

Department of Defense  
Armed Forces Health Surveillance Center  
MERS-CoV Surveillance Summary  
(28 MAY 2015)



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*For questions or comments, please contact:*

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# DEPARTMENT OF DEFENSE (AFHSC)

## MERS-CoV Surveillance Summary #55

28 MAY 2015



**CASE REPORT:** From SEP 2012 to 28 MAY 2015, 1204 (+28) cases of Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported including 466 (+12) deaths in the Kingdom of Saudi Arabia (KSA), Jordan, Qatar, United Arab Emirates (UAE), United Kingdom, France, Germany, Tunisia, Italy, Oman, Kuwait, Yemen, Malaysia, Greece, Philippines, Egypt, Lebanon, Netherlands, Iran, Algeria, Austria, Turkey, Republic of Korea (ROK), and the U.S. Since the last summary, there has been a slight uptick in cases reported in KSA as well as three new clusters reported in Qatar, UAE, and ROK. In KSA, ongoing transmission continues in urban areas such as Riyadh and Hafoof. Additionally, cases have been reported in new areas in KSA including: Qunfuthah, Aflaj City, and Begib (see map).

On 6 MAY, a truck driver travelled to Ibri City, Oman and transported camels to Abu Dhabi, UAE on 9 MAY. As part of UAE's national policy of testing all imported camels for MERS-CoV, laboratory examinations were carried out on the camels. The animals tested positive for MERS-CoV on 10 MAY. This triggered an investigation of the [truck driver who tested positive](#) for MERS-CoV on 12 MAY, according to the WHO. He was asymptomatic at the time of laboratory testing. Contact tracing found an [additional asymptomatic case in Al Ain, UAE](#). Media report that both UAE cases continue to be asymptomatic as of 28 MAY.

According to the WHO, an individual with frequent contact with camels [tested positive for MERS-CoV in Doha, Qatar](#) on 15 MAY. According to the Supreme Council of Health in Qatar, an additional case tested positive, but it is currently unclear if this individual is a contact of the above case. Contact tracing investigations are ongoing.

In ROK, a cluster of seven confirmed cases has been reported by the KCDC and the WHO. The index case recently travelled to Bahrain, UAE, KSA and Qatar. The case was involved in agricultural activities during his travel, however he reported no contact with camels. The individual developed symptoms on 11 MAY, seven days after returning to ROK, and is currently undergoing treatment. Since then, the index case's wife, doctor, and nurse have tested positive; an individual sharing a hospital room with the index case, the roommate's daughter, and a second hospital contact have also tested positive for MERS-CoV in ROK.

Reports from the China CDC and from Chinese media state that the son of the ROK index case did not adhere to quarantine orders and travelled to China, via Hong Kong, on 26 MAY. This individual had previously visited his father, the ROK index case, in the hospital and became symptomatic before travel. This individual is being classified as a suspected MERS-CoV case and was hospitalized upon arrival in China; confirmatory tests are still pending. If this case is confirmed, it will be the eighth case associated with the ROK cluster and the first imported case of MERS-CoV in China.

**DIAGNOSTICS:** Clinical diagnostic testing is available at NAMRU-3, LPMC, NHRC, USAFSAM, Tripler AMC, SAMMC, WRNMMC, and NIDDL (NMRC). Surveillance testing capability is available at NHRC, AFRIMS, NAMRU-2, NAMRU-3, NAMRU-6, and Camp Arifjan. Additionally all 50 state health laboratories and the New York City DHMH have been offered clinical testing kits. AFHSC has placed updated [MERS-CoV testing guidelines](#) for DoD components on their website. These guidelines are aimed at capturing mild cases that may present in healthier populations such as DoD personnel.

**BACKGROUND:** In SEP 2012, [WHO reported two cases of a novel coronavirus](#) (now known as MERS-CoV) from separate individuals - one with travel history to the KSA and Qatar and one a KSA citizen. This was the sixth strain of human coronavirus identified (including SARS). Limited human-to-human transmission has been identified in at least 32 spatial clusters predominately involving close contacts. Limited camel-to-human transmission of MERS-CoV has been proven to occur; and [recent studies suggest](#) camels infected with MERS-CoV may appear asymptomatic but are able to shed large quantities of the virus from the upper respiratory tract. Media outlets, as well as the ECDC and [a review article](#) in the American Journal of Infection Control, indicate "strict infection control measures are essential, given that MERS-CoV survival on hospital surfaces is at least 48 hours and that it has been detected for up to 16 days in respiratory specimens and stool and up to 13 days in urine."

The most recent known date of onset is 17 MAY 2015; however at least 40% of symptomatic cases have been reported without onset date. Due to inconsistencies in reporting, it is difficult to determine a cumulative breakdown by gender, however AFHSC is aware of [at least 291 cases in females](#) to date. On 18 JAN, Qatar's SCH reported that [their recent studies have shown](#) people in the 50-69 year age group are more vulnerable to the MERS-CoV virus. CDC reports [203 of the total cases have been identified as healthcare workers \(HCWs\)](#). Of these, 134 were from KSA, 31 from UAE, 5 from Jordan, 2 from Iran, 1 from Tunisia, and 2 from ROK. Characteristics of reported cases are limited, however, CDC reports among the [203 HCW cases](#): 11 died; 55 were asymptomatic; 20 had comorbidities; and 15 presented with only mild symptoms.

