

# Department of Defense Armed Forces Health Surveillance Center MERS-CoV Surveillance Summary (6 MAR 2015)



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# DEPARTMENT OF DEFENSE (AFHSC)

## MERS-CoV Surveillance Summary #49

6 MAR 2015



**CASE REPORT:** From SEP 2012 to 6 MAR 2015, 1097 (+61) cases of Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported including 400 (+26) deaths in the Kingdom of Saudi Arabia (KSA), Jordan, Qatar, United Arab Emirates, United Kingdom, France, Tunisia, Italy, Oman, Kuwait, Yemen, Malaysia, Greece, Philippines, Egypt, Lebanon, Netherlands, Iran, Algeria, Austria, Turkey, and the U.S.

On 6 MAR, the Philippine Embassy in Riyadh, KSA, reported three Philippine HCWs tested positive for MERS-CoV; further confirmatory testing is still pending.

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 (3), Indian (2), Egyptian (1), Sudanese (1), and Syrian (1) residents, according to the KSA Agriculture Ministry.

Since mid-FEB, a team of experts from WHO, UN's Food and Agriculture Organization, World Organization of Animal Health, and Institute Pasteur, France, travelled to KSA to evaluate the current MERS-CoV situation in KSA, and make recommendations for improving surveillance, prevention, and control efforts. On 26 FEB, Dr. Keiji Fukuda of WHO spoke on the recent 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 activities, communications and inter-sectoral cooperation.

**DIAGNOSTICS:** Clinical diagnostic testing is available at NAMRU-3, LRMC, 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 [forthcoming publication in the EID Journal](#) indicates that MERS-CoV is not circulating among Bactrian camels in southern Mongolia. This study, conducted by the University of Hong Kong, U.S. NIH, and NIAID, concludes, "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".

The most recent known date of onset is 22 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 269 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 **196 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 is limited, however, CDC reports among the 196 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 for the Arabian Peninsula and specifically notes health care providers should be alert for patients who develop severe acute lower respiratory illness within 14 days of travel from countries in or around the Arabian Peninsula. On 30 JAN, the [CDC issued an MMWR](#) to provide updated guidance for the public, clinicians, and public health authorities encouraging them to consider MERS-CoV infection in persons with recent travel history in or near the Arabian Peninsula.

