

Actualités en Médecine des voyages

- **Actualités épidémiologiques** : mortalité, morbidité, maladies au retour de voyages
- **Focus sur « maladies émergentes »** ... associées à un risque accru d'importation en Europe: dengue, chikungunya, MERS-CoV, MDR-TB, ...

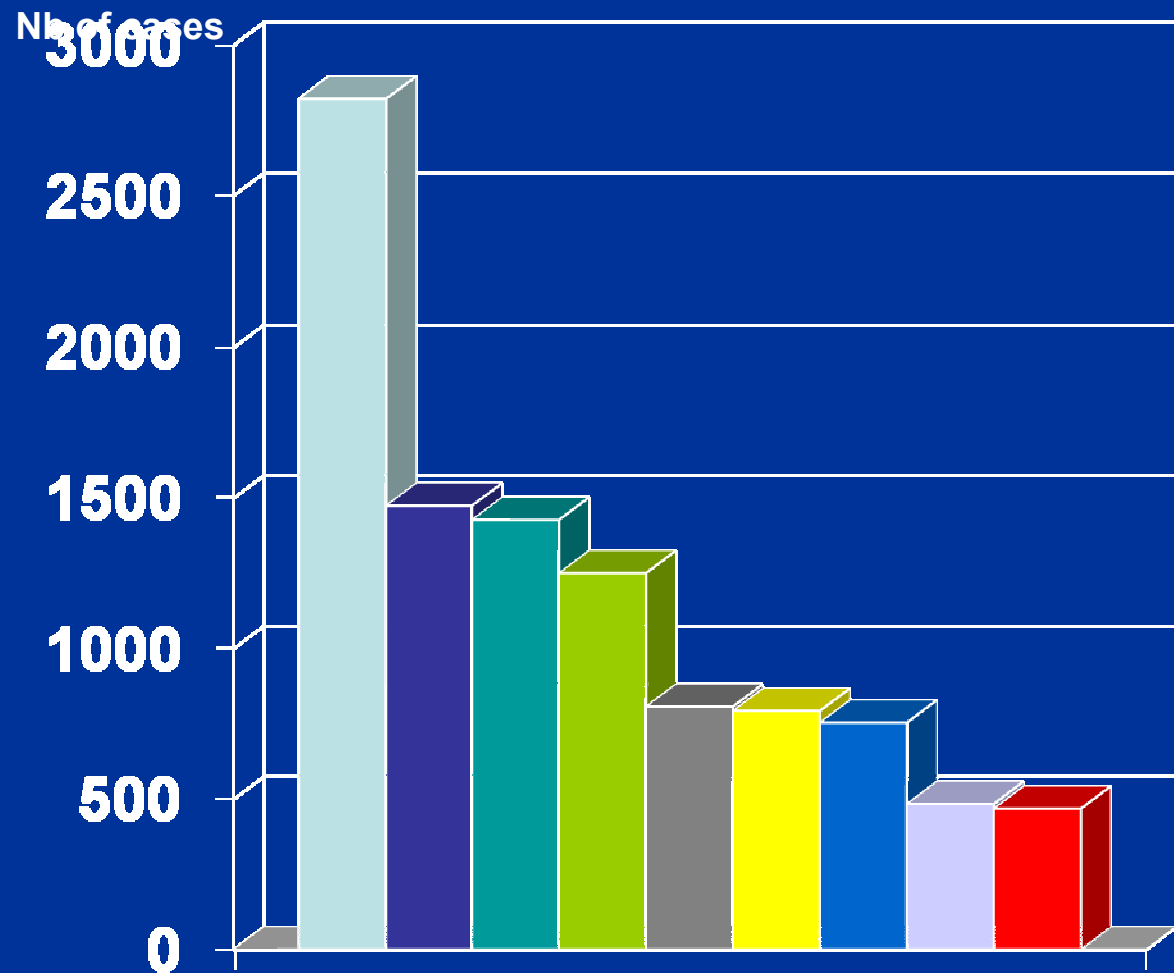
Eric Caumes, Paris

**JNI, Nancy,
Juin 2015**

Potential links of Interests

- In the past 3years, I (or my department) have received honoraria from **BMS, Baxter, Galen** and **Codexial** for lectures on STDs and participation in advisory boards (TBE vaccine, KS, scabies).
- I am the Editor in Chief of the **Journal of Travel Medicine** (IF = 1.51) (submission wellcome)

