

To:	BC MHOs, PHNLs, ICPs, ERDOCs, IDSPEC, MEDMICRO, AMBULANCE, BCCDC Internal Groups, National Surveillance Network Partners
Subject:	December 6, 2013 – Emerging Respiratory Viruses Update
Purpose:	To re-emphasize heightened clinician awareness of A(H7N9) and MERS-CoV through the fall/winter period given the recent announcement of new cases
Action required:	Yes
Recommendations:	Enhanced vigilance, notification and infection control by clinicians in response to cases of severe acute respiratory illness (SARI) with links to affected areas in the two weeks prior to symptom onset (i.e. residence, travel history or contact with someone with such history).

*** Please share with your workplace colleagues as appropriate. ***

Dear Colleagues –

This past week, Hong Kong has reported its first human cases of H7N9. Also this week, at least three new cases of MERS-CoV have been reported from the Middle East, including a pregnant woman who has since died of her infection. Here we provide an emerging respiratory virus update, summarizing developments since our last bulletin to you on November 8, 2013.

1. H7N9 UPDATE [Total: 144 cases; Deaths: 47], China

Since our last update, four new human cases of H7N9 have been reported, including two cases (a 57-year-old man and a 30-year-old man) in Zhejiang province and two cases (a 36-year-old woman and an 80-year-old man) announced this week from Hong Kong (see attached H7N9 Map).

The Hong Kong cases are the first to be reported from that Special Administrative Region, although two cases were previously reported from the adjacent province of Guangdong, China, earlier this year. Of note, the first reported Hong Kong case traveled to Shenzhen in Guangdong province (<40 km north of Hong Kong) where she was in close contact with live poultry. Seventeen of her close contacts have been quarantined, although none have so far tested positive for H7N9. Unconfirmed reports also suggest that the second Hong Kong case was exposed to poultry in mainland China.

To date, 144 human cases and 47 H7N9 deaths have been reported since first emergence in February 2013. The majority were reported during the epidemic peak in March/April, with sporadic case reports continuing thereafter (see attached H7N9 Epidemic Curve). Following a summer reprieve in activity, eight new cases have been reported this fall. Although 12 provinces/municipalities in eastern China have been affected, Zhejiang province has contributed more than one-third (50) of the cases reported to date. Only three imported cases have been identified outside mainland China, including one previously reported from Taiwan and the latest two cases from Hong Kong; all are thought to have acquired infection during travel to affected areas of mainland China.

In response to the latest cases, Hong Kong has suspended the importation of live poultry from registered farms in Shenzhen and escalated their pandemic preparedness response level from “alert” to “serious”. Meanwhile, Shanghai has announced that it will suspend live poultry trading from February-April 2014. Live poultry markets were previously shut down in April 2013, but were reopened in June 2013.

There remains no evidence of sustained human-to-human transmission of H7N9. Related risk assessment and recommendations are unchanged. However, the recent announcement of new cases, combined with the natural seasonality of influenza in temperate regions, reinforces concerns about fall/winter resurgence. Clinicians should remain alert for patients presenting with severe acute respiratory illness (SARI) with recent travel or epidemiological links to affected areas.

To stay current with ongoing H7N9 developments, consult the WHO avian influenza A(H7N9) page: http://www.who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html.

2. MERS-CoV UPDATE [Total: 165+ cases; Deaths: 71], Middle East

Since our last update, 12 new MERS-CoV cases have been reported, including a family cluster of three cases in the United Arab Emirates (UAE), two cases from Kuwait, and one additional Hajj-associated case in a woman belonging to the same travel group as the previously reported case in Spain. Additional

cases have also been reported in Saudi Arabia (5) and Qatar (1). [see attached MERS-CoV Map and Epidemic Curve]

The family cluster, originally from Jordan but hospitalized in Abu Dhabi, UAE, includes a 32-year-old pregnant woman who died of her illness, her 38-year-old husband, and their 8-year-old son. The woman gave birth while in hospital, and preliminary reports suggest that the newborn has tested MERS-CoV negative. Further investigation of close contacts is ongoing. The family reported no contact with confirmed cases or animals and had no travel history, according to the WHO.

