

Mini Review

Middle East Respiratory Syndrome Corona Virus (MERS CoV) Infection

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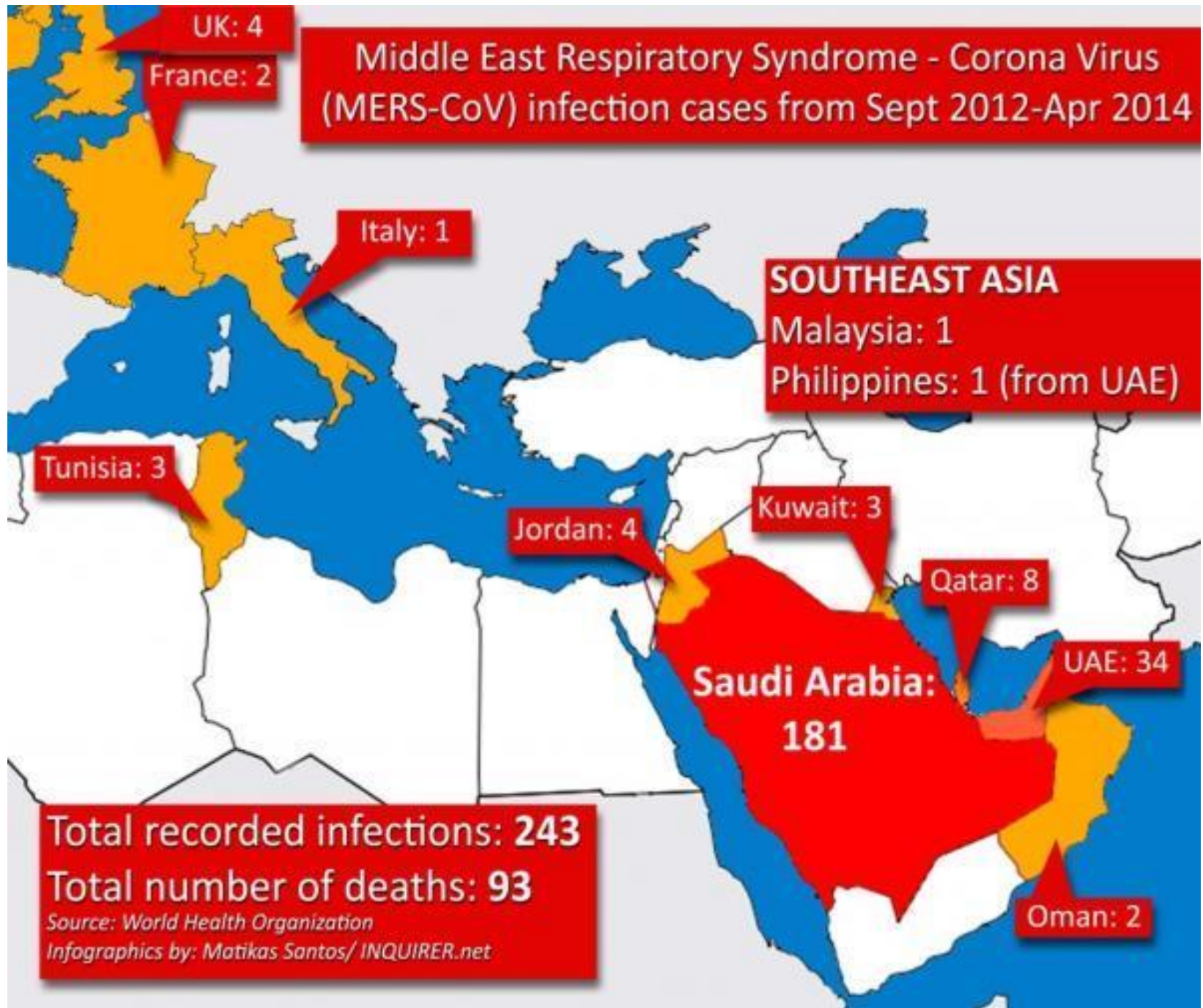
Definisi

- MERS CoV adalah suatu sindroma respiratori akut berat yang disebabkan oleh suatu virus respirasi MERS CoV.(1)
- Angka kematian tinggi diantara pasien yang telah terkonfirmasi.
- Virus ini menyebabkan gejala penyakit yang berat pada pasien-pasien bila disertai dengan faktor-faktor komorbid yang mendasari.

