, Iloilo, Capiz, Aklan, and Palawan) and a humanitarian hub is being established in each, according to WHO. "Because of the geography of the Philippines, an archipelago of many islands, and the fact that so many have been hit by the typhoon, it is essentially like mounting at least seven separate, simultaneous relief efforts. This multiplies the logistical challenges associated with the response", said Julie Hall, WHO's Representative in the Philippines.

Meanwhile, according to WHO, several remote communities on some 20 smaller islands might have also been affected by the typhoon, making delivering relief exceedingly complicated. WHO says that medical aid has been reaching those in need. For example, the Eastern Visayas

Regional Medical Center, the only local health facility remaining operational in Tacloban, has received professional assistance from Metro Manila Hospitals. Foreign teams are operational in several affected areas, including Tacloban, Ormoc, Panay, Guiuan, and Palo, while WHO's teams are now located in Tacloban and Cebu for the coordination of foreign medical teams.

Jaime Bernadas, a DOH regional director assigned to the disaster areas in Cebu, says it might take a while to get the whole health-care system back to normal and better coordination is needed. "I'm still calling for more volunteers and health-care professionals, both domestically and internationally", he says.

More than a week after Haiyan, crowds of people were still queuing at airports in a bid to flee disaster areas where the smell of decaying bodies filled the air. In Tacloban, thousands of bodies have been piled up in the streets and workers with few resources and little time were burying them in hastily dug trenches. In a statement, Health Secretary Enrique Ona said that dead bodies should not cause outbreaks of diseases but certain precautions need to be taken by body handlers to prevent the spread of disease. DOH has urged local authorities to retrieve dead bodies and arrange for decent burials, including proper identification of the deceased.

As the dead were being buried, announcements of much-needed international aid continued. The UK's assistance following Typhoon Haiyan stands at £50 million (US\$80.6 million). Having already provided €13 million (\$17.5 million), the European Commission has announced an additional €7 million (\$9.4 million) in humanitarian assistance. Meanwhile, the USA has promised to send a Navy hospital ship to the Philippines to join the disaster relief effort.

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