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**Specialist Security Report**  
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For:

**Middle East & North Africa**

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**International experience. Local knowledge.**

## Middle East Respiratory Syndrome Coronavirus

**Key Points:** New infections of Middle East Respiratory Syndrome Coronavirus (MERS-CoV, sometimes referred to as “camel flu”) continue to be reported in Saudi Arabia, as well as other areas in the Middle East and globally, although the latter are primarily exported cases. However, improved responses and procedures, particularly in medical facilities, contributed to a 48.6 per cent decline in new cases from 457 in 2015 to 235 in 2016. Notably, there is no apparent link between outbreaks and the hajj, referring to the Muslim annual pilgrimage in Saudi Arabia to the holy cities of Mecca and Medina. Despite the declining number of cases, the risk of contracting the virus remains and those travelling or residing in Saudi Arabia, as well as elsewhere in the Middle East, should continue to take precautionary measures to avoid infection.

### Overview

MERS is a viral respiratory disease that first reported in Saudi Arabia in 2012. As of 2 December 2016, the World Health Organisation (WHO) [reported](#) that the virus resulted in 1,941 laboratory-confirmed cases and 652 deaths. 80 percent of these cases came from Saudi Arabia, with the remaining recorded in 27 other countries. Those most at risk are males of 60-years and older with underlying medical conditions.

**Figure 1: Number of Confirmed Cases per country – 2012 to 2 December 2016<sup>1</sup>**

Country	Confirmed Cases	Country	Confirmed Cases	Country	Confirmed Cases
Algeria	2	Italy	1	<b>Saudi Arabia<sup>2</sup></b>	<b>1482</b>
Austria	2	Jordan	28	<b>South Korea</b>	<b>185</b>
Bahrain	1	Kuwait	4	Thailand	3
China	1	Lebanon	1	Tunisia	3
Egypt	1	Malaysia	1	Turkey	1
France	2	Netherlands	2	<b>UAE</b>	<b>79</b>
Germany	3	Oman	7	UK	4
Greece	1	Philippines	2	USA	2
Iran	6	Qatar	16	Yemen	1

The only country that witnessed its first infection since the WHO’s July 2015 report and its most recent one from December 2016 was Bahrain, which saw one [fatal case](#) in April 2016 involving a 61-year-old Saudi male and demonstrating an example of an exported case of MERS. In fact, all or nearly all infections reported outside of the Middle East have involved an individual or individuals who recently travelled to, lived in, or worked in the Middle East. This includes the 2015 outbreak in South Korea that resulted from “a single imported case with travel history in the Middle East and subsequent human-to-human transmission to close familial contacts, to patients who shared rooms/wards with infected patients and to health care workers providing care for patients before suspicion and diagnosis of MERS-CoV”.<sup>3</sup>

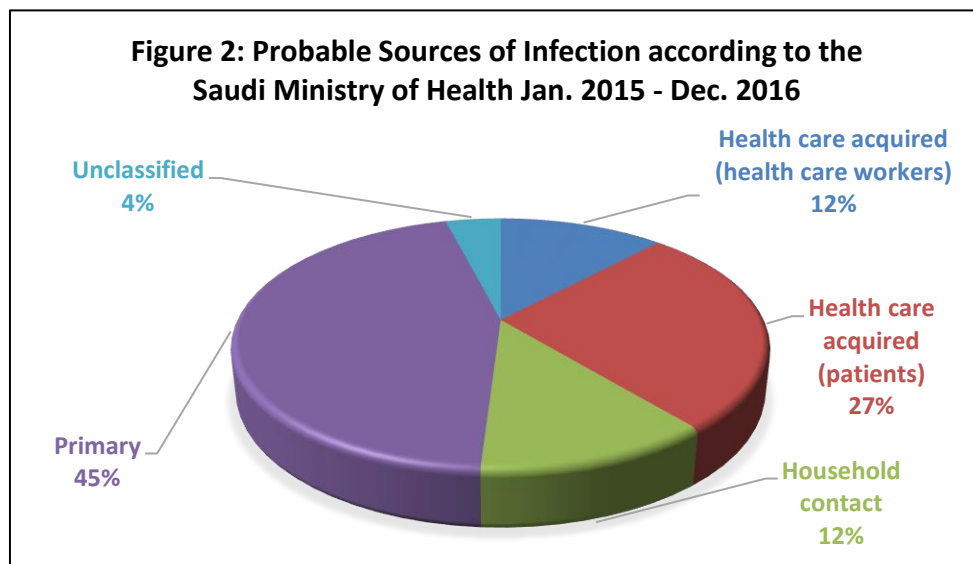
<sup>1</sup> Data taken from WHO’s previously referenced 5 December 2016 report: “WHO MERS-CoV Global Summary and risk assessment”, 5 December 2016, <http://www.who.int/emergencies/mers-cov/mers-summary-2016.pdf?ua=1>, p. 1.

