

## Impact of MERS CoV on epidemic preparedness in countries of the EpiSouth Network in view of Hajj 2013

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### KEY POINTS

- MERS CoV is considered a potential threat in 79% of responding Countries of the EpiSouth Region.
- Fourteen countries (100%) are regularly monitoring and analysing the international situation since the emergence of MERS CoV, in most cases at least on a weekly basis.
- Eight countries (57%) have introduced changes in their surveillance system to detect cases of MERS CoV.
- Almost all countries (93%) have either domestic laboratory capacity to diagnose MERS CoV or have a formal referral laboratory.
- Only one country reported to expect a decrease in the number of pilgrims participating in Hajj in 2013 compared with previous years.
- Seven countries (50%) have a preparedness/response plan to manage cases of communicable diseases among pilgrims returning from Hajj. Among those, none have introduced changes to this plan because of MERS CoV.

### 1. Background

The Hajj pilgrimage to Mecca (Saudi Arabia), as described in the EpiSouth thematic note "[Hajj 2009: a mass gathering in the context of pandemic A\(H1N1\)2009 influenza](#)", is among the largest annual pilgrimages in the world. It is a religious obligation that must be carried out by every physically-able Muslim who can afford to do so. The pilgrimage takes place from the 8th to the 12th day of the last month of the Islamic calendar. Since the Islamic lunar calendar year is 11 to 12 days shorter than the solar year, the pilgrimage month changes throughout the seasons. In 2013, Hajj is scheduled from 13 to 18 October.

Around 3 million Muslim pilgrims [1] from over 160 countries head to Mecca each year. A number that has been constantly increasing [2]. The great majority (97%) arrive by air (mainly Jeddah), 1% by land, and 2% by sea. Many of those travelling

by air will transit through major international hubs on their way to Saudi Arabia [3].

Pilgrims can also go to Mecca to perform the rituals at other times of the year. This is sometimes called the "lesser pilgrimage", or Umrah. It is most frequently performed during the month of Ramadan that took place from 9 July to 8 August this year.



Fig. 1. Mecca, Saudi Arabia

Mass gatherings of the magnitude of Hajj often present challenges for public health authorities and strain health infrastructure. Moreover, specific characteristics of Hajj such as the concentration of millions of people, including many from developing countries and elderly, for a relatively long period (up to a month) and with an itinerary favouring crowd movement, are likely to favour infectious disease spread and increase the risk of non-communicable conditions such as injuries (See also Box 1 of the EpiSouth thematic note "[Hajj 2009: a mass gathering in the context of pandemic A\(H1N1\)2009 influenza](#)".) Thus, preparedness and response plans are elaborated and revised every year by Saudi health authorities. Plans and measures are also established by countries that expect their nationals to participate in the pilgrimage.

In 2013, the emergence of a novel coronavirus called MERS CoV (Middle Eastern Respiratory Syndrome Coronavirus) causing severe respiratory disease in the Middle East has raised concern over the impact of the Hajj pilgrimage on its spread [4].

Globally, from September 2012 to the 4th of October 2013, 136 laboratory-confirmed cases of infection with MERS-CoV, including 58 deaths have been notified to WHO [5]. The Euro-

pean Centre of Disease Control (ECDC), in a recently published risk assessment, states that all cases have either occurred in the Middle East or have had direct links to a primary case infected in the Middle East [6]. Affected countries in the Middle East include Jordan, Kingdom of Saudi Arabia (KSA), the United Arab Emirates (UAE), and Qatar [7]. The Kingdom of Saudi Arabia has reported the highest number of cases and deaths.

In addition, the fact that imported cases diagnosed in Europe and North Africa, including countries in the EpiSouth region, occurred among travellers with a history of a short stay in affected countries, further substantiates the risk of MERS CoV spreading in the Mediterranean area.

The Saudi Ministry of Health (MoH) recommended that elderly people, pregnant women, children and people affected by specified underlying disease should postpone the performance of the Hajj and Umrah 2013 for their own safety. While the US CDC encouraged pilgrims travelling to Saudi Arabia for Hajj or Umrah to consider this advice, no travel restrictions in relation with MERS CoV were recommended by WHO and the ECDC [8].

## 2. Data Collection

In order to document if and how MERS CoV is impacting on preparedness and response mechanisms for Hajj in countries of the EpiSouth Network, Focal Points were asked to compile a brief questionnaire. The data was collected from the 1st of August to the 8th of October 2013.