Illnesses in 42.173 returned Travelers (55% tourism, Asia 32%) – 2007-11



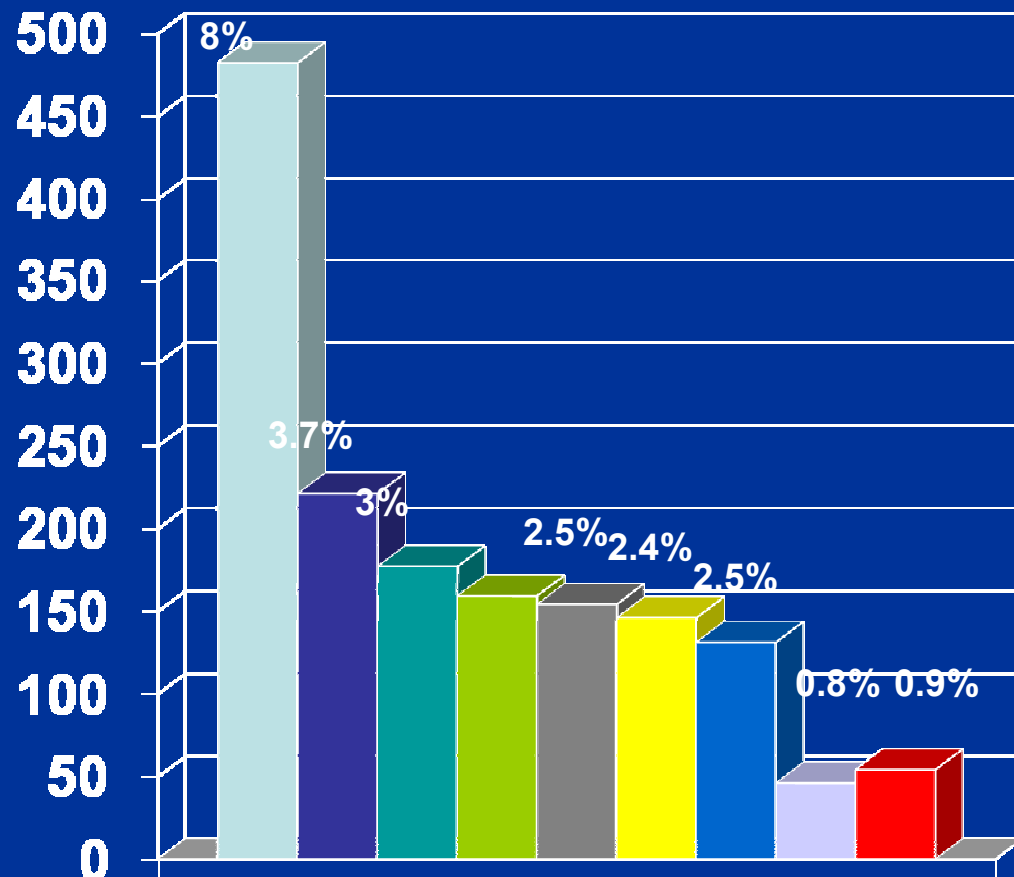
GeoSentinel

- Malaria (6.7%)
- Dengue (3.5%)
- Gardia (3.4%)
- Rabies PEP (3%)
- Hookworm CLM (1.9%)
- Schistosomiasis (1.9%)
- Campylobacter (1.8%)
- Strongyloides (1.1%)
- Enteric fever (1.1%)

Leder K et GeoSentinel. *Ann Int Med* 2013; 158: 456-468

Illnesses in 5.965 returning European Trav (48% tourism, Africa 49%) - 2011

Nb of cases



EuroTravNet

- Malaria (8%)
- Gardia (3,7 %)
- Active TB (i77;3%); R-TB 8)
- Campylobacter (2,7 %)
- Cutaneous larva migrans (2,5 %)
- Dengue (2,4 %)
- Schistosomiasis (2,2 %)
- Leishmaniasis (0,8 %)
- Vaccine Preventable disease (0,9 %)

Warne B et EuroTravNet. J Travel Med 2014 (april) ; on line

50710 Fin Travelers ; 2010-2012

SOS International data base

SOS International

Infections	30 386	59.9%
Injuries*	7 095	14%
Inpatient cases	8339	16%
Medical evacuation	1868	3.7%
Death	1999	0.4%

* 5 567 (78.5%) trauma [76% superficiel, 17% fractures ; 5% Tc];
1 528 (21%) autre

50.710 Fin Travelers 2010-2012 - SOS

Acute Gastroenteritis	11.543	22.8 %
Respiratory TI	10.475	20.7%
Other Infections	08.368	16%
Injuries	7.095	14%
Skin Diseases	2.639	5.2%
Musculo Skeletal	2.621	5.2%
Gi Tract Dis	1.295	2.5%
Vasc Dis	1.081	2.1%

50.710 Fin travelers, 2010-2012 – SOS. Incidence Illnesses & Injuries p% 100.000 Trav days (95%/Ci)

Eastern and Western Europe	7.7 (6.3-9.4)
Southern Europe and Eastern Mediterranean	92.3 (75.4-110.1)
Asia and Oceania	65.0 (41.5-87.9)
Americas	7.6 (4.7-11.5)
Africa	97.9 (53.1-145.5)

50.710 Fin travelers, 2010-2012 – SOS. Incidence Illness and Injuries p% 100.000 Trav days (95%/Ci)

Injuries			Acute Gastroenteritis		
Turkey	29.7	(22-37)	Egypt	184	(110-290)
Thailand	23.7	(14-36)	Turkey	67.9	(52-85)
Greece	22.5	(16-29)	Thailand	59	(37-90)
Egypt	15.6	(9-25)	Canary	21.4	(13-32)
Canary	14.6	(8-22)	Greece	11.9	(8-15)

Injury deaths of American citizens

- Road traffic accidents pose a higher risk of death to travellers than violent crime everywhere with the exception of Philippines (21/1.000.000)
- High motorcycle related death rates in Thailand (56 % road death) and Vietnam
- Thailand ranks high in rates of both road traffic accidents (1st : 16/1.000.000) and intentionally caused death (4th : 0.5/1.000.000).