<sup>2</sup> The three countries in red are those with the highest number of MERS cases since 2012.

<sup>3</sup> Ibid, p. 2.

WHO still considers human-to-human contact to be difficult, requiring close contact like that which occurred in South Korea and with “no sustained community transmission documented”.<sup>4</sup> Its origin, however, is from animals. WHO describes MERS as a “zoonotic virus that has repeatedly entered the human population via contact with infected dromedary camels in the Arabian Peninsula”.<sup>5</sup> This includes through exposure to the animals or consumption of raw products, such as milk.

Subsequent human-to-human contact is what led to outbreaks within health care settings in Saudi Arabia (see Figure 2 below), South Korea, and Jordan. One of the most recent outbreaks, albeit on a smaller scale as those seen in the past, occurred in Riyadh in June 2016. In a three-day period from 16 June to 18 June 2016, for example, there were 22 new cases, 18 of which were asymptomatic and 20 of which occurred in Riyadh. Of those 20, the Ministry of Health cited the probable source of infections for 11 as “secondary health acquired – health care worker”, six as “secondary health acquired – patient/co-patient”, and three as “secondary household contact”.<sup>6</sup>



### Analysis

Although MERS continues to be a recurring concern, outbreaks have been more limited, particularly at health care facilities, with the June 2016 Riyadh outbreak involving a lower number of infections than similar outbreaks in the past. Overall, the number of new cases also notably dropped by 48.6 per cent from 457 in 2015 to 235 in 2016.

In this context, WHO describes past outbreaks at health care facilities, including those in Jordan and Saudi Arabia in 2015, as “occur[ing] before adequate infection prevention and control procedures were applied”.<sup>7</sup> The more limited nature of the outbreak in Riyadh in June 2016, therefore, indicates that the Saudi Ministry of Health and the country’s health care facilities, in coordination with WHO, are continuing to improve their response to MERS and combat the risk of close contact outbreaks, particularly at medical centres. This includes improved quarantine methods, education campaigns, and reducing diagnosis time. The latter is especially important, as the period prior to diagnosis can result in multiple secondary cases in health care facilities, particularly given that symptoms in the early stages are similar to the common cold and other respiratory illnesses. The same holds true for asymptomatic cases. Determining whether patients showing symptoms have had indirect contact with

<sup>4</sup> Ibid.

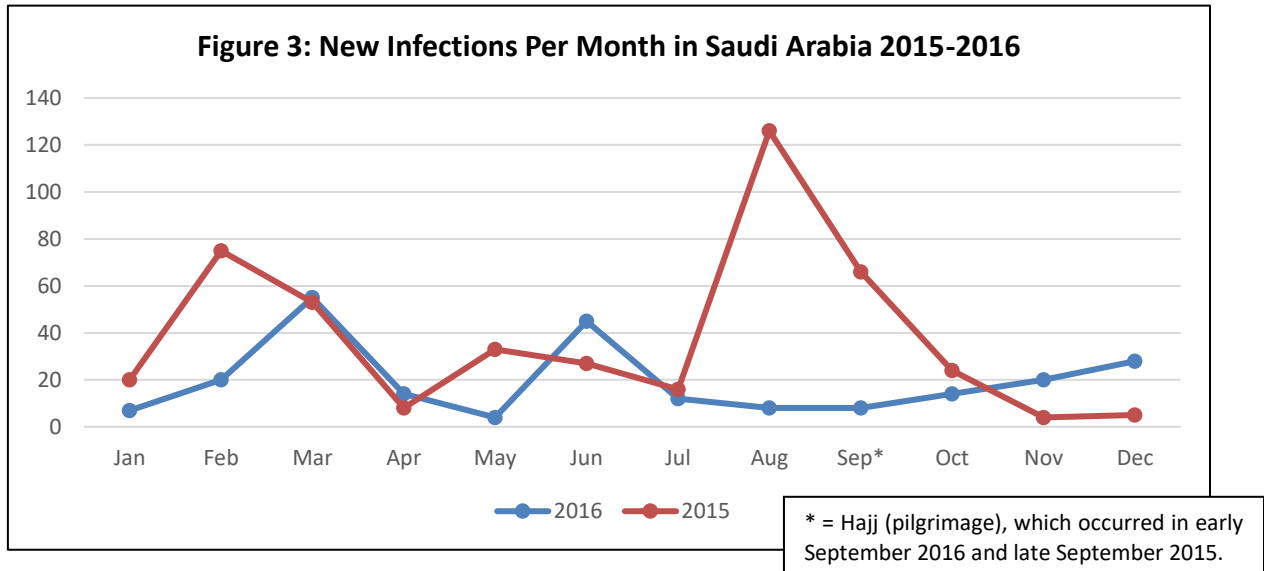
<sup>5</sup> Ibid, p. 1.

