

Case Study

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Harnessing HOPE for Reshaping the Future of Bangladesh Hospitals

Dhaka, Bangladesh—The geo-climatic context of Bangladesh leaves the country vulnerable to numerous hazards including cyclones, floods, droughts, and earthquakes. According to the Emergency Events Database (EM-DAT, 2020),¹ Bangladesh has lost 2.5 million lives and nearly 450 million people have been affected by 320 natural disasters since 1900. Human-induced hazards such as fires, building collapse, and industrial accidents are also a growing concern in Bangladesh considering the rapid development of urban areas and major cities due to the increase in urban migration, especially in the capital Dhaka.

Fire accidents are a growing concern in terms of lives lost at the economic impact. A recent study concluded that there were 7,237 reported fire accidents between 2014 and 2016 in Dhaka alone, and 50,599 reported nationwide^{2,3}. Deaths and injuries from such incidents are staggering; in 2019, fire incidents killed more than 100 people in Dhaka City alone (NAWG, 2019) The economic loss due to fire hazards in Dhaka is also high compared to other cities in Bangladesh, as it is a hub for commerce, services, and critical infrastructure. The average annual economic loss or damage to property due to fire accidents is higher than BDT 400 core (47,106,120.00 USD) (Islam & Hossain, 2018).⁴

On the afternoon of February 14, 2019, a massive fire broke out at Shaheed Suhrawardy Medical College Hospital (ShSMCH) in Sher-e-Bangla Nagar, Dhaka, a government medical collect situated in the center of the city. Investigations determined that the fire originated in a storeroom on the ground floor and quickly spread to the children's ward on the second floor of the hospital. It took four hours to control the fire using eighteen firefighting units from the Fire Service and Civil Defense (FSCD), and over 1,000 patients required evacuation from the burning inferno. Overcrowding of patients in hospitals like ShSMCH is a regular challenges that puts added strain on the capacity of doctors, nurses and hospital staff on a daily basis.



Dr. Qamaruzzaman Sarker,
Resident Medical Officer

Dr. Qamaruzzaman, a Hospital Preparedness for Emergencies (HOPE) graduate and instructor under the Strengthening Earthquake Resilience in Bangladesh (SERB) Program, together with other medical officers responded instantaneously when the fire alarm sounded at ShSMCH. The hospital authorities ordered an

immediate evacuation of all admitted patients, which was safely completed without any casualties. The most challenging part, according to Dr. Qamaruzzaman, was *"evacuating 10 patients from the Intensive Care Unit (ICU) and Children's Ward as it requires careful handling of non-ambulatory patients to prevent further complication of their existing medical conditions. It took 10 people to get each patient out from the ICU."* The hero who evacuated the entire children's ward was a female intern doctor. There was also a surgical operation taking place at the time of the fire. The surgeon carried the patient out of the operation theater on his shoulders to safety in the designated safe area outside the hospital.

The hospital management immediately called for external assistance, and the local police and nearby fire stations responded immediately. Students from the adjoining Sher-e-Bangla Agricultural University also responded and assisted the patients in the evacuation area, and community leaders supported with crowd and traffic control.

More than 70 hospital personnel, including doctors, nurses, and administrative staff from ShSMCH received training under the SERB program. They successfully applied their training during the fire emergency and managed the efficient and safe evacuation of all patients without injuries or casualties in the process. Hospital internal disasters and fire evacuation is one of the major lessons they learned in the HOPE Course, including practicing evacuation and coordination in tabletop exercises.

1 Emergency Events Database (EM-DAT). (2020, January). Retrieved from Refugee crisis in Bangladesh: a view from the field: <https://www.emdat.be/publications>

2 Needs Assessment Working Group Updates. (2019, April 1). Retrieved from Humanitarian Response : https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/01042019_fire_incident_updates.pdf

3 Needs Assessment Working Group Updates. (2019, February 24). Retrieved from Humanitarian Response: https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/23022019_fire_incident_updates_nawg.pdf

4 Islam, M. Z., & Hossain, K. (2018). Fire hazards in Dhaka city: an exploratory study on mitigation measures. IOSR Journal of Environmental Science, Toxicology and Food Technology, 12(5), 46-56.



Evacuation of patients from Shaheed Suhrawardy Medical College, Dhaka
Photo Source: Shaheed Suhrawardy Medical College Hospital, Dhaka



Md. Khurshid Alam,
Sr Staff Nurse

Another HOPE graduate, Md. Khurshid Alam, is a Senior Staff Nurse and was present on the day of the incident. *"I was on duty in the emergency department. I suddenly saw smoke behind the Children's Ward and called 999 immediately. When the fire broke out, the director of the hospital and other senior doctors rushed to the location immediately. We evacuated*

the Children's Ward first and provided the patients portable oxygen cylinders. We moved the patients to the open field in front of the hospital to safety."

Md. Khurshid Alam expressed that he had the skills and confidence to respond during the emergency due to his previous training. *"I have completed training, so I know what the process of evacuation is. We contacted the nearby police station, the FSCD, and neighboring hospitals for help. We segregated the patients based on their severity and type of disease, as we learned in triage during my HOPE training. We prioritized the transfer of serious patients to other hospitals while other patients were treated by the medical team at the evacuation area and transferred later on."*

Approximately 100 patients were safely transferred to other hospitals during the fire emergency, some of which were returned to ShSMCH the night after the fire was declared under control by the FSCD, and placed in wards that were not affected by the blaze. The remaining patients were transported back the following day as the hospital began the recovery process and gradually returned to normal hospital operations.