Epidemiologi update.

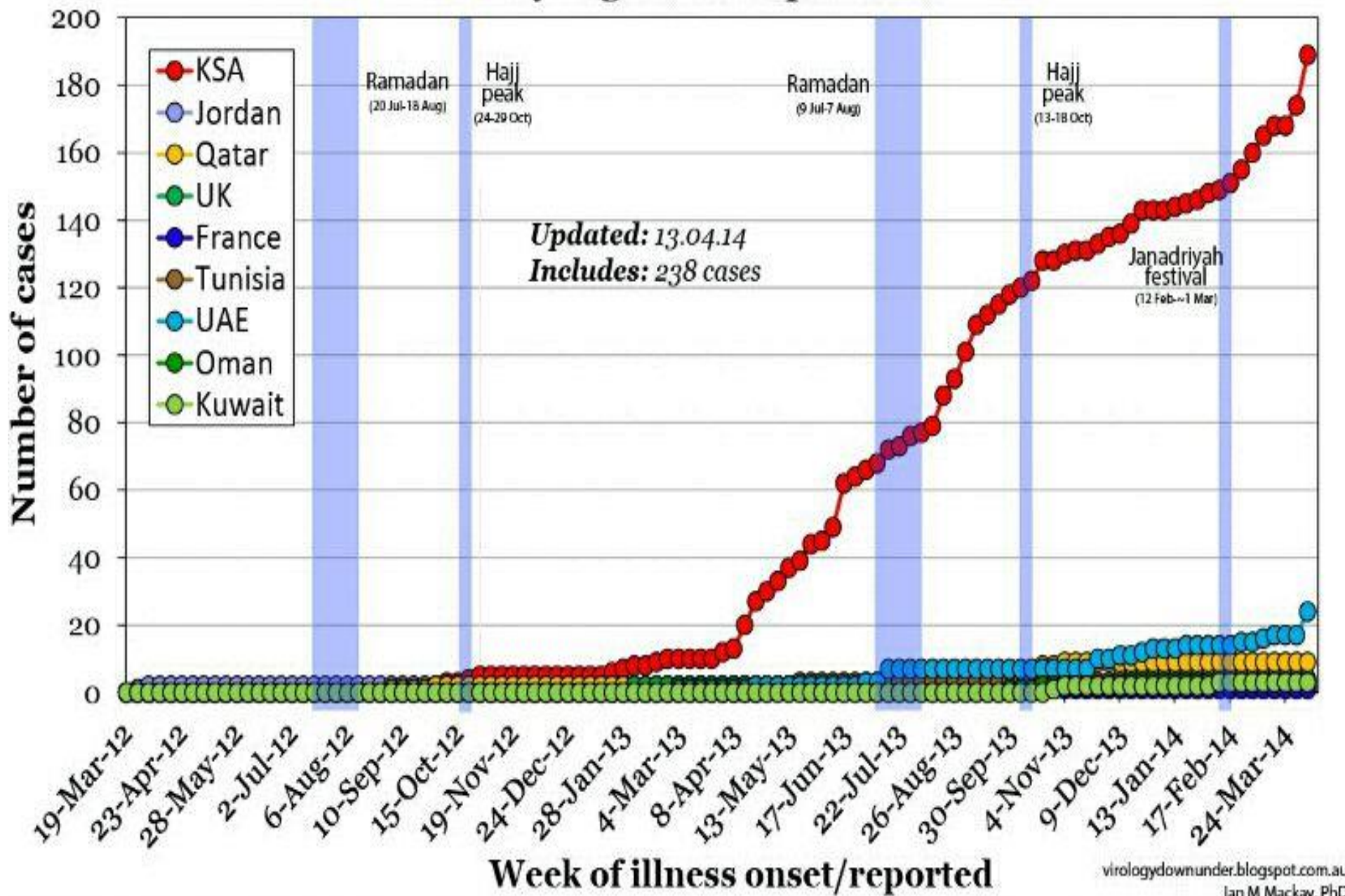
- Sept 2012: kasus pertama MERS CoV menginfeksi manusia ² dan menyebar di sekitar teluk arab. (Arab Saudi, Qatar, UEA, Jordania)
- Ledakan kasus pertama ditemukan di Al-Hasa, Saudi Arabia (April-Mei 2013) : 27 kasus.¹
- 19 Sept 2013: WHO secara global mencatat 132 kasus yang terkonfirmasi secara laboratoris terinfeksi MERS CoV, termasuk 58 kematian.¹

