

Novel Coronavirus (NCoV), Worldwide Situation up to 1 March 2013

Worldwide epidemiological situation

- In September 2012, a new coronavirus (NCoV) was identified in 2 persons living in Saudi Arabia and in Qatar. Both patients presented an acute respiratory syndrome with renal failure. Following the identification of this new coronavirus, awareness and surveillance has been strengthened worldwide.
- Coronaviruses are a large family of viruses which cause common cold but also the Sars. Bats are known reservoir of coronaviruses.
- As of 21 February 2013, 13 confirmed cases were reported in the world, including 7 deaths (CFR: 54%) 4 countries reported confirmed NCoV infections in humans: Jordan, Germany, Saudi Arabia, and United-Kingdom (cf. Table 1). No common source was found between all documented cases or small clusters. Most cases resulted from sporadic transmission.
- Recent cases diagnosed in the UK resulted from person to person transmission taking place in a context of close and unprotected family contacts.
- In regards to the non-specific clinical signs and the prevalence of other common respiratory infections, an under-detection of milder NCoV infection cannot be formally ruled out. Nevertheless, active case finding has been implemented around all documented cases. To date there is no direct or indirect evidence of sustained community transmission.

Cases reported by Jordan

- A total of **2 fatal cases** were reported in a 45 year-old woman and a 25 year-old man (Cf. [eWEB n°246](#)).
 - The 2 cases were confirmed for novel coronavirus in November 2012 but occurred in April 2012.
 - These cases were discovered through testing of samples from a cluster of pneumonia cases in [health care workers](#) that occurred in April 2012. At that time, all samples had tested negative for known coronaviruses and other respiratory viruses. In October 2012, after the discovery of the novel coronavirus, the Jordanian Ministry of Health sent samples to NAMRU-3. In November 2012, the NAMRU-3 laboratory results confirmed novel coronavirus in the two cases.

Cases reported by Germany (ex-Qatar)

- On [23 November 2012](#), the Robert Koch Institut (RKI) reported **a case** of NCoV infection in a patient from Qatar.
 - The patient was first treated in a hospital in Qatar but due to his severe condition, he was transferred to a specialist lung hospital in Germany (cf. [eWEB n°246](#)). After receiving intensive care, the patient was discharged from hospital.
 - Samples were sent to the UK and HPA confirmed the novel coronavirus.

According the RKI risk assessment, the risk of illness in Germany was very low.

Cases reported by Saudi Arabia

From 22 September 2012 to 21 February 2013, a total of **6 cases** including 4 deaths were reported ([WHO](#)).

- The **1st case** was reported by [Saudi Arabia Ministry of Health](#) to WHO on 22 September 2012 (Cf. [eWEB n°236](#)):
 - The case was a 60 year-old male, hospitalised in Jeddah in June 2012 for an acute respiratory syndrome with renal failure. The case died.

- Laboratory analyses performed in Saudi Arabia and then in the Erasmus University Medical Centre in Netherlands identified a novel coronavirus of the beta group.
- The **2nd case** reported to [WHO](#) on 4 November 2012 was (Cf. [eWEB n°236](#)):
 - A 45 year-old man, resident of Arabian Peninsula, with onset of symptoms on 10 October 2012. He presented with severe pneumonia and renal dysfunction requiring intensive care support. The case had underlying chronic disease. He was discharged home.
 - Prior to the illness onset, he visited a local farm in Riyadh where he had brief contact with farm animals. He had no travel history outside Riyadh but had been in contact with one of his child presenting a mild cold.

➔ These two first cases have no epidemiological link.
- The **3rd case** was reported on 19 November 2012 (cf. [eWEB n°242](#)):
 - The case is a 31 year-old man from Riyadh and had onset of symptoms on 3-5 November 2012. He was hospitalised and recovered from pneumonia.
 - No epidemiological links were found with the 2 previous reported cases. As for the 2 previous cases, this patient had visited a farm prior to onset of symptoms. However, no details are available regarding the type of farm, the species raised or the nature of contacts.
- The **4th case** was reported to [WHO](#) on 23 November 2012. He was a 39 year-old man with onset of symptoms on 28 October 2012. The case died.
- The **5th case** reported by Saudi Arabian health authorities on 28 November 2012 had onset of symptoms on October 2012. The case died.

