

Original Article

USE OF INCIDENT COMMAND SYSTEM IN HEALTH EMERGENCY MANAGEMENT FOR FDMN'S IN BANGLADESH: A QUALITATIVE STUDY

Mostafa Moin Uddin¹

ABSTRACT

Background: Bangladesh bears the double burden of extreme exposure and high vulnerability to both natural and man-made disasters. In 2017, an enormous influx of Forcibly Displaced Myanmar Nationals from Myanmar to Bangladesh created massive humanitarian crisis due to geopolitical conflicts.

Objective: The objective of this study was to assess the FDMN's health situation and to work with the district health office facing the emergency. Another objective was to introduce a proper Incident Command System (ICS) approach in order to achieve system efficiencies and improve management capabilities of the district health office.

Materials and Methods: This qualitative, exploratory study was conducted at three Upazilas and two disaster prone coastal civil surgeon offices in Bangladesh over a period of one year from May, 2017 to April, 2018. The target population of the study was FDMN's, local inhabitants, health care providers, public health managers and administrators at different level. Using non-probability purposive sampling method as data collection procedure, 50 semi-structured interviews were carried out.

Results: A rapid field assessment was done followed by detailed field assessment. In rapid field assessment it was observed that gaps in proper leadership created confusion and for that some participants were overlooked, while others were underutilized. There was gap in coordination between different actors in the field. It was observed that in crisis situation, challenges associated with coordination and delegations were almost similar. Interview was taken based on concepts from political and social science approaches. Under each approach emergency health management issues, gaps and constrain were discussed along with proposed solutions.

In order to conduct a detailed field assessment incident command system approach were broken down to five major categories. Two ICS orientation workshop were done in Cox's Bazar and Chittagong civil surgeon office. It was evident that CS offices would not have the entire workforce as ICS structure demand but identifying existing stuffs that could fill in all those roles in ICS structure with how to work and go in operation was done.

Conclusion: The study advocates that with limited resources utmost priority should be given to train the existing workforce for emergency preparedness, planning and response. Evidence-based incident command system deployment would be beneficial for health emergency management for vulnerable people in Bangladesh.

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Key words: FDMN, Incident Command System, Emergency, Health management system.

1. *Medical Officer, IMPACT Fellow (US-CDC)
Office of the Director General
Directorate General of Health Services
Mohakhali, Dhaka-1212.*

Correspondence:

*Mostafa Moin Uddin
Cell phone: +88 0174 86 88 963
E-mail: mostafamoin79@gmail.com*

INTRODUCTION

Is it possible to use incident command system in health management for reducing wastage of time, energy and resources during an emergency health situation?^{1, 2} This question is of great importance as Bangladesh ranks 5th in the World Risk Index 2012, which means it bears double burden of extreme exposure and high vulnerability to disasters.³ Major national emergencies in Bangladesh during recent and distant past included natural and man-made disasters. Natural disasters like earthquakes, tropical cyclones, floods, landslides and manmade disasters like pollution, internal conflict and violence could be cited as examples.⁴

Due to geopolitical conflicts, country faced an enormous influx of forcibly displaced Myanmar nationals (FDMN's)⁵ from Myanmar to Bangladesh creating an international crisis. It drew attention of the whole international community to join hands and help Bangladesh government to address this unprecedented influx of FDMN's.

A well-coordinated, well planned health management system including food, shelter and security to face this or any kind of emergency was a crying need for the country. To fight against this emergency situation the Incident Command System (ICS)⁶ was a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies could be effective.

The objective of this study was to assess the FDMN's health situation and to work with the district health office facing the emergency. Another objective was to introduce a proper Incident Command System (ICS) approach in order to achieve system efficiencies and improve management capabilities of the government.

