Epidemiologic flashes & edge cutting news / new vaccines

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Global Surveillance

- GeoSentinel
  - Clinic-based global surveillance system that tracks infectious diseases and other adverse health outcomes in:
    - returned travelers,
    - foreign visitors, and
    - immigrants
  - 54 travel/tropical medicine clinics worldwide
- GeoSentinel network membership program
  - 235 additional clinics in 40 countries on six continents (including Antwerp, Brussels and Ghent)
  - Report unusual or concerning diagnoses in travelers
  - Might be asked to perform enhanced surveillance in response to specific health events or concerns

MMWR: July 19, 2013 / 62(SS03);1-15

Global Surveillance

- September 1997–December 2011
  - Data were collected on 141,788 patients with confirmed or probable travel-related diagnoses
- 23,006 (16%) patients were evaluated in the United States,
  - 10,032 (44%) of whom were evaluated after returning from travel outside of the United States (i.e., after-travel patients)
  - 1:1 sex distribution
  - 94% in outpatient setting
  - 76% born in the USA
  - 93% with residence in US
  - Reason for travelling:
    - Tourism (38%)
    - Missionary/volunteer/research/aid work (24%)
    - Visiting friends and relatives (17%), and
    - Business (15%)

MMWR: July 19, 2013 / 62(SS03);1-15
Global Surveillance

- 13,059 diagnoses
  - Most common diagnosis
    - acute unspecified diarrhea (8%), acute bacterial diarrhea (5%), postinfectious irritable bowel syndrome (5%), giardiasis (3%), and chronic unknown diarrhea (3%)
  - Most common diagnostic grouping
    - acute diarrhea (22%), nondiarrheal gastrointestinal (15%), febrile/systemic (14%), and dermatologic (12%). Among 1,802 patients with febrile/systemic illness diagnoses
    - P. falciparum malaria was the most common diagnosis among travelers

- Geosentinel allowed prompt responses to important health events affecting travelers: during 2010 and 2011
  - East African trypanosomiasis in Eastern Zambia and North Central Zimbabwe
  - P. vivax malaria in Greece
  - Muscular sarcocystosis on Tioman Island, Malaysia

MMWR: July 19, 2013 / 62(SS03):1-15

Global Surveillance

For malaria, the top region for acquisition was sub-Saharan Africa (77%)
For enteric fever, the top region for acquisition was south-central Asia (67%)
For dengue, the top region for acquisition (50%)
The highest average proportionate morbidity and trend (+70.5/1,000, p = 0.004) was Southeast Asia.

EID 19(7), July 2013: 1049-57

How many Belgians travel, where and why?

<table>
<thead>
<tr>
<th>Reisonderzoek</th>
<th>Aantal reizen in 2011, bestemming, verblijfduur en molief</th>
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<tr>
<td></td>
<td>Total</td>
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<tr>
<td></td>
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<tr>
<td>Algemeen totaal</td>
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<tr>
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</table>

FOD Economie
Malaria

Malaria No More UK

Malaria deaths have fallen by 25% worldwide since 2000 - and 35% in Africa. Read more about the fight to endmalaria bit.ly/WjkmJJ

WHO. Malaria World Report

EID 19(7), July 2013: 1049-57

Proportionate morbidity (PM) for malaria (no. malaria cases/1,000 ill returned GeoSentinel patients) by region, 2000–2010.

Absolute case numbers and proportionate morbidity for malaria (no. malaria cases/1,000 ill returned GeoSentinel patients) after travel to sub-Saharan Africa, 2000–2010.

There were 1,363 total reported cases of malaria after travel to sub-Saharan Africa among the 18 GeoSentinel sites.

Over 18 months of follow-up
- RTS-S was shown to almost halve the number of malaria’s cases in young children (aged 5-17 months at first vaccination) and
- to reduce by around a quarter the malaria cases in infants (aged 6-12 weeks at first vaccination).