Injury prevention a neglected component of pre-travel consultation

- Exemples of pre-travel Cs advice as :
 - driver
 - passenger
 - pedestrian
- Other safety measures (keep charged cell phone,.....)
- Ressources for more infos : association for self international Road Travel (<http://www.asirt.org>)

**What's
the risk?**

**Kao San
Bangkok**

**REAL FEAR. RE
REAL FISH.**



Health problems in 2385 Travelers. Laos

Sept 2011- April 2012

Questionnaire based survey (70% response rate)

3 Thai-Lao border checkpoints

1205 Thai and 1191 foreigners who had just finished travel

**Cross
sectional**

	1205 Thai	1191 Foreigners
Median age	43 years	32 years
Tourism	82%	89%
Backpackers	3%	47 %
Duration	4 days	16 days

P < 0.001 for all items +

- . at risk activity
- . pretravel vaccination,
- . consulation,
- . malaria prevention

**Piyaphanee W.
J.Travel Med
2014;21:163-8**

367/ 2385 (15%) had health Pbs*

	1205 Thai	1191 Foreigners
Duration	3.8 days	16.3 days
Any pb	6 %	24 %
Diarrhea	1.5 %	13 %
Cough	2.8 %	8.2 %
Fever	0.5 %	4.79 %
Skin	0.6 %	3 %
Visit MD	0.2 %	2.1 %
Hospitalisation	0	0.5 %

**Cross
sectionnal**

* p<0,001 (all items)

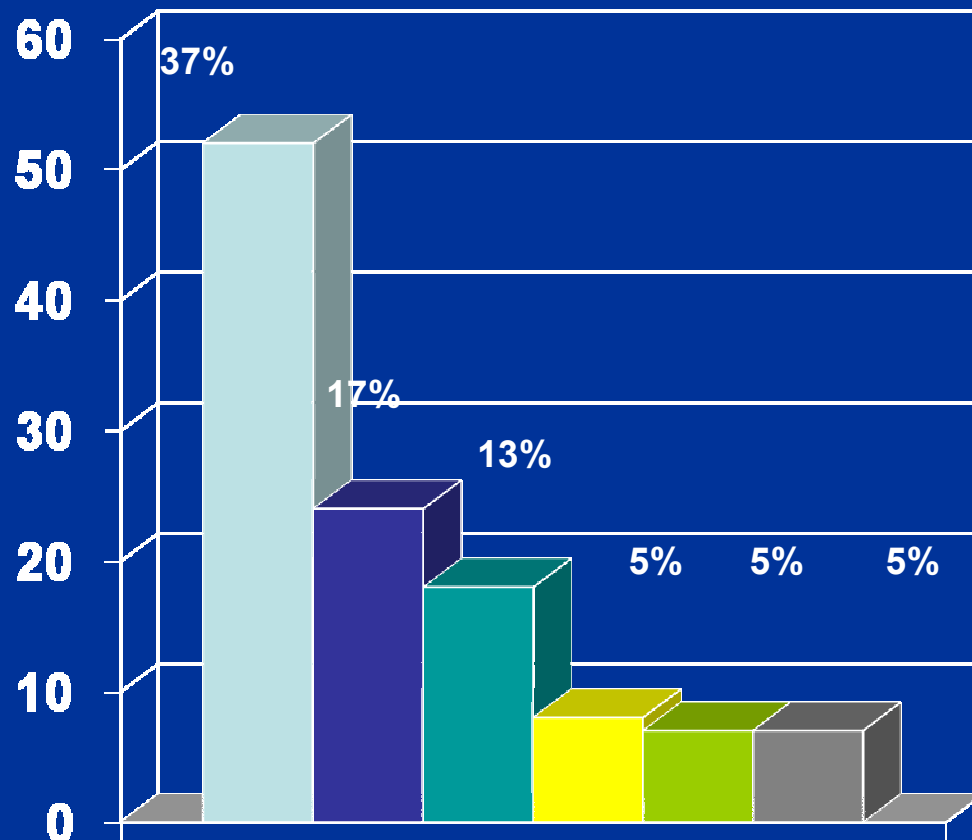
What's the risk?



138 Health Impairments in 29 schools girls (Peru)

Cohort

Nb cases



GI 37%)

Respiratory (17%)

Altitude Sick* (13%)

Genito ur. (5%)

Dermatol (5%)

Trauma (5%)