MATERIALS AND METHODS

This qualitative, exploratory study was conducted at three Upazilas namely Teknaf, Ukhiya and Cox's Bazar Sadar and two disaster prone coastal civil surgeon offices namely Chittagong and Cox's Bazar. The study was conducted over a period of one year (May, 2017 to April, 2018). The target population of the study was FDMN's, local inhabitants, health care providers, public health managers and administrators at different level. 50 semi-structured interviews were carried out with non-probability purposive sampling method as data collection procedure. Interview was taken based on concepts from political and social science approaches such as institutional⁷, behavioralism⁸, group and network⁷, community based⁹ and policy stream¹⁰ approaches were used.

Institutional approaches

By institutional approach, institutional care and welfare provided for the FDMNs were focused and health organization authorities from central to local level along with district administrative office were interviewed.

Health care facilities and management

Gap & Constraints

- No pre-designated facilities include health registration areas, mass casualty triage areas, incident command posts, and others were present
- Antenatal and post natal care for pregnant women of FDMNs were absent
- No measures to decrease risk of human trafficking for FDMNs

Secondary data sources such as reports, documents and newspapers were used and for primary data sources in-depth interviewing technique was used. A series of fact-finding interviews, field visit, part meetings, on-site observation, gathering inputs from the civil surgeon offices and attending inter-sectoral coordination meeting regarding the ongoing activities were done.

The purpose of interview was explained briefly and expressed oral consent of the participants before starting the interview was ensured. International Ethical guidelines by CIOMS¹¹ were followed. The main intend was to identify variables that help to describe and understand the complex nature of emergency health situation and management. Participants were asked about their experiences and expectations related to the emergency health situation. It was tried to explore their thoughts and concerns to the then health emergency management process and future outcome.

RESULTS

At first, a quick rapid field assessment was done followed by detailed field assessment. In rapid field assessment it was observed that gaps in proper leadership created confusion and for that some participants were overlooked, while others were underutilized. There was gap in coordination between different actors in the field. Even it happened in a small scale but proper dissemination of information to others did not take place. A liaison and public information officer to civil surgeon and a safety officer for the field stuffs were needed urgently. It was observed that in crisis situation, challenges associated with coordination and delegations were almost similar.

In the following tables political and social science approaches were briefly elaborated and gaps and constraints with suggested solutions were described.

- Inadequate support for gender based violence and psychological aid for FDMNs
- Inadequate post-partum family planning support for the women

Solutions

- Arrangement of systematic triage and referral system for critically ill FDMNs
- Establishment of medical centers near makeshift camps with incident
- Providing different colors of registration card for old and new FDMNs
- Develop a strike force health care provider team for any kind of emergency health situation

Behavioralism approach

By using behavioralism approach, future health situation was predicted based on what had already happened in the field. District health officers, administrative officers, front line health workers and international NGO workers were interviewed.

Safety issue, Logistic supply, Coordination and Delegation

Gap & Constraints

- Absence of proper delegation of duties in district coordination cell
- Safety and security in the dormitory for health care providers were absent
- Absence of secure arrangement of transport facilities for the health care providers
- No arrangement of healthy food and clean water for the health care providers

Solutions

- Ensure shelter, safe water & food and transport facilities for the health care providers
- Improving proper delivery of relief materials in makeshift camps
- To adopt coordinated approach and deploy a comprehensive plan to avoid duplication of work
- Increasing supply of proper medical logistics for FDMN's such as sanitary napkins for women health
- Building accountability and commitment among health workers

Group and network approaches

By group and network approaches, we tried to find out relationship and interaction between partners in emergency health management scenario. Formal and informal team-working and interaction between different actors and delegation of duties were assessed.

Communication and Liaison: Information and Media Communication

Gap & Constraints

- Inadequate information management issues at different level regarding health emergency
- Absence of government health personnel/s in inter-sectoral coordination meeting
- Absence of spokesman-ship in district coordination cell

Solutions

- Establish a resource unit for health emergency management reporting
- Improve risk communication capacity between different stakeholders during emergency situation
- To develop and practice the norms for running effective meeting in government set up

Community Based and Policy Stream Approach

In Community Based Approach, affected population that is both FDMNs and local people were interviewed who were included as key partners in developing emergency preparedness and planning response. And by Policy Stream approach, solutions were suggested to problems as the then political climate was appropriate.

