

Nepal Earthquake: A long way for the dust to settle!

The Emergency Surveillance and Response (ESAR) Initiative

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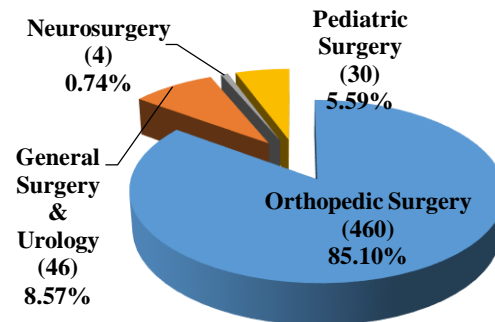
Following the devastating earthquake on 25 April 2015 that saw over 8,000 dead and thousands more injured and displaced, the Hospital and Rehabilitation Center for Disabled Children (HRDC) in partnership with the B&B Hospital, launched the Emergency Surveillance and Response (ESAR) campaign to identify, treat and rehabilitate victims and provide relief material and medical assistance in the earthquake-affected areas. The ESAR camps began the very next day following the earthquake and still continue to reach the most unreachable areas in 9 districts (Sindhupalchowk, Kavre, Nuwakot, Dhading, Lalitpur, Bhaktapur, Kathmandu, Makwanpur and Chitwan) that were hit hard by this unprecedented calamity.

Before each camp, a pre-camp scouted the needs in a specific area, making sure that duplication of services didn't take place. Permission and help from local health authorities and security forces was taken to make sure that the maximum number of turnout occurred and the camps ran in a smooth and organized manner.

The initial rounds of camps were centered in the worst hit districts of Sindhupalchowk (3000 deaths), Dhading, Nuwakot and Kavre. A lot of earthquake related injuries were identified and taken to hospital for treatment and rehabilitation. Gradually, this pattern made way to conditions that were secondary to living in open shelters, lack of clean drinking water, food and sanitation; post-traumatic stress and injuries sustained during clearing rubble.

As of now, 98 comprehensive health and relief camps have been conducted,

providing services to nearly 45,000 people. A total of 275 victims were admitted between the HRDC and B&B hospitals. Out of these, 240 patients underwent a total of 540 surgical procedures. The pie chart below shows a breakdown of the major surgical interventions carried out during the earthquakes.



Both hospitals were functioning at full capacity inside packed tents. Many a day found us operating while major aftershocks were in progress. One day stands out in memory, when during surgery we experienced a 6.7 Richter aftershock. Following this, there were rumors of a much bigger quake hitting again soon. Understandably, no one wanted to be indoors, but we had four limb-threatening emergencies waiting to be addressed. In the next half-an-hour, a makeshift tent operating room was erected in the hospital's parking lot. Three limb-saving amputations and a compartment syndrome fasciotomy were done in the open tent theatre that day, all of whom have recovered and are ambulatory at present. All remaining patients at the hospital, including patients on ventilators, were evacuated to a more favorable ground floor and outdoor position.



Figure 1: Our makeshift “tent operating theatre”: 3 life-saving amputations and a limb-saving leg compartment release were performed here as major aftershocks continued to rattle the hospital

