

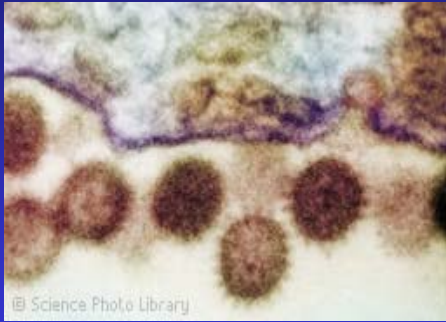
Traveling viruses...

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CHU St Pierre-Brussels



Crimean-Congo hemorrhagic fever

Something new at the East...?



Crimean-Congo hemorrhagic fever

- Acute, highly contagious viral zoonosis
Transmitted by ticks of the genus *Hyalomma*
but also through direct contact with infected blood/tissues
- Discovered in Crimea in '44 and isolated in Congo in '56
- Ticks found in relatively dry zones of Southern Europe, Africa and South Asia
- Migratory birds play an important role

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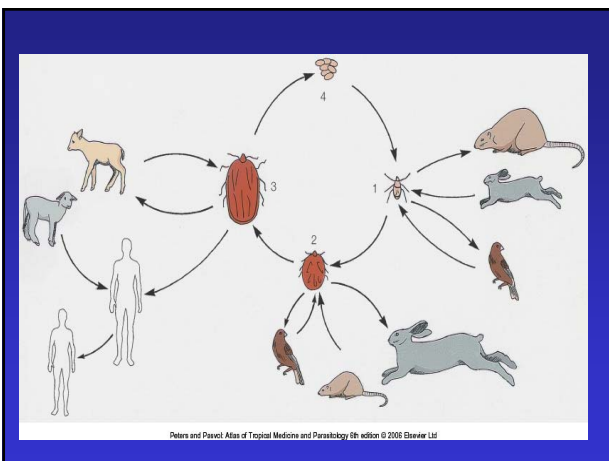


Crimean-Congo hemorrhagic fever

- Acute, highly contagious viral zoonosis
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Crimean-Congo hemorrhagic fever

- High fever of sudden onset
 - Diffuse pain
 - Gastrointestinal symptoms
 - Severe headache/ »meningism «
 - Encephalitic symptoms may occur
 - Death due to prominent hemorrhages
in 10-50 % of the cases
- NB: nosocomial transmission well documented
- Treatment: ribavirin IV (based on in vitro and limited human observations) ASAP

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A Balkan story...

- Endemic in **Bulgaria** since a large outbreak in the '50s, with a 17% fat. rate on ≥ 1.500 cases
- Cases in **Kosovo, Albania,** and **Greece** since 2008
- In 2009, 1300 cases in **Turkey** (62 death) after first symptomatic human CCHF in 2002 mostly in rural area of Anatolia
- Similar picture since 1999 in the south-western part of the **Russian Federation**

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Why...?

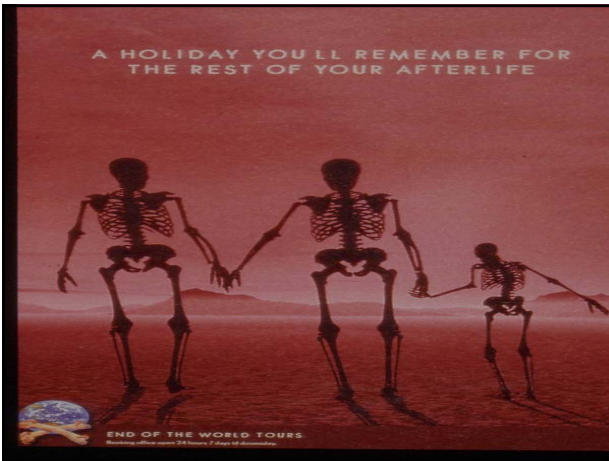
- Climate and ecologic changes
- Anthropogenic factors as changes in land use, hunting, movement of livestock,....

with an impact on ticks and hosts

- *H. marginatum* detected in the Netherlands and Germany since 2006...

and now....??

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Poliomyelitis

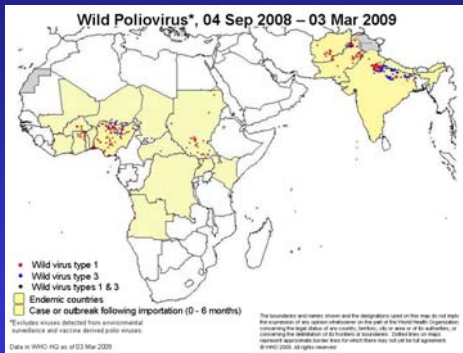
Again and again...
Serious challenges to the eradication...