Planning for outbreak management: Finance and Budgeting

Gap & Constraints

- No practical, scientifically approved standard operating procedure or mitigation plan for health emergency
- Inadequate resources for the people who were in emergency services
- No resource unit for planning to deal with outbreak situation
- No comprehensive plan to provide health information, education and communication materials in the camps

Solutions

- Standardization of existing public procurement rule
 - Allocation of funding urgently to support health sector responses
 - Implementation of comprehensive financial management with easy reimbursement process
 - Solving internal mistrust and distractions between emergency players by effective communication and general clarification
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From rapid field assessment, it was evident that control and management in emergency health situation should be the area needed immediate attention. As a standardized approach to the command, control, and coordination of emergency response, incident command system (ICS) was broken down to five major categories to conduct the detailed situation assessment:

1. Assessment of Incident Management Planning:

Though there is a documented Disaster Management Plan, full application and practice seemed elusive. Each district was required to have a customized emergency plan and form rapid response teams but this capacity seemed quite rudimentary. Practice of regular health emergency planning and management team meetings was absent. This gap posed the opportunity to advocate the need for ICS and help CS Office improve their emergency health management capacity.

Planning such a monumental effort requires intense partnership management skills. Though many other stakeholders were working at the district level and all were linked through the inter-coordination committee but a very close partnership involvement and coordination with the CS team weren't found. In such a complex emergency management response, planning would require the CS office to play an

active role to involve all partners but this would need to sort out a higher level to provide means and scope to CS office for that activity. UHFPO from an Upazila said that,

We previously formed Rapid Response Team consisted of a medical officer, pharmacist, sub-assistant community medical officer and a senior staff nurse in sub centers to mitigate any emergency crisis. Later decision was made to establish 3 compartment temporary medical centers. First we made a banner designed and shared by the authority for the camps but later banner designs were changed and later asked to change the banners again. This rapidly and repeatedly changing decisions made problems and it's a challenge. We need to think and plan ahead.

2. Assessment of Incident Management Logistics:

Logistics comprises of resources and services in the field area for people who are in emergency service delivery. Logistics for healthcare providers in the field like food, shelter, vehicle, security and lavatory facilities were absent. Male health workers were managing somehow but female health workers were in distress. A senior staff nurse shared her experience as,

We had to start early in the morning and the whole day we cannot have anything except some fruits or

biscuits. No separate toilet facilities for women are therefore we wait all the day. Food cost is high in the vicinity and there is no rotation on our duties. Continuous long day duties need some refreshments but we can't make it.

Comprehensive Resource Management was a great issue. Process for categorizing, ordering, dispatching, tracking and recovering resources were absent as well as processes for reimbursement was not appropriate. District Administration at first and later Bangladesh Army was distributing relief goods for the FDMNs. A government doctor shared his experience and said,

We made our own arrangement for food and lodging which is costly and the whole day we have to take dry foods and coconut water only. We don't know how long the government will keep us here in this terrible situation and also there is no remuneration for this hard job in the future. The government would pay only 600 taka (\$7) per day for food, lodging, and transport which is nothing at all.

3. Assessment of Incident Management Finance and Administration:

It was observed that funding was urgently required to support health sector responses as well as existing overburdened health system. For that comprehensive financial management was a great issue because process for reimbursement was made difficult. Several unknown issues and mistrust came up with unnecessary distractions from the main focus of crisis mitigation among the major players in the front line. In an in-depth interview, one of the Upazila health managers shared that,

In a health emergency, we need financial support and provision to allocate necessary expenditure from the development sector to any development partner. This is to implement the decisions in action quickly. To follow PPR (Public Procurement Rule) is a long process and it's not practical. PPR needs to be revised for emergency health situation management.