* Despite acetazolamide (125 mg x 2/d)
Duration of travel : 3 weeks

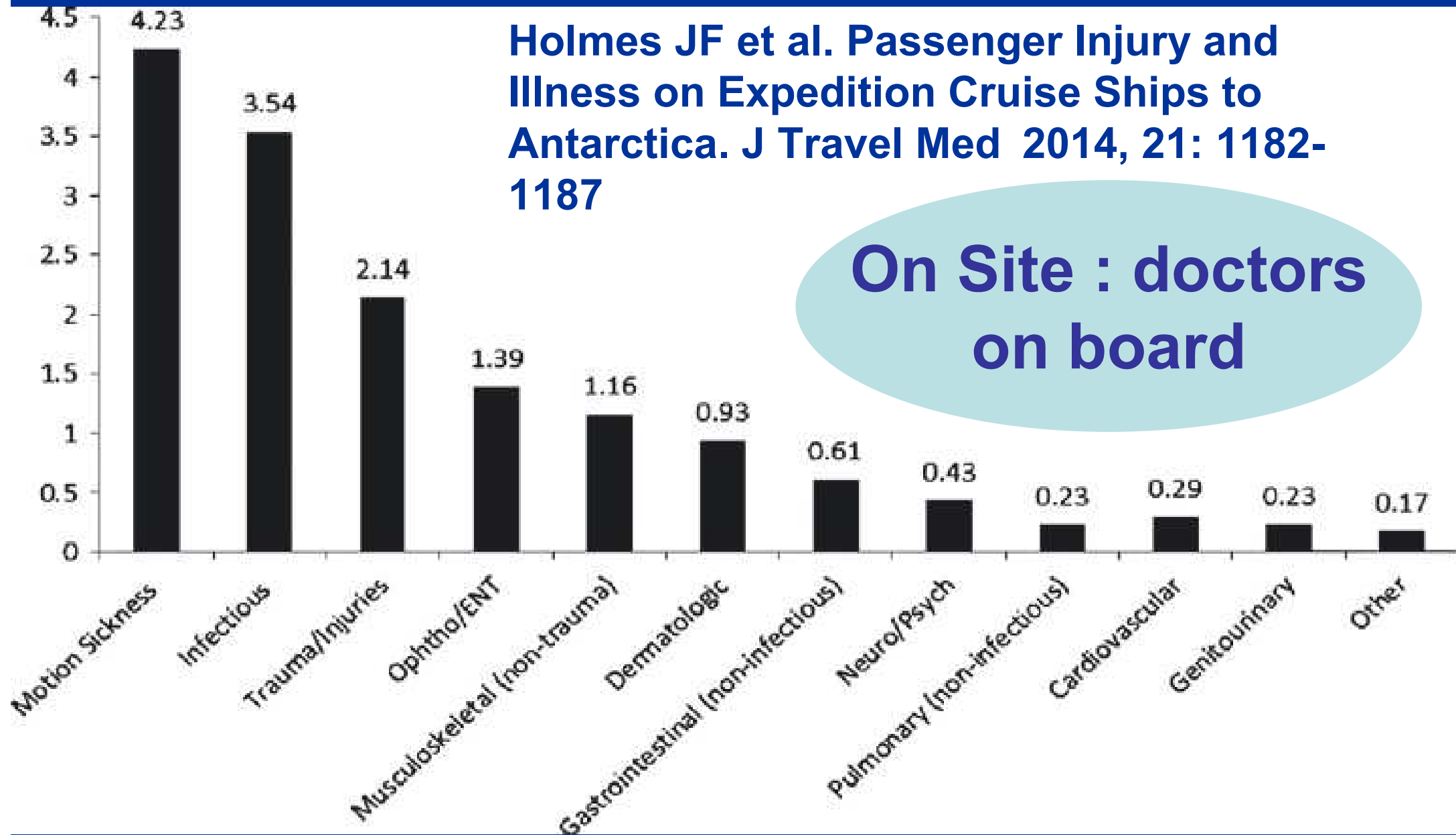
Shaw M. J Travel Med 2014;21:183-188

What's the risk?



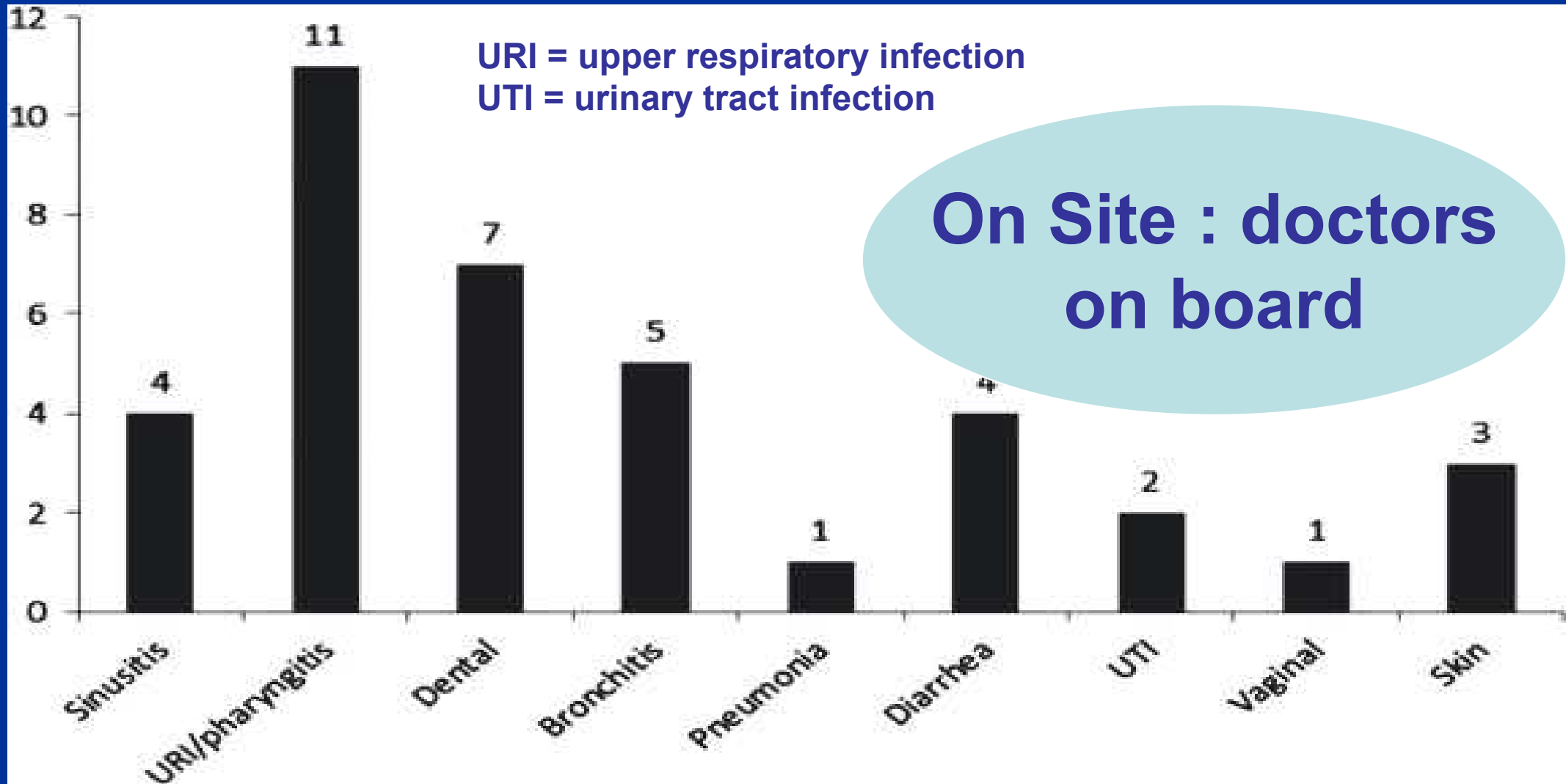
Holmes JF et al. Passenger Injury and Illness on Expedition Cruise Ships to Antarctica. J Travel Med 2014, 21: 1182-1187

