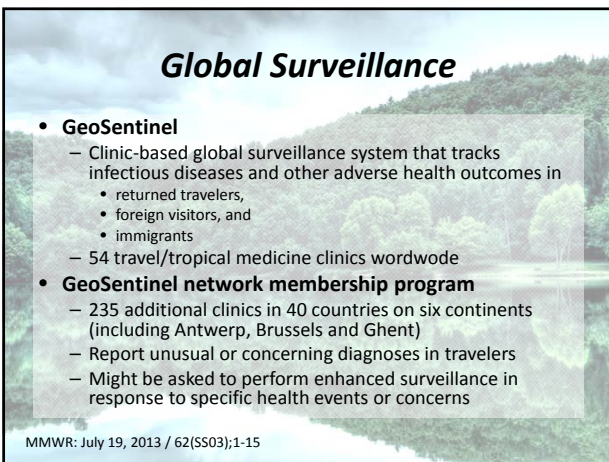


Epidemiologic flashes & edge cutting news / new vaccines

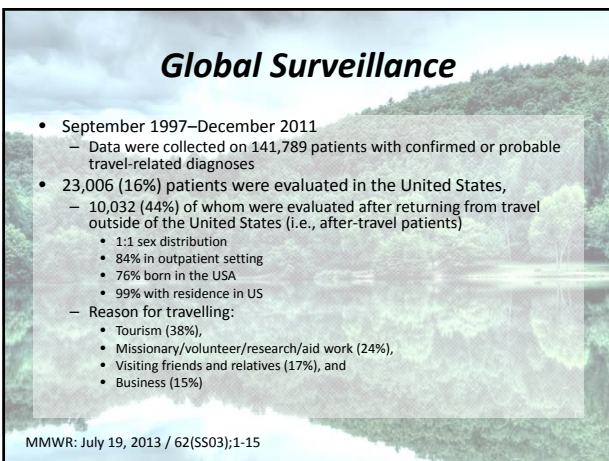
Steven Callens, MD, PhD
Ghent University
Ghent University Hospital



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 141,789 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
 - 84% in outpatient setting
 - 76% born in the USA
 - 99% 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 illness (14%), and dermatologic (12%). Among 1,802 patients with febrile/systemic illness diagnoses
 - Within febrile illness: the most common diagnosis was *Plasmodium falciparum* malaria (19%)
- 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

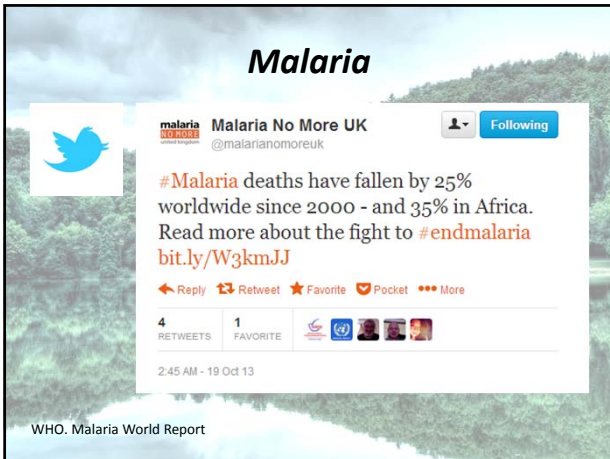
How many Belgians travel, where and why?

