Short Communication

Reforming the Incident Management System in the Health System: A Perspective Article

Ali Mohajervatan[1*], Fatemeh Rezaei[2]

1. Department of Anesthesia and Prehospital Emergency Care, School of Paramedical Sciences, Golestan University of Medical Sciences, Gorgan, Iran.
2. Social Determinants of Health (SDH) Research Center, Isfahan University of Medical Sciences, Isfahan, Iran.

Use your device to scan and read the article online

Citation Mohajervatan A, Rezaei F. Reforming the Incident Management System in the Health System: A Perspective Article. Health in Emergencies and Disasters Quarterly. 2023; 9(1):55-60. https://crossmark.crossref.org/dialog/?doi=10.32598/hdq.9.1.149.6

doi: http://dx.doi.org/10.32598/hdq.8.4.149.6

Article info:
Received: 22 Nov 2022
Accepted: 22 Aug 2023
Available Online: 01 Oct 2023

Keywords:
Disaster planning, Management system, Incidence, Pandemic, Response, Mental model

ABSTRACT

Background: A coordinated disaster response needs a well-organized structure and a locally adapted framework. In light of this, the COVID-19 pandemic offered an opportunity to renovate the response structure, which exhibited deficiencies during the pandemic. Iran shares the experience of an integrated response structure named the reform incidents command system (RICS). It includes an integrated approach in which the organization lacks a unified commander in favor of a set of goals.

Materials and Methods: This perspective article shows how Iran can develop its national disaster management system as seen through an expert's review perspective.

Results: This paper elaborates on the RICS concept. This concept removes the challenges of unifying different thoughts and objectives by instilling a shared mental model to improve teamwork.

Conclusion: This is one of the first articles to discuss the main joint goals of team members, encouraging collaboration between different parts of the team when interdependent organizations must coordinate their responses.

*** Corresponding Author:**
Ali Mohajervatan, Assistant Professor.
Address: *Department of Anesthesia and Prehospital Emergency Care, School of Paramedical Sciences, Golestan University of Medical Sciences, Gorgan, Iran.*
E-mail: *mohajervatanali@yahoo.com*

Introduction

Over the past years, Iran has made significant strides in disaster preparedness, addressing communication, resourcing management, and coordinating effort issues. Various organizations and systems, such as the Iran national emergency operation plan (EOP), Emergency Operation Center (EOC), and national response framework (NRF), have been established. Important lessons were learned from past disasters, such as the mine explosion, earthquakes in Rodbar, Bam, Varzaghan, Kermanshah, Golestan, Shiraz, and Lorestan, and the Khuzestan floods. Upon closer inspection, the issues of coordination, collaboration, and communication failures are recognized. The absence of clear command structures, roles, and relationships led to confusion, which hindered a coordinated response [1].

Top of form

When confronted with the new severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) outbreak that causes COVID-19, the international community, particularly the healthcare sector, encountered unprecedented challenges. Iran's previous efforts to use a multi-agency incident command system (ICS) for floods and earthquakes have been somewhat effective, and similar concepts were expected to be applied to the catastrophic situation caused by the pandemic. ICS principles have also been used in most societies for pandemic response planning. According to Rezaei et al., in response to the COVID-19 pandemic, Iran implemented a new management structure (Figure 1). The article has shown how Iran handled the pandemic by integrating all the society's vital tiers to create unity in the command structure for the participation of all stakeholders [2].

We aim to streamline the discussion by comparing the applied system in Iran with other countries. Also, this structure has been able to remove doubts related to integrating military and civilian organizations by clarifying all dimensions, which can increase readers' insight and provide the context for broader applications. This commentary discusses the related efforts to advance knowledge of using this framework in Iran. With its integrated command, we think that this structure can aid other healthcare systems in responding to similar catastrophes.

The standard approach

In the wake of the September 11 attacks, the United States Department of Homeland Security (FEMA) developed NIMS (national incident management system) to create a joint and cooperating approach to resource sharing, coordination, incident management, and communication. The organizational structure and roles defined in ICS (incident command system) are also part of NIMS as a "standardized approach to command, control, and coordination of incident on the scene". NIMS aims to provide a common hierarchy within which personnel from multiple agencies can work effectively together [3].

For the first time, differentiation between management and command of incidents had been brought to notice. The novel emerging approaches to incident management could overcome the limitations of the traditional ICS system. Rezaei et al. also reported that this distinction was implemented in Iran after the 2019 flood and the COVID-19 pandemic. In response to these events, a new integrated structure was used to overcome the deficiencies of the previous disaster management structure based on ICS.

The command center of COVID-19 was established in the Ministry of Health and Medical Education of Iran, and assisting ministries and agencies were placed under the supervision of the healthcare system. With the spread of COVID-19 cases throughout Iran, a support headquarters was formed under the supervision of three main political authorities: The president, the Head of the legislature, and the Head of the judiciary. They were responsible for supporting the operation command system. Decisions were made in the specialized field of the Ministry of Health and Medical Education, and the supreme leader and the supporting headquarters provided command (operational headquarters) with logistic services. Therefore, the most important advantage of this systemic approach in managing complex incidents and epidemics lies in transitioning from a commanding structure to an integrated management system in which commanding plays a sub-section role [2].