<sup>6</sup> Information retrieved from the Saudi Ministry of Health.

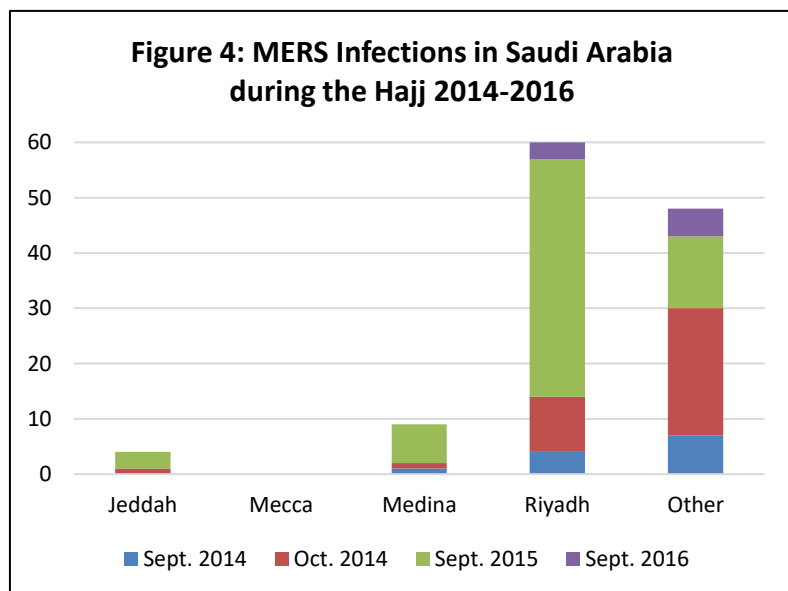
<sup>7</sup> “MERS-CoV Global Summary”, p. 1.

dromedary camels or, in the case of countries outside of the Middle East, have travelled to or been hospitalised in the Middle East is essential to mitigating the spread of MERS within health care settings.

When it comes to trends from 2015 to 2016, increases in new infections were seen both years in February and March, as well as in June (May and June for 2015). [In 2014](#), a high number of cases were also seen from March through June, but not in February. Although correlation certainly does translate to causation, it could suggest that the risk for MERS slightly increases as the weather begins getting warmer. See Figure 3 below, as well as the WHO’s chart of confirmed cases globally through 2 December 2016 in [Appendix A](#).



Notably, there is no consistent trend when it comes to new MERS infections during the Hajj (see Figure 4 below). In September 2016, for example, there were only eight new infections and, out of those eight, none were recorded in Mecca, Medina, or Jeddah, the latter of which is often the point of transit for pilgrims. Although there were 66 new infections in September of the previous year, this itself marked a decline from the 126 reported that August. In addition, out of the 66, only seven were in Medina and three in Jeddah, while the clear majority (43) were in Riyadh. Similarly, Hajj 2014, which began at the start of October, came immediately after a month (September 2014) that had only 12 new infections, only one of which was in a relevant city (Medina).<sup>8</sup> October itself saw 35 new cases, but only two in relevant cities (one each in Jeddah and Medina). Ten others occurred in Riyadh while a notable 16 were in Taif, located in the Mecca Province but not a stop for pilgrims. This indicates that existing screening and