4. Assessment of Incident Management Operation:

In an emergency situation, various types of operational locations and support facilities needed to establish in the vicinity of an incident to accomplish a variety of purposes. Typical pre-designated facilities include health camps, army camps, registration areas, mass casualty triage areas, incident command posts, and others as required were needed to be established near makeshift camps. But both in Teknaf and Ukhiya designated settlements as stated above were not seen with proper organizational structure at the beginning. Bangladesh Army after deployment arranged a few of those in their own arrangement and

authority. But sharing this emergency management modality with health administration was absent. Few establishments like warehouse could be imitated by district health office in Ukhiya and Teknaf for the quick supply of medical logistics. Coordination and communication between health sector and army were observed in small scale although health authorities took the first step to communicate with them. UHFPO of an Upazila said,

Initially in the temporary medical centers basic health care services were provided. We have been asked to provide one compartment for health care, another for family planning services and one compartment for patient registration and examination purpose but later it was ordered to incorporate TB, Malaria and HIV testing facility, routine EPI vaccination program, facilities for anti-natal, post-natal care with normal delivery, nutrition services and others but we do not know how far we should go. Is it possible to provide or address all topics of primary health care in these temporary health camps?

5. Assessment of Incident Management Coordination:

It was observed that lack of reporting from partners was hampering planning and coordination efforts. Civil Surgeon Cox's Bazar said,

So far, I assigned a doctor for district commissioner's office coordination and another as a spokesman for this crisis moment. It's a great challenge when I am instructed from different officials and when they used to ask me questions about field situation which had been presented to them in a wrong way intentionally. Different players are now in Cox's Bazar on different issues but my challenges are all tends to solve and mitigate FDMNs emergency depending on their own knowledge. I need people here in my office to help me.

Central coordination and monitoring cell (CMC) was formed. Representatives from DGHS and development partners were included. They were instructed to make close communication with the Director General of Health. Additional cells like district coordination and monitoring cell was also formed which assigned duties to focal persons like human resource management, logistic support, curative and preventive services, and information management issues. DGHS started to publish a daily report on FDMN's issue for preventing multiple variations of data and to aid center to local level health managers to avoid confusion and hesitation. At the Upazila level, Upazila coordination and monitoring cell were formed and they were instructed to communicate with district control and monitoring

cell. Duties were described in papers but at district control room and at Upazila hospitals there were few people to perform those jobs. An UHFPO shared,

NGOs divided the camps of their own. For example, when we want to make a plan for oral cholera vaccination program, government divides a camp in eight blocks where as an international NGO divided the same camp in five blocks. When government worker went there, they faced the problem to cover such a big area as per NGOs decision to divide the camp in five blocks.

It was observed that health authorities did not have any common maps where health, army, INGOs, NGOs and private organization camps could be located easily. Army did not share and district health authorities never asked for their program planning and mapping for better performance on ground. Sharing knowledge and information in such situations could be of great help.

DISCUSSION

Bangladesh has a population of about 161 million¹². Despite limited capacity and resources, Bangladesh government demonstrated strong commitment to address the FDMN's health emergency. It was an international issue and the whole world was shocked with its deep impact as a humanitarian crisis. Many countries of the world employ a very small number of fulltime emergency management personnel to mitigate any crisis situation but in the present context there was no team. FDMN's health emergency was concentrated on Cox's Bazar district but as an adjacent district Chittagong was also facing the odds.