The disease....

- **2009:** -cases in several countries of Africa with viruses from Nigeria
India
- cases in 3 countries of Asia, including India

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Wild Poliovirus Weekly Update



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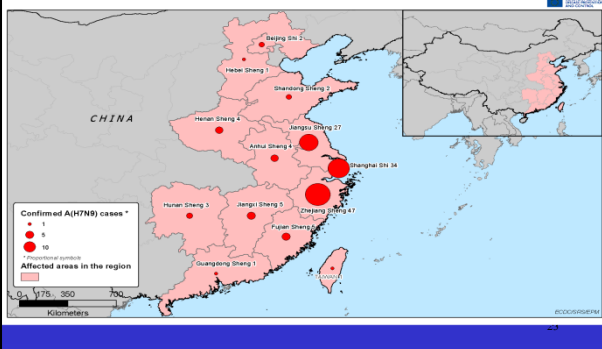
The disease....

- **2013:** - NO cases anymore in India since 1/2011
- 197 cases in the Horn of Africa with viruses from Nigeria
- ≤ cases in **NON endemic** countries than all de cases in **endemic** countries in 2012...
- On 18 october: 174 Somalia
14 Kenya
6 Ethiopia
3 South Sudan
- ...and several (probable) cases in Syria....¹⁸

H7N9

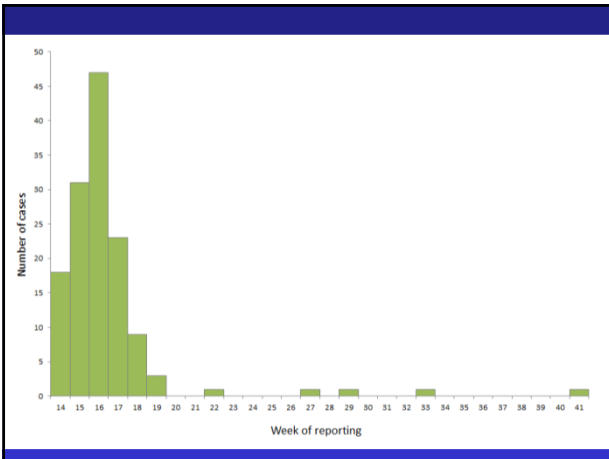
- First detected in march 2013 in Eastern China , mostly around Shanghai
≡ H7 viruses reassorted with enzootic H9N2 with transmission from domestic duck to chicken
→ **Affected 12 Chinese provinces (and Taiwan)**
- 136 cases (33% CFR) mostly at the beginning, with only sporadic cases since the end of May 2013
- **Last case 11/8...until one new case 15/10 !**

Reported cumulative number of confirmed cases of novel influenza A(H7N9) by province in China, as of 17 October 2013, 15.00 CEST



H7N9

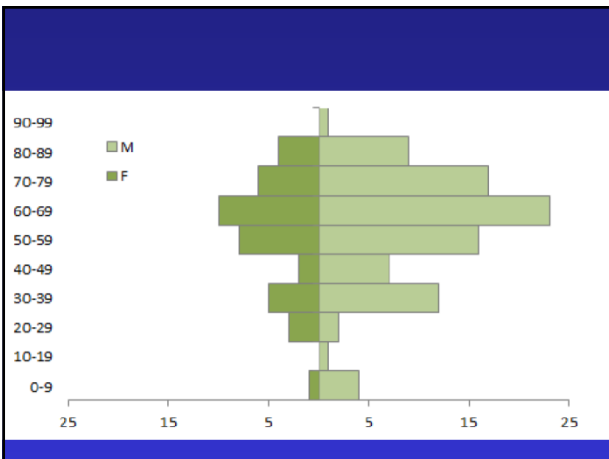
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H7N9

- **Drop in the number of cases** after closing live poultry markets /culling poultry in affected areas
- Epidemiological link in very few cases:
only 3 small family clusters
on 3000 contacts
- **No sustained** person-to-person transmission
- **Unusual age-gender imbalance**

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H7N9

- Virus well adapted to human lung tissue (as well as seasonal viruses)
- Induces low Interferon β levels, due to inhibition by viral NS1 protein