Middle East Respiratory Syndrome - Corona Virus (MERS-CoV) infection cases from Sept 2012-Apr 2014



Total recorded infections: 243
Total number of deaths: 93
Source: World Health Organization
Infographics by: Matikas Santos/ INQUIRER.net

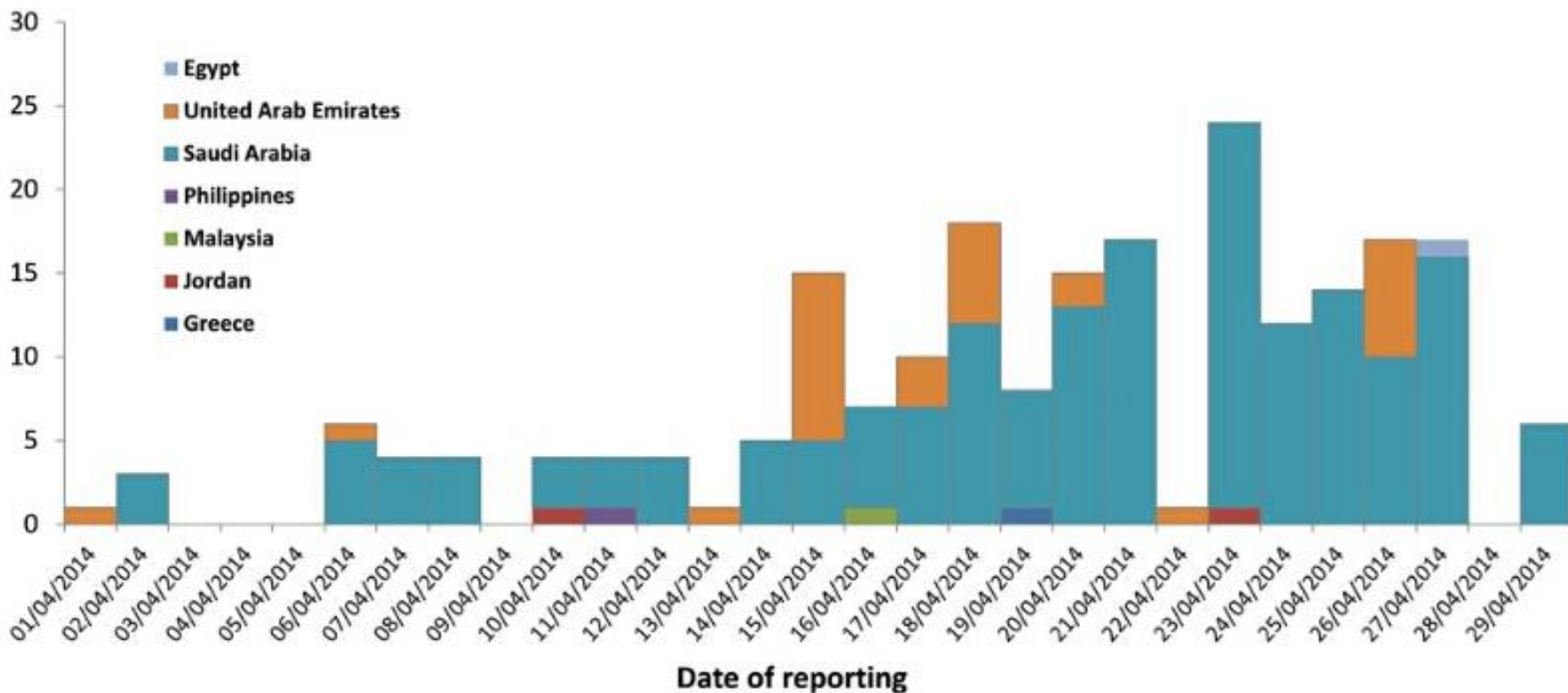
Middle East respiratory syndrome coronavirus: human cases by region of acquisition



