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# The Readiness of Primary Healthcare Facilities In Qatar to Deal With Potential Mass Casualty Incidents During The FIFA World Cup 2022

**Mathew D<sup>1,2\*</sup> and Hubloue I<sup>3</sup>**<sup>1</sup>Family Medicine, Primary Health Care Corporation, Qatar<sup>2</sup>Department of Family Medicine, Weill Cornell Medical College, Qatar<sup>3</sup>Department of Emergency Medicine, University Hospital Brussel, Laarbeeklaan 101- 1090 Brussel**\*Corresponding author:** Mathew D, Family Medicine, Primary Health Care Corporation, Qatar, Tel: 0097433998878; E-mail: deepumathew@hotmail.com**Received date:** January 30, 2018; **Accepted date:** February 02, 2018; **Published date:** February 09, 2018**Citation:** Mathew D, Hubloue I (2018) The Readiness of Primary Healthcare Facilities In Qatar To Deal With Potential Mass Casualty Incidents During The Fifa World Cup 2022. Arch Med Vol No:10 Iss No:1:5**Copyright:** © 2018 Mathew D, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

## Abstract

We assessed the readiness of the Primary Health Care Corporation (PHCC) in Qatar to deal with potential mass casualty incidents during the forthcoming Federation Internationale de Football Association (FIFA) World Cup 2022. The scope of the current disaster plan and the current preparedness of the PHCC were examined critically using a qualitative approach. The relevant personnel were interviewed using a semi-structured interview format. We chose staff members who were responsible for the preparation and implementation of an emergency disaster plan, as well as support staff members who contributed ideas to the team and those who participated in writing the actual plan. The research findings indicated that the PHCC recognises the necessity of investing in a robust all hazard approach plan that could be adapted for a specific event like the world cup. Recognising that the current plan does not cater for a potential mass causality event, the PHCC's senior management has embarked upon a detailed revision of the current disaster management plan to make it more efficient, practical, and adaptable to the changing demands it may face in the future, by facilitating the management of walking wounded patients.

**Keywords:** Emergency preparedness; FIFA World Cup 2022; Primary healthcare facilities; Mass casualty

## Introduction

Qatar is the first Islamic and Arab nation to be conferred the unique distinction of hosting the Federation Internationale de Football Association (FIFA) World Cup in 2022 [1]. Qatar believes that the world cup has the remarkable ability to bring people of different cultures together and it will act as a catalyst for positive change in the region. The FIFA World Cup is known to attract a large number of participants, fans, spectators, and media persons. This sudden increase in the population during the event increases the risk of occurrence of mass casualty

incidents as well. Disaster scenarios in various events, which were considered theoretical until the recent past, are now becoming a reality. The emergence of vices such as sponsored terrorism and its immediate increase over the years has subjected the public health system to constant strain. Therefore, governmental agencies, healthcare professionals, and public health advocates are responsible for determining the best ways to mitigate the potential impact of a mass casualty event that may overwhelm local resources. These mass casualty events may include natural, biological, chemical, nuclear, or other agents, and the various agencies involved are responsible for the formulation of effective strategies in the mitigation of such occurrences.

Data from previous FIFA World Cup events shows a relatively sudden and dramatic increase in demand for healthcare facilities due to a surge in the number of patients during and after each event [2]. The Primary Health Care Corporation (PHCC) is the public sector provider of primary care health services to the residents in Qatar. PHCC provides primary health care services through its 23 Health Centers, and some of these includes walk in centers, across the region. The PHCC, along with other health care facilities will be placed in the limelight during the 2022 world cup, which calls for adept preparation to enable a timely and appropriate response in the event of a mass casualty incident.

To date, there is very little research on the readiness of the PHCC in dealing with mass casualty incidents. This study aimed to assess the PHCC's disaster management policy and plan for the readiness along with its strengths and weaknesses in managing casualties during a mass casualty incident.

Thus, the present study attempted to answer the following research questions:

- What is the current scope of PHCC disaster management plan?
- Does the current emergency disaster plan address a mass casualty event that may occur during the FIFA World Cup 2022?

- What are the current preparations undertaken by PHCC to deal with a potential mass casualty event during the FIFA World Cup 2022?

