

Summary report on the

# Subregional meeting on improving public health preparedness for epidemic influenza

WHO-EM/CSR/069/E

Amman, Jordan  
20–22 August 2013



**World Health  
Organization**

Regional Office for the Eastern Mediterranean

Summary report on the

**Subregional meeting on improving  
public health preparedness for  
epidemic influenza**

Amman, Jordan  
20–22 August 2013



**World Health  
Organization**

Regional Office for the Eastern Mediterranean

© World Health Organization 2014

All rights reserved.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Publications of the World Health Organization can be obtained from Knowledge Sharing and Production, World Health Organization, Regional Office for the Eastern Mediterranean, PO Box 7608, Nasr City, Cairo 11371, Egypt (tel: +202 2670 2535, fax: +202 2670 2492; email: [emrgoksp@who.int](mailto:emrgoksp@who.int)). Requests for permission to reproduce, in part or in whole, or to translate publications of WHO Regional Office for the Eastern Mediterranean – whether for sale or for noncommercial distribution – should be addressed to WHO Regional Office for the Eastern Mediterranean, at the above address: email: [emrgogap@who.int](mailto:emrgogap@who.int).

## Contents

1.	Introduction.....	1
2.	Summary of discussions .....	2
3.	Conclusions.....	6
4.	Recommendations.....	7

## 1. Introduction

Available epidemiological evidence suggests that influenza viruses are highly variable in tropical and subtropical climates. Although data describing the seasonality and epidemiology of influenza in tropical and temperate areas are limited, transmission of influenza has been observed to occur with marked seasonality in these regions. Influenza-associated illnesses will generally increase during the winter season in temperate climates as the circulating patterns of influenza virus during this period remain active, prolonged and variable. In late 2012 and early 2013, some countries of the Eastern Mediterranean Region of WHO reported a high number of seasonal influenza cases. Influenza-associated hospitalizations and deaths were reported from a number of countries (Iraq, Jordan, Libya, Morocco, Palestine, Tunisia and Yemen). The underlying reasons for the active transmission of seasonal influenza virus in these countries were not known. As the seasonality and epidemiology of influenza in countries of the Region is not well-defined owing to a paucity of data, it was difficult to assess and measure the severity of influenza-associated illness and the impact. The predominantly circulating influenza virus in these countries was reported to be the influenza A (H1N1) pdm09 virus, which was responsible for causing the influenza pandemic in 2009 but later changed to a seasonal virus, completely replacing the previously circulating seasonal strain of influenza A (H1N1) virus.

A subregional meeting on improving public health preparedness for epidemic influenza was held in Amman, Jordan on 20–22 August 2013 involving the countries that experienced a seasonal surge of influenza and influenza-associated illness in 2012–2013. The objective of the meeting was to increase understanding of the current situation of influenza in the Region and determine appropriate needs

for improving preparedness and response for seasonal influenza epidemics.

The meeting was attended by concerned officials from the ministries of health of Iraq, Jordan, Morocco, Palestine, Tunisia and Yemen. Also in attendance were staff members of WHO and the WHO collaborating centre for reference and research on influenza based in London, United Kingdom.

## **2. Summary of discussions**

### *2.1 Influenza in the Eastern Mediterranean Region*

The epidemiology of influenza is poorly defined and understood in the Region. The surveillance system for influenza is sentinel based in all the countries, and epidemiological, clinical and virological data are collected from the hospitalized patients who are admitted with severe acute respiratory illness (SARI) in an inconsistent and ill-defined way. In some countries, acute respiratory infection (ARI) is used as a proxy for influenza surveillance. Currently, no epidemiological data are collected from ambulatory patients who present with influenza-like illness at outpatient units. In most instances, the focus and objective of this sentinel-based surveillance for influenza in the Region is to collect virological data on circulating influenza and other respiratory viruses for vaccine strain selection. As such, there is currently no attempt to systematically collect and analyse the epidemiological, clinical and virological data to better understand the epidemiology of influenza including its seasonality and transmission risk factors. As in most cases the countries are also not using the surveillance data to calculate the population-based rates for influenza disease incidence, the surveillance data have proved to be inadequate for detecting any

seasonal influenza outbreak by identifying any aberrant change in the disease incidence rates when compared to previous weeks or years. Lack of standardization of surveillance data elements also does not allow cross-country comparison of the influenza situation and severity in the Region.

Virological surveillance for influenza is poorly defined in the Region. Most of the clinical specimens are collected from suspected influenza or SARI patients without collecting other epidemiological and demographic information. The lack of integration of virological components with epidemiological components of the influenza surveillance system is a major challenge the countries are facing to make such systems responsive and representative.