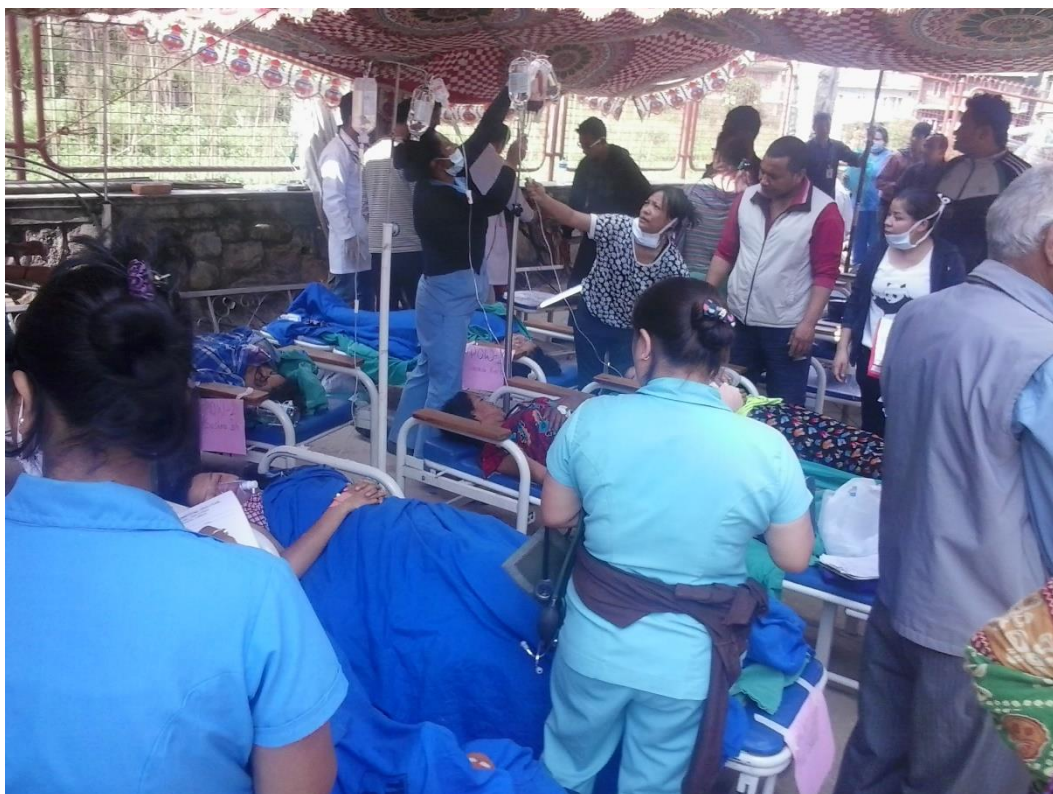


Figure 2: A busy outdoor post-operative ward at B&B hospital



Figure 3A, 3B: A patient who sustained extensive crush injury to her left lower extremity and underwent life-saving surgery in our “tent operating theatre”.

She is now walking on a below knee prosthesis



The first camp in Sipaghat highlighted the devastation that was to be encountered during subsequent camps as we made inroads into more and more remote areas. In the village of Jyamire in Sindhupalchowk, the experience of seeing the army retrieving the body of a child 15 days after the first earthquake stunned all of us who saw it. The boy’s brother came to us to ask for medicine that could remove the stench from the body! Later, seeing the blank face of this deceased boy’s mother made us all feel helpless as to what we had to offer! In the same camp, an 8 year old came with a large hernia that he aggravated when lifting a huge slab to save his father who was trapped under rubble.

His father survived and the boy later did well after surgery. In Sunkhani, which became the epicenter of many aftershocks, we experienced one while conducting a busy camp. On the way back, a violent thunderstorm broke out and stories of relief workers succumbing to nature’s fury played menacingly in our minds while our jeeps and buses slowly and uncertainly navigated the treacherous hills to bring us back home. Landslides, broken roads, slippery slopes, unpredictable weather and intermittent aftershocks were encountered in many of the camps, but the spirit did not wane and the camps continued.



Figure 4A, 4B: Ruins of Sipaghat town at Kavre-Sindhupalchowk border

In Dhading, a 30 years old lady (**Figure 6**) had been lying for 3 weeks with a nasty infection sustained in her leg following a rubble injury in the April 25 earthquake. This deadly infection called necrotizing fasciitis was spreading to her body and would have soon become life-threatening. An ESAR camp reached her village and her home, and with the support of the Nepal army, airlifted her to B&B hospital where multiple emergency procedures were performed. The patient and her leg both survived and she's now back in her village trying to rebuild her shattered life.



Figure 5: A patient who had developed necrotizing fasciitis following rubble injury identified at an ESAR camp in Dhading



Figure 6: Same patient recovering at B&B hospital after multiple surgical debridements and skin grafting of her

A 13 year old girl (**Figure 7**) who lost her mother and sister when a wall fell over them in Bhaktapur. She sustained a pelvis fracture and nasty leg wounds, both of which were managed successfully at HRDC.



Figure 7A, 7B: A young girl who sustained a pelvic fracture and open leg wounds recovering at HRDC's open ward

A tailor (Figure 8B) was found in Trisuli by an ESAR camp with a shattered leg. Fortunately, after multiple surgical procedures, the leg survived and he is now on his way to recovery. Amputation would have cost him his livelihood as a tailor, and

now he is gearing up to rebuild his home that was reduced to dust on 25 April.

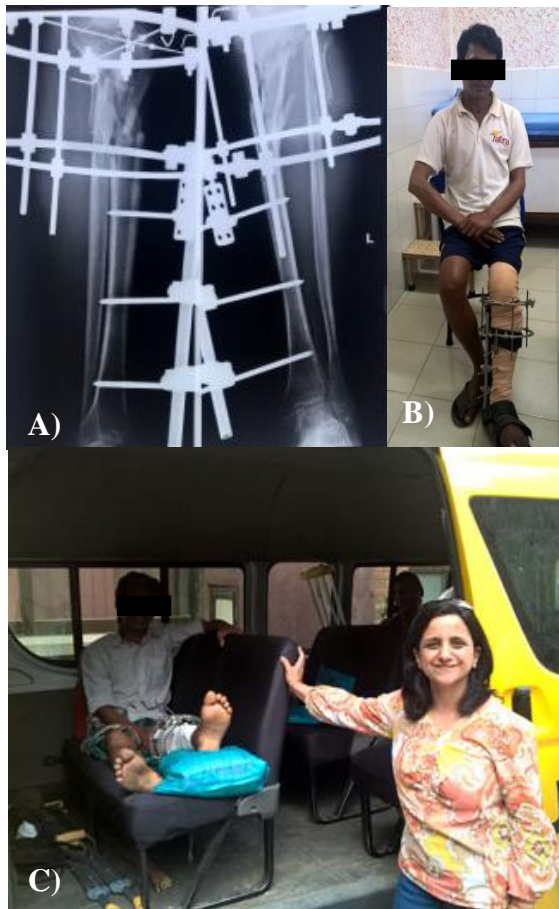


Figure 8A, 8B, 8C: A tailor from Trisuli who sustained a complex proximal tibia fracture treated in a hybrid frame at B&B hospital. He was discharged a few weeks later to an aftercare facility and is seen recovering well at follow up