## Methodology

### Research design

A qualitative design was employed in the present study, as such methods are appropriate for the development of an in-depth and extensive understanding of the issues utilising textual interpretation [3]. A qualitative approach allowed us to gain in-depth knowledge regarding current emergency and disaster preparedness plan for PHCC Qatar. Qualitative interviews also allowed us to assess the scope of the current plan to deal with a mass casualty event during Federation Internationale de Football Association (FIFA) World Cup 2022, which is also a relatively untapped area of research.

### Subject selection and description

A purposive sampling technique was utilized to select the participants for the present study to ensure that the sample should be relatively homogenous and participants should share critical similarities to ensure that the research question is addressed [4]. The inclusion criteria were that the participants currently worked for the PHCC and were currently or previously involved in the development of an emergency disaster plan. Participation in the present study was voluntary. Based on these criteria, the researcher identified seven respondents who were responsible for the development and implementation of the plan. Participants included team managers and healthcare staff who were responsible for the implementation of an emergency disaster plan, as well as support staff members who contributed ideas to the team and those who participated in writing the actual plan.

### Data collection method

Semi-structured interviews were carried out to enable the researcher to collect varied information from the participants. An interview guide was prepared in advance to aid the researcher with the structure and flow of the interview. A similar set of questions, which were mostly open-ended questions, was used for each interview. We tested the questions by doing a pilot interview before the commencement of the actual research to gather the interviewee's thoughts, concerns, and feelings relating to the questions. The researcher utilised this information to resolve any difficulties with the wording of the questions and improve the interviewing technique. The data collected in this interview was not included in the final analysis.

For the final data collection, the interviewees were initially contacted by email, with details of the purpose of the study and to ascertain their willingness to participate. All the identified personnel responded positively, and a follow-up meeting was scheduled to explain the study and ethical aspects, and to build rapport with the interviewees. Subsequently, the in-person interviews were conducted over twenty days, between May and June 2016. All interviewees choose to hold the interviews at

their workplace, which allowed them to speak more freely and openly on the research topic. Informed consent for the interview and digital recording was obtained before the commencement of the interviews. A digital Dictaphone was used to record the interviews, after which they were transcribed for better and easier evaluation and analysis.

### Data analysis

We analysed the data using the constant comparative method [5], which is utilised to develop concepts from the data by coding and analysing the data simultaneously [6]. We read the transcripts and chunk the data into smaller meaningful parts. Each chunk is then labeled using a descriptive and unique title or code to identify the data set during the process of analysis. We then compared the data sets to label similar chunks of data with the same label. Subsequently, the data were analysed, categorised, and organised into themes and sub-themes that emerge through the coding process. The last stage involves checking the validity of our interpretations by rechecking the transcripts and codes [7]. Additionally, the participants were asked to evaluate if the themes, arguments, or assertions developed from the codes accurately described their statements [8], to ensure the descriptive validity of the data and analysis [9].

### Ethical considerations

The present study was approved by the PHCC's ethics committee. Informed consent forms were signed by all the interviewees stating their willingness to participate in the interviews and agreeing to have the interviews recorded digitally. The consent form ensured the confidentiality and anonymity of the participants throughout the research process.

## Results

Three main subthemes were identified, including the current and future disaster management plan and the preparedness of the PHCC for the 2022 FIFA World Cup. Each of these subthemes has been discussed in detail in the subsequent sections.

### The current PHCC disaster management plan

The primary objective of the current disaster management plan of the PHCC is to facilitate the support of green-tagged or walking wounded casualties from major incidents. The PHCC currently manages 23 health centers, which are strategically located near important landmarks in the country. According to the present respondents, the PHCC disaster management plan was implemented to enhance the preparedness of the primary health care organisations and to strengthen the coordination of the health care centers during national disasters.

One of the respondents explained that the initial PHCC disaster management plan was developed in 2014, and it was based on the disaster management plan of Hamad Medical Corporation, which acted previously as the main disaster management center and received the highest number of casualties during disasters. As asserted by one of the respondents,

"Before the initial plan was written, the guidelines stated that, during any disaster, the call would be taken by the Emergency Medical Service (EMS) and casualties will be transferred to Hamad Medical Corporation (HMC) Hospital. Thus, even if something happens in our PHCC facilities the EMS will be called, and patients will be moved to HMC, or, during a disaster, primary health care facilities can be converted to a field hospital. So they were not looking at us as partners, but as a resource".