Alam added, *"Since I have received training on HOPE organized by ADPC, I was not at all afraid or puzzled during this unexpected situation. I consoled the relatives of the patients to calm them down and helped them avoid panic. I am thankful to ADPC for providing us with a comprehensive training, and I think every person working in the health sector would benefit from the training."*



Abdul Hannan Miah,
Sr. Staff Nurse

Abdul Hannan Miah, Senior Staff Nurse, arrived after the fire began as he was off duty at the time of the incident. He saw patients that had been evacuated and immediately provided primary treatment as required and attended to their needs to ensure that they were safe and stable. He also helped with the transfer of patients to nearby hospitals.

Dr. Qamruzzaman provided more insight about the training: *"I participated in all the training programs and I found them interesting as all of the contents of the HOPE and Hospital Incident Command System (HICS) training and workshop materials were different. During my basic medical education in university, I never learned about disaster risk management or preparedness of hospitals from disasters. I did not think we were ready for any disaster. After this incident, we realized the importance of training, regular meetings, and simulation exercises."*

After the fire incident at ShSMCH, Dr. Qamruzzaman was motivated to review the hospital's emergency plans and update it regularly. He also proposed an emergency response system at the hospital level. One of the major challenges he discussed is the quick turn over of trained medical staff at ShSMCH. This is part of the government system that rotates medical staff throughout the country. As such, to keep up with these changes, continuous training and refresher trainings are required so as not to disrupt the preparedness activities that have already been initiated by trained professionals in the hospital.

The hospital now conducts regular meetings with the Hospital Director and all medical officers and managerial staff regarding emergency preparations. A committee for HICS was also established based on the hospital emergency response plan. HOPE training has been introduced to medical interns who act as volunteers during emergencies. Additionally, ShSMCH

now conducts regular drills with all hospital personnel with support from the FSCD.

Inspiration from SERB

After the Rana Plaza building collapsed in April 2013, ADPC in partnership with the Government of Bangladesh initiated the SERB Program in June 2013 with support from USAID. The objective of the program is to enhance the capacity of public hospitals and urban community volunteers to effectively respond to emergencies.

Under the SERB program, more than 70 doctors and nurses from ShSMCH have been trained on Hospital Preparedness for Emergencies (HOPE) and Hospital Incident Command System (HICS). Under SERB, technical support has also been provided to the hospital by conducting a hospital risk assessment that provided important information on hazards and vulnerabilities that have the potential to disrupt the hospitals' ability to provide lifesaving services during a hazard impact. The result of the assessment was used to further develop the emergency response plan for the hospital. The plan was eventually tested by ADPC through a simulation exercise.



*Hospital staff complete a group exercise during the HICS training.
Photo Source: SERB Program*

ShSMCH's active engagement in preparedness helped the fire emergency to be handled effectively and prevented injuries and loss of lives for patients and hospital personnel. As Dhaka City continues its progress towards development, critical infrastructure and services provided by hospitals should be able to cope with the increasing demand of the everchanging risk landscape and withstand the impact of various hazards that constantly pose a threat in the normal operations of healthcare services.

The following are key recommendations to enhance hospital preparedness and facilitate reshaping the future of hospitals in Bangladesh.

1. Continuous learning and training should be integrated as an essential part of human resource development programs in hospitals. This includes the following:

- Job descriptions of all hospital personnel should include their role in all phases of DRM.
- Orientation and in-service training of new staff should include the hospital emergency management system and response plan. This includes refresher trainings and providing updates of revised procedures.
- Recognition, awards and/or incentives should be provided for outstanding hospital staff who demonstrate active involvement in preparedness activities, including response and recovery undertakings.
- Use DRM achievements as one of the criteria for promotions and salary adjustments.

2. Establish a hospital DRM program that includes:

- A hospital policy that will provide a legal mandate in implementing DRM activities all year round.
- The establishment of a hospital DRM Committee with clear roles and responsibilities of members, including authority to enforce, monitor and report DRM activities.
- The appointment of a focal person on hospital DRM that will support the DRM Committee to coordinate and plan activities.
- The implementation of regular hospital risk assessments to identify priority interventions in reducing disaster risks, as well as hospital capacities that require development for emergency response. The result will be the basis for the annual DRM work plan for the hospital with a corresponding budget to support activities such as assessments, planning, trainings, equipping, and simulation exercises.

3. Integrate a practice of continuous improvement in DRM as an integral part of the hospitals' organizational culture. The practice of conducting after action reviews, lessons learned, and improvement action planning should be a regular part of the institutional culture.

4. Develop partnerships and networking with other local area hospitals and other stakeholders including local health authorities like District Civil Surgeons, the Upazila Health and Family Planning Officer, local police, Fire Service and Civil Defense and its fire stations, local Bangladesh Red Crescent Society and other local volunteer groups. Local area plans can be developed to formalize the coordination and mutual aid agreements among partners and members of the local area network to facilitate response, including joint preparedness activities like risk assessments, trainings, and planning and simulation exercises.

Despite all the obstacles and challenges faced by ShSMCH, the hospital authority was inspired from trainings and drills to seek more knowledge on preparedness to manage emergencies and mass casualty incidents.



Participants engaged in group work during the Simulation on Mass Casualty Management for responding to earthquakes in ShSMCH.
Photo Source: SERB Program



Asian Disaster Preparedness Center

SM Tower, 24th Floor, 979/66-70 Phahonyothin Road,
Phayathai, Phayathai, Bangkok 10400 Thailand

Tel: +66 2 298 0681-92

Fax: +66 2 298 0012

Email: adpc@adpc.net



www.adpc.net



Asian Disaster Preparedness Center - ADPC



@ADPCnet



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