**Legend:** Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous Summary (19 FEB 2014).

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

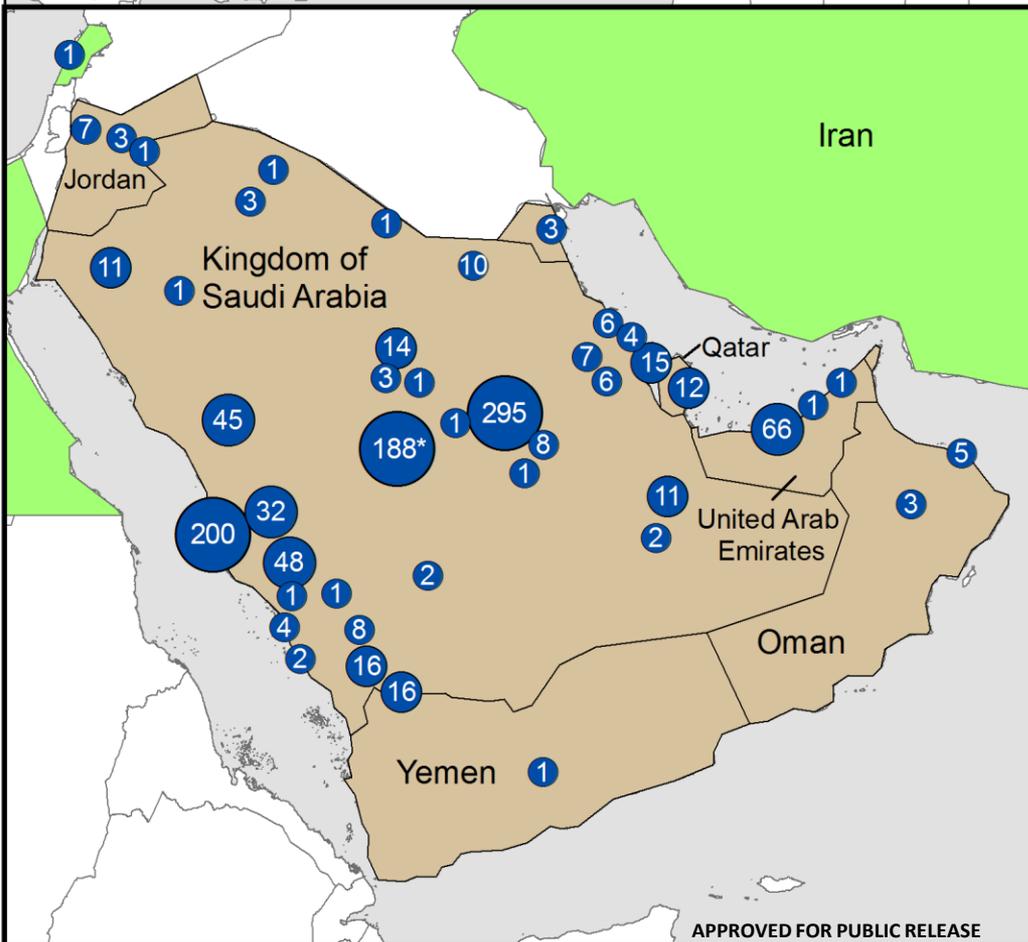
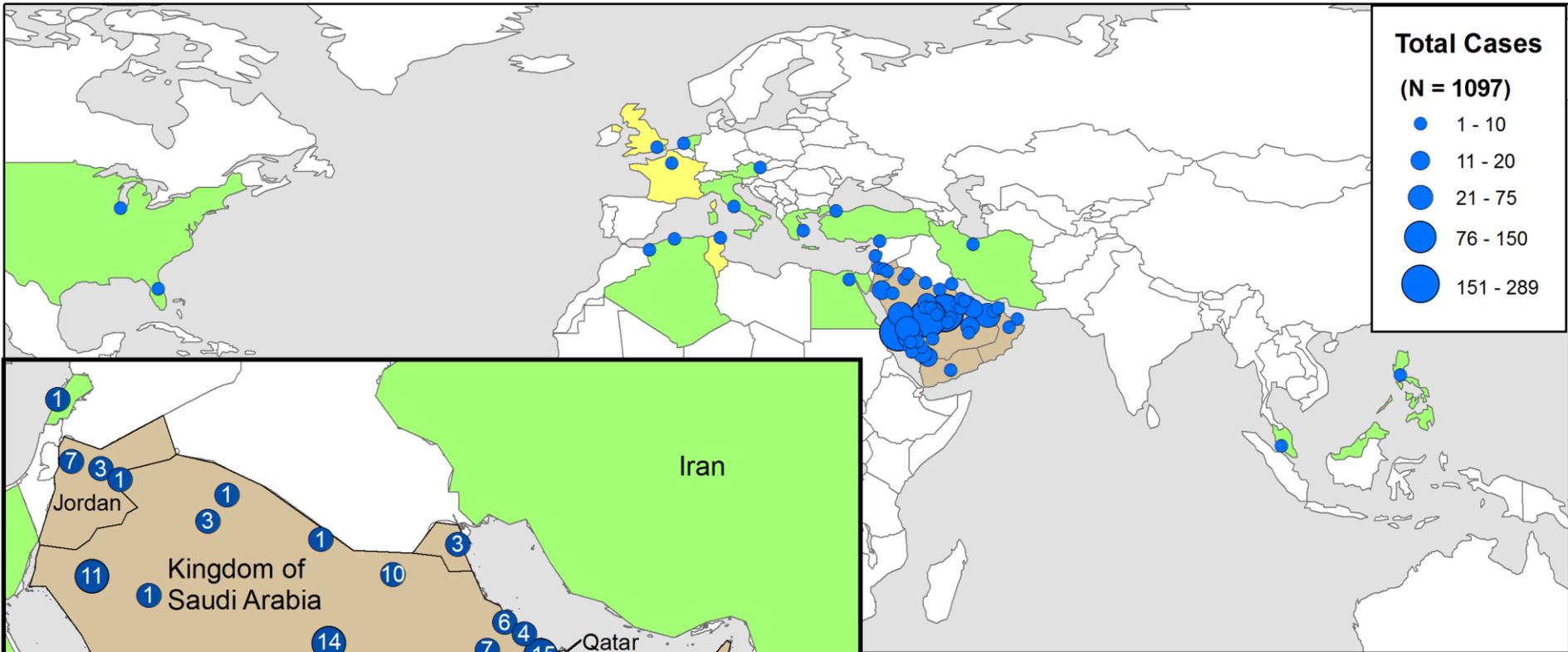
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### Total Cases

(N = 1097)

- 1 - 10
- 11 - 20
- 21 - 75
- 76 - 150
- 151 - 289



### Geographic Distribution of MERS-CoV Cases 1 APR 2012 - 6 MAR 2015



- Imported Cases
- Imported Cases with Local Transmission
- Local Transmission

\*188 cases have been reported in the Kingdom of Saudi Arabia without specific location information



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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	145 (+61)	1097 cases (+61)
Confirmed Deaths*	6 deaths	72 deaths	273 deaths	50 deaths (+26)	at least 400 deaths (+26)
Case-Fatality Proportion	66%	42%	35%%	34%	36%
Mean Age	45 years	51 years	49 years	58 years	50 years
Gender Breakdown*	1 female	at least 58 females	at least 175 females	35 females (+16)	at least 269 females
# of Healthcare Workers (HCWs) reported*	at least 2 HCWs	at least 31 HCWs	at least 87 HCWs	17 HCWs (+10)	at least 196 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.**