Later in the session, seven countries presented their case studies. Jordan presented its experience of epidemiological and virological surveillance efforts during the influenza season of 2012–2013. Yemen shared preparedness and response work of the laboratory and its experience of shipping samples to a WHO collaborating centre during the influenza season of 2012 to 2013. Morocco presented its experience with the detection of cases and clusters of influenza cases in 2012–2013 during a field investigation. Iraq shared its experience with the use of antiviral medicines during the 2012–2013 influenza season while officials from Palestine discussed their activities in storage, distribution and use of vaccines during the influenza season of same year (2012–2013). Finally, Tunisia shared its experience in risk communication during an influenza epidemic in 2012 using social media and other communication platforms

## *2.2 Improving public health preparedness for influenza*

One of the important considerations for improving public health preparedness for influenza is to embed and incorporate the sentinel-based surveillance system for influenza within the national routine disease surveillance and reporting system of countries. This integration helps ensure the sustainability of influenza surveillance and also allows the countries to use the sentinel platform for monitoring reporting and detecting any outbreak or unusual surge of seasonal influenza cases. Such integration might also allow countries to measure the severity and impact of influenza-associated illness from one season to another. This would require collecting epidemiological, virological and clinical data elements of influenza in a standardized manner within the routine disease surveillance system of a country.

An epidemic preparedness and response plan for influenza within the country's existing public health emergency plan needs to be elaborated with delineation of functions and responsibilities of different hierarchies within the ministries of health. The plan should have a written description of the country's strategy for: a) early detection through improving surveillance and setting appropriate thresholds; b) reducing the spread and transmissibility through effective risk communication and infection control procedures; c) minimizing illness and death through the use of antivirals, critical care management and use of seasonal influenza vaccines for high-risk groups; d) understanding the severity through shipment of influenza samples to WHO collaborating centres for characterization, determining antigenic characteristics and antiviral susceptibility early on. The plan should also identify effective collaboration mechanisms within and outside the health sector.



National influenza centres can also play a crucial role in early detection of any untypeable influenza virus and in alerting ministries of health about the emergence of a new influenza virus. The WHO collaborating centre can support the national influenza centres in identifying best practices that could be adopted for early detection of different or new circulating patterns of influenza virus.

### *2.3 Strengthening epidemic response for influenza*

The fundamental causes of seasonal epidemics and of the variability in their timing and severity remain poorly understood. However, population factors such as the prevalence of specific immunity to circulating strains, nutritional status, behavioural factors (crowding, school opening, etc), viral factors (antigenicity, virulence, transmissibility) and environmental factors (humidity, temperature) may all contribute to the severity of influenza.

A key question that needs to be answered in relation to the severity of influenza during an epidemic is whether the circulating virus has changed with regard to antigenicity, antiviral susceptibility or any other characteristics. Characterization of influenza viruses early on as well as understanding the epidemiological and clinical features of cases presenting with severe illness are critical elements of response plans for seasonal influenza epidemics. This information to be gathered, early on, may help in implementing appropriate control strategies for pharmacological and non-pharmacological interventions to reduce spread and interrupt transmissibility.

Control of a seasonal influenza epidemic caused by any seasonal virus or by the introduction of a new subtype of influenza virus will require early detection and recognition of the event. Sentinel surveillance for

influenza, as a stand-alone system, may not accomplish this except by chance or if transmission is sustained. However, such a network has value in establishing the infrastructure necessary to respond and monitor the course of a seasonal epidemic. The four major areas that need to be enhanced to improve health sector response to seasonal influenza epidemics include: a) building epidemiological capacity for effective surveillance and field investigation; b) enhancing virological capacity for detection and characterization of untypeable influenza virus; c) strengthening pharmacological (use of antivirals) and non-pharmacological interventions (risk communication, social distancing, etc); and d) improving collaboration at all levels within (clinicians, epidemiologists, laboratory scientists) and outside the ministries of health (media, schools, etc).

### **3. Conclusions**

The meeting concluded by acknowledging that a number of critical gaps exist in the countries for effective surveillance and response to seasonal influenza epidemics. While the sentinel-based surveillance system for influenza in the Region is contributing to vaccine strain selection by submitting the circulating influenza virus isolates to the WHO reference laboratories, the system is falling short of providing critical information on influenza epidemiology in the Region. An improved system for surveillance of influenza would enhance understanding of the contribution of influenza infection to the burden of disease in the Region, provide a platform for the study of other common respiratory pathogens and strengthen the public health infrastructure. Such a system, unless it is part of the routine disease reporting and surveillance programme of a country, might be unsustainable in the longer run.

#### **4. Recommendations**

1. Countries should assess their current situation with regard to influenza surveillance and identify the critical gaps in epidemiological and virological surveillance in order to seek support from WHO and other international agencies to improve the current system and incorporate influenza surveillance within the national routine disease reporting system.
2. As part of public health capacity-building, countries should elaborate epidemic preparedness and response plans for seasonal influenza epidemics in the preparation of the country's overall strategy to improve public health preparedness for pandemic influenza.
3. WHO should assist countries in developing appropriate strategies and plans for enhancing influenza surveillance (both epidemiological and virological surveillance), use of seasonal influenza vaccines and antivirals, critical care management and risk communication.



World Health Organization  
Regional Office for the Eastern Mediterranean  
P.O. Box 7608, Nasr City 11371  
Cairo, Egypt  
[www.emro.who.int](http://www.emro.who.int)