Since the completion of the initial disaster plan, few additions and revisions were made over the last two years, which defined the scope of the PHCC to cater to walking wounded or green-tagged patients. Another respondent explained that the activities of the PHCC disaster management plan focus on the preparedness, response to disasters, and recovery of affected individuals.

### The process of development of the current plan

Participants rated the difficulty experienced in developing a plan on a scale of 1 to 10 (very difficult to very easy to achieve the plan, with 1–4=substantial difficulty, 5=moderate difficulty, and 6–10=low difficulty). Analyses revealed that 71.43% of the interviewees expected it to be difficult to achieve the plan, 28.57% rated it as moderately difficult, while none of them expected it to be easy to prepare this plan.

The main reason that all seven of the interviewees attributed this difficulty was the lack of a subject matter expert in the team. This lack of expertise during the development of the plan led to major challenges and difficulties in the development of an efficient plan. As one of the respondents explained,

"We had all sorts of people in the team, but nobody had any experience in emergency planning, and none of us was involved in similar activities in our previous official duties. So, what we had was a bunch of very enthusiastic people, but we did not have any in-house expertise to build it".

The development and implementation team experienced numerous challenges during the development of the plan. One of the respondents mentioned the following challenges:

"... lack of expertise, lack of buying in from some of the senior operational team during the implementation of the plan and lack of input or interactivity with the national planning team".

According to one of the respondents, there were no pre-existing plans that could act as a basis for the disaster management team. As such, the team members developed the plan without any frame of reference.

"So, we primarily relied on online materials and resources, and we tried contacting the Supreme Council of Health and others, but we did not get the sort of co-operation that we were expecting from them."

Thus, some of the challenges which affected the implementation of an emergency response plan included the lack of resources, trained and knowledgeable subject matter experts, and support and guidance from the external stakeholders.

### Implementation of the current plan

The respondents explained that the plan was implemented in three steps. The first step was the provision of awareness or sensitization of the staff regarding the plan. The second phase involved making the plan accessible to all staff members through the intranet. The final phase was the training phase, during which the staff received training on the plan from the development team. The training was subdivided into general training for all staff and targeted training for leaders. Numerous desktop exercises and few national drills were conducted to evaluate the success of the plan and the level of awareness of the staff regarding using the plan.

However, according to the present participants, the plan was not implemented in all PHCC-run facilities. Approximately 75% of all the staff members at facilities governed by the PHCC had received sensitization training from the implementation team. The PHCC has more than 4000 staffs who work on shifts. Therefore, the implementation team faced many challenges in catering the training according to their shift patterns. As one respondent explained,

"We do not have the resources like manpower and knowledge to help us implement."

Additionally, one to one or small-group training were conducted for leaders, with specific drills and role-playing. As reported by one participant,

"I remember conducting a tabletop exercise for the executive directors. We have done several tabletop exercises in health centers; in one health center we did a tabletop exercise about the Middle East Respiratory Syndrome Corona (MERS) virus, in other health centers were conducted exercises on heat waves, dust storms, and stadium collapse."

The other major issue was the practicality of the implementation of the plan. The present study sought to explore the respondents' views on how practical the implementation of the plan was on a scale of 1 to 10 (difficult or hardly practical to implement to very easy and practical to implement). According to the responses, 85.71% of the respondents explained that the current plan is difficult and hardly practical for complete implementation. The remaining 14.29% explained that they were not a part of the implementation team, and as such, they could not provide any information on the practicality of implementation. One of the respondents cited the following reasons for the difficulty in implementing the plan:

"...primarily because we were short of staff and because it was hard to convince everyone that this is very important".

This respondent added that the process was time-consuming, and lectures had to be delivered in Arabic and English, depending on the needs of the staff.

Another response was

"The current implementation of the plan had to be halted when the PHCC decided to revise the plan extensively ... the implementation process was going according to plan, but after a couple of pilot sessions the team realized that a major part of the plan is missing".