Each ESAR camp consist of a comprehensive group of staff (40-50 per camp) consisting of triage staff, specialists in medicine, surgery, paediatrics, obs/gynae, orthopedics, allied health professionals including physiotherapists, orthotists & prosthetists and psychosocial counselors. The camps also had a designated children's play therapy and counseling area, a mobile pharmacy

dispensing a wide variety of required medication, a dressing area taking care of wounds, a casting area for primary treatment of bony injuries and a relief distribution area that distributed dignity kits, food supplies, clothing, mosquito nets, blankets, tents, umbrella's and shoes.

The dignity kits contained a towel, comb, nail cutter, razor, bar of soap, toothbrush, toothpaste, crepe bandage, bandaid, antiseptic liquid, glucose and sanitary pads for females.



Figure 9: ESAR "dignity kits": More than 42,000 such kits have been distributed in ESAR clinics



Figure 10: ESAR "food relief packets": 38,355 kgs of beaten rice and 18,975 kgs of sugar have been distributed in ESAR clinics

The food packets and snack packs contained a combination of nutrients and snacks as listed below.

Item	Amount
Dignity kits	42,000
Beaten rice	38,355 KG
Sugar	18,975 KG
Rice	10,000 KG
Daal (Lentil)	11,000 KG
Salt	1,265 KG
Oil	1000 Litres
Biscuits	20,140 Packets
Precooked noodles	35,000 Packets
Lito (Baby food)	150 KG
Jackets & Clothing	6,000 pieces
Mosquito nets	600
Tarpaulin tents	100
Waterproof tents	20
Water purifying agent	100 Litres
Fruit juice	33,000 bottles
Blankets	800

Table 1: List of food packets and snack packs

Our heartfelt appreciation goes out to all of you who helped HRDC and B&B conduct the ESAR program. ESAR continued for nearly a full year following the April 25th earthquake that rocked Nepal, and ended with over a hundred camps conducted in seven affected districts, nearly 45,000 victims benefited, and over 540 surgical interventions performed in 275 earthquake victims admitted to HRDC or B&B hospital during this period.



Figure 11: ESAR mobile pharmacy in action at a camp in Jalbire, Sindhupalchowk

Although a scratch on the surface in context to the devastation that was sustained and the massive rebuilding that is required, ESAR continues trying to reach the unreached and show that we really care. Future ESAR initiative aims to focus on rehabilitation of treated victims and participation in capacity enhancement of local health infrastructures. Some pictures follow.



Figure 12: HRDC relief bus navigating a 'caved in' road in the backdrop of an earthquake destroyed resort:



Figure15: Difficult logistics: Road block due to landslides at Balefi



Figure 13: Difficult logistics: Tekanpur, Sindhupalchowk



Figure16: Difficult logistics: Land slide on the way to Tauthali, Sindhupalchowk



Figure 14: Difficult logistics: Banskharka, Sindhupalchowk



Figure 17: An earthquake hit health post in Sangachowk, Sindhupalchowk



Figure 18A, 18B: The ruins of a 4 storey tall school in Sangachowk, Sindhupalchowk. The ground floor has collapsed completely! The headmaster told us that, had it been a school day, they could have lost upto 400 children!!



Figure 19A, 19B: Patient's queing up at ESAR clinics in Sangachowk and Thulo Sirubari, Sindhupalchowk



Figure 20: Dr. Ashok Banskota examining an elderly lady in an ESAR clinic in Sunkhani, Sindhupalchowk



Figure 23: Dr. Banskota and Dr. Baidya examining patients in an ESAR clinic, Sunkhani



Figure 21: Consultation in progress. Jyamire Mane, Sindhupalchowk



Figure 24: ESAR nurse delivering nebulization for respiratory problems. Many patients presented with breathing problems developed during clearing dusty rubble



Figure 22: Patient's queuing up at an ESAR clinic in Gyalthum, Sindhupalchowk



Figure 25: This lady came with acute abdominal pain to an ESAR clinic. She was seen by our mother and child health doctor and transported for emergency surgery for an ectopic pregnancy



Figure 26: Medical staff dressing the wounds of an earthquake victim



Figure 29: Mother & Child health experts formed an integral part of each ESAR clinic



Figure 27: An elderly man with back pain being fitted with a belt



Figure 30: Food relief and dignity kit distribution



Figure 28: Physio's applying a plaster slab to an injured man



Figure 31: Clothing distribution at an ESAR camp in progress at a local school in Bhakundebesi, Kavrepalanchok



Figure 32: Volunteers carrying relief material



Figure 34: Clinics often ran into the night due to the huge number of people that attended for medical advice, treatment and relief supplies



Figure 33: Distribution of relief material by volunteers who participated in ESAR clinics, Sangachowk



Figure 35: A psychological counselling session underway



Figure 36: Children's Play Therapy and Counselling in progress at an ESAR clinic, Bhotchowk