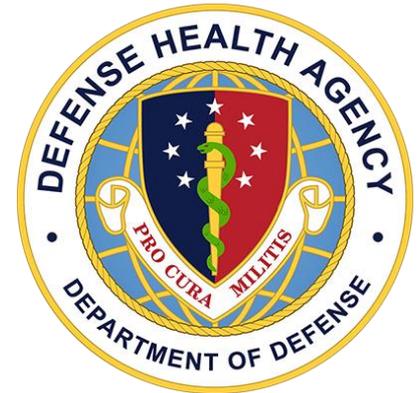


Department of Defense
Armed Forces Health Surveillance Branch
Global MERS-CoV Surveillance Summary
(8 FEB 2017)



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DEPARTMENT OF DEFENSE (AFHSB)

Global MERS-CoV Surveillance Summary #102

8 FEB 2017 (next Summary 22 FEB 2017)



CASE REPORT: As of 8 FEB, 1,980 (+6) cases of Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported, including at least 618 (+4) deaths (CDC reports at least 705 (+3) deaths as of 7 FEB) in the Kingdom of Saudi Arabia (KSA) (+6), Jordan, Qatar, United Arab Emirates (UAE), United Kingdom (UK), France, Germany, Tunisia, Italy, Oman, Kuwait, Yemen, Malaysia, Greece, Philippines, Egypt, Lebanon, Netherlands, Iran, Algeria, Austria, Turkey, Republic of Korea (ROK), China, Thailand, Bahrain, and the U.S. The KSA Ministry of Health (MOH) has classified all six of the new cases as primary, of which three had confirmed contact with camels and the source(s) of exposure for the remaining three are under investigation. Primary cases are individuals who have had direct or indirect exposure to dromedary camels, or have had no known exposure to a confirmed MERS-CoV case. Secondary cases are individuals who have had direct or indirect exposure to a confirmed MERS-CoV case. All of the new cases occurred in KSA: Al Khurma (1), Hafar Al-Batin (1), Madinah (1), Najran (1), Taif (1), and Turabah (1). AFHSB's death count (Case Fatality Proportion (CFP) - 31%) includes only those deaths which have been publicly reported and verified. While CDC's death count (CFP - 37%) may present a more complete picture, it's unclear when and where those additional deaths occurred during the outbreak.

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 in a KSA citizen. This was the sixth strain of human coronavirus identified (including SARS). Limited camel-to-human transmission of MERS-CoV has been proven to occur. The most recent known date of symptom onset is 30 JAN 2017. The KSA MOH has previously admitted to inconsistent reporting of asymptomatic cases. Due to these inconsistencies, it is also difficult to determine a cumulative breakdown by gender; however, AFHSB is aware of at least 612 (+1) cases in females to date. In its most recent MERS-CoV risk assessment on 5 DEC, WHO reported 20% of total MERS-CoV cases have been HCWs. Limited human-to-human transmission has been identified in at least 58 (+1) spatial clusters as of 8 FEB, predominately involving close contacts. The index case of the new confirmed cluster was a 48-year-old male with symptom onset on 18 JAN; he was hospitalized in Jeddah and died on 29 JAN. The secondary case was a HCW who treated the index case, developed symptoms on 24 JAN, and was hospitalized on 25 JAN.

DIAGNOSTICS/MEDICAL COUNTERMEASURES: On 19 JAN, the Coalition for Epidemic Preparedness (CEPI) was launched at the World Economic Forum in Switzerland, with an initial \$460 million in funding from Germany, Japan, Norway, the Bill & Melinda Gates Foundation, and the Wellcome Trust. CEPI's initial targets are the development of two vaccine candidates each against MERS-CoV, Nipah virus, and Lassa fever, all of which were included on WHO's list of top emerging pathogens likely to cause severe outbreaks in its MAY 2016 [R&D Blueprint for Action to Prevent Epidemics](#).

RELEVANT STUDIES: A [study](#) published in CDC Emerging Infectious Diseases provided the first serologic evidence that MERS-CoV has circulated in dromedary camels in South Asia; MERS-CoV antibodies were found in 39.5% of 565 dromedary camels from nine districts in Punjab, Pakistan, sampled between 2012 and 2015. On 4 MAR 2016, CDC published a [study](#) that tested archived serum (from 2013-2014) from livestock handlers in Kenya for MERS-CoV antibodies to search for autochthonous MERS-CoV infections in humans outside of the Arabian Peninsula. The study found two out of 1,122 samples tested positive, providing evidence of previously unrecorded human MERS-CoV infections in Kenya.