On Site : doctors on board



Incidence rates (1,000 person-d) for major categories

Diseases treated with antibiotics



Holmes JF et al. Passenger Injury and Illness on Expedition Cruise Ships to Antarctica. J Travel Med 2014; 21: 1182-1186

Emerging diseases and the risk of dissemination of disease into receptive areas and to receptive persons

Vector –Borne

- Dengue fever
- Chikungunya
- Zika

Air Transmitted

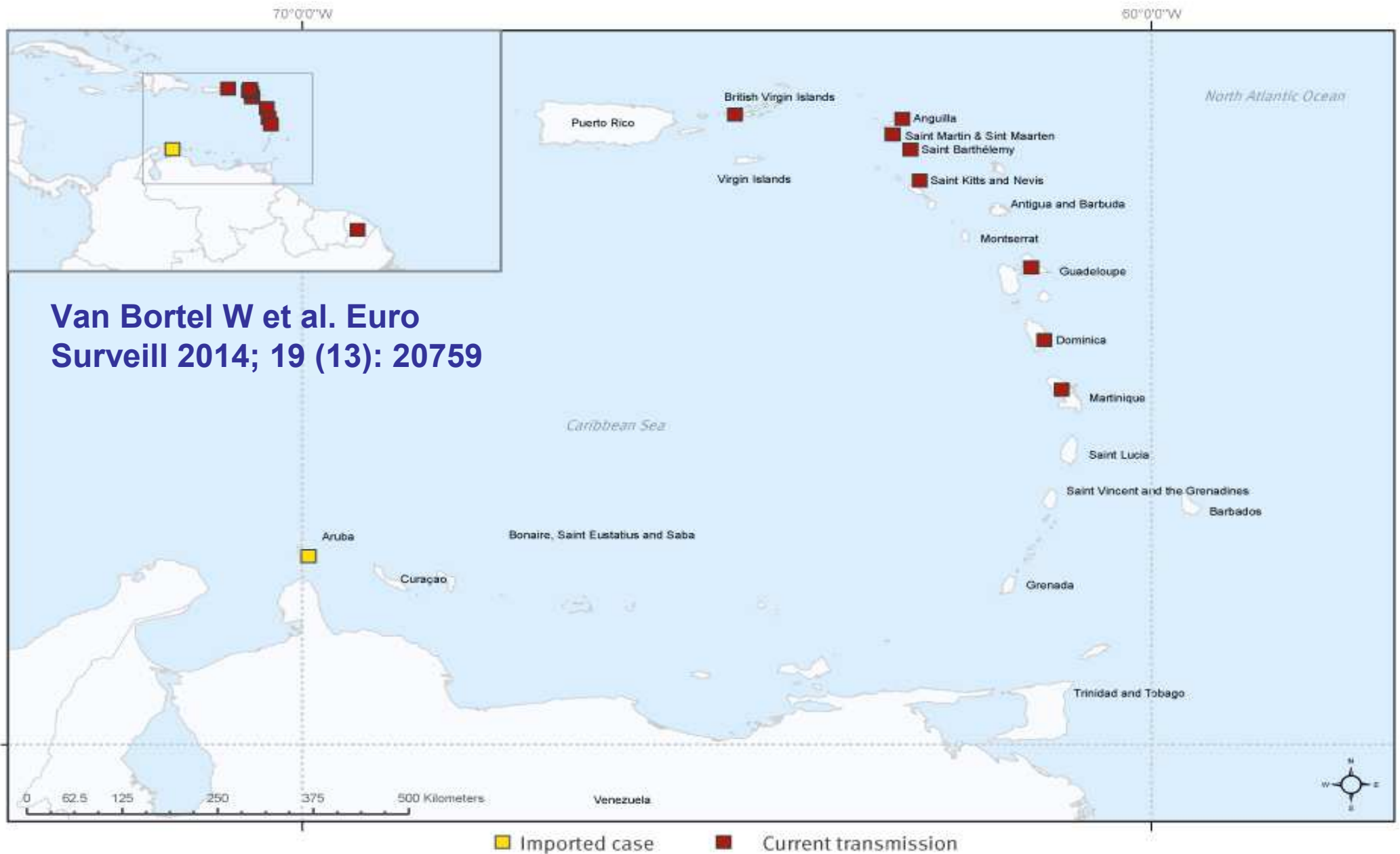
- MDR/XDR - TB
- MERS – CoV
- Avian flu

Contact

- SARM; ESBL E.coli, then CPE
- Scabies
- Ebola ??

