

Department of Defense  
Armed Forces Health Surveillance Center  
MERS-CoV Surveillance Summary  
(19 MAR 2015)



Approved for Public Release

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# DEPARTMENT OF DEFENSE (AFHSC)

## MERS-CoV Surveillance Summary #50

19 MAR 2015



**CASE REPORT:** From SEP 2012 to **19 MAR 2015**, **1127 (+30) cases** of Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported including **424 (+14) deaths** in the Kingdom of Saudi Arabia (KSA), Jordan, Qatar (+1), United Arab Emirates, United Kingdom, France, **Germany (+1)**, Tunisia, Italy, Oman, Kuwait, Yemen, Malaysia, Greece, Philippines, Egypt, Lebanon, Netherlands, Iran, Algeria, Austria, Turkey (+3), and the U.S.

**Two suspect cases were also reported by Hong Kong CHP on 13 MAR, but initial tests were negative for MERS-CoV.** On 6 MAR, the Philippine Embassy in Riyadh, KSA, reported three Philippine HCWs tested positive for MERS-CoV; further confirmatory testing is still pending. **A fourth case in a Philippine HCW was also reported on 19 MAR.**

On 2 MAR, the KSA Ministry of Health's (MOH) newly established Command and Control Center released a [report with detailed demographic information on previously announced cases](#). In addition to nine cases reported in Saudi residents in the last week of FEB 2015, infections were also detected in Yemeni (3), Filipino (2), Indian (1), Egyptian (1), Sudanese (1), and Syrian (1) residents, according to the KSA Agriculture Ministry. **On 8 MAR, King Khalid University Hospital announced the closure of its emergency and surgery departments after arrival of nine suspect MERS-CoV patients.**

In mid-FEB, a team of WHO, UN FAO, OIE, and Institute Pasteur experts travelled to KSA to evaluate the current MERS-CoV situation and make recommendations for improving surveillance, prevention, and control efforts. On 26 FEB, Dr. Keiji Fukuda of WHO spoke on the joint mission's findings saying that while data collection and surveillance have improved in recent months, critical gaps in knowledge remain.

According to Dr. Fukuda, "the fact that infections are still occurring in some healthcare settings, but not others, indicates that current infection control measures are effective but not implemented." Recommendations include: better understanding of modes of infection and transmission, further research on the epidemiology of MERS-CoV, improving disease prevention, and intensifying social mobilization, community engagement, communications and inter-sectoral cooperation.

**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.

A [publication in the EID Journal](#) (EIDJ) indicates, "the seroprevalence of MERS-CoV among adult dromedaries in the Middle East and Africa is typically >90%, so the lack of any serologic reactivity in camels from Mongolia implies that MERS-CoV does not infect Bactrian camels, or that the geographic range of the virus does not extend to northeastern Asia". **A recent study published in the EIDJ found increased infectivity of MERS-CoV in camel calves (<4 years of age) in Dubai, UAE, and suggests that delayed social separation of calves might reduce human infection risk. However, EIDJ also published a study noting the lack of transmission from a herd of infected camels to humans with various levels of contact with the animals.**

The most recent known date of onset is **27 FEB 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 277 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 **199 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, and 1 from Tunisia. Characteristics of reported cases are limited, however, CDC reports among the **199 HCW cases**: 11 died; 55 were asymptomatic; 20 had comorbidities; and 15 presented with only mild symptoms.

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." On 26 FEB, the NEJM [published a study](#) which found the majority of patients in the 2014 Jeddah cluster had contact with a major healthcare facility, other patients, or both.

**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. CDC's [Level 2 Travel Watch](#) remains in effect and specifically notes health care providers should be alert for patients who develop severe acute lower respiratory illness within 14 days of travel from the Arabian Peninsula. On 30 JAN, [CDC issued an MMWR](#) with updated guidance for the public, clinicians, and public health authorities on when to consider MERS-CoV infection.

**Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous Summary (6 MAR 2014).**

All information has been verified unless noted otherwise. Sources include the CDC, WHO, KSA MOH & MOA, AJIC, ECDC, NEJM, SCH Qatar, and Homeland Security Today.

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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	175 (+30)	1127 cases (+30)
Confirmed Deaths*	6 deaths	72 deaths	273 deaths	73 deaths (+14)	at least 424 deaths (+14)
Case-Fatality Proportion	66%	42%	35%	37%	36%
Mean Age	45 years	51 years	49 years	57 years	51 years
Gender Breakdown*	1 female	at least 58 females	at least 175 females	43 females (+8)	at least 277 females
# of Healthcare Workers (HCWs) reported*	at least 2 HCWs	at least 31 HCWs	at least 87 HCWs	20 HCWs (+3)	at least 199 HCWs

\*Disclaimer: Data reported on MERS-CoV cases is limited and adapted from multiple sources including the KSA MOH, 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 (6 MAR 2014).