Saudi Arabia remains the most-affected country (accounting for ~80% of MERS-CoV case reports), but six Middle Eastern countries are now affected, most recently and newly Kuwait, but including Jordan, UAE, Oman, and Qatar in addition to Saudi Arabia. Expanded geographic distribution of cases in the Middle East is concerning, but may also reflect enhanced awareness and surveillance. To date, however, only two cases have been reported in association with the Hajj pilgrimage in October; these cases are still classified as probable pending confirmatory testing.

Human-to-human transmission has been observed in households, health care settings, and other non-health care workplaces, with mild or asymptomatic infection more often observed among actively identified contacts comprising secondary cases. As passive surveillance activities are skewed toward the detection of severe disease, other primary cases with milder illness are likely going undetected. Continued report of sporadic (index) cases from affected regions of the Middle East suggests that undetected human-to-human transmission, and/or ongoing spill over from an unknown animal reservoir, is occurring. Sustained community transmission, however, has not been observed.

Last week, Qatar announced that three camels have tested positive for MERS-CoV, confirmed by sequencing of a viral fragment. These camels, belonging to a herd of 14, were tested as part of investigations around two human cases (a farm owner and one of his workers). All camels were asymptomatic or had mild symptoms. Previously, Saudi Arabia had announced detection of the virus in a symptomatic camel owned by a case from Jeddah. These findings are consistent with serological evidence of MERS-CoV-like antibodies in a large proportion of camels tested from the Canary Islands, Egypt and Oman. However, according to a recent WHO summary, few human cases (<15%) have reported contact with any animals, including camels. The role of camels and other non-human animals in the MERS-CoV transmission cycle, as well as the reservoir of infection, remain unknown.

For ongoing WHO MERS-CoV updates, see:
http://www.who.int/csr/disease/coronavirus_infections/en/index.html.

The WHO MERS-CoV Research Group published a comprehensive epidemiologic summary of the first 144 lab-confirmed and 17 probable MERS-CoV cases notified to the WHO. The article is available from *PLoS Current Outbreaks*: <http://currents.plos.org/outbreaks/article/state-of-knowledge-and-data-gaps-of-middle-east-respiratory-syndrome-coronavirus-mers-cov-in-humans-2/>.

3. ACTION AND ADVICE [abbreviated]

In the event of a suspected SARI case, clinicians should notify their local health authority/Medical Health Officer. Clinicians and health care workers should implement respiratory precautions immediately, and cases should be managed in respiratory isolation with contact and droplet precautions. Aerosol-generating procedures may facilitate spread warranting airborne precautions. Given a spectrum of illness inclusive of milder or atypical presentations, clinicians are encouraged to use their judgement and/or consult infection control for guidance around enhanced measures where the index of suspicion and exposure risk (e.g. based on contact, comorbidity or clustering history) may be higher.

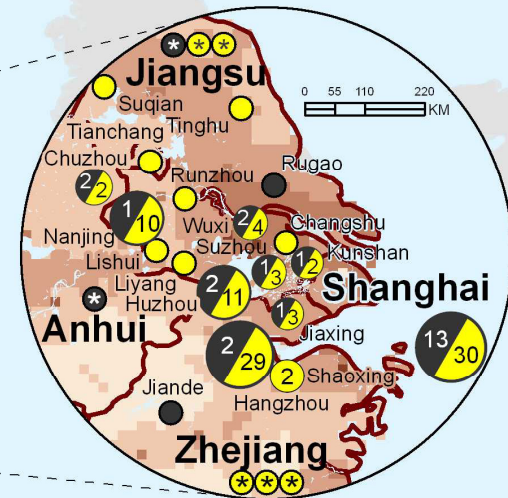
For diagnostic testing for suspected H7N9 or MERS-CoV, please discuss with your local health authority/Medical Health Officer and consult a virologist or microbiologist at the BC Public Health Microbiology & Reference Laboratory (PHMRL) to arrange advance notification and direct shipping. Lower respiratory specimens (e.g., sputum, endotracheal aspirate, or bronchoalveolar lavage) are recommended, where possible and clinically indicated. Follow strict infection prevention and control guidelines when collecting respiratory specimens.