A descriptive analysis was performed for the entire EpiSouth region. Countries have been also grouped by sub-regions as follows: South-East Europe (Albania, Romania, Croatia, Slovenia, Kosovo, Bulgaria, Bosnia-Herzegovina, Serbia, Montenegro, FYROM), South- Europe (Italy, France, Spain, Greece, Malta), Middle-East (Israel, Lebanon, Jordan, Turkey, Cyprus, Palestine, Syria) and Northern Africa (Morocco, Algeria, Tunisia, Egypt, Libya).

## 3. Results

Fourteen of the 27 countries part of the EpiSouth Network completed the questionnaire. Of those two were from the Middle-East, two from Northern Africa, three from South-Europe and seven from South-East Europe. The response rate was 52%.

### 3.1 General impact of MERS CoV on public health preparedness in the EpiSouth region

MERS CoV is considered a potential threat in 79% of respondents and 62% indicated that it has impacted moderately or substantially on their public health preparedness (Fig. 2).

All responding countries are regularly monitoring and analysing the international situation since the emergence, in most cases at least on a weekly basis. The main reported sources of

information on MERS CoV are WHO (monitored by all respondents), ECDC (monitored by 85.7% of respondents) and EpiSouth and Media /Internet (monitored by 57.1% of respondents respectively).

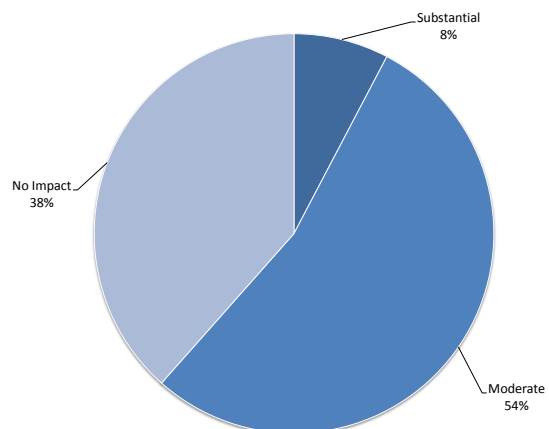


Fig. 2. Impact of the emergence of MERS CoV on public Health Preparedness in 14 Countries of the EpiSouth Network

### 3.2 Communication

Messages on MERS CoV to inform target groups have been developed by eleven countries (78.6%). This number includes all the countries in the Middle-East and Northern Africa who responded to this survey. The target groups addressed are travellers and pilgrims both before and after departure (targeted respectively in 71.4% and 50% of countries) and public health networks including Health Care Workers (targeted by 71.4% of countries). Additional targets mentioned were travellers to the Middle-East and the media. Most messages focus on detection, prevention and management of respiratory infections.

### 3.3 Detection

Screenings at Points of Entry have been set up only in three countries (21.4%).

Procedures for the public identifying what to do if clinical signs develop after travelling in an affected country have been established in nine countries. These include all countries in South Europe and most countries in South-East Europe.

Eight countries (57%) have introduced changes in their surveillance system to detect cases of MERS CoV. Among those, all introduced changes in the case and laboratory confirmation definitions, while changes in the procedures for investigation and contact tracing were introduced by seven and five countries respectively.

The WHO case definition for MERS CoV has been adopted by 85.6% of countries.

Laboratory capacity for the diagnosis of MERS CoV was re-

ported in 10 countries. All those countries reported using PCR as diagnostic method for diagnosis, in two cases also serology was mentioned. One country did not respond.

Two of the three countries that reportedly do not have domestic capacity to diagnose MERS CoV, have established lab referral with formalized sampling and transport procedures.

### 3.5 Hajj 2013 and the EpiSouth Region

Seven countries of the EpiSouth Region reported that 62.800 nationals are expected to take part in Hajj 2013, with numbers ranging from 300 to 30,000 people according to the country.

Only one country reported to expect a decrease in the number of pilgrims participating in Hajj in 2013 compared with previous years.

Seven countries (50%) have a preparedness/response plan to manage cases of communicable diseases among pilgrims returning from Hajj. Among those, none have introduced changes to this plan because of MERS CoV. Most preparedness plans are based on the WHO guidelines for response to the H1N1 pandemic although also national documents and WHO guidance on SARS CoV have been used as a guide.

Likewise while six countries are planning special measures to provide health assistance to citizens travelling to Mecca in 2013, only one reported that they would be different this year because of MERS CoV.

### 4. Conclusions

MERS CoV is impacting the EpiSouth region as it is perceived as a risk to public health and has stimulated countries to revise their preparedness and response procedures, in particular in the field of communication, laboratory detection and surveillance.

Most countries will adopt existing preparedness and response plans and established public health measures to manage cases of communicable diseases among pilgrims returning from Hajj 2013. The emergence of MERS CoV has not apparently warranted their revision.

The study has received input from just over a half of the Epi-South Countries, and half of the respondents are countries in South-East Europe. This is a limit to be considered.

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