Department of Defense
Armed Forces Health Surveillance Center
MERS-CoV Surveillance Summary
(15 APR 2015)

APPROVED FOR PUBLIC RELEASE

For questions or comments, please contact:

usarmy.ncr.medcom-afhsc.list.dib.alert-response@mail.mil

DEPARTMENT OF DEFENSE (AFHSC)

MERS-CoV Surveillance Summary #52

15 APR 2015

CASE REPORT: From SEP 2012 to 15 APR 2015, 1153 (+6) cases of Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported including 444 (+15) deaths in the Kingdom of Saudi Arabia (KSA), Jordan, Qatar, United Arab Emirates, United Kingdom, France, Germany, Tunisia, Italy, Oman, Kuwait, Yemen, Malaysia, Greece, Philippines, Egypt, Lebanon, Netherlands, Iran, Algeria, Austria, Turkey, and the U.S. 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.

The newly formed KSA MOH Command and Control Center (CCC) has established Rapid Response Teams to assist with the MERS-CoV outbreak. These teams are tasked with ensuring readiness of infection control departments in hospitals throughout KSA, providing training, prompting appropriate cleaning and disinfecting measures, and coordinating response efforts and outbreak investigations within hospitals. On 11 APR, the CCC also announced 55% of MERS-CoV cases in KSA have recovered since 2012.

A study, published in the Lancet on 8 APR, found that sero-prevalence of MERS-CoV antibodies was significantly higher in camel-exposed individuals than the general population in KSA. These individuals might be the source of infection for patients with confirmed MERS-CoV who had no previous exposure to camels. This study is the first population-based, sero-epidemiological investigation of MERS-CoV in an area where zoonotic transmission is sustained. The authors also found that men had a significantly higher proportion of infection than women and more infections were noted in central rural areas than in coastal provinces.

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. Recommendations include: further research on MERS-CoV epidemiology, improving disease prevention, and intensifying social mobilization, community engagement, 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.

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 28 MAR 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 280 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 201 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 201 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. 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 2015, CDC issued an MMWR with updated guidance for the public, clinicians, and public health authorities on when to consider MERS-CoV infection.

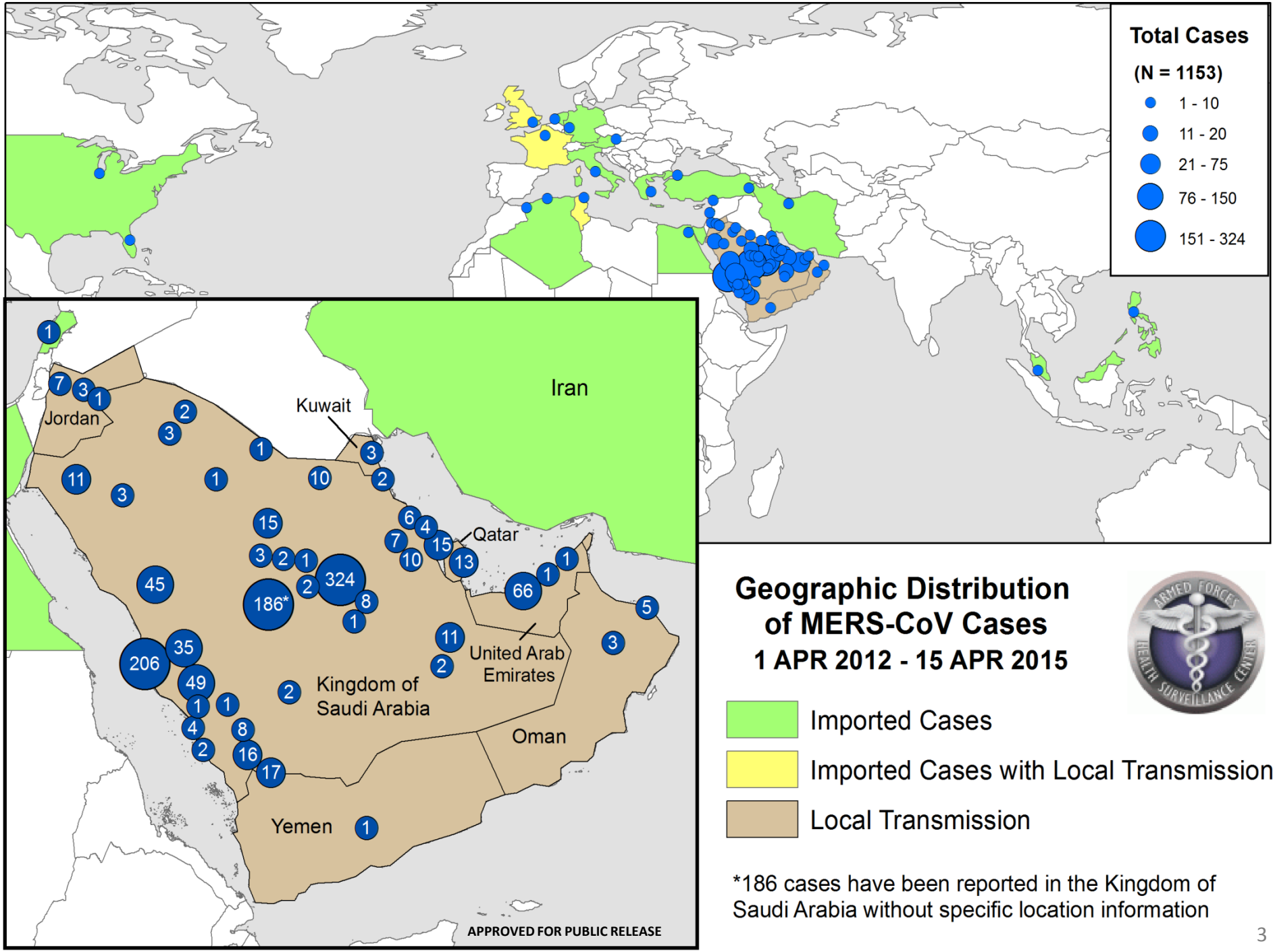
Former KSA Minister of Health Ahmed Khatib was replaced on 11 APR by newly appointed acting Minister of Health, Dr. Mohammed Ali al-Sheikh. According to a 26 MAR KSA media report the Saudi Minister of Health announced that health professionals in KSA that fail to report suspect cases of MERS-CoV face up to six months in jail, fines of up to SR 100,000 ($26,650), and the potential loss of their medical license.