H7N9 influenza activity

China/Taiwan by case residence as of December 6th, 2013



Province	Deaths / Cases
Anhui	4 / 5
Beijing	0 / 3
Fujian	0 / 5
Guangdong	0 / 2
Hebei	1 / 1
Henan	1 / 4
Hunan	1 / 2
Jiangsu	10 / 30
Jiangxi	1 / 7
Shandong	0 / 2
Shanghai	13 / 30
Zhejiang	7 / 50
Hong Kong	0 / 2
Taiwan	0 / 1
Total	47 ‡ / 144

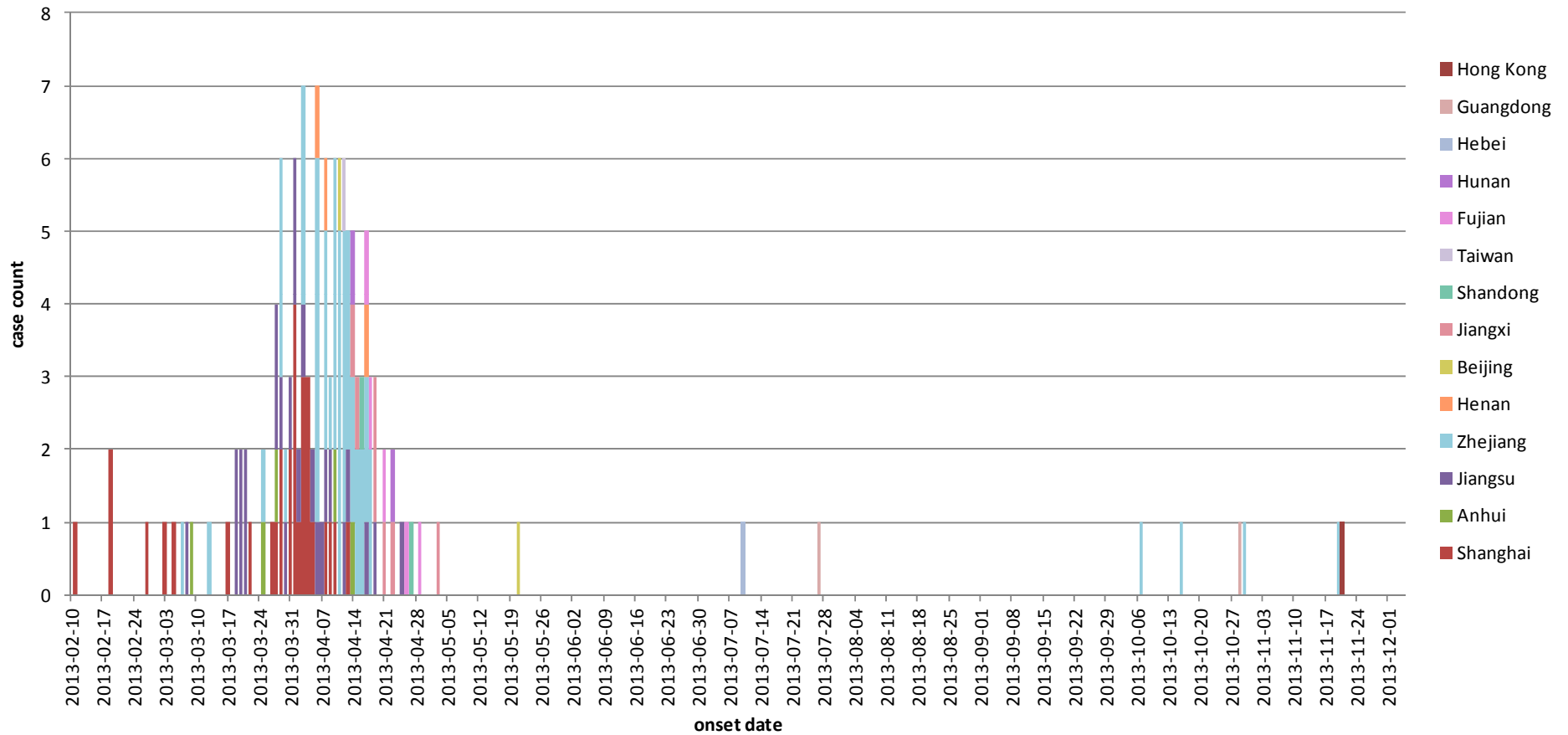


* Cases that could not be attributed to a city of residence due to insufficient data.