The new perspective

During a disaster, decisions are often complicated, multifaceted, and vigorous. Additionally, managers make decisions at different levels, and multiple stakeholders bring diverse backgrounds and experiences to the table. Crafting response strategies in an emergency must be flexible and distributed across multiple agencies with similar goals [4]. It can be challenging to align everyone's goals and viewpoints, which can affect the conduction of disaster response. Therefore, having a shared mental model (SMM) to enhance teamwork and remove obstacles to interagency coordination is important. All team members receive information from SMM regard-

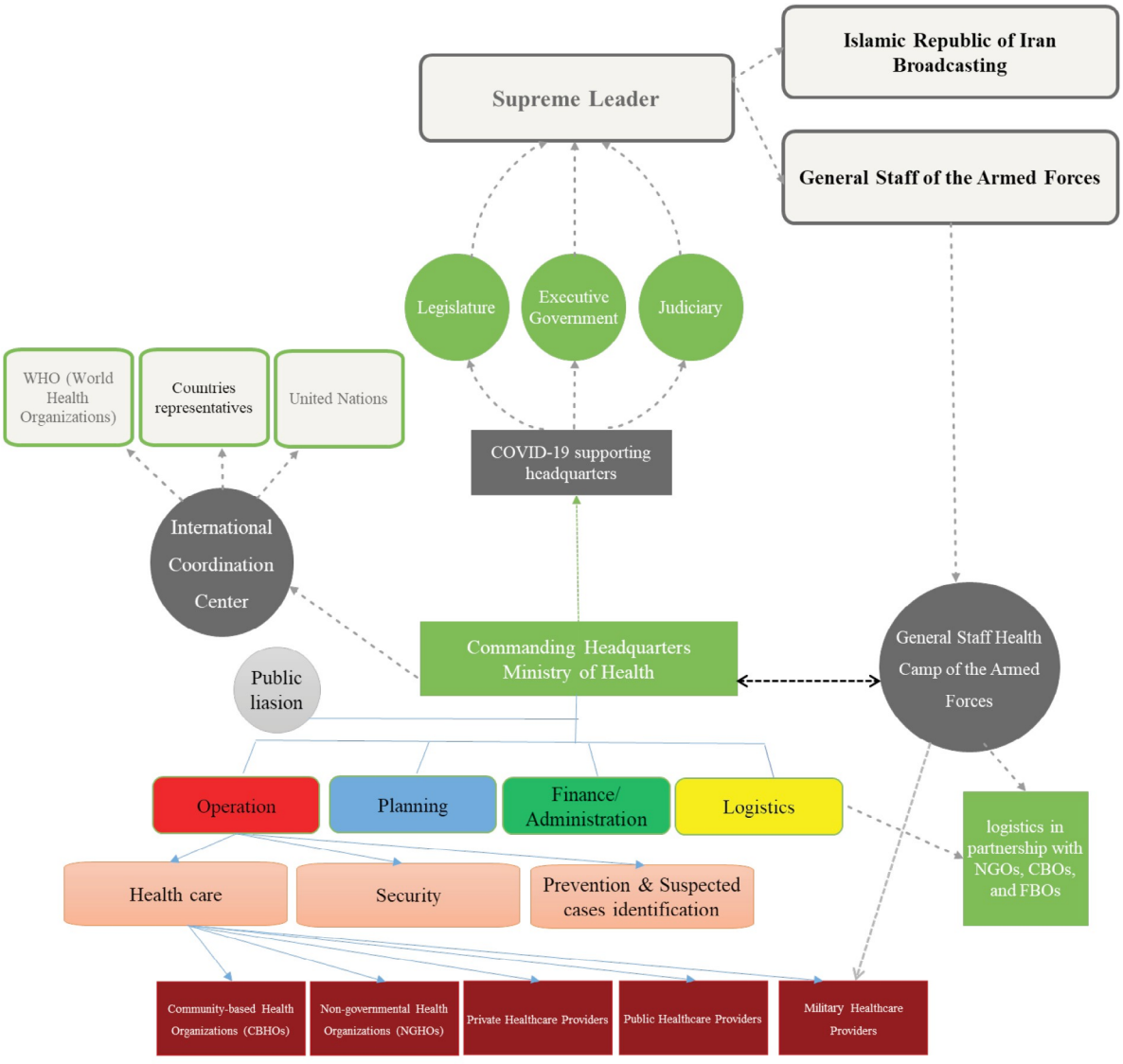

Figure 1. Disaster management structure after COVID-19 pandemic

Health in Emergencies and Disasters Quarterly

ing their specific responsibilities. The model encourages collaboration between different team members when interdependent organizations must respond. Stout showed that high-quality planning led to a better SMM and performance in a teamwork scenario [5].