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous Summary (1 APR 2014).

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

For questions or comments, please contact: usarmy.ncr.medcom-afhsc.list.dib.alert-response@mail.mil

APPROVED FOR PUBLIC RELEASE



Geographic Distribution of MERS-CoV Cases

1 APR 2012 - 15 APR 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

DEPARTMENT OF DEFENSE (AFHSC)

MERS-CoV Surveillance Summary #52

15 APR 2015

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	201 (+6)	1153 cases (+6)
Confirmed Deaths*	6 deaths	72 deaths	273 deaths	93 deaths (+15)	at least 444 deaths (+15)
Case-Fatality Proportion	66%	42%	35%	46%	39%
Mean Age	45 years	51 years	49 years	51 years	51 years
Gender Breakdown*	1 female	at least 58 females	at least 175 females	46 females (+1)	at least 280 females
# of Healthcare Workers (HCWs) reported*	at least 2 HCWs	at least 31 HCWs	at least 87 HCWs	22 HCWs (+1)	at least 201 HCWs

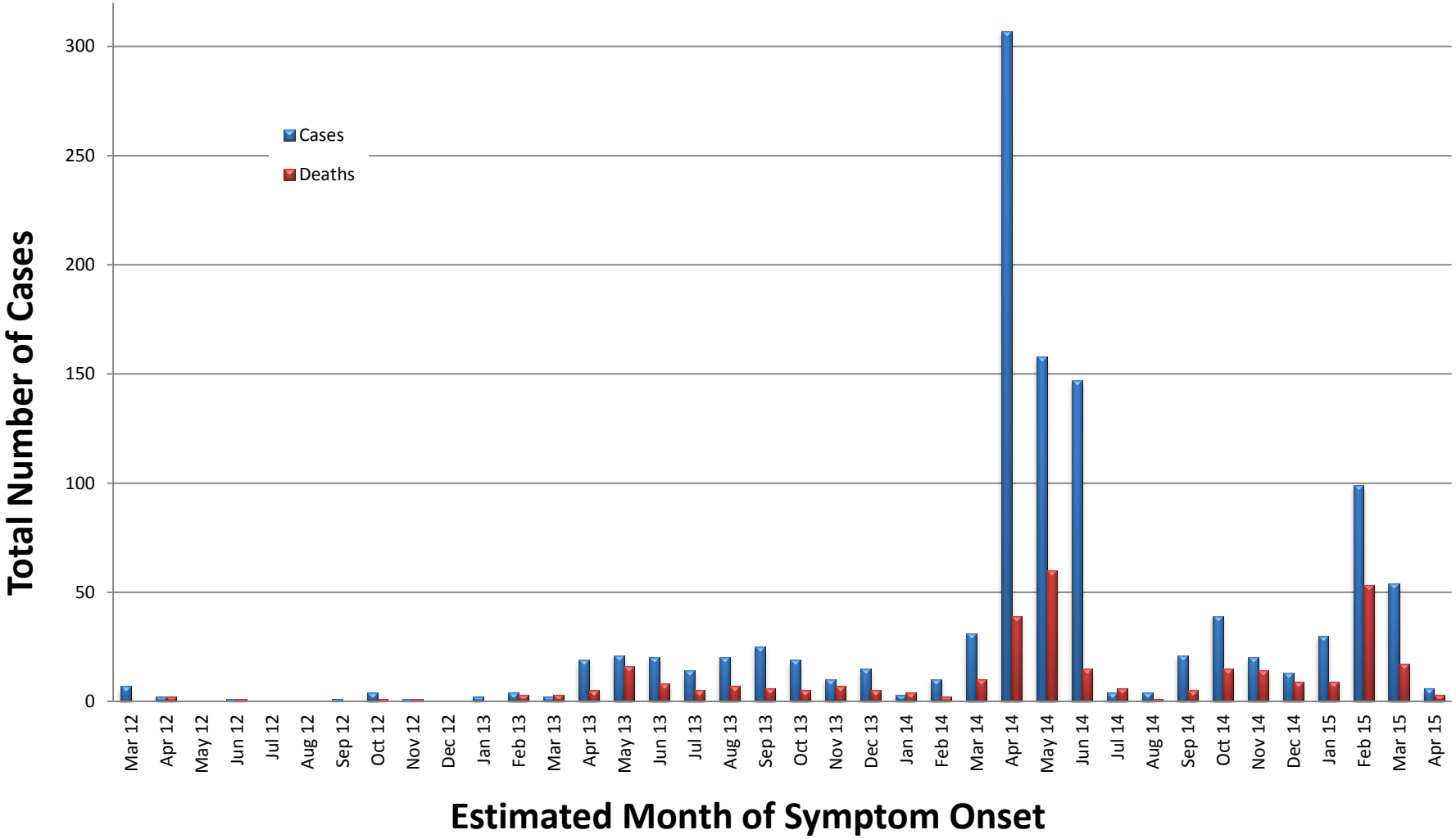
***Disclaimer: Data reported on MERS-CoV cases is limited and adapted from multiple sources including the KSA MOH, CDC, and WHO. Consequently, yearly information may not equate to the cumulative totals provided by WHO and CDC.**

Legend: Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous Summary (1 APR 2014).

For questions or comments, please contact: usarmy.ncr.medcom-afhsc.list.dib.alert-response@mail.mil

APPROVED FOR PUBLIC RELEASE