FIGURE 3

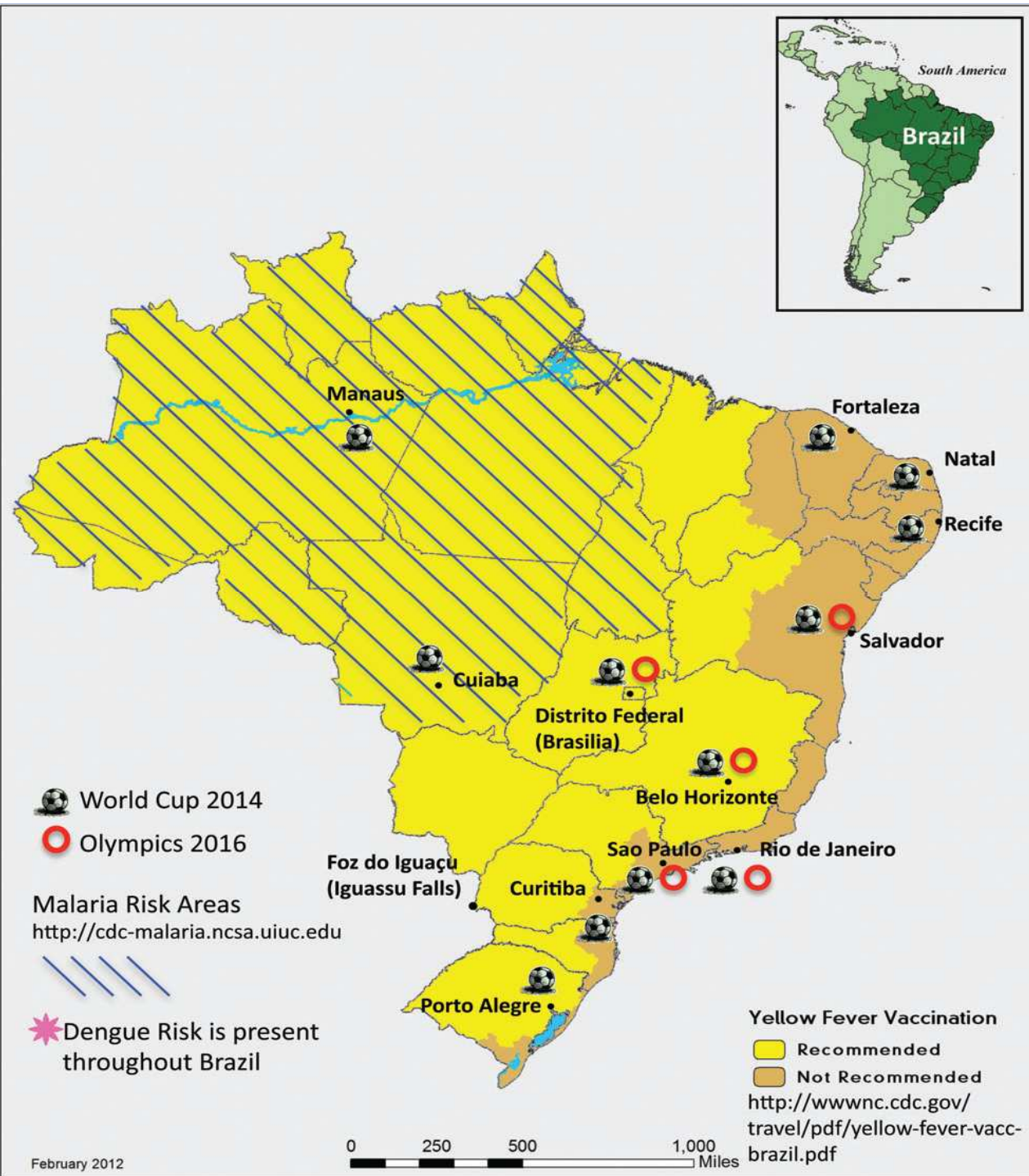
Local chikungunya transmission and imported cases in the islands of the Caribbean region and in French Guiana, 1 December 2013–23 February 2014