No specific place in travelers medicine
Malaria

- Artwork beonzeg over malaria-explosie in Tsjaad
- But also increases up to 33% to 50% in Zimbabwe, Tanzania, Sudan, Central African Republic, Ghana
- 22 Promed Alerts

Promed Mail: 20130609.1762775 - 20121019.1353768

Yellow Fever

- 3 waves of vaccination - epidemic has ended
- Other (smaller) outbreaks occurred in Chad, Cote d'Ivoire, Togo, Niger, DRCongo, Nigeria, Congo (Brazzaville), Sudan and Ethiopia.
- In 2012: some lasting transmission in Uganda (after 40 years absence)
- 72 Promed mails (most relating to Sudan)

Yellow Fever

- In the light of the temporary stock rupture of Stamaril® and hence the scarcity of the vaccine, a PRUDENT strategy to implement the less stringent criteria for YF vaccination is PROPOSED

Promed Mail: 20130609.1762775 - 20121019.1353768
**Yellow Fever**

- Availability of Multi Dose Vial
  - Naam: Stamaril® 10fl. 10 d. per flacon + Solvant 10 ampoules 10d. per ampoule
  - Lot: JS449-1 - Vervaldatum: 31.08.2015
  - Prijis: 1.437 € exclusief BTW
- And then there are “fake cards” in Nigeria

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**Rabies**

- Bali (Indonesia)
  - 2008: 4 cases
  - 2009: 48 cases
  - 2010: 83 cases (mass animal vaccination program was launched in Bali)
  - 2011: 24 cases
  - 2012: 8 cases (reintroduction in canine, 5 humans bit)
- Beperkte beschikbaarheid vaccin
  - Rabipur Novartis
  - RABIES MERIEUX HDCV van de firma Sanofi Pasteur MSD is op het moment onbeschikbaar voor tenminste 6 maanden (datum update?)
- 131 Promed Mail

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Proportionate morbidity (PM) (no. cases/1,000 returned GeoSentinel patients), 2000-2010. C) rabies postexposure prophylaxis.

EID 19(7), July 2013: 1049-57
Japanese Encephalitis (in Europe)

- Only 62 cases have been published in patients not living in endemic areas from 1973 to 2013, and Thailand was the place of exposure for more than one third of the cases reported in non-endemic countries.

Italian Encephalitis (in Europe)

- Italy: JEV NS5 gene (expected size, 215 bp) were obtained from tissues of six birds collected in 2000.
- Limited JEV circulation has occurred between birds and mosquitoes in Italy but no human cases have been observed, as in Australia since 1995.
  - Relatively low availability of amplifying hosts (pigs) in that area
  - Low vector competence of European Culex pipiens
  - Low capability of local birds to maintain a persistent JEV circulation or other factors suppressing the JEV epidemic cycle, and
  - Limited or absent human exposure.
- As a result, the strategy for the laboratory differential diagnosis of neuroinvasive cases occurring in humans and horses during the mosquito season may have to include JEV in the panel of viruses under investigation.

West Nile Virus in a Belgian traveler

- A 73-year-old Belgian woman, who had a medical history of lymphoma, traveled to Kavala city (Macedonia, Greece).
- Developed 6-day history of fever, headache, malaise, nausea, confusion, decline of consciousness, and neck stiffness.
- Latest human cases reported from Italy, Montenegro. Spain reported cases in horses.
**Dengue**

- Promed Mail: 118 alerts
- Dengue in Madeira:
  - 3 February 2013: 2,164 cases of dengue infection (Figure 1) from the Autonomous Region of Madeira since 3 October 2012. All reported cases refer to the resident population of the island.
  - No deaths or cases of severe dengue have been reported.
- Other cases:
  - 11 on the Continent
  - 70 in 13 European countries, all in returning travelers

**Hepatitis A**

- Increase in Hepatitis A cases imported from Egypt
- 15 of these cases, identified in three different countries,
- No single source of outbreak pinpointed (majority had travelled to popular tourist areas at Red Sea)
- Simultaneously, outbreak in Italy linked to frozen berries mix made in Italy, with raw material from Bulgaria, Canada, Poland, and Serbia.
La Dolce Vita

- 4 cases of meningitis due to *Neisseria meningitidis* ST-11 clonal complex (cc) on a cruise ship sailing along the Italian coast in October 2012
- In July 2013, an Italian tourist returning from Cuba with *Vibrio cholerae* O1 serotype Ogawa with severe renal failure
  - Sept 2013: 678 confirmed cholera cases, including 3 deaths
- Mexico: Hidalgo: 159 confirmed cases, including 1 death, of infection with *Vibrio cholerae* O1 Ogawa

Promed Mail 20131016.2002731

Vector Change?

Mosquitoes ignore repellent Deet after first exposure


Climate Change?

Climate variability and outbreaks of infectious diseases in Europe
- Evidence of a link between vector-borne disease outbreaks and El Niño-driven climate anomalies
- Less investigated are the effects of the North Atlantic Oscillation (NAO)
- Outbreak investigation
- Conclusion: potential for developing early warning systems, based on climatic variation information

Scientific Reports (3) 1774. DOI: 10.1038/srep01774
So... if you really need to travel