† Cases reported travel to mainland China during exposure period.

‡ Five deaths could be attributed to a province of residence but could not be matched to a case due to insufficient data; these deaths are included in the province-specific totals but are not depicted on the map. An additional nine deaths could not be attributed to a province of residence due to insufficient data but are included in the overall total. Data compiled from ProMed, GPHIN alerts and other public reports. Map created December 6th, 2013 by BCCDC.

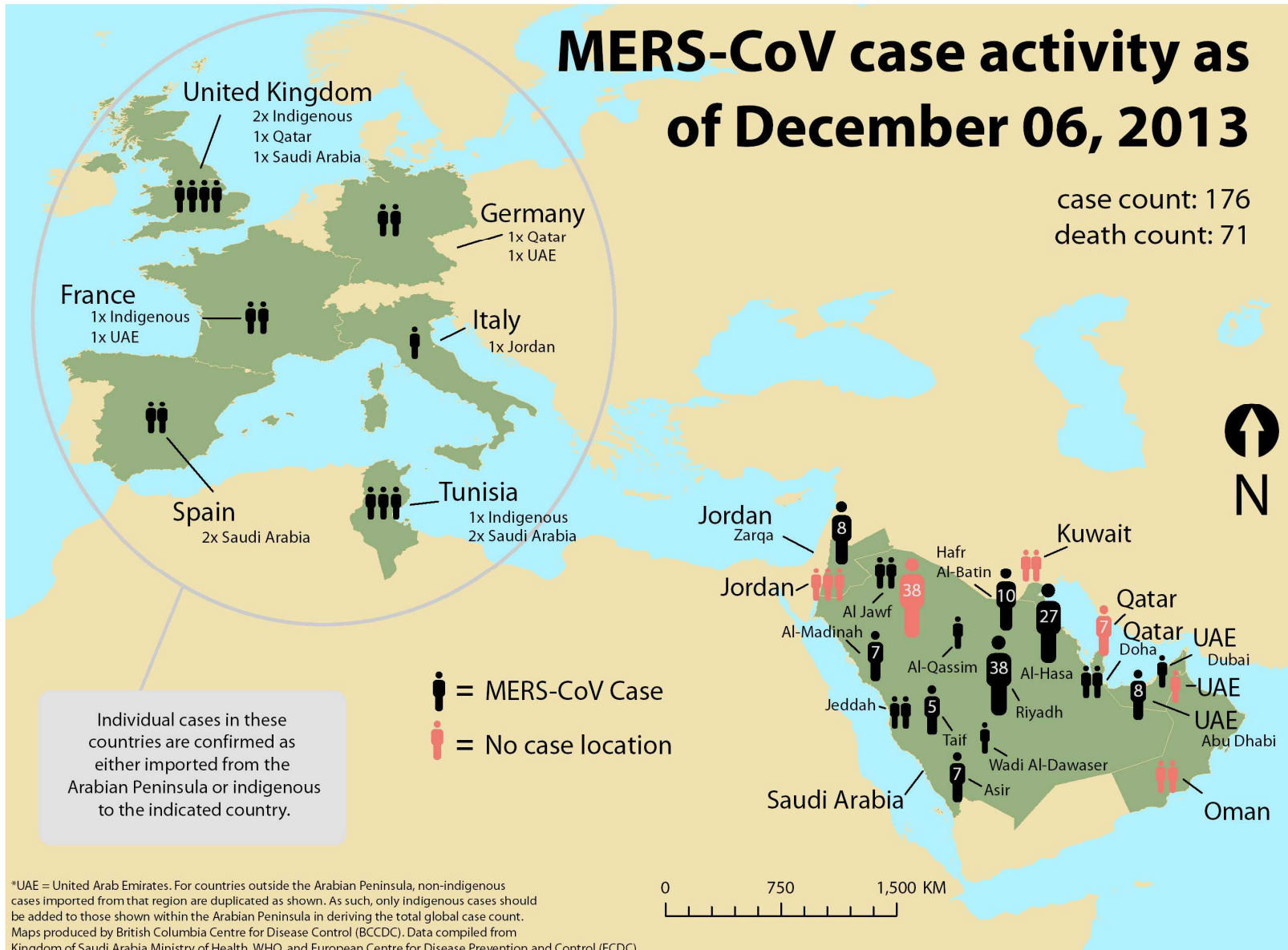
count of Avian influenza A/H7N9 cases, by place of residence and symptom onset date*



* Does not include 1 Henan case, 4 Jiangsu cases, 1 Zhejiang case, and 1 Hong Kong case with unknown onset dates and 1 asymptomatic case in Beijing.