On 31 MAR, WHO released a [MERS-CoV Situation Update](#) stating that the recent epidemiological and demographic characteristics of the outbreak are not significantly different from those reported in previous years. However, WHO did say that more cases in 2015 have no known history of exposure to other MERS patients when compared to data from previous years.

**INTERAGENCY/GLOBAL ACTIONS:** WHO [reiterated](#) on 3 FEB that people with diabetes, renal failure, or chronic lung disease, and immunocompromised persons are considered to be at high risk of severe disease from MERS-CoV infection. WHO convened the [Eighth International Health Regulations \(IHR\) Emergency Committee](#) on 4 FEB to discuss MERS-CoV and concluded that the conditions for a Public Health Emergency of International Concern (PHEIC) have not yet been met.

On 6 MAY, CDC updated their [Level 2 Travel Alert](#) to include specific precautions with regards to the upcoming Hajj (approximately 20 – 25 SEP 2015) and Umrah Pilgrimages (approximately 17 JUN – 17 JUL 2015). In addition to MERS-CoV information, this guidance includes a map of the pilgrimage routes, recommendations for vaccinations and best practices on mitigating dehydration, safe shaving rituals, and other healthy behaviors relevant for performing these pilgrimages.

Two KSA MOH staffing changes occurred in APR 2015. As previously reported, Minister of Health Ahmed Khatib was replaced on 11 APR by newly appointed acting Minister, Dr. Mohammed Ali al-Sheikh. Then on 29 APR, Dr. Mohammed Ali al-Sheikh was replaced by Aramco CEO Khalid Al Falih as the new Minister of Health. Notably, at that time Khalid Al Falih was also named Chairman of the State Oil Firm. A public awareness campaign to combat MERS-CoV was launched by the KSA MOH called [#We Can Stop This](#).

**Text updated from the previous report will be printed in red; items in (++) represent the change in number from the previous Summary (14 MAY 2014).**

All information has been verified unless noted otherwise. Sources include the CDC, WHO, KSA MOH, ECDC, NEJM, SCH Qatar, and ASM.

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### MERS-CoV NUMBERS AT A GLANCE

	Total in 2012	Total in 2013	Total in 2014	Total in 2015	Cumulative Total (2012-2015)
Confirmed Cases	9	171	772	252 (+28)	1204 cases (+28)
Confirmed Deaths*	6 deaths	72 deaths	277 deaths	111 deaths (+12)	at least 466 deaths (+12)
Case-Fatality Proportion	66%	42%	36%	44%	38%
Mean Age	45 years	51 years	49 years	56 years	51 years
Gender Breakdown*	1 female	at least 58 females	at least 175 females	57 females (+8)	at least 291 females (+8)
# of Healthcare Workers (HCWs) reported*	at least 2 HCWs	at least 31 HCWs	at least 87 HCWs	24 HCWs (+2)	at least 203 HCWs (+2)

\*Disclaimer: Data reported on MERS-CoV cases are limited and adapted from multiple sources including various Ministries of Health, CDC, and WHO. Consequently, yearly information may not equate to the cumulative totals provided by WHO and CDC.

Legend: Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous Summary (14 MAY 2014).

