Armed Forces Health Surveillance Center
MERS-CoV Surveillance Summary
(19 FEB 2015)

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DEPARTMENT OF DEFENSE (AFHSC)

MERS-CoV Surveillance Summary #48

19 FEB 2015

CASE REPORT: As of 19 FEB 2015, 1036 (+52) cases of Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported including 375 (+14) deaths in the Kingdom of Saudi Arabia (KSA), Jordan, Qatar, the United Arab Emirates (UAE), the United Kingdom (UK), France, Tunisia, Italy, Oman, Kuwait, Yemen, Malaysia, Greece, Egypt, Lebanon, the Netherlands, Iran, Algeria, Austria, Turkey, and the U.S.

On 13 FEB, WHO confirmed a case of MERS-CoV in a Philippine healthcare worker returning from Riyadh, KSA and local media sources indicate tracing is still ongoing. On 11 FEB, WHO confirmed one new case of MERS-CoV in UAE as well as one new case in Qatar (which was reported as a suspected case in the previous summary).

According to the CDC, there was a "dramatic increase in [MERS-CoV] cases in 2014." Media outlets, as well as the ECDC and a review article in the American Journal of Infection Control, attribute this spike in cases to lapses in infection control protocols. The authors of the review indicate that both contact and droplet precautions should be utilized until test results rule out MERS-CoV. Additionally, the authors reiterate "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."

Since 5 FEB 2015, at least 14 new cases have reported contact with MERS-CoV cases in a hospital or clinic. However, the Deputy Health Minister of KSA has claimed that all cases of MERS-CoV since 1 JAN 2015 were acquired in the community and were not the result of hospital-acquired infections.

On 12 FEB, the KSA MOH announced it will create a "Command and Control Reference Center" in each region of KSA to fight MERS-CoV. The KSA MOH also warned of a possible spike in MERS-CoV cases as a result of a reported increase in new-born camels. On 19 FEB, KSA ordered a three-month suspension of leave for all health workers responsible for combating MERS-CoV transmission.

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.

The most recent known date of onset is 2 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 253 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 180 of the total cases have been identified as healthcare workers (HCWs). Of these, 134 are from KSA, 31 from UAE, 5 from Jordan, 2 from Iran, and 1 from Tunisia. Information on the characteristics of reported cases is limited, however, CDC reports among the 180 HCW cases: 11 died; 55 were asymptomatic; 20 had comorbidities; and 15 presented with only mild symptoms.

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. Therefore, these people should avoid close contact with animals, particularly camels, when visiting farms, markets, or barn areas where the virus is thought to be potentially circulating. People should also avoid raw camel milk or camel urine and eating meat that has not been properly cooked. 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 14 FEB, WHO announced it will send a team to KSA at the request of the government, to take preventative measures against an anticipated spring season upsurge in MERS-CoV cases. On 19 FEB Dr. Hasan Al-Bushra, the WHO representative in KSA, stated he expects a rise in infection rates in the Kingdom in MAR and APR 2015 because of factors related mainly to weather changes, not camel breeding season as claimed by the KSA MOH.

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 (5 FEB 2014).

