Editorial

Making “prevention and preparedness” a recovery priority: lessons from the response to the 2015 Nepal earthquake

The frequency of natural disasters, and regularity of tragedies resulting from conflict and terrorism, is increasing at a troublesome pace worldwide. There was a three-fold increase in the number of global natural disasters during the period 2000–2009 compared with 1980–1989, and the cost of humanitarian responses to disasters was reported to be US$ 17 billion in 2005. Although, as a global community of citizens, we may hold some implicit or explicit responsibility for these events, they are mainly beyond our control, and often occur in communities that are least prepared to manage the health and population-related outcomes. The region of South Asia appears to have a relatively high frequency of natural disasters and very high mortality resulting from these events. Approximately 40% of global deaths due to disasters during the decade 2004–2013 were from the countries of the World Health Organization (WHO) South-East Asia Region. The South-East Asia Region is no stranger to disasters resulting from natural hazards, as evidenced by the major disasters including the Tsunami of 2004, Cyclone Nargis of 2008, Sumatra earthquake of 2009, and Thailand floods of 2011. The most recent event that has garnered global attention has been 2015 Nepal earthquake(s).

THE INEVITABLE: NEPAL EARTHQUAKE(S) OF 2015

Nepal is a small land-locked nation bordered by China and India, and has a population of about 29 million. It is considered one the poorest countries in Asia, and in 2014 ranked 145th out of 187 countries on the United Nations Development Programme’s Human Development Index, placing it in the bottom quartile in terms of its standing in international development. The geography of Nepal includes eight of the highest mountain peaks on earth (including the famed Mount Everest) on the northern border, and some of the most fertile land in the region along the southern border, known as the Terai. Despite its tremendous natural resource, Nepal has struggled with high rates of poverty (about 30% of the population live on less than US$ 2 per day), and is still recovering from a decade-long civil war that ended in 2006. Moreover, close to 80% of the population lives in rural settings, where access to health or social infrastructure is a challenge. Predictions of a major earthquake in Nepal have been made for decades, and, tragically, these forecasts became a reality in the spring of 2015.
On 25 April 2015, and then again on 12 May 2015, massive earthquakes measuring 7.8 and 7.6 respectively on the Richter magnitude scale unleashed tremendous damage to the physical infrastructure of the country, and, more importantly, resulted in thousands of casualties, injuries and displaced populations. The epicentres of the earthquakes were first in the Gorkha district, and then in the Sindulpalchok district, both located at the periphery of the capital city of Kathmandu. Although there are always challenges in collecting reliable and valid data following a natural disaster, the United Nations Office for the Coordination of Humanitarian Affairs has reported that there were approximately 8500 casualties, more than 22 000 people injured, and hundreds of thousands of internally displaced persons.5

**PREVENTION AND PREPAREDNESS LEADS TO BETTER RESPONSE**

Given the predictions of an impending mega-earthquake, the government of Nepal and its long-standing local and international partners had developed disasters-preparedness planning, processes and protocols well before these recent events. Various protocols – from a nationally agreed earthquake scenario to specific sectoral plans of action – prepared the country for such an event, in particular, in the capital Kathmandu. Mass-casualty management and preparedness-related protocols were in place at the time of the earthquake, and although it is somewhat difficult to measure objectively, this level of preparedness probably resulted in a more effective and coordinated response.

For close to a decade, WHO has been working with the Ministry of Health and Population on keeping health facilities in Nepal as safe as possible in the event of disasters. Together with experts, a methodology to assess the structural integrity of key hospitals was accepted and experts were trained around these guidelines.6,7 Hospital staff in different districts of the country were trained in management of mass casualties, but improving the hospital infrastructure was challenging, since it was a capital-intensive process with few donors forthcoming. In 2012, the Nepal Risk Reduction Consortium was established,8 and provided the impetus for establishing one of its flagship projects: “Safe hospitals”. This was a unique whole-of-government approach, and coordinated the work by development partners. As a result, six hospitals in the Kathmandu Valley were re-assessed, and non-structural and structural interventions were carried out. In many places in the city, through various organizations, medical and essential supplies were pre-positioned. The Health Emergency Operations Centre was established for the Ministry of Health and Population, as a separate modular structure to coordinate information from events. It was already in use 2 years before the earthquake during the response to floods in the monsoon season. In essence, at the time the earthquake happened:9

- the Ministry of Health and Population was operational within hours of the event;
- pre-positioned stocks were released immediately, to ensure supplies in hospitals;
- the six main hospitals in Kathmandu could absorb the load of patients from the Kathmandu Valley and surrounding districts for cases requiring specialized procedures;
- district hospitals in the Kathmandu Valley, especially those not completely damaged, could manage the influx of patients, owing to:
  - training in management and triage of mass casualties;
  - district-level contingency planning;
- rapid response teams trained previously in outbreak investigation were mobilized as soon as any report or rumours of possible epidemics were received.

The response was able to address the priority health issues of: injury and disability; psychosocial support and mental health; continuation of basic health services; and improved surveillance, in a more efficient manner.

As Nepal is a country prone to regular monsoon floods and landslides, the response system has also been tested previously. While the earthquake was an event of much larger scale, the investments in prevention and preparedness has also paid off
in terms of being able to absorb all external assistance that has come forward, with 130 health partners and 110 foreign medical teams, and 50 national medical teams there at the height of the emergency. Donations in kind and financial aid in millions poured in, and US$ 4.5 billion was pledged for recovery.9

SCALING UP FOR A “DISASTER-PROOF” HEALTH SYSTEM

The damage to the health systems of Nepal is severe. In the 14 districts affected by the earthquake, 85% of health facilities are damaged; 484 health facilities are destroyed and another 474 are partially damaged. A total of 2.8 million people have been left homeless. With this devastation, the world has rallied to provide much needed support and there is an opportunity for a rethink before rebuilding. Clearly, what is needed is to provide further input related to prevention and preparedness, for a more resilient health system. This includes more health facilities that will withstand another earthquake of similar magnitude, not just in Kathmandu but also in the other districts; more trained staff to manage casualties; more trained psychosocial first aiders among these facilities; well-equipped rehabilitation specialists and physical therapists; established and functioning auxiliary health facilities such as laboratories and blood banks; and, more importantly, communities that understand the risks and basic health response. In essence, a health system is required that copes with the hazards it faces by virtue of its geography and sociopolitical-cultural context; this is a key outcome of the Sendai Framework for Disaster Risk Reduction,10 that countries, including Nepal, have committed to and signed.

The tragic events that occurred during the spring of 2015 mark a turning point for Nepal—we must use these events to examine what worked well and where specific improvements in disaster preparedness and response could and should be made in the future. It is only through careful and deliberate assessments, and then sharing of lessons learnt, that we continuously improve our local, national and regional responses to natural disasters. Sadly, it takes a disaster to prove that investments in health systems geared up for disasters pay off. Nepal has shown that scaling up prevention and preparedness in the health sector can save lives, and doing more of it in very vulnerable peripheral areas is the way forward into a future where further such events are likely to be experienced.

REFERENCES


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