INTERAGENCY/GLOBAL ACTIONS: WHO convened the Tenth International Health Regulations (IHR) Emergency Committee on 2 SEP 2015 and concluded the conditions for a Public Health Emergency of International Concern (PHEIC) had not yet been met. On 5 FEB, the KSA MOH launched the largest country-wide health assessment survey ever conducted; the survey is expected to include 250,000 people, with the participation of 571 health centers and 9,000 health practitioners and administrators. The study is scheduled to conclude in about six months (early AUG 2017).

(+xx) represents the change in number from the previous AFHSB Summary of 25 JAN 2017.

All information has been verified unless noted otherwise.

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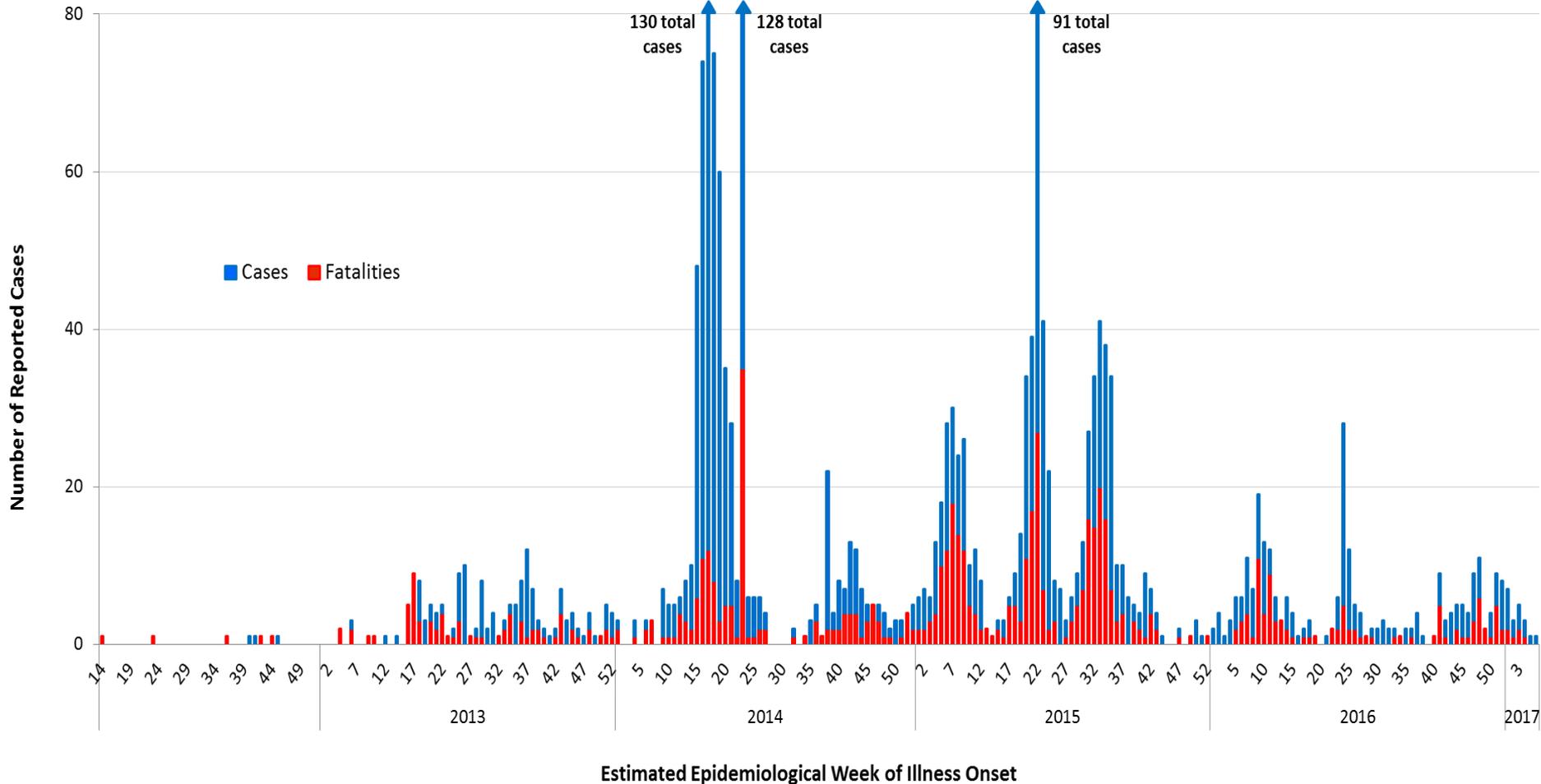
DEPARTMENT OF DEFENSE (AFHSB)

