



## Perspective

### Collaboration in Response to Disaster — Typhoon Yolanda and an Integrative Model

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The powerful typhoon that struck the Philippines on November 8, 2013, was the strongest in local history, causing massive destruction and affecting 25 million people.<sup>1</sup> More than 5000 people were

confirmed dead, 22,000 were still reported missing when our team arrived in the country, and many others had lost their homes. The damage to the infrastructure left many areas without running water and electricity and caused total devastation in others. Some hospitals were shut down altogether, and some continued to work at partial capacity, leaving many of the injured without access to medical assistance. Various countries and relief organizations responded by sending medical supplies and personnel.<sup>2</sup> Our delegation, from Israel, was

assigned by the Philippine government to provide medical assistance to the city of Bogo (population, 75,000), which had been severely affected by the storm.

Five days after the catastrophic event, the delegation's 147 members landed on the island of Cebu with 80 tons of supplies and set out for the Severo Verallo Memorial District Hospital, which serves more than 250,000 people living in the region. This 80-bed hospital had a staff of five physicians and included an emergency room, a single operating room, a delivery room, four wards (pedi-

atrics, maternity, male, and female), and basic laboratory and x-ray facilities. When we arrived, the hospital had no electricity, no running water, and about 120 hospitalized patients. The operating room, laboratory, and x-ray apparatus were not functional, and the two physicians assigned to each shift were struggling to cope with the overwhelming number of patients.

Foreign medical teams customarily arrive at a disaster zone and follow the World Health Organization (WHO) guidelines for field hospitals, which recommend being "entirely self-sufficient."<sup>3</sup> Our team has had experience in relief missions throughout the world and had previously deployed as a freestanding, self-sufficient field hospital. In such instances, we

followed a model of “nonintegrative collaboration,” which is especially suitable for a chaotic area with a nonfunctioning infrastructure. This time, however, we realized that we’d entered an unusual situation in which there was a local system in place. We decided to rethink our standard operating procedure and combine our physical setup with the local structure and our medical and auxiliary staff with the local staff in order to provide the most benefit. Thus, we created a model of “fully integrative collaboration.”

With the support of the local health care administrators, we deployed our field hospital to abut the local one, thereby creating one integrated medical facility. We were familiar with and respected the need to be sensitive to cultural differences and language barriers, but we had always functioned as a tightly knit and independent unit. Although we had brought advanced medical supplies that were not available locally, and our team included 25 physicians representing most medical subspecialties as well as first-class logistics support, we had to relinquish sole authority for decisions regarding use of our own and other supplies. In order to overcome the basic differences between our military unit and the local civilian facilities, we needed to quickly improvise and establish a model of cooperation; the protocol we developed had four major parts, and both teams agreed to adhere to it.

Patients would first be seen at our field hospital, where they would be triaged. Those who needed to be hospitalized (including candidates for surgery) would first be stabilized and then be admitted, with the concurrence of a local physician.

Open discussions between the two teams were held to establish clear lines of responsibility regarding patient care. It was agreed that registering, documenting, evaluating, and treating potential outpatients would be carried out solely by the Israeli staff, whereas inpatients would be the responsibility of the local staff, with the assistance of the Israeli team. By unanimous agreement, a senior physician from the Israeli team was assigned to act as the principal coordinator. Morning inpatient rounds would be conducted by a combined team, but the documentation and physician’s orders would be written and executed by the local team. The responsibility for auxiliary services, including laboratory work, imaging, and pharmacy services for both inpatients and outpatients, was assigned to the Israeli team.

A protocol for the use of the operating room was established that specified that priority would be given to nonelective procedures (e.g., lifesaving or limb-saving procedures) and any surgery for conditions associated with unrelenting pain. Indications for surgery would be approved by a local physician and at least two senior physicians from the Israeli team. Surgical procedures would be performed by surgeons from both teams after written informed consent had been obtained from the patient by a local physician. Given the limited quantities of free medications, which would last only a short time, the combined teams decided not to offer pharmacologic treatment to the many outpatients with chronic diseases (e.g., hypertension or diabetes mellitus) but instead to have the Israeli team explain to patients

the nature of their condition and offer suggestions for risk-factor modification.

It went without saying that reimbursement would be entirely in the hands of the local medical system, since our mission was a humanitarian one. The local authorities decided that patients who did not need to be hospitalized would not be charged, but hospitalized patients would continue to pay the usual fees even if they had been partially treated by our team.

During the 10 days of our joint operation, we were able to provide medical assistance to about 300 new patients daily, for a total of 2686 cases. These results were achieved thanks to the full cooperation and coordination between the two teams. Our primary mission has always been to treat the victims, and this time we aimed to do so in partnership with the local medical team. We could also provide assistance in rebuilding the local hospital, in restoring electricity by means of generators, and in leaving many much-needed supplies, including a mobile x-ray machine, an autoclave, and a large quantity of pharmaceuticals.

Our experience suggests that the WHO guidelines<sup>3</sup> are sound and appropriate when there is a total collapse of the local medical infrastructure. When the local facility is partly functional, however, there are important short- and long-term benefits to integrating foreign teams with the local units. Foreign medical groups that blend with local ones can quickly gain the trust of the local population. A merged model allows the deployment of functioning parts of the local facility. In the Philippines, we also observed that a cooperative model facilitates

departure; after treating hundreds of patients every day, we were able to hand over care to our local partners and a small medical group that had arrived from Austria, Germany, and Slovakia, rather than abruptly discontinue medical assistance.

It is always easier to be in full control of these kinds of operations, especially when the balance of experience lies on the side of the “guest” team. Following a cooperative model may pose some challenges, particularly if the visiting team must strike compromises regarding either its own beliefs about the best management of care or important ad-

ministrative issues, such as patient responsibility or setting up priorities for triage. In this instance, however, by relinquishing our well-established habit of operating as a highly independent unit, we found that, when feasible, a cooperative model can have additional and important benefits for the victims of a disaster.

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1. WHO coordinates health relief after typhoon Haiyan. *Bull World Health Organ* 2013; 91:900-1.
2. World Health Organization. WHO supporting Philippine government with arrival of medical supplies after typhoon Haiyan (<http://www.who.int/mediacentre/news/releases/2013/typhoon-haiyan-20131112/en/>).
3. WHO-PAHO guidelines for the use of foreign field hospitals in the aftermath of sudden-impact disasters. Washington, DC: Pan American Health Organization, 2003 (<http://www.who.int/hac/techguidance/pht/FieldHospitalsFolleto.pdf>).

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