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

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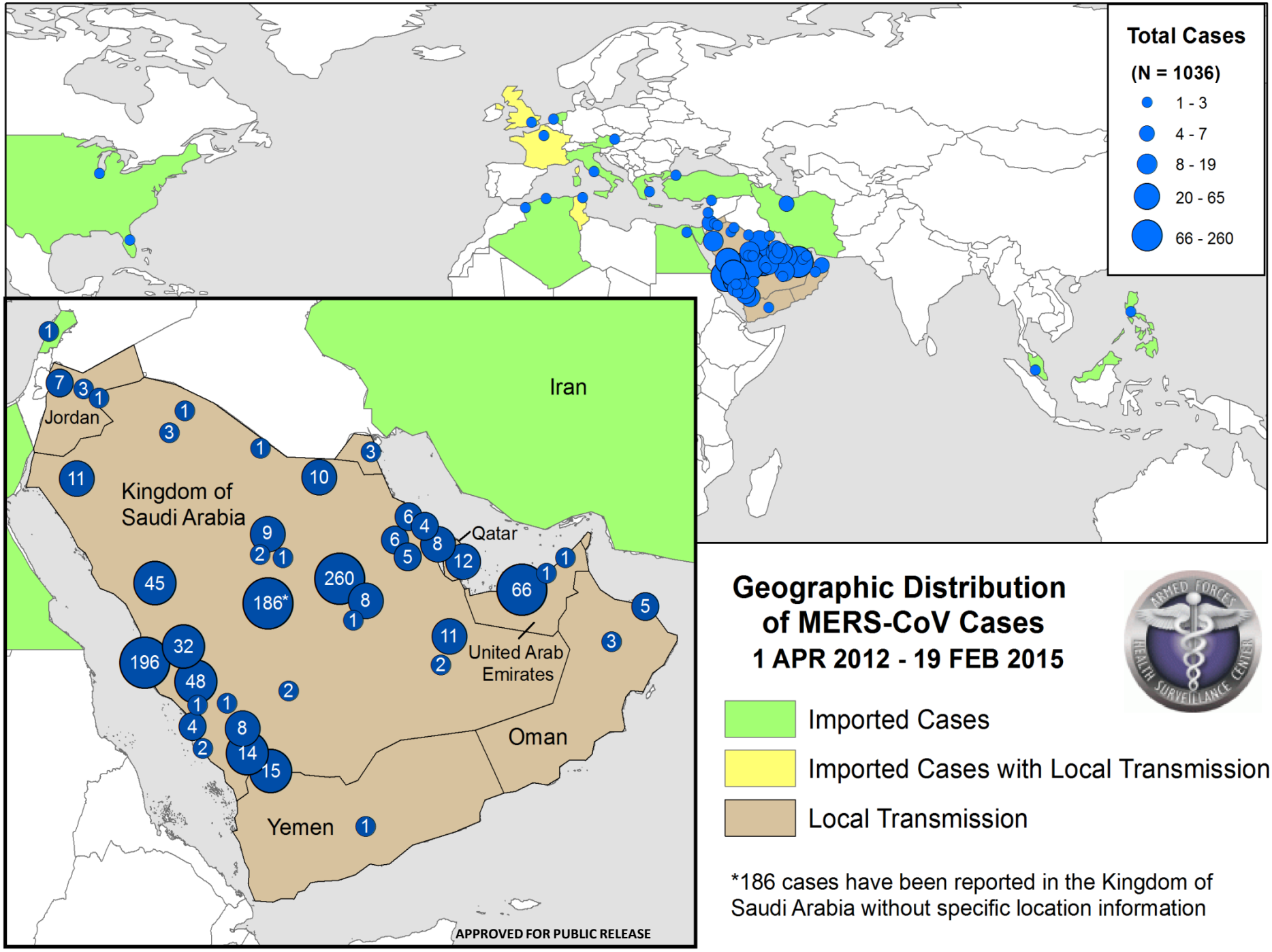