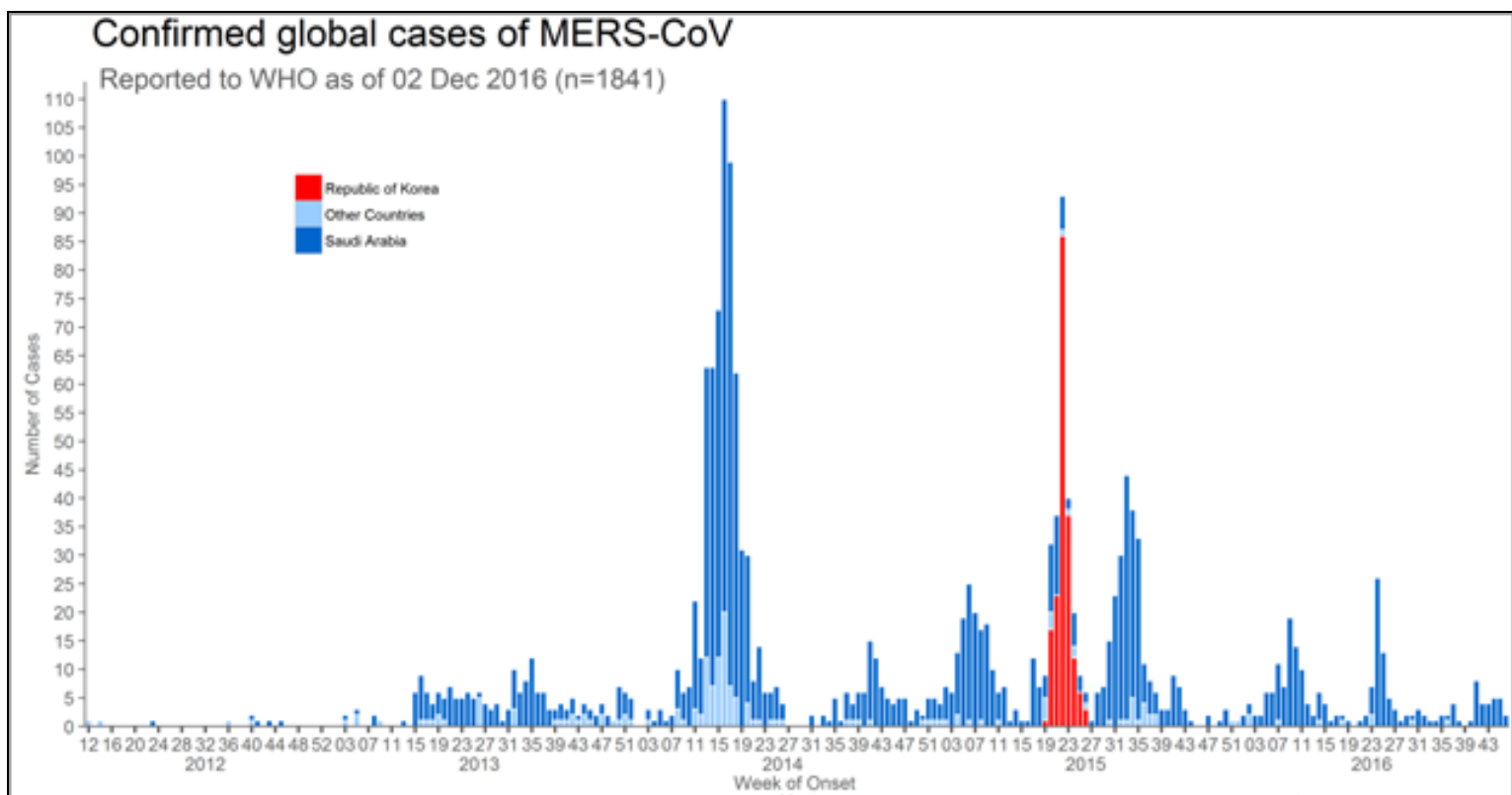


<sup>8</sup> Four were in Riyadh and the remaining seven occurred elsewhere in the country.

quarantine measures implemented for the Hajj have successfully prevented the spread of the MERS among the tens of thousands of pilgrims that visit during this time. In other words, there is neither an increased risk of contracting the virus during the pilgrimage nor of an outbreak among pilgrims generally. In fact, given the measures taken, the risk is likely lower.

Importantly, although the risk of contracting MERS has declined, it still exists and precautionary measures should be taken by those travelling or living in Saudi Arabia, as well as other areas of the Middle East. This includes avoiding contact with dromedary camels and refraining from consuming any raw camel products. A doctor should also be consulted with at the onset of any symptoms of the common cold or respiratory illness, particularly among older individuals and those who have other underlying medical conditions.

#### Appendix A: WHO chart of confirmed cases of MERS globally through 2 December 2016



## Have any questions?

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