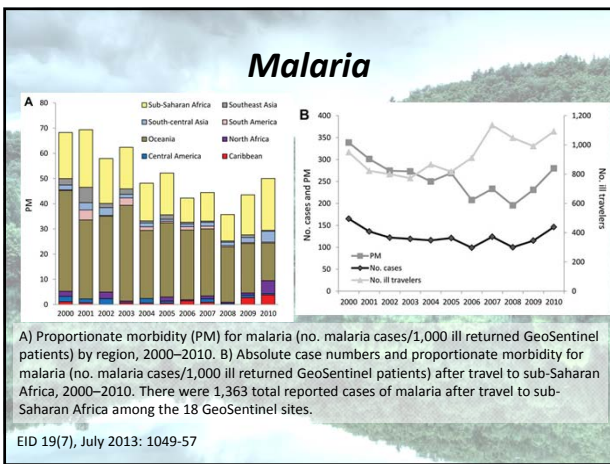
Reisonderzoek

Aantal reizen in 2011, bestemming, verblijfsduur en motief

Bestemming	Reis van 1 tot en met 3 nachten			Reis van 4 nachten en meer		
	Totaal	Vakantie	Zaken-toerisme	Totaal	Vakantie	Zaken-toerisme
Algemeen totaal	5.613.805	5.149.742	464.063	9.571.541	9.289.463	282.078
Totaal E.U.	5.533.939	5.104.044	429.895	7.872.235	7.699.266	172.969
Totaal niet E.U. -landen	79.867	45.698	34.168	1.699.306	1.590.197	109.109
Rusland				41.293	41.293	
Turkije	3.944	1.165	2.779	327.676	325.629	2.048
Zwitserland	38.254	17.927	20.327	244.741	233.901	10.840
Andere Europese landen	19.677	14.984	4.693	134.624	134.624	
Afrika	14.688	11.623	3.065	416.006	400.906	15.100
Centraal- en Zuid-Amerika				110.237	105.507	4.731
Azië				229.834	204.118	25.716
Noord-Amerika	3.304		3.304	167.691	123.361	44.330
Australië en Oceanië				27.205	23.859	3.345

FOD Economie






Malaria

UK firm seeks to market world's first malaria vaccine

Over 18 months of follow-up
 – RTS,S was shown to almost halve the number of malaria 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




Artsen bezorgd over malaria-explosie in Tsjaad

- But also increases up to 33% to 50% in Zimbabwe, Tanzania, Sudan, Central African Republic, Ghana
- 22 Promed Alerts

<http://www.bbc.co.uk/news/world-africa-22289762>, <http://www.bbc.co.uk/news/health-23562140>, <http://www.demorgen.be/dm/nl/990/buitenland/article/detail/1698975/2013/09/05/Artsen-bezorgd-over-malaria-explosie-in-Tsjaad.dhtml>, Promed mail 20130712.1822213-20130804.1862876 - 20130612.1769106 - 20121013.1341426



Malaria cases on rise in Nairobi



Yellow Fever

Year	Country	Cases	Deaths	CFR (%)
2012	Sudan	849	171	20.2
2011	Uganda	226	53	23.4
2005	Sudan	615	183	29.7
2003	South Sudan	178	27	15.1
2001	Cote d'Ivoire	169	20	11.8
2000	Guinea	512	190	37.1

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

Promed Mail 20130609.1762775 - 20121019.1353768

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

AN UPDATED YELLOW-FEVER-COUNTRY-LIST WILL BE CONSTRUCTED IN THE FOLLOWING DAYS

	For countries WITH RISK of yellow fever transmission	For countries WITHOUT RISK of yellow fever transmission
NOT REQUIRING proof of vaccination	One vaccination is valid for life (*)	(-)
(STILL) REQUIRING a renewed proof of vaccination after 10 years	Give the vaccine or Mention "Prolongation of the duration of validity" (& explain thoroughly – see **)	Give the vaccine Or Mention "Prolongation of the duration of validity" (& explain thoroughly – see **)

Yellow Fever

- Availability of Multi Dose Vial
 - Naam : Stamaril® 10fl. 10 d. per flacon + Solvant 10 ampoules 10d. per ampoule
 - Lot : J5449-1 -Vervaldatum: 31.08.2015
 - Prijs : 1.437 € exclusief BTW
- And then there are "fake cards" in Nigeria

Mail F Van Gompel - Promed Mail 20130827.1906967 - Brief Sanofi Pasteur - 3 okt 2013

Rabies

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

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

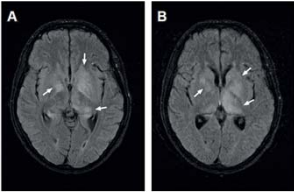
Rabies

- Bali (Indonesia)
 - 2008: 4 cases
 - 2009: 48 cases
 - 2010: 82 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
 - RABIÉS MERIEUX HDCV van de firma Sanofi Pasteur MSD is op het moment onbeschikbaar voor tenminste 6 maanden (datum update?)
- 131 Promed Mail

http://www.fagg-afmps.be/nl/binaries/fiche%20rabipur%20nl_tcm290-223251.pdf
Promed Mail: 20130720.1836001

Japanese Encephalitis (in Europe)

FIGURE
Brain magnetic resonance images of a Spanish traveller returning from Thailand with Japanese encephalitis 35 days post-onset of symptoms, Spain, 26 March 2013




- 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
- A case of Japanese encephalitis in a 20 year-old Spanish sportsman, February 2013

Euro Surveill. 2013;18(35):pii=20573

Japanese 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.