In rapid situation assessment it was observed that gaps in proper leadership created confusion and for that, some participants were overlooked, while others were underutilized. Improper delegation of work from Civil Surgeon himself as an incident commander and absence of spokesman-ship in his office acted as a barrier to maintain team spirit and mutual awareness for coordination. Studies by Militello¹³ showed similar results. Shared mental models, team cognition and shared situation awareness was needed in a crisis situation.^{14,15}

There was a gap in coordination between different actors in the field. Even it happened on a small scale but proper dissemination of information between each other did not take place. A public information

officer and a liaison officer to civil surgeon were needed urgently. The 9/11 Commission report¹⁶ depict the real world disasters and valuable lessons learned from these retrospective analyses.¹⁶⁻²⁰ But few countries adopted these lessons in their national plan. It was observed that in a crisis situation, the challenges associated with coordination were almost similar. While assessing the command and control structure it was observed that weaknesses in incident management often led to lack of accountability and clear understanding of chain of command by various teams. It was observed that downward communication challenges faced by the CS office often resulted in duplication of work with less quality outcomes.

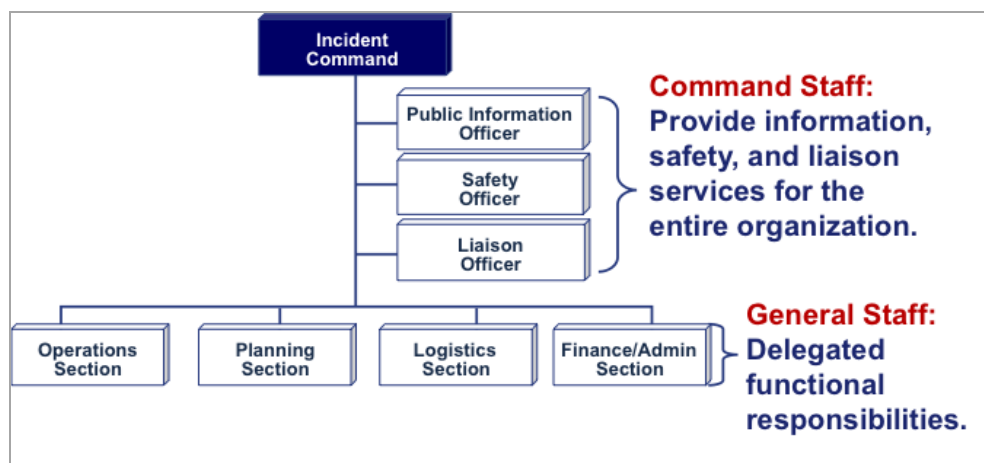
Due to the limitation of time and resource, it was decided to focus on development of incident command approach by which the management capacity of health emergency situation at district CS level could be improved. Incident command system designed to be used or applied from the time an incident occurs until the requirement for management and operations no longer necessary.

In one study on emergency operations center it was showed that inefficient knowledge, skills and experience and uneven workload distribution and disrupted communication affected crisis mitigation¹³. It was observed that if an emergency plan were formulated long before any crisis evolved with field workers input and research then it could be very easy for the decision makers to tackle any hard situation. In some cases, front line field manager's recommendations were ignored. Due to lack of poor governance, emergency managers had low ownership and weak participation. Shortsighted and poorly integrated vision of the health managers and leader's hindrance the ultimate outcome.

Since control and management in emergency health situation was identified as one of the major areas needed immediate attention so to focus on this area was done. Different documents were searched to find out the components describing or indicating incident command system approach to prepare emergency preparedness planning response for district and Upazila level health office. And ICS was recommended and tested as a pilot intervention.

Picture of Incident Command System Structure

(This picture is retrieved from ICS participant Workbook CDC, USA)



But ignoring the common terminology as used in incident command system approach there were no specific directions to follow Incident Management System in any of the national policy documents. In

Table-1 we identified few of the national and international documents on incident command system approach.