MERS-CoV Epidemiological Curve – 15 APR 2015



DEPARTMENT OF DEFENSE (AFHSC)

MERS-CoV Surveillance Summary #52

15 APR 2015

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
- KSA MOH Case Definition
- NCMI Risk Assessment (CAC Required)

Information and News

- Ministry of Health announces continuing decline in MERS cases (KSA MOH, 12 APR)
- Saudi health minister sacked after leaked video shows heated row (Al Arabiya News, 11 APR)
- Latest WHO DON on MERS-CoV (WHO, 9 APR)
- Presence of Middle East respiratory syndrome coronavirus antibodies in Saudi Arabia: a nationwide, cross-sectional, serological study (The Lancet, 8 APR)
- Lack of Middle East Respiratory Syndrome Coronavirus Transmission from Infected Camels (CDC Emerging Infectious Diseases Journal (EIDJ), APR 2015)
- 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)
- Absence of MERS-Coronavirus in Bactrian Camels, Southern Mongolia, November 2014 (CDC EIDJ, early release on 6 MAR 2015, anticipated publication date JUL 2015)
- MERS-CoV Situation Report (WHO, 31 MAR)
- Saudi doctors face jail, loss of license over MERS (Arabian Business, 26 MAR)
- Passive Immunotherapy With Dromedary Immune Serum In An Experimental Animal Model For MERS Coronavirus Infection (American Society for Microbiology (ASM), 18 MAR)
- 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)
- 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 EIDJ, 19 NOV 2014)
- 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)