Distribution of confirmed cases of MERS-CoV by reporting country, 1 – 30 April 2014 (n=217)



Number of cases



Countries With Lab-Confirmed MERS Cases

Countries in the Arabian Peninsula with Cases

- Saudi Arabia
- United Arab Emirates (UAE)
- Qatar
- Oman
- Jordan
- Kuwait

Countries with Travel-associated Cases

- United Kingdom (UK)
- France
- Tunisia
- Italy
- Malaysia
- United States of America (USA)

Epidemiological pattern

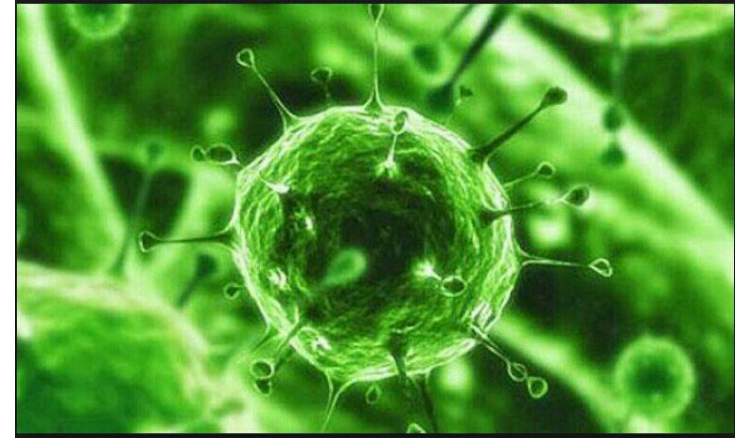
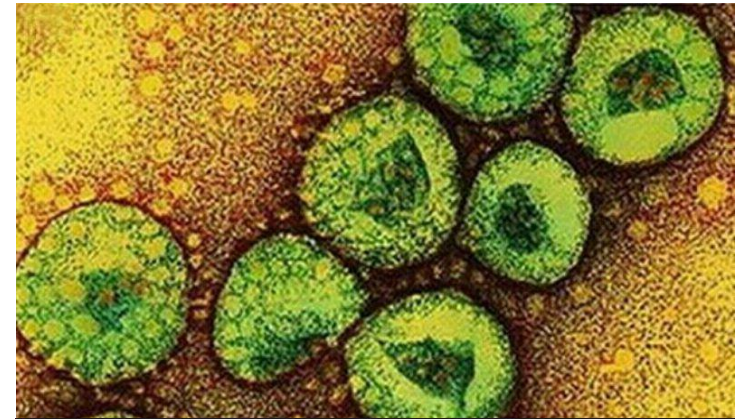
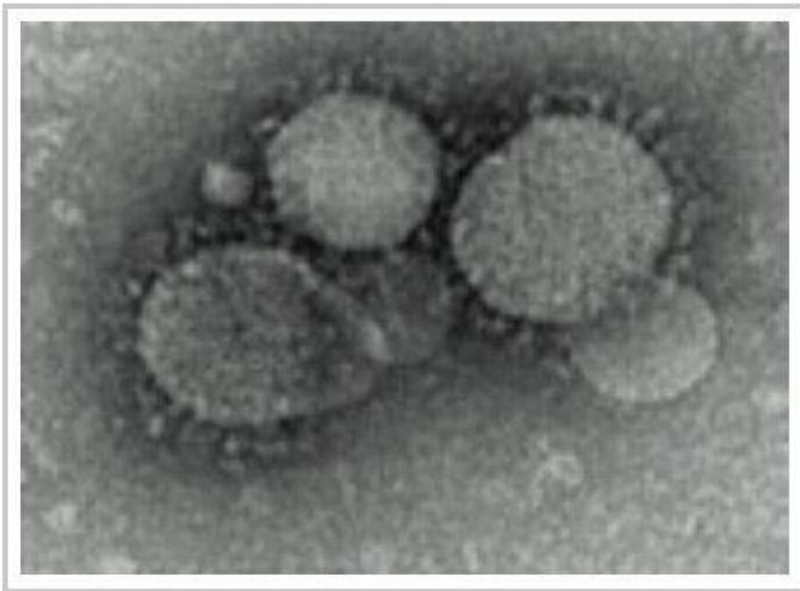
1. Sporadic cases in communities
2. Intra familial infection
3. Healthcare transmission.