This prompted the team to halt the implementation process and rewrite the plan, and to incorporate the changes proposed in the national disaster plan as well. Apart from the lack of expertise, poor communication with other stakeholders and lack of resources inhibited the efficient implementation of the plan.

One of the questions during the interview tried to explore how quickly the PHCC will be able to respond to a major disaster alert. All the respondents were confident that the PHCC would be able to respond quickly, but they were unable to define the exact response time. One participant said,

"As for the current timeline we have, I think we can organise and gather ourselves quickly if we keep our communication channels and governance streamlined and receive access to resources on time".

### Future plans of the PHCC

According to one of the respondents,

"When the initial plan was written, there was no guidance from the national team regarding PHCC's role during a major disaster. However, now the Ministry of Public Health has devised a draft plan which defines the role of the PHCC during a major disaster. Additionally, the current team has received multiple suggestions during the drills which were conducted during the implementation process, which has prompted the PHCC to redesign the current plan".

According to another respondent, the main goal of the PHCC is to enhance their plan into a clearer roadmap for disaster response. Most importantly, the respondents explained that they had experienced a significant increase in collaboration between the different arms of the government, including the Ministry of Interior and the Ministry of Defense, as well as other governmental organisations. The PHCC seeks to connect and work hand-in-hand with other disaster preparedness organisations such as Hamad General Hospital and the national disaster preparedness team towards enhancing the robustness of their plan.

The respondents added that the new plan involves redesigning the communication pathway between the health centers and the major command center. During any major incidents, the PHCC will have an operational Major Emergency Command Centre (MECC), which will be based at the headquarters, and a Health Centre Command Centre (HCCC), which will be located at the corresponding health centers that will be operational during a major disaster. Additionally, one respondent reported that they are planning to make changes to the members of the MECC and HCCC teams, which will enhance and streamline the communication among the teams and other stakeholders, and the new plan will have simple process flows for updating patient care pathways and enhancing mental health support to casualties, family members, and staffs.

Further, the PHCC plans to equip itself better to manage emergencies or mass casualties more efficiently by enhancing the awareness among staff members to ensure that the workforce is ready for any mass casualty. As explained by one of the respondents,

"The new plan has a clear strategy on training. Importance has been given to training and orienting all staff across health centers and management sections, prioritizing training for incident commanders and emergency disaster plan champions".

Specifically, it was reported that national training on topics including Major Incident Medical Management Support (MIMMS), National Advanced Disaster Administration and Management Support (N-Adams), Hazard Vulnerability Assessment (HVA) would be provided to a selected group of staff who will lead during a disaster response. As part of the current licensing process, all physicians and nurses will be trained in Immediate Life Support (ILS) and Pediatric Life Support (PLS). Additionally, a specific number of doctors and nurses will be trained for Advanced Life Support (ALS) and Advanced Trauma Life Support (ATLS). Functional exercises to test the communication channels and process maps will be conducted. Proposed drills at health centers and major command centers will test efficiency and response of current team.

According to one of the respondents,

"I think the new plan will have a clear roadmap regarding what needs to be done and what specific hazards that needs to be anticipated".

### PHCC preparedness for FIFA World Cup 2022

Disasters and incidents with mass casualties are not addressed in most hospital disaster plans. Nevertheless, they may occur, and the increasing number of terrorist activities around the world suggests that it would be prudent for hospitals and other medical institutions to enhance their preparedness for mass casualty incidents [10]. As explained in Hospital Preparedness for Mass Casualties, Final report [11], preparedness for mass casualty incidences should include community-wide preparedness, staffing, communications, as well as policies or guidelines. Community-wide preparedness entails the provision of education and training to ensure that the general public is aware of such incidents and their expected responses during the same. Staffing entails having an adequate workforce and providing the staff appropriate training to enhance their ability to handle mass casualty incidents. Communication entails the development, establishment, and co-ordination of internal as well as external communication between medical facilities, other stakeholders, and third party agencies. Policies or guidelines involve developing appropriate guidelines for the smooth functioning and co-ordination between various health facilities, training of staff, functional process flows, and communication channels.