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MERS-CoV

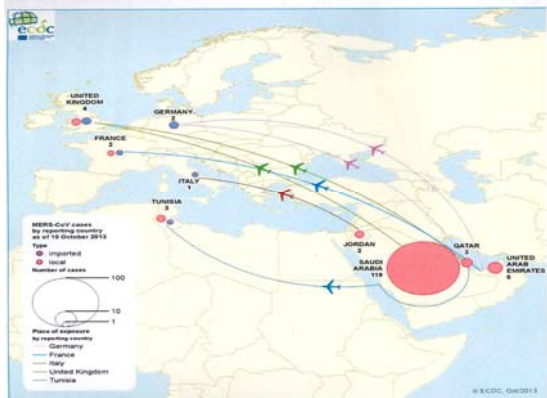


MERS-CoV

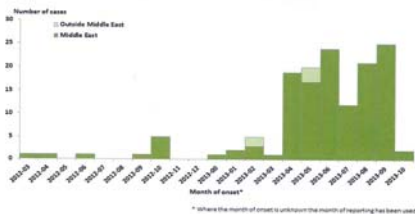
- Described since 9/2012 in Saudi Arabia
- First cases (retrospectively) in Jordan in 4/2012
- **Mostly in general population in Saudi Arabia**, with some family clusters
BUT ALSO
several nosocomial outbreaks (+/- 25% cases)
(Al-Hasa and ≥4 others...)
- High fatality rate : +/- 42 % (decreasing)
- 75% have underlying disease(s)
- Male over-represented in cases /fatal cases

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Distribution of MERS-CoV cases by place of reporting as of 10 October 2013



Distribution of confirmed cases of MERS-CoV month* and place of probable infection, March 2012 – 10 October 2013 (N=141)



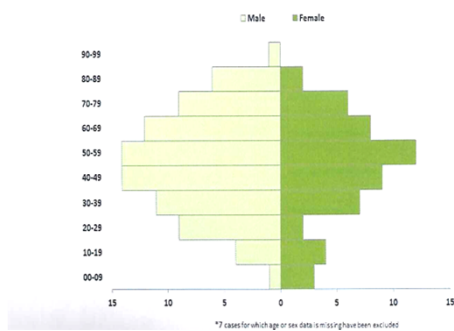
European Centre for Disease Prevention and Control (ECDC)
Postal address: ECDC, 173 83 Stockholm, Sweden
Visiting address: Tomtebodavägen 11A, Solna, Sweden
www.ecdc.europa.eu

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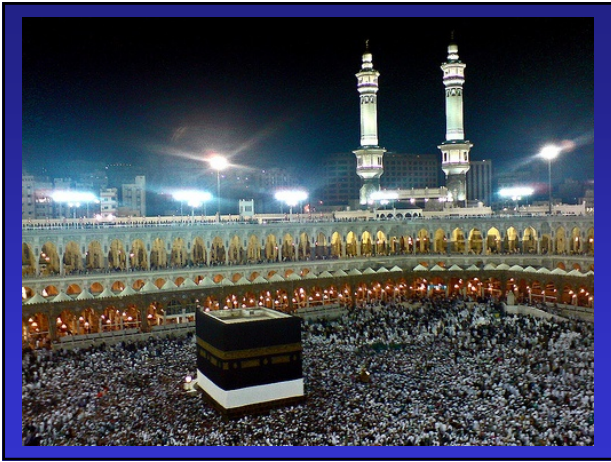
Distribution of confirmed cases of MERS-CoV by age and gender, March 2012 – 10 October 2013 (n=134*)

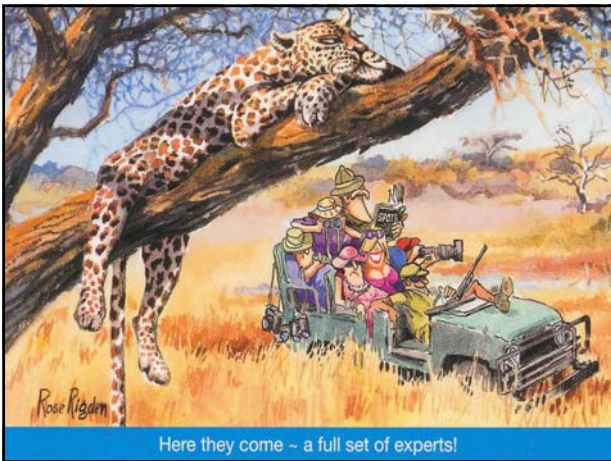


MERS-CoV

- Genetically distinct from the SARS coronavirus
- Source of infection and mode of transmission not clearly identified...BUT
Several investigations show:
 - bats might play a role
 - dromedary camels frequently have (+) serology
- **THE FEAR:**
what shall happen with the Hadj....??
(knowing that during Omrha, nothing happened with
≥ 5 million pelgrims in 6 months...)

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Here they come ~ a full set of experts!