Human-to-human transmission could be through droplets, direct or indirect contact.

Etiologi

Virus MERS CoV

Suatu virus yang baru diidentifikasi

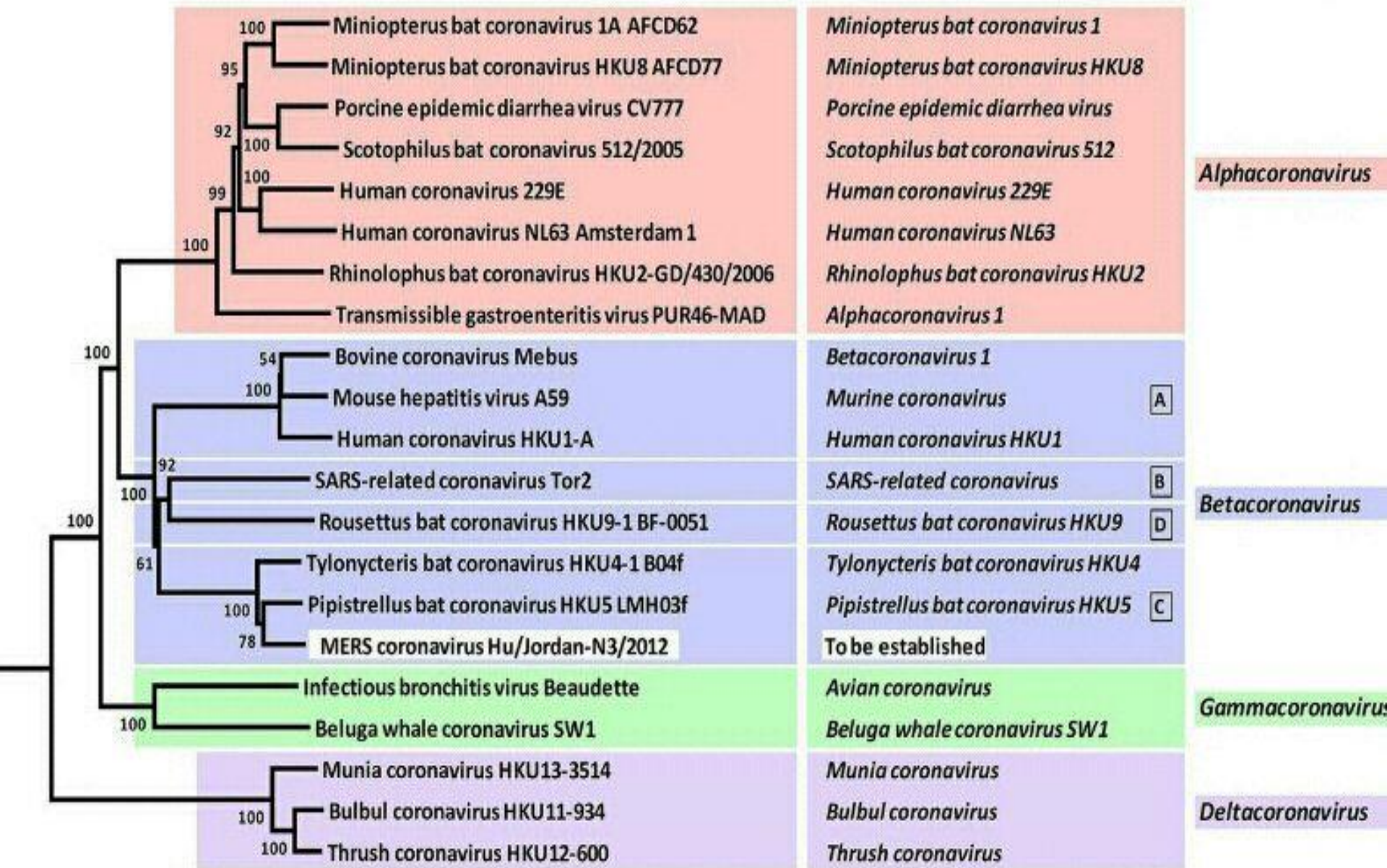


- Subfamily: coronavirinae
- Genus: betacoronavirus
- Primarily zoonotic, with limited human to human transmission.
- Egypt: MERS CoV reactive antibodies were detected in 92% of camels → camels as primary source of MERS CoV