Geographic Distribution of MERS-CoV Cases

1 APR 2012 - 19 FEB 2015

Imported Cases

Imported Cases with Local Transmission

Local Transmission

*186 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	84 (+52)	1036 cases (+52)
Confirmed Deaths*	6 deaths	72 deaths	273 deaths	24 deaths (+14)	at least 375 deaths (+14)
Case-Fatality Proportion	66%	42%	35%%	29%	36%
Mean Age	45 years	51 years	49 years	52 years	50 years
Gender Breakdown*	1 female	at least 58 females	at least 175 females	19 females (+14)	at least 253 females
# of Healthcare Workers (HCWs) reported*	at least 2 HCWs	at least 31 HCWs	at least 87 HCWs	7 HCWs (+6)	at least 180 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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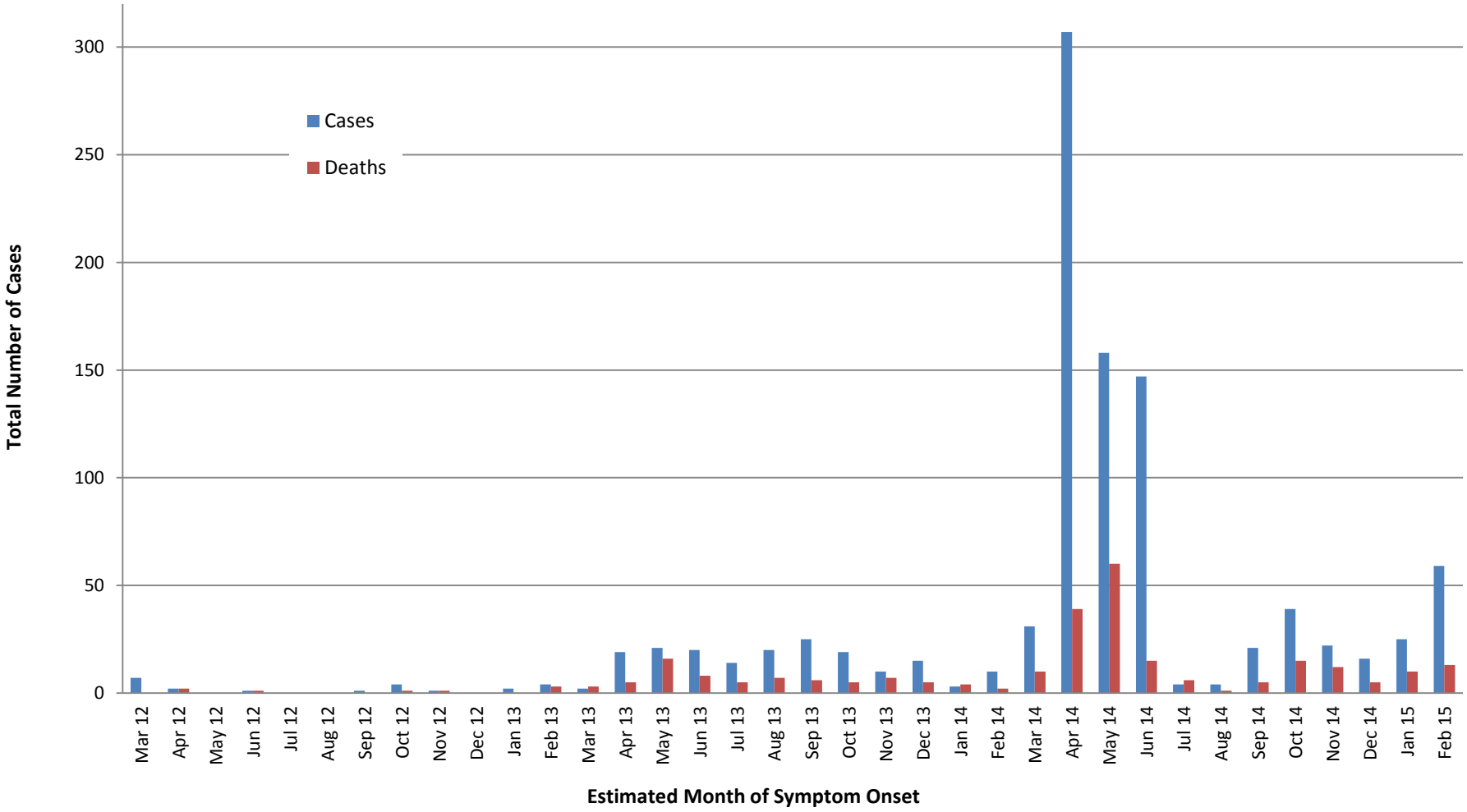
MERS-CoV Epidemiological Curve - 19 FEB 2014



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Additional Resources and Media Reports

MERS-CoV Web Sites

- WHO
- WHO Lab Testing Guidance
- WHO Travel Advice for Pilgrimages
- WHO 8th IHR Meeting Press Release
- CDC
- CDC Travel Advisory
- ECDC
- AFHSC Detecting and Reporting Guidelines for MERS-CoV

Information and News

- MERS remains a mystery, says WHO official (Arab News, 19 FEB 2015)
- Saudi Arabia suspends leave in heightened effort to combat MERS (African News, 19 FEB 2015)
- 5 Co-passengers of nurse with MERS-CoV identified, traced in Zamboanga City (Inquirer, 19 FEB 2015)
- Latest WHO DON on MERS-CoV (WHO, 16 FEB 2015)
- WHO Mission to Saudi Arabia to Target MERS Corona Virus (Voice of America, 14 FEB 2015)
- Ministry to set up command and control reference center to fight MERS (Saudi Gazette, 12 FEB 2015)
- Health Ministry expects high MERS cases in coming weeks (Arab News, 9 FEB 2015)
- 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, 2015)
- CDC Warns of MERS (U.S. News and World Report, 29 JAN 2015)
- 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)
- Camel breeding season brings more coronavirus fears (Saudi Gazette, 13 NOV 2014)
- 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)

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