Global MERS-CoV Surveillance Summary #102

8 FEB 2017



Global MERS-CoV Epidemiological Curve as of 8 FEB 2017



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MERS-CoV Diagnostics and Medical Countermeasures at DoD Laboratories



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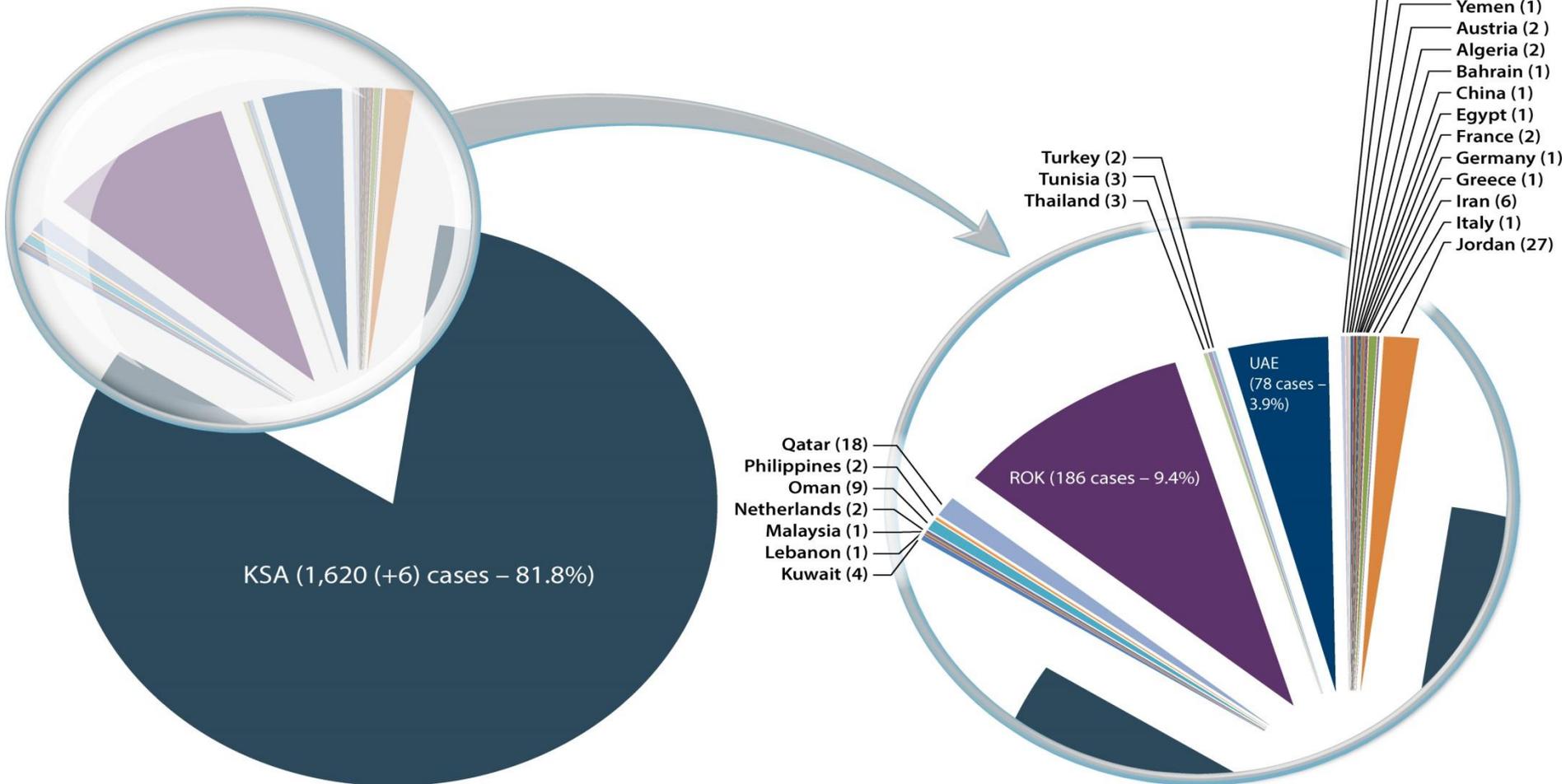
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Global Distribution of Reported MERS-CoV Cases* (SEP 2012–FEB 2017)



*Data includes confirmed, suspect and probable cases reported by WHO, CDC, and various country MOHs

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