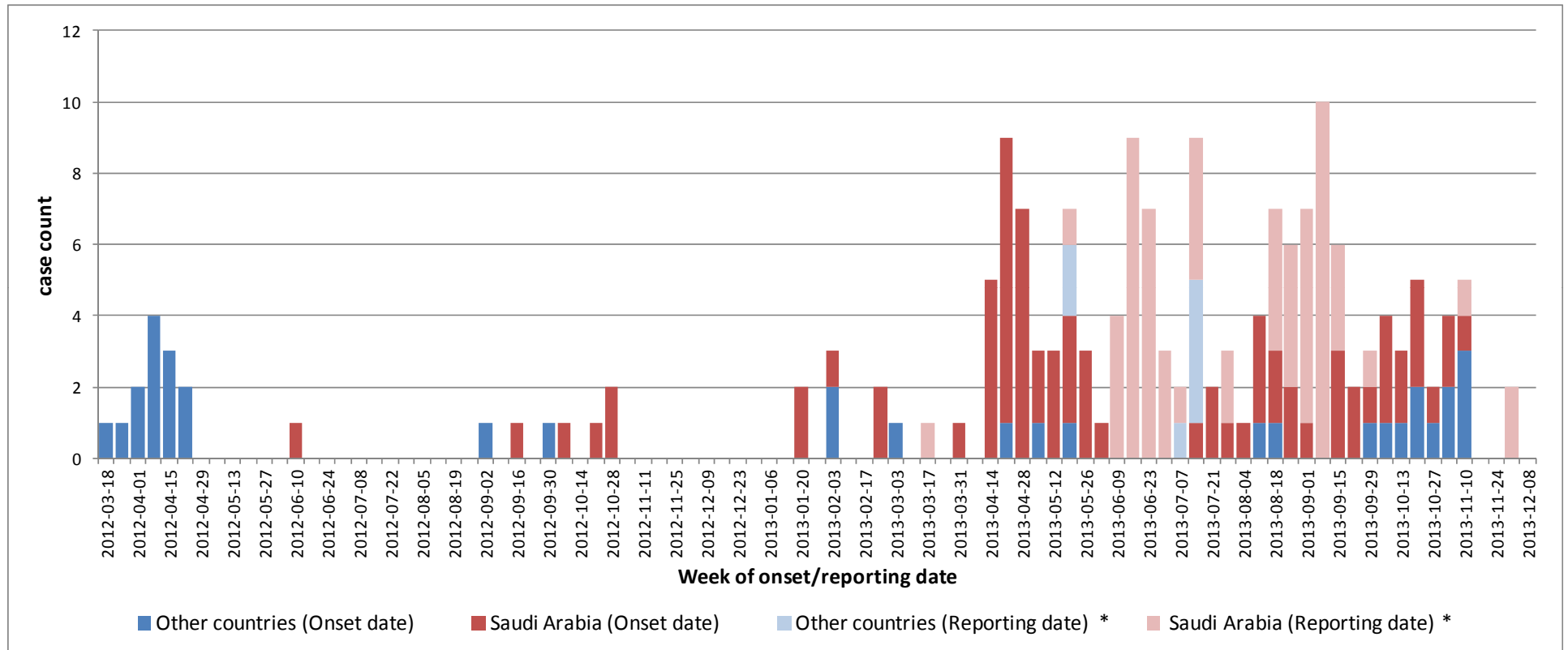
MERS-CoV case activity as of December 06, 2013

case count: 176
death count: 71



Note: Case tallies include 8 probable cases associated with a nosocomial cluster in Jordan, 2 probable Hajj-associated cases in Spain, and 1 probable case from Saudi Arabia, and may differ from official WHO counts.

count of MERS-CoV cases, by probable place of infection and symptom onset/reporting date



* Cases for whom date of onset is missing are shown by reporting date with light shading.