Regarding the preparedness of the PHCC and the current scope, the interview questions tried to explore if the PHCC will be developing a specific plan for the world cup. One of the responses was

"The current version of the plan has a specific section on the management of mass casualties during a sporting event. It will be good if we have a specific and tailor-made plan for FIFA 2022, but even otherwise by tweaking the current plan, the PHCC will be in a safe place as far as the world cup is concerned".

Thus, the PHCC is considering a plan that will cover an all-hazard approach and can be adapted for a specific event like the world cup.

PHCC services are closed from 11:00 pm to 7:00 am. Health centers currently do not provide a 24-hr service. However, the present participants reported that the emergency disaster team is working on enhancing the policies and guidelines to provide uninterrupted services during a disaster. Additionally, as a part of broadening the services, the PHCC has taken over five walk-in clinics which provide 24-hr services. For the upcoming 2022 FIFA World Cup, the PHCC's main agenda is to enhance its preparedness to handle mass casualty situations and to save as many lives as possible. The present respondents believed that, with excellent communication and proper training, the PHCC would be able to mobilize services quickly with the right equipment, staffing, and capability supported by robust policies and procedures.

## Discussion

The present study aimed to assess the PHCC's readiness to deal with mass casualty incidents during FIFA world cup 2022. The first research question examined the current scope of PHCC disaster management plan. Findings revealed that, though the initial plans did not specify the actual scope of the PHCC during a disaster, as the national plans were revised and updated, the PHCC had a clear idea of the scope and objective of its disaster management plan. This will facilitate the support of green-tagged or walking wounded casualties during a major incident.

The second research question addressed the practicality of the current emergency disaster plan in addressing a mass casualty event during the FIFA World Cup 2022. Findings revealed that the current PHCC plan is not ready for the FIFA World Cup 2022, although significant steps have been implemented to ensure that the current plan is ready for any event of a mass casualty. The current plan requires significant changes and improvements to ensure its effectiveness during the 2022 FIFA World Cup. The PHCC has recognised this deficit while testing the current plan and it has embarked upon a detailed revision of its plan to make it more efficient, practical, and adaptable to the changing demands it may face in the future.

The third research question examined the current preparations undertaken by PHCC in dealing with a mass casualty during FIFA World Cup 2022. It has been noted that the implementation of the current plan was halted due to the proposed revision of the emergency disaster plan. The present study revealed that the PHCC recognises the necessity of investing in a robust all hazard approach plan that can be adapted for a specific event like the world cup. The proposed plan intends to make the organisation efficient and better equipped to manage the cases that fall within its scope. Channels have been bridged to enhance better communication among other stakeholders and priority has been given for practical and effective training of its entire staff, which is boosted by policies, procedures, and protocols.

This study also noticed that the proposed future plan is in its infancy and has not been tested for efficiency and effectiveness. As such, it is not ready for implementation during the FIFA World Cup, which is a significant event for Qatar. Considering that the world cup is six years from now, the PHCC has taken significant steps to develop a robust plan that needs to be tested and tailored for the event in the coming years.

## Recommendations

**Subject matter expert:** As echoed in the present participants' responses, the recruitment of a subject matter expert is highly recommended as this will help to guide the current team to meet the challenges in primary care disaster management. Individuals and agencies with the necessary expertise and knowledge should be included in the development and implementation of the plan to develop a more robust and practical plan.

**Better communication and collaboration between stakeholders:** Building better communication channels and collaborating with national disaster team, Hamad Medical Corporation, and other stakeholders can lead to coordinated and innovative approaches to accomplish key tasks.

**Testing the robustness of the plan:** It is essential to conduct local and national drills to test the functions and communication channels of the plan with enhanced collaboration and coordination with the national team and other stakeholders.

## Limitations of the study

The preparations for the world cup are still underway, and therefore, additional efforts and changes concerning the preparedness are not reflected in the results of this study. Another limitation could be a potential interviewer and interviewee bias. Although adequate measures were taken to prevent the clouding of data during the collection and analysis, it is likely that some aspects of the personality of the researcher interacted with the research process. This is the first explorative study with key informant interviews, and all participants were members of the emergency planning department. No frontline staff members were interviewed regarding their views on the current or future plan. Hence, substantial research is needed to ascertain the efficiency and practicality of the plan for World Cup 2022. All these limitations should be taken into consideration while interpreting the present results and while planning future studies.

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