➔ These three cases occurred in one family living with the same household.
- The **6th case** was reported on 21 February 2013 by the [Ministry of Health from Saudi Arabia](#).
 - She was a woman hospitalized on 29 January 2013 in Riyadh with respiratory infection symptoms. The case died on 10 February 2013.
 - Laboratory tests confirmed the novel coronavirus on 18 February 2013. Further investigation is ongoing.

Cases reported by United Kingdom

A total of **4 cases** including 1 death were reported by the Health Protection Agency (HPA) in UK.

- The **1st case** reported on 23 September 2012 was (Cf. [eWEB n°236](#)):
 - a 49 year-old male, Qatari national, with onset of symptoms on 3 September 2012 and with travel history to Saudi Arabia prior to onset of illness.
 - On 7 September 2012, he was hospitalised in Doha, Qatar, and on 11 September he was transferred to the UK. The HPA conducted laboratory testing and confirmed the presence of the novel coronavirus. The case recovered.
- The **2nd case** reported by [HPA](#) on 11 February 2013 was (cf. [eWEB n°256](#)):
 - A 60 year-old man with onset of symptoms on 24 January 2013 while he was in Saudi Arabia. He was hospitalized on 31 January 2013 and received intensive care treatment in a Manchester hospital. The case recovered.
 - Laboratory tests were positive for coronavirus and A(H1N1) influenza.
 - He had recent travel history to the Middle East and Pakistan. All close contacts (family and healthcare) have been identified and are being followed up.
- The **3rd case** was reported by [HPA](#) on 13 February 2013 (cf. [eWEB n°256](#)).
 - He had onset of symptoms dated 06 February 2013. The case died.
 - The case was a family member of the 2nd UK case and had close personal contact with him. The patient is a UK resident and did not have any recent travel history.
 - He received intensive care treatment at the Queen Elizabeth Hospital, Birmingham.
 - He may have been at greater risk of acquiring an infection because of his underlying health condition that may make him more susceptible to respiratory infections.
- The **4th case** was reported by [HPA](#) on 15 February 2013 (cf. [eWEB n°257](#)):
 - She is a woman, and had onset of symptoms on 5 February 2013. The patient had a mild illness (flu-like symptoms) and did not require hospitalisation. Laboratory tests were positive for coronavirus. The case recovered.
 - The case was a family member of the case n°10 (cf. [eWEB n°256](#)) and had several contacts with him when he was symptomatic. The case had no travel history to Middle-East or to any area at risk and had no contact with the UK case n°3.

More information is available on the HPA website: <http://www.hpa.org.uk/NewsCentre>

Comments

- Knowledge on the novel coronavirus (potential reservoir, factors of exposure, routes of transmission, geographical distribution, incubation period...) is very limited.
- Clinical presentation of cases included severe acute respiratory infection as pneumonia and also acute renal failure for some of them.
- For some cases, little information is available regarding differential diagnostic tests performed to exclude other potential respiratory pathogens.
- The 3 clusters (Saudi Arabia, Jordan and UK) strengthen evidence of limited human-to-human transmission or, alternatively, exposure to a common source. Evidence of limited human-to-human transmission has only been documented in the UK. For the 2 other clusters (Saudi Arabia and Jordan) available information is too scarce or inconclusive.
- The occurrence of cases could also be explained by exposure to a common (undetermined) source.

More information on: [link to ECDC](#) and [ECDC Rapid Risk Assessment](#)

More information on case definition: [WHO](#)

Table 1: Number of confirmed novel coronavirus cases in the world, up to 01/03/2013

case No.	Reporting Country	Probable place of infection	Status		Comments
			Alive	Dead	
1	Jordan	Jordan		1	Cluster Hospital A
2	Jordan	Jordan		1	Cluster Hospital A
3	Saudi Arabia	Saudi Arabia		1	
4	United Kingdom	Saudi Arabia / Qatar	1		Patient transferred to the UK
5	Saudi Arabia	Saudi Arabia	1		
6	Germany	Qatar	1		Patient transferred to Germany
7	Saudi Arabia	Saudi Arabia	1		Cluster Family A
8	Saudi Arabia	Saudi Arabia		1	Cluster Family A
9	Saudi Arabia	Saudi Arabia		1	Cluster Family A
10	United Kingdom	Saudi Arabia / Pakistan	1		Cluster Family B
11	United Kingdom	United Kingdom		1	Cluster Family B
12	United Kingdom	United Kingdom	1		Cluster Family B
13	Saudi Arabia	NA		1	no information on place of infection
Total World			6	7	
			13		