In our perspective, the recommended RICS structure setup for disaster planning offers an SMM for operational teams where coordination between various team members may be challenging and poor. During the coronavirus pandemic, SMM includes judicious use of resources, such as personal protective equipment (PPE), isolation of the infected population, resource management, and personnel protection. The SMM enabled health sectors and other organizations to work together during the increasing demand for services and decreased non-emergent visits by focusing on protocols to ensure staff protection. At the national level, all contributors in response must share an SMM to design the RICS structure. Addressing this issue will be a useful context for future research.

The key evidence

The COVID-19 pandemic exemplifies a complicated, unique, and emergency situation in public health that calls for effective coordination of diverse organizations' functions. Amid this pandemic, the government was required to employ ICS to coordinate an efficient response. It was vital to ensure that using the ICS structure improved response activities instead of complicating the circumstance. ICS structures focus on communication,

particularly inter-agency, and facilitate the collaboration of multiple agencies while allowing each organization to maintain its independence [6, 7].

Notably, ICS reduces "confusion with regard to authorities and responsibilities" and is designed to minimize "lack of existing resources and misdirection". Besides, ICS tries to create a unified approach, so there is no single commander but a set of suitable and common goals. This approach facilitates team cooperation and fosters unity to pursue the same goals and expectations. Each unit is responsible for providing and sharing information relevant to its organization, such as resource availability, restrictions, and conflicts [6].

The incident command structure finds application across all levels of disaster response, from a single unit to the entire health sector. It operates on a larger scale at the local, provincial, and national levels. Given the Ministry of Health and Medical Education's role in COVID-19 disease management, the ICS aligns with the national guidelines developed by the Iranian health system in response to accidents and disasters. Under the supervision of the Iran Ministry of Health and Medical Education, national EOP and NRF were developed so that health sectors could create a common, reciprocal approach to sharing resources, coordinating and managing incidents, and disseminating information. EOP focuses on 3 pillars of incident management: Management function, preparedness, and specific function [8].

In comparison, NRF focuses on the management of disasters [9]. Iran employs a system called RICS that served as our nation's disaster management system during the COVID-19 pandemic. The notion of the RICS resulted from the development of EOP and NRF. It was defined as a standardized approach to the command, control, and coordination of on-scene incident management. It provides a unified hierarchy within which personnel from multiple organizations can be operative. RICS integrates all existing structures in a well-defined manner, which is critical for coordinating an efficient response in a disaster situation. It emphasizes the importance of having a predetermined chain of command for a unified disaster situation with a clear line of authority. It focuses on communication, particularly interagency communication, and allows multiple agencies to collaborate while retaining authority. Besides, RICS is based on an integrated approach, meaning there is no single commander in the system but rather a shared goal set. This approach enables cooperation among various stakeholders and common goals and expectations. These are important concepts in disaster situations, where an organized and coordinated response can reduce bafflement.

Conclusion

Understanding different countries' experiences in reforming the previous disaster structures during the COVID-19 pandemic is essential. Although all countries have predefined disaster response frameworks, the applicability of models and required changes need to be shared for the betterment of societies when a disaster strikes them. We have understood that integrating civil and military forces in a unified structure results in coordinated activities while pacing urgent decisions.

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

Authors' contributions

The authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interests.

References

[1] Chang HH. A literature review and analysis of the incident command system. International Journal of Emergency Management. 2017; 13(1):50-67. [DOI:10.1504/IJEM.2017.10002060]

[2] Mohajervatan A, Rezaei F. The revolution in the Iranian Disaster Management System in controlling COVID-19 pandemic. Health in Emergencies and Disasters Quarterly. 2021; 6 (4) :199-204. [DOI:10.32598/hdq.6.4.149.4]

[3] Department of Homeland Security. National incident management system. Washington, DC: Department of Homeland Security; 2004. [Link]

[4] Smith W, Dowell J. A case study of co-ordinative decision-making in disaster management. Ergonomics. 2000; 43(8):1153-66. [DOI:10.1080/00140130050084923] [PMID]

[5] Stout RJ, Cannon-Bowers JA, Salas E, Milanovich DM. Planning, shared mental models, and coordinated performance: An empirical link is established. Human Factors. 1999; 41(1):61-71. [DOI:10.1518/001872099779577273]

[6] Farcas A, Ko J, Chan J, Malik S, Nono L, Chiampas G. Use of incident command system for disaster preparedness: A model for an emergency department COVID-19 response. Disaster Med Public Health Prep. 2021; 15(3):e31-6. [DOI:10.1017/dmp.2020.210] [PMID] [PMCID]

[7] FEMA. National incident management system. Washington: FEMA; 2023. [Link]

[8] Ardalan A. National Health System Response Program in Disasters and Emergencies. Tehran: Azarbarzin Publishing. 2014. [Link]

[9] Ministry of Health and Medical Education. [National response framework (Persian)]. Tehran: Ministry of Health and Medical Education; 2018. [Link]

This Page Intentionally Left Blank