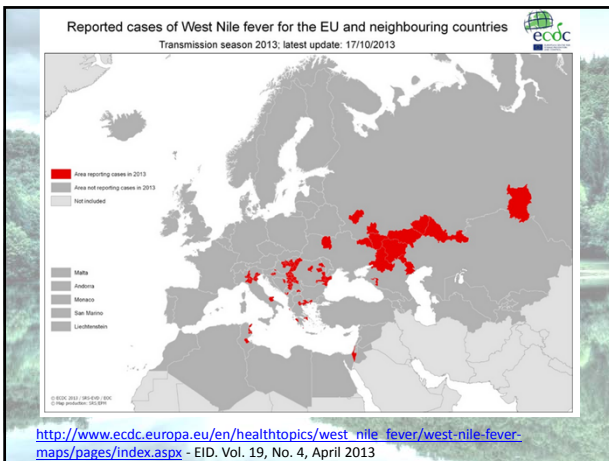
Euro Surveill. 2012;17(32):pii=20241 -
Euro Surveill. 2012;17(32):pii=20242

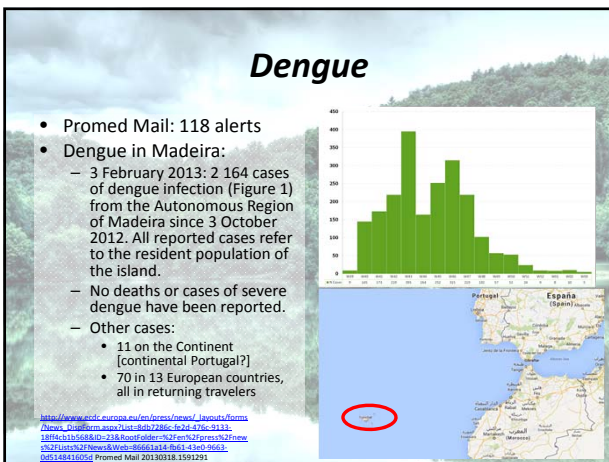
West Nile Virus in a Belgian traveler

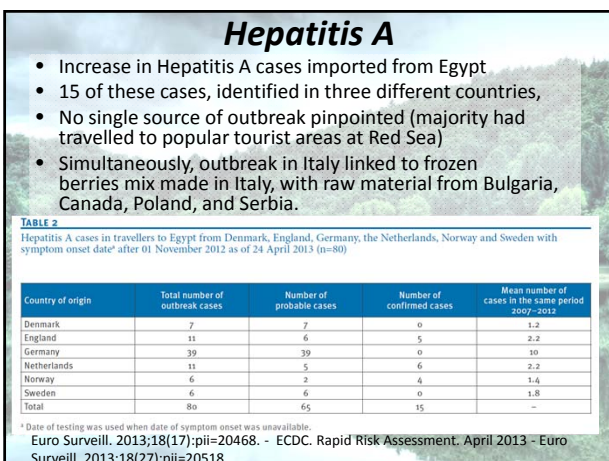
- A 73-year-old Belgian woman, who had a medical history of lymphoma, traveled to Kavala city (Macedonia, Greece)
- Developed 6-day history of fever, headache, malaise, nausea, confusion, decline of consciousness, and neck stiffness.
- Latest human cases reported from Italy, Montenegro. Spain reported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



http://www.ecdc.europa.eu/en/healthtopics/west_nile_fever/west-nile-fever-maps/pages/index.aspx EID. Vol. 19, No. 4, April 2013







La Dolce Vita



- 4 cases of meningitis due to *C 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

Euro Surveill. 2012;17(50):pii=20336 - Euro Surveill. 2013;18(35):pii=20572. Promed Mail 20131016.2002731

Vector Change?

BBC NEWS SCIENCE & ENVIRONMENT

21 February 2013 Last updated at 01:56 GMT


Mosquitoes ignore repellent Deet after first exposure

By Rebecca Morelle
Science reporter, BBC World Service

The widely used insect repellent Deet appears to be losing its effectiveness against mosquitoes, scientists say.

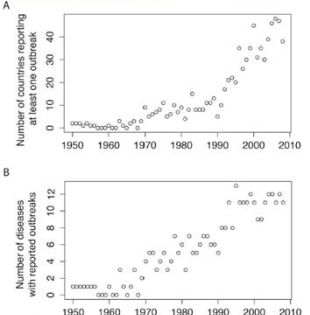
Researchers from the London School of Hygiene and Tropical Medicine say mosquitoes are first deterred by the substance, but then later ignore it.

They say more research is needed to find alternatives to Deet, which was first developed by the US military.



http://ecdc.europa.eu/en/healthtopics/climate_change/pages/index.aspx - <http://www.bbc.co.uk/news/science-environment-21519998> - PLoS ONE 8(2): e54438. doi:10.1371/journal.pone.0054438

Climate Change?



A
Number of countries reporting at least one outbreak

B
Number of diseases with reported outbreaks

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