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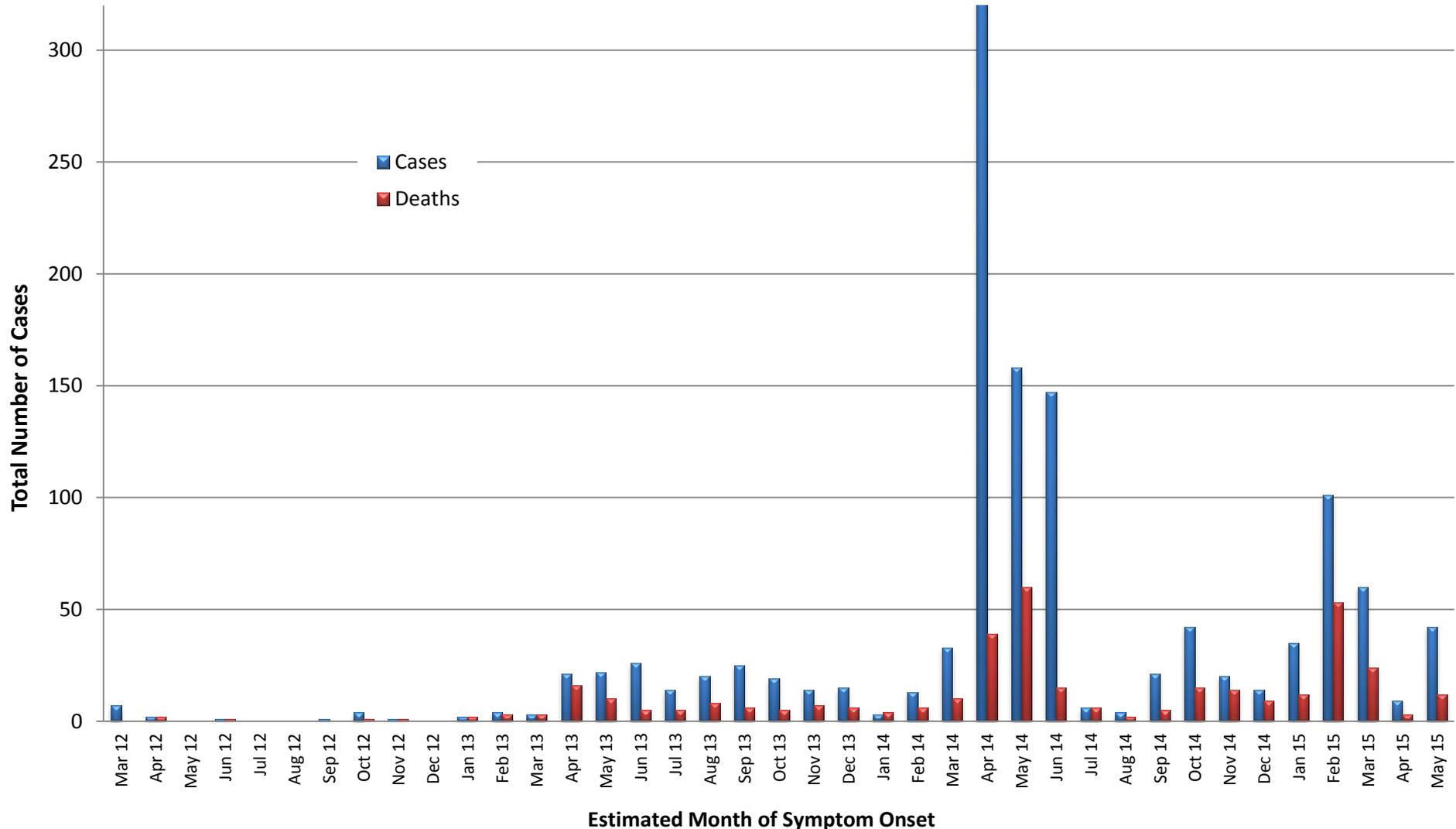
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#### MERS-CoV Web Sites

- [WHO](#)
- [WHO Lab Testing Guidance](#)
- [WHO Travel Advice for Pilgrimages](#)
- [WHO 8<sup>th</sup> IHR Meeting Press Release](#)
- [CDC](#)
- [CDC Travel Advisory](#)
- [CDC MMWR](#)
- [ECDC](#)
- [AFHSC Detecting and Reporting Guidelines for MERS-CoV](#)

#### Information and News

- [Latest WHO DON on MERS-CoV](#) (WHO, 25 MAY)
- [Aggregated media reports on MERS-CoV Cases in ROK](#) (FluTrackers, 28 MAY)
- [South Korea, Saudi Arabia confirm more MERS cases](#) (CIDRAP, 26 MAY)
- [South Korea has its first MERS case; UAE finds 2](#) (CIDRAP, 20 MAY)
- [Occupational Exposure to Dromedaries and Risk for MERS-CoV Infection, Qatar, 2013–2014](#) (CDC Emerging Infectious Diseases Journal (EIDJ), early release on 8 MAY, anticipated publication date AUG 2015)
- [Public health response to two incidents of confirmed MERS-CoV cases travelling on flights through London Heathrow Airport in 2014 - Lessons Learnt](#) (Eurosurveillance, 7 MAY)
- [Laboratory Investigation and Phylogenetic Analysis of an Imported Middle East Respiratory Syndrome Coronavirus Case in Greece](#) (PLOS ONE, 28 APR)
- [#We Can Stop This](#) (KSA MOH's Public Awareness Campaign Website, launched APR 2015)
- [Saudi Arabia witnesses decline in MERS cases](#) (Global Post, 26 APR)
- [MERS-CoV in Upper Respiratory Tract and Lungs of Dromedary Camels, Saudi Arabia, 2013–2014](#) (CDC EIDJ, early release on 22 APR, anticipated publication date JUL 2015)
- [Presence of Middle East respiratory syndrome coronavirus antibodies in Saudi Arabia: a nationwide, cross-sectional, serological study](#) (The Lancet, 8 APR)
- [Acute Middle East Respiratory Syndrome Coronavirus Infection in Livestock in Dromedaries, Dubai, 2014](#) (CDC EIDJ, early release on 13 MAR 2015, anticipated publication date JUN 2015)
- [MERS-CoV Situation Report](#) (WHO, 31 MAR)
- [Passive Immunotherapy With Dromedary Immune Serum In An Experimental Animal Model For MERS Coronavirus Infection](#) (American Society for Microbiology (ASM), 18 MAR)
- [Replication and Shedding of MERS-CoV in Upper Respiratory Tract of Inoculated Dromedary Camels](#) (CDC EIDJ, 18 NOV 2014)
- [WHO DON on first novel coronavirus infection](#) (WHO, 23 SEP 2012)