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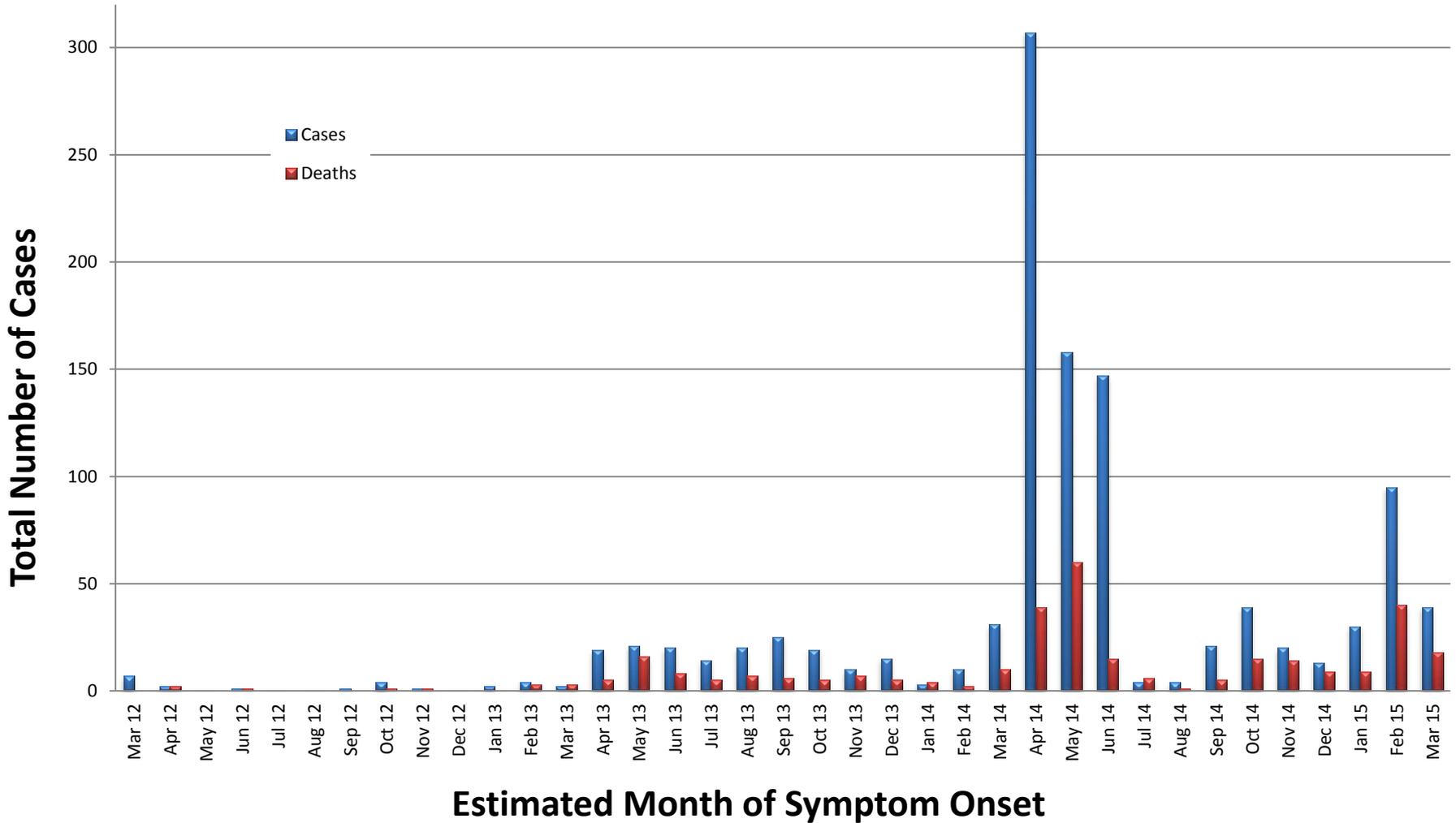
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**MERS-CoV Epidemiological Curve - 19 MAR 2015**



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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](#)
- [ECDC](#)
- [AFHSC Detecting and Reporting Guidelines for MERS-CoV](#)

#### Information and News

- [Another Pinoy infected with MERS-CoV in Saudi Arabia –DFA](#) (GMA News, 19 MAR)
- [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)
- [HK: Two patients with respiratory symptoms and travel history under CHP investigation](#) (Hong Kong CHP, 11 MAR)
- [Latest WHO DON on MERS-CoV](#) (WHO, 11 MAR)
- [Ghost "Corona" pays officials to stop the surgery and emergency department](#) (KSA Ministry of Information, 8 MAR)
- [Absence of MERS-Coronavirus in Bactrian Camels, Southern Mongolia, November 2014](#) (CDC EIDJ, early release on 6 MAR 2015, anticipated publication date JUL 2015)
- [DFA: 3 Filipinos in Saudi Arabia test positive for MERS-CoV](#) (Philippine Daily Inquirer, 6 MAR)
- [MOH Issues a Weekly Report on Coronavirus, Records 18 New Cases](#) (KSA, 2 MAR)
- [MERS-CoV Cases Surge Amidst Concern of International Spread](#) (Homeland Security Today, 26 FEB)
- [2014 MERS-CoV Outbreak in Jeddah – A Link to Health Care Facilities](#) (NEJM, 26 FEB)
- [Saudi Arabia suspends leave in heightened effort to combat MERS](#) (African News, 19 FEB)
- [More progress needed to control the Middle East respiratory syndrome coronavirus \(MERS-COV\) in Saudi Arabia](#) (WHO, 23 FEB)
- [Ministry to set up command and control reference center to fight MERS](#) (Saudi Gazette, 12 FEB)
- [CDC MMWR: Update on the Epidemiology of Middle East Respiratory Syndrome Coronavirus \(MERS-CoV\) Infection, and Guidance for the Public, Clinicians, and Public Health Authorities](#) (CDC, 30 JAN)
- [Middle East Respiratory syndrome coronavirus: Implications for health care facilities](#) (AJIC, DEC 2014)
- [MERS Coronavirus Neutralizing Antibodies in Camels, Eastern Africa, 1983–1997](#) (CDC, 19 NOV 2014 Emerging Infectious Diseases Journal (EIDJ))
- [Replication and Shedding of MERS-CoV in Upper Respiratory Tract of Inoculated Dromedary Camels](#) (CDC, 18 NOV 2014 EIDJ)
- [WHO Statement on the Seventh Meeting of the IHR Emergency Committee Meeting regarding MERS-CoV](#) (WHO, 1 OCT 2014)
- [WHO DON on first novel coronavirus infection](#) (WHO, 23 SEP 2012)