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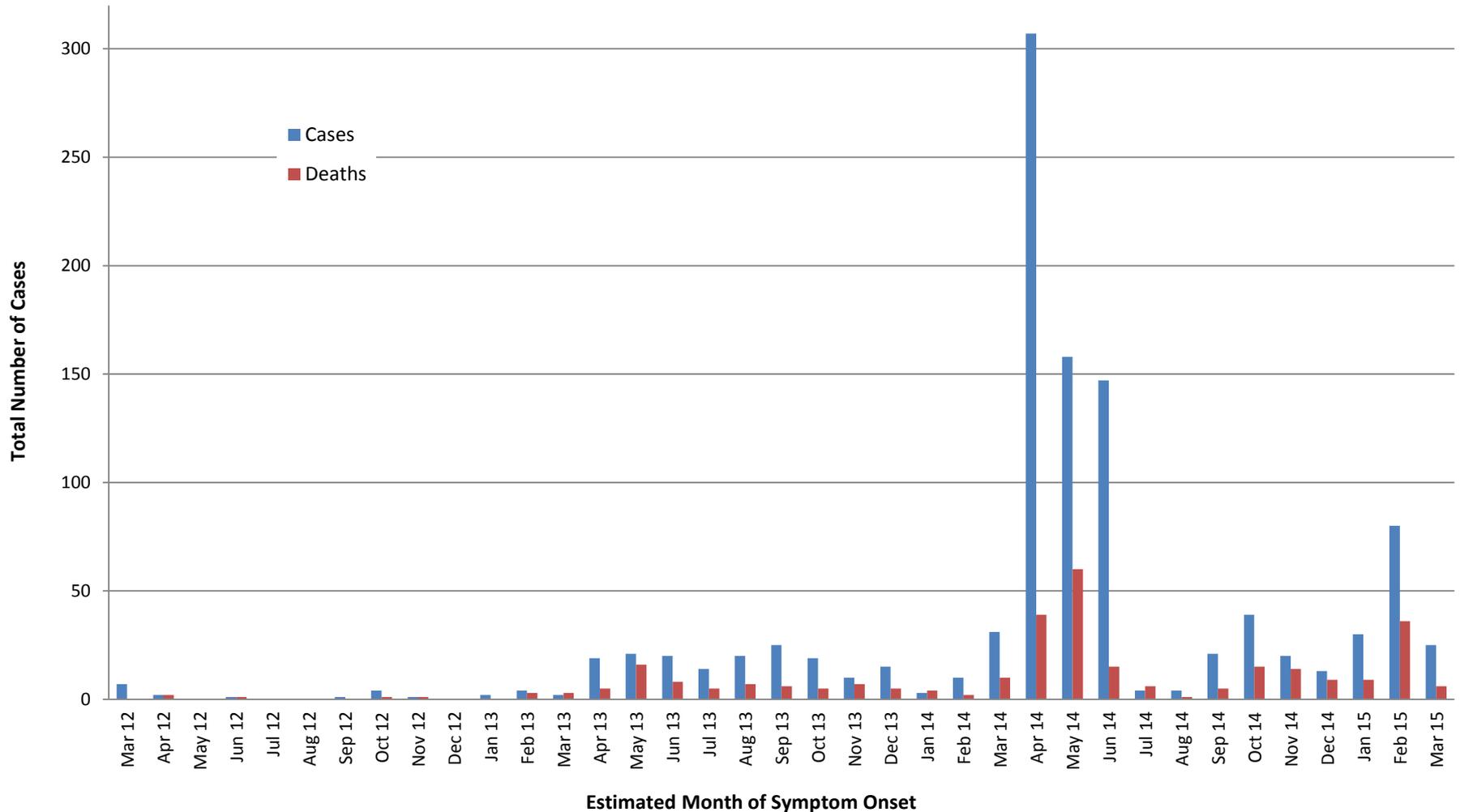
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## MERS-CoV Epidemiological Curve - 6 MAR 2015



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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

- [Latest WHO DON on MERS-CoV](#) (WHO, 6 MAR)
- [Absence of MERS-Coronavirus in Bactrian Camels, Southern Mongolia, November 2014](#) (CDC EID, 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)
- [10 Suspected MERS Cases being treated in Jeddah hospitals](#) (Saudi Gazette, 3 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)
- [WHO Mission to Saudi Arabia to Target MERS Corona Virus](#) (Voice of America, 14 FEB)
- [Ministry to set up command and control reference center to fight MERS](#) (Saudi Gazette, 12 FEB)
- [Health Ministry expects high MERS cases in coming weeks](#) (Arab News, 9 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)
- [Elderly people are more vulnerable to MERS-COV](#) (Gulf Times, 18 JAN 2015)
- [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 (EID) Journal)
- [Replication and Shedding of MERS-CoV in Upper Respiratory Tract of Inoculated Dromedary Camels](#) (CDC, 18 NOV 2014 EID Journal)
- [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)