Table-1: National and International documents to deal with health emergency situation

| Document | Policy Development for Emergency Preparedness | Implementation of ICS | Institutionalization of ICS |
|--|---|-----------------------|-----------------------------|
| International | A National Incident Management System, December 2008 by Homeland Security by Federal Emergency Management Agency, USA | Yes | Yes |
| | A Simplified Guide to the Incident Command System for Transportation Professionals by Federal Highway Administration, Office of Operations October 2018. USA | Yes | Yes |
| National documents including District and Upazila level planning | A National Plan for Disaster Management (2010-2015, 2016-2020) by Ministry of Disaster Management and Relief (MoDMR). | No | No |
| | A National Adaptation Program of Action (NAPA), June, 2009 by Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009 by Ministry of Environment and Forests, Bangladesh. | No | No |
| | A Disaster Management Reference Handbook, June 2017 by Ministry of Disaster Management and Relief (MoDMR) | No | No |

Two ICS orientation workshop were done in Cox's Bazar and Chittagong civil surgeon office. By that total 65 participants were oriented about incident command system approach and how to implement it

in emergency health situation. It was evident that CS offices would not have the entire workforce as ICS structure demand because the country already had been facing the issues with motivated public health

workforce retention and recruitment. So, in emergency situation, identifying existing staffs that could fill in all those roles in ICS structure with how to work and go in operation was done. It would not be an extra burden for the CS office as well. And that is the actual intend of the ICS in Emergency Preparedness Planning and Response that do not

demand to have permanent staffs in the field but can use the existing staffs with customized roles and responsibilities during an emergency health situation. The then newly formed Incident Command System (ICS) approach in Cox's Bazar and later Chittagong CS office were as following (Table-2).

Table-2: Description and Status of ICS in Civil Surgeon Offices

| Position/Designation in ICS structure | CS Office | Roles and Responsibilities | Status |
|--|---|--|----------------------|
| Incident Command Deputy IC | Civil Surgeon Deputy CS (only in Chittagong) | Establishes incident objectives, strategies and priorities. Assume overall responsibility for the incident. | Present |
| Safety Officer | MO District Evidence Based Planning & Budget (only in Cox's Bazar) | Advises the Incident Commander on issues regarding incident safety. Works with Operations to ensure safety of field personnel. Ensures safety of all incident personnel. | Needs to be deployed |
| Liaison Officer | MOCS | Collects and analyzes information Tracks resources Maintains documentation | Needs Improvement |
| Public Information Officer | MODC | Advises the Incident Commander on information dissemination and media relations Obtains information from different resources and provides information to the planning section, community and the media. | Needs Improvement |
| Planning | UHFPO's MOCS MODC MODEPB (only in Cox's Bazar) Health Education Officer | Collects and analyzes information Tracks resources Maintains documentation | Needs Improvement |
| Operation | MOCS MODC Health Education Officer Statistician | Determines tactics and resources for achieving objectives Directs the tactical response | Needs to be deployed |
| Logistics | Store keeper Head Assistant Accountants | Provide resources and needed services | Needs to be deployed |
| Finance and Administration | Head Assistant Accountants | Accounts for expenditures, claims and compensation Procures needed resources | Needs to be deployed |

These people with their new roles in ICS structure should be trained and well drilled at and before any emergency crisis situation. So that everyone has the knowledge about their roles and responsibilities and come to know who will do what, who will communicate with whom? Using common terminology in ICS would help the government organization to define organizational function, incident facilities, and resource description and position titles. It would elevate interagency and intergovernmental communications too. Although there were a lot of challenges with perceived effects which were extremely complicated during the sudden influx of FDMN's in Bangladesh but the country's response to the plight of FDMN's had been commendably proactive.

CONCLUSION

This study conclude that evidence based incident command system deployment would be beneficial for emergency health management response. It also proved that with limited resources utmost priority should be given to train the existing workforce in emergency preparedness, planning and response. Periodic exercise of incident management system with representatives from all members in the district health offices is recommended. It is also recommended to create and develop a pre-identified, standby and trained national volunteer corps - a White Cap Initiatives²¹ which would be a pool of self motivated, well- trained doctors, nurses and volunteers for acting as an emergency health management strike force team.

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