Disaster Planning and Impending Healthcare Challenges During Natural Disasters in Pakistan

Hussain Muhammad Abdullah1, Faisal Khosa2 and Muazzam Nasrullah3

Natural disasters have been occurring with increasing frequency worldwide.1 Due to the catastrophic effects of natural disasters, it is pivotal that disaster management plans be developed, tested, and implemented globally. Natural hazards are inevitable, and a disaster happens when the hazard disrupts the functioning capability of a society and its ability to cope with the situation utilizing its own resources. The International Strategy for Disaster Reduction defines a disaster as “a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.”2 Disaster results from the combination of hazards, conditions, vulnerability, and insufficient capacity to reduce the potential negative consequence of risk. Therefore, some factors leading to a disaster can be controlled and yet others can be alleviated. A systematic effort to analyze and reduce the causal factors of disasters and reducing its risk formulates the concept and practice of disaster risk reduction. Since long the global community has been making efforts to make the world safe from disasters. Developmental gains in this respect have been hindered either by the severity of the disasters or lack of coordination in relief efforts despite the technological advancements in rescue and healthcare services.

In a disaster situation an incident management system serves to utilize resources, personnel, equipment, and communications effectively within an organizational structure. The Incident Command System (ICS) is a standardized tool for the responders to launch an integrated response to any incident and facilitate functioning in areas of command, planning, operations, logistics, intelligence and investigations, finance and administration (Figure 1).3 In 1991, ICS was used by the hospitals for better coordination in relief efforts in response to the disasters and was named Hospital Emergency Incident Command System (HEICS).4 HEICS provides a framework for healthcare use with predictable chain of management, organizational chart for scalable responses, prioritized response checklist, defined position responsibilities and documentation for improved accountability and cost recovery. The HEICS implementation will not only enhance the response capacity of hospitals in disasters but is also recommended for the healthcare systems (Figure 2).4

Pakistan is affected by various hazards such as floods and earthquakes.5 In September 2014, Pakistan suffered a great loss of life and damage to infrastructure by flash flooding as a result of the late monsoon spell.6 Landslides and avalanches impacted the areas of Gilgit Baltistan and Azad Jammu and Kashmir.6 The floodwaters brought devastation along its path through the four tributaries of river Indus, impacting several districts in the central and southern parts of the Punjab province.6 The floods that resulted in 346 deaths and 620 injured affected and displaced an estimated 1.8 million people. The floods devastated 928 villages, 55,200 households and an estimated 2.4 million acres of fertile land with crops.6

During September 2014 floods in Pakistan, the National Disaster Management Authority (NDMA) which was established in 2007, took a lead in coordinating response and undertook relief activities whereas at provincial and district levels, the response was coordinated by the respective provincial and district disaster management authorities. Due to the enormous magnitude of this problem and lack of preparedness, major health concerns were identified by the NDMA including lack of proactive healthcare response in terms of provision of medicines, preventive services and public health.7 Although Emergency Medical Services - Rescue 1122 was operational in Punjab, there was a lack of coordinated referral services to tertiary care facilities, ad-hoc treatment arrangements and coordination mechanism with national agencies and other partners.6 In such a situation where position responsibilities should be defined with prioritized response checklist, HEICS can serve as a standard operating procedure.4 This provides a framework for command and control and a tool for coordination between administrative, logistical, informational, financial and operational tasks.4 Since disasters are unpredictable, therefore, performance of the emergency health services should be evaluated at regular intervals for maintenance and improvement.

1 Research Society, Allama Iqbal Medical College, Lahore.
2 Department of Radiology and Imaging Sciences, Emory University, Atlanta, Georgia, USA.
3 Injury Control Research Center, School of Public Health, West Virginia University, Morgantown, West Virginia, USA.

Correspondence: Dr. Muazzam Nasrullah, 2924 Clairmont Road, Atlanta, GA 30329, USA.
E-mail: muazzam.nasrullah@gmail.com

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HEICS is an incident command system that can serve as a monitoring and evaluation tool.\textsuperscript{3} For instance, in times of floods in Pakistan, HEICS can ensure prompt medical response and resource allocation to address a particular emergency. HEICS can facilitate the communication, with a common organizational terminology, between the healthcare facilities and the first responders at the scene of disaster for effective triage and referral of the patients. It can serve as a managerial structure for command and control at the responding healthcare facilities and a coordination source between the responding departments.\textsuperscript{8}

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\includegraphics[width=\textwidth]{figure1.png}
\caption{Incident Command System (ICS).\textsuperscript{3}}
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\includegraphics[width=\textwidth]{figure2.png}
\caption{Hospital Emergency Incident Command System (HEICS).\textsuperscript{8}}
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Due to its geography, Pakistan is particularly vulnerable to disasters and requires prompt consideration and coordinated efforts to strengthen its healthcare infrastructure. Being a developing country, economic constraints and political complexities are some of the challenges faced by Pakistan in developing and implementing a policy for effective disaster management. A cooperative venture between the public and private sectors can provide opportunities to utilize the available resources more effectively in all phases of the disaster response. In a disaster management system that has decentralized responsibilities, capacity building of local authorities and awareness among the community is essential. The staff in local government departments of Pakistan lack awareness, skills, resources, equipment and professional knowledge to respond to the challenges of disasters. Despite the establishment of District Disaster Management Authorities in Pakistan, whose role is to act as first responder in case of a disaster, there is no response competency to disaster in terms of preparedness at district level. Pakistan, unfortunately does not have a comprehensive trauma care system to respond to disasters and there is gross disparity in the pre-hospital and hospital emergency healthcare services, especially in the vulnerable regions around the country. Primary healthcare centers lack sufficient preparedness and specialized staff, as a result tertiary care centers are overwhelmed with a number of patients being referred without any triage at the time of disasters.

Natural disasters are inevitable but their worst effects can be minimized by preventive strategies tailored to the regional circumstances. Awareness programs among the community and individuals to equip them with knowledge of preventive measures and necessary basic disaster response training can reduce the disruption caused by the disaster. A process of community based disaster risk management should be adopted to actively engage those at risk in all the activities of disaster risk reduction, preparedness and effective management. Instead of importing injury control techniques from developed countries, which vary in social and economic context, there is a need to formulate strategies based on local research and needs assessment. Funding sources should be made available for training, research, equipment and supplies. Legislation should be made for accountability of the services provided during a disaster. There is a need to establish Disaster Medical Services Division at the provincial and federal level under the respective health departments for preparedness and response, nationwide. The division should be responsible for coordinating the prompt delivery of medical resources to local governments in support of their disaster medical response. This includes the acquisition of personnel and medical supplies from unaffected regions to meet the needs of the affected areas.

It should also facilitate the prioritized evacuation of injured disaster victims to hospitals in the areas not impacted by the disaster. There is a need to establish a global coordination center for natural disasters under the umbrella of United Nations and its respective agencies. Such a center can serve as a global database for volunteer healthcare professionals, which can be recruited efficiently and effectively in case of a disaster as per actual facts and requirements on the ground. In recent years, a major shift has been observed internationally in the disaster management strategies with more emphasis on disaster reduction than on response and relief activities. There is an increasing recognition that risk reduction is crucial in minimizing the negative impacts of the disasters. Therefore, the authorities may want to formulate the strategies tailored towards risk reduction in order to achieve sustainable development in disaster management.

REFERENCES