Brazil

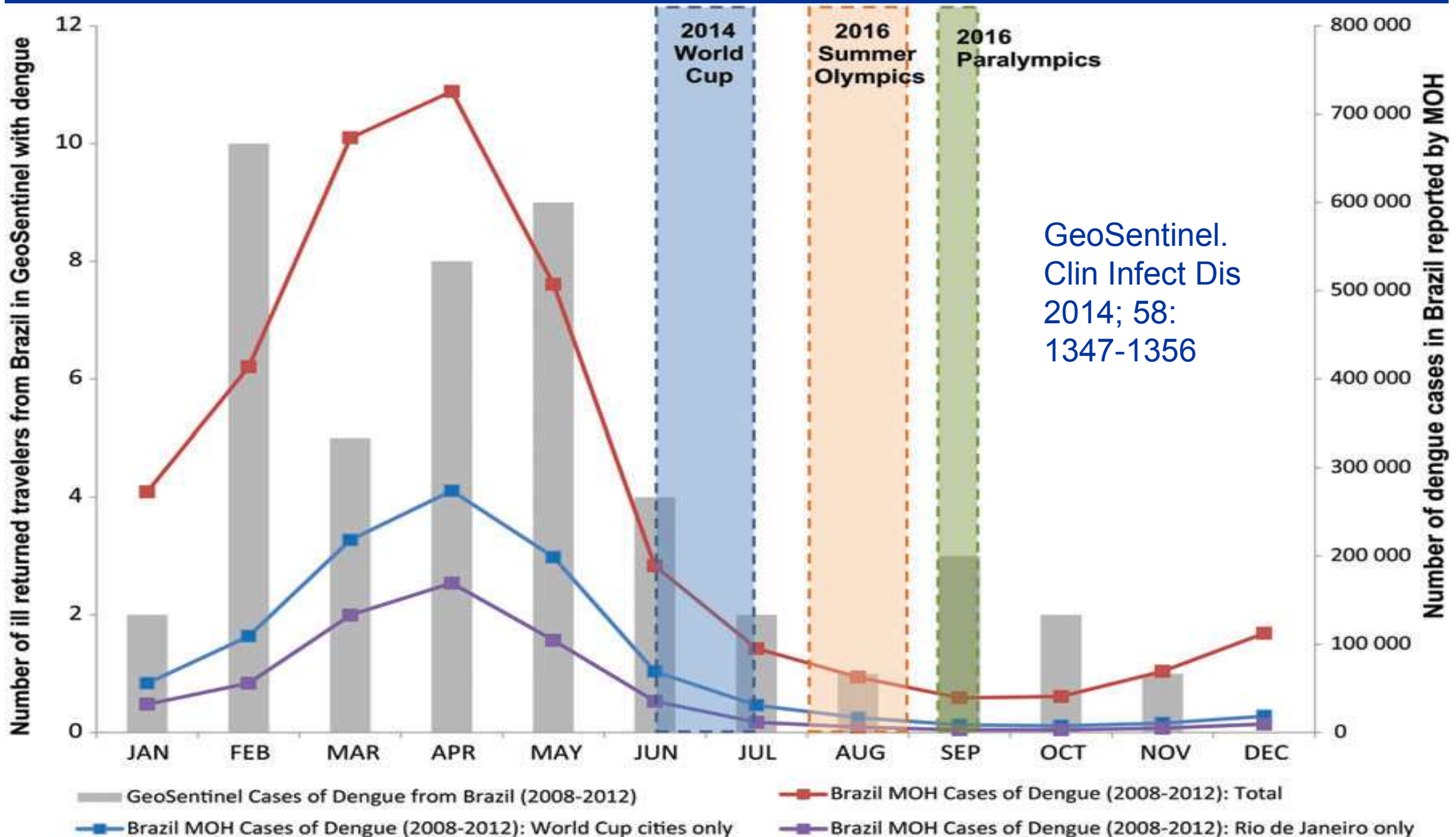
World cup and Olympics cities

Malaria and YF risk areas



Wilson M et GeoSentinel.
Clin Infect Dis
2014; 58: 1347-1356

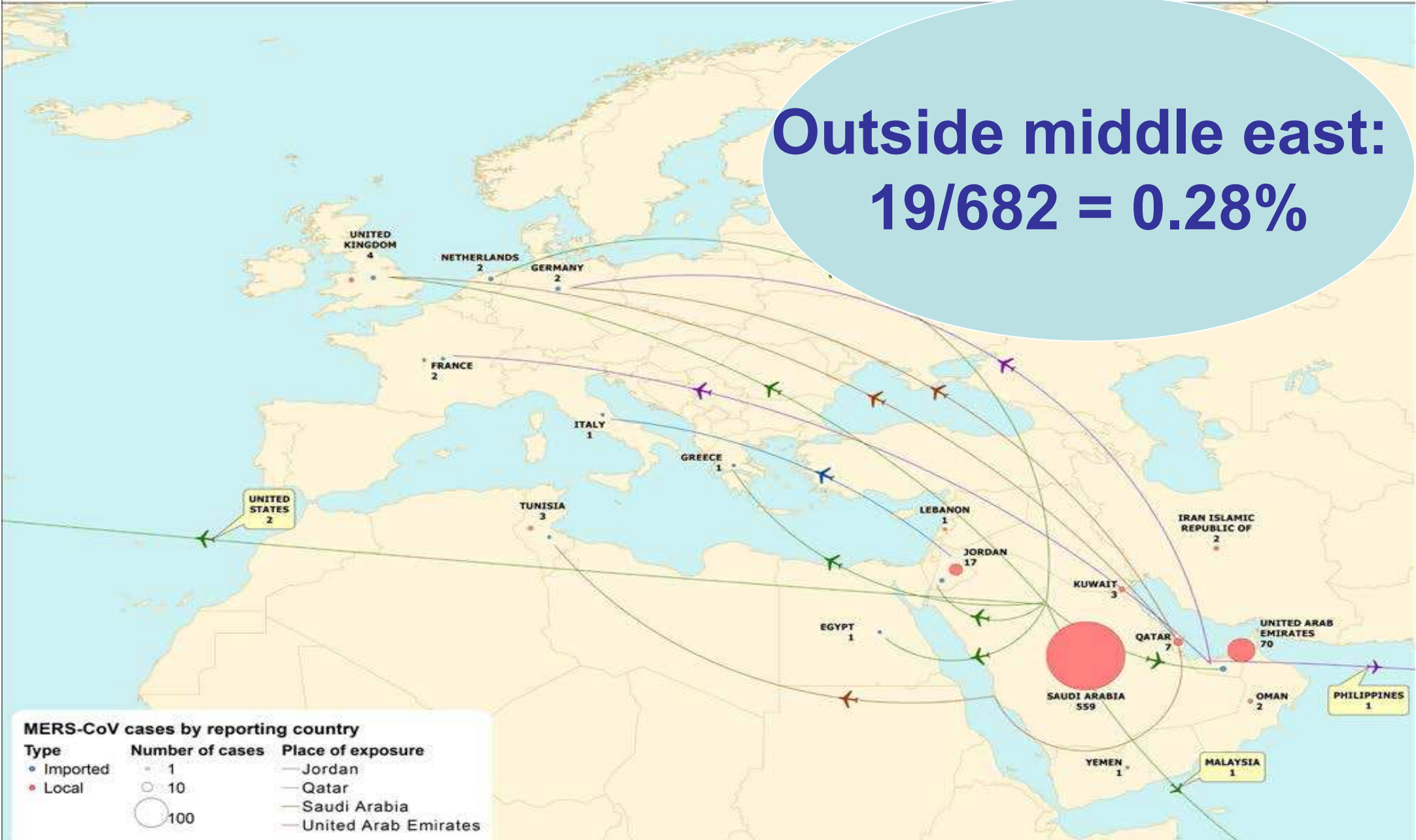
Dengue, Brazil World cup and Olympics



Distribution of confirmed cases of MERS-CoV by reporting country and place of probable infection, March 2012 - 28 May 2014 (n=682)



Outside middle east:
19/682 = 0.28%



MERS-CoV cases by reporting country

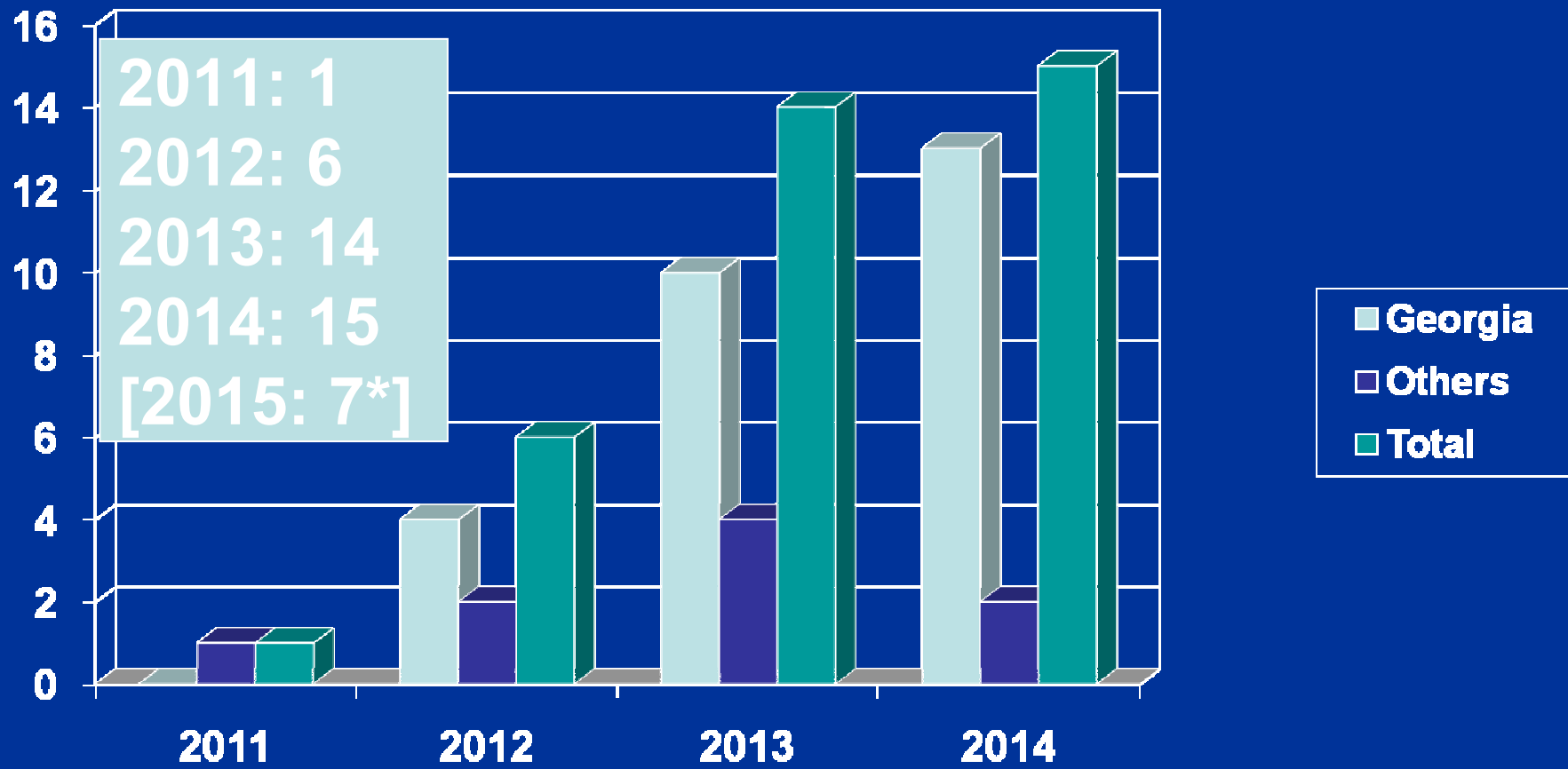
Type	Number of cases	Place of exposure
• Imported	• 1	— Jordan
• Local	○ 10	— Qatar
	○ 100	— Saudi Arabia
		— United Arab Emirates

4/2012 – 30/5/2014, 689 confirmed cases of MERS-CoV reported WW (incl 211 deaths): 19 outside Middle East

- **Europe:** UK: 4 cases/3 deaths - Germany: 2 cases/1 death - France: 2 cases/1 death - Italy: 1 case/0 death - Greece: 1 case/0 death - Netherlands: 2 cases/0 death
- **Africa:** Tunisia: 3 cases/1 death
- **Asia:** Malaysia: 1 case/1 death - Philippines: 1 case/0 death –
- **Americas:** USA: 2 cases/0 death

**Death Rate:
7/19 (35%)**

MDR/XDR TB, 2011-2014, PS hosp (n=36, including Eastern Europe 32/36 - Georgia 27/36)



MDR/XDR TB at PS hosp: 36 imported & 2 autochthonous cases

- **Pt 1:** Rheumatology, INH/RIF for TST 6/2012; adalidumab (2008-2011 – 10/2012-3/2014). 1st TB sign : March 2014

Index Pt : Georgian, Nov 2013 – Jan 2014.