Virus

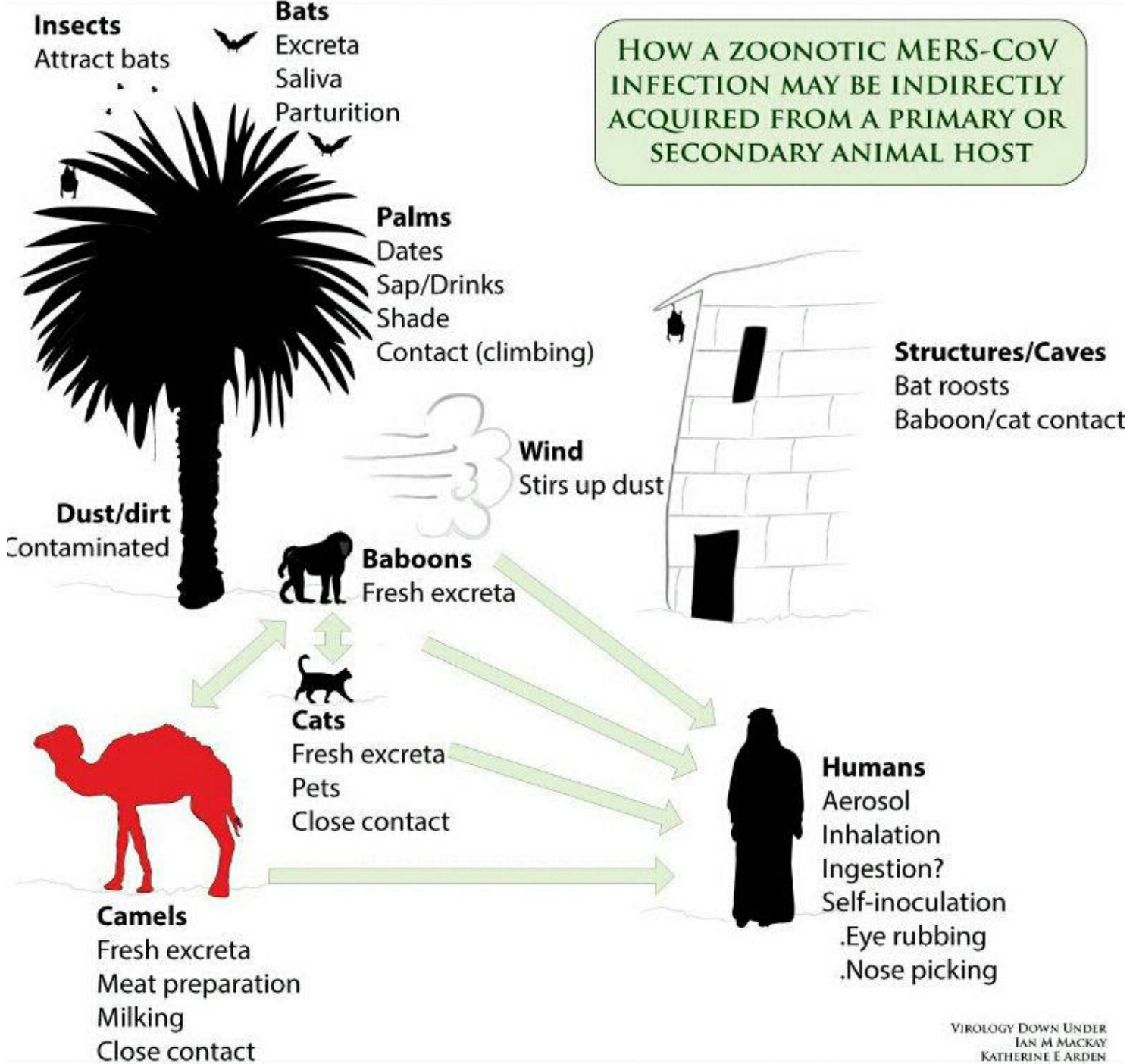
Species

Genus



0.2

HOW A ZONOTIC MERS-COV INFECTION MAY BE INDIRECTLY ACQUIRED FROM A PRIMARY OR SECONDARY ANIMAL HOST



Sifat Virus

- Strong tropism for nonciliated bronchial epithelial cell.
- Dipeptyl peptidase 4 (DPP4; also known as CD 26) as a cellular receptor for MERS CoV.

Karakteristik Klinis MERS CoV Infection

- Male (74%)
- Age: median 56 y.o
- Usia >50 th
- Underlying illness:
 - DM
 - End stage renal disease
 - Lung disease (asthma)
 - Cardiac disease.
- Fever
- Cough
- Shortness of breath
- GI symptoms:
 - Diarrhea
 - Vomiting
 - Any

Pemeriksaan penunjang

Laboratory findings

- Oxygen saturation <95 %
- Elevated aspartate aminotransferase
- Abnormal WBC
- Abnormal platelet count.

Chest radiographic

- Unilateral infiltrates
- Bilateral infiltrates
- Increased bronchovascular markings
- Normal
- Diffuse reticulonodular pattern.



Diagnosis

- Real time reverse-transcriptase PCR
- Bahan: sputum, endotracheal aspirat, BAL.
- Konsentrasi virus rendah pada: darah, stool

Klasifikasi Pasien

1. Patient under investigation (PUI)
2. Confirmed case
3. Probable case

Tatalaksana Pasien

- Saat ini belum tersedia terapi spesifik untuk infeksi MERS CoV
- Dilakukan pengobatan secara simptomatik.

Sebelum ke Timur Tengah

Bagi jemaah haji/traveller:

- Penggunaan alat perlindungan diri saat mengunjungi peternakan, pasar atau tempat-tempat yang terdapat unta.
- Hindari kontak dengan unta; hygiene tangan yang baik, hindari minum susu mentah atau makan makanan yang mungkin terkontaminasi sekret unta.

Preventif: sampai saat ini belum tersedia vaksinasi untuk MERS CoV

Tenaga kesehatan

- Transmisi dari pasien ke tenaga kesehatan (+)
- APD dan good hand hygiene

Kesimpulan

- MERS CoV is a newly emerging virus with international interest

Terima Kasih