Introduction

Mass gatherings are highly visible, unique events attended by a sufficient number of people to potentially strain the public health resources of a community, state or nation. Mass gatherings present complex planning and preparedness challenges for the public health infrastructure. Given the fact that mass gatherings have become increasingly international in attendance, natural, accidental and deliberate risks to health security have become increasingly important elements to address during the planning of health measures.

The World Health Organization (WHO) Eastern Mediterranean Region is host to some of the world’s largest mass gatherings (1). Many countries in the Region organize annual mass gatherings of different sizes and natures, each with their own specific risks. Iraq hosts some of the largest Muharram and Arbaeen gatherings globally, which are attended by large cohorts of pilgrims especially from neighbouring countries (Bahrain, Islamic Republic of Iran, Jordan, Kuwait, Lebanon and Pakistan) (1). Hosting of mass gathering events provides a unique opportunity to strengthen implementation of the International Health Regulations (IHR) (2005) (2), considering that these are events with potential for international public health consequences, as well as opportunity to increase relevant national public health capacities.
required under the IHR (2005).

To address these issues, the WHO Regional Office for the Eastern Mediterranean (WHO/EMRO) organized a subregional meeting on mass gathering preparedness and response: cross-border collaboration and coordination between Iraq and its neighbouring countries, in Beirut, Lebanon, from 28 to 30 March 2019 (3). The meeting was attended by national IHR focal points, key officials responsible for mass gathering arrangements, and key officials representing points of entry, in addition to representatives from the WHO Collaborating Centre for Mass Gatherings Medicine in Saudi Arabia and international organizations. WHO staff from headquarters, regional and country offices also attended the meeting.

The objectives of the meeting were to:

- share country best practices on mass gathering preparedness;
- prioritize public health issues and associated challenges;
- identify mechanisms and modalities to scale up public health preparedness in the context of mass gatherings; and
- enhance collaboration and communication between Iraq and neighbouring countries in the context of mass gatherings.

**Summary of discussions**

Proper processes for hazard assessment in relation to mass gatherings were discussed. Most countries have not performed an overall national risk assessment for hosting mass gatherings, and none have performed a targeted risk assessment for a specific mass gathering. Risk assessment should be undertaken for all mass gatherings regardless of its size and the number of attendees.
There is a need to develop standard operating procedures and identify appropriate triggers on when to activate an emergency response plan during a mass gathering. Cross-country collaboration is as an area that requires improvement, and there is a need for memoranda of understanding to maintain such practices.

The potential for mass gatherings to have security-related incidents necessitates a strong and coordinated response. In the event of an incident, specialized chemical, biological, radiological and nuclear (CBRN) teams and security forces need to be leading and coordinating the investigation and response.

There is a need to set priorities and objectives when considering the breadth of surveillance information required for mass gatherings. Health surveillance is therefore an essential component of evidence-based decision-making practices, and diverse mechanisms should be employed to capture desired cohorts. Coordination of data and reporting lines among countries and the sharing of relevant epidemiological data, including case definitions, is an area for improvement. There is a need to enhance the Early Warning, Alert and Response System (EWARS) in addition to event-based surveillance in neighbouring countries before, during and post mass gathering events.

Risk communication is a major area for improvement in countries, especially when considering an all-hazard approach in light of a mass gathering. Mapping of communication partners with regards to mass gatherings should be undertaken, and standard operating procedures outlining communication with the general public during a crisis should be developed.

Points of entry (e.g. airports, seaports, road entry points, etc.) have a unique role during mass gatherings; however, gaps exist in their required IHR implementation including vector surveillance and control. Most pressingly there is a need to develop vaccination requirements for the host country, and to subsequently disseminate these requirements widely to all sending/bordering countries. Ensuring resources are available to perform compliance checks for vaccination is important.

**Recommendations**

Reviewing national legislations to facilitate the scaling up of public health preparedness and response for mass gatherings.
Developing standard operating procedures/triggers on how/when to activate an emergency response plan during mass gatherings.

Planning and conducting simulation exercises to test preparedness capacities, and conducting training for relevant personnel for the management of CBRN events.

Developing standard operating procedures on correct handling of forensic samples, and training personnel on how to collect, store and transport samples.

Conducting assessments of hospital safety and the emergency care system, using WHO assessment tools.

Ensuring that emergency response plans and standard operating procedures address mass casualty incidents.

Establishing agreements between countries (such as memoranda of understanding) for information sharing during mass gatherings, including public health surveillance data.

Establishing joint rapid response teams for investigation and response to public health events.

Developing standard operating procedures for risk communication with the public during emergencies.

Supporting the development of country work plans for mass gathering preparedness and response, and their implementation.

Support oversight mechanisms of research during mass gatherings.
Organizing and supporting bilateral country meetings on mass gathering preparedness and response.

Establishing a regional network and roster of experts (including national experts, WHO and relevant partners) for the management of CBRN events.

Supporting the documentation of countries’ experiences and sharing of results and lessons learned.

Providing training support, including e-learning, on mass gathering preparedness.

Developing an inventory of laboratory capacities and laboratory collaborating centres in the Region to share with countries.

Developing advocacy materials highlighting the importance of scaling up public health preparedness for mass gatherings, targeting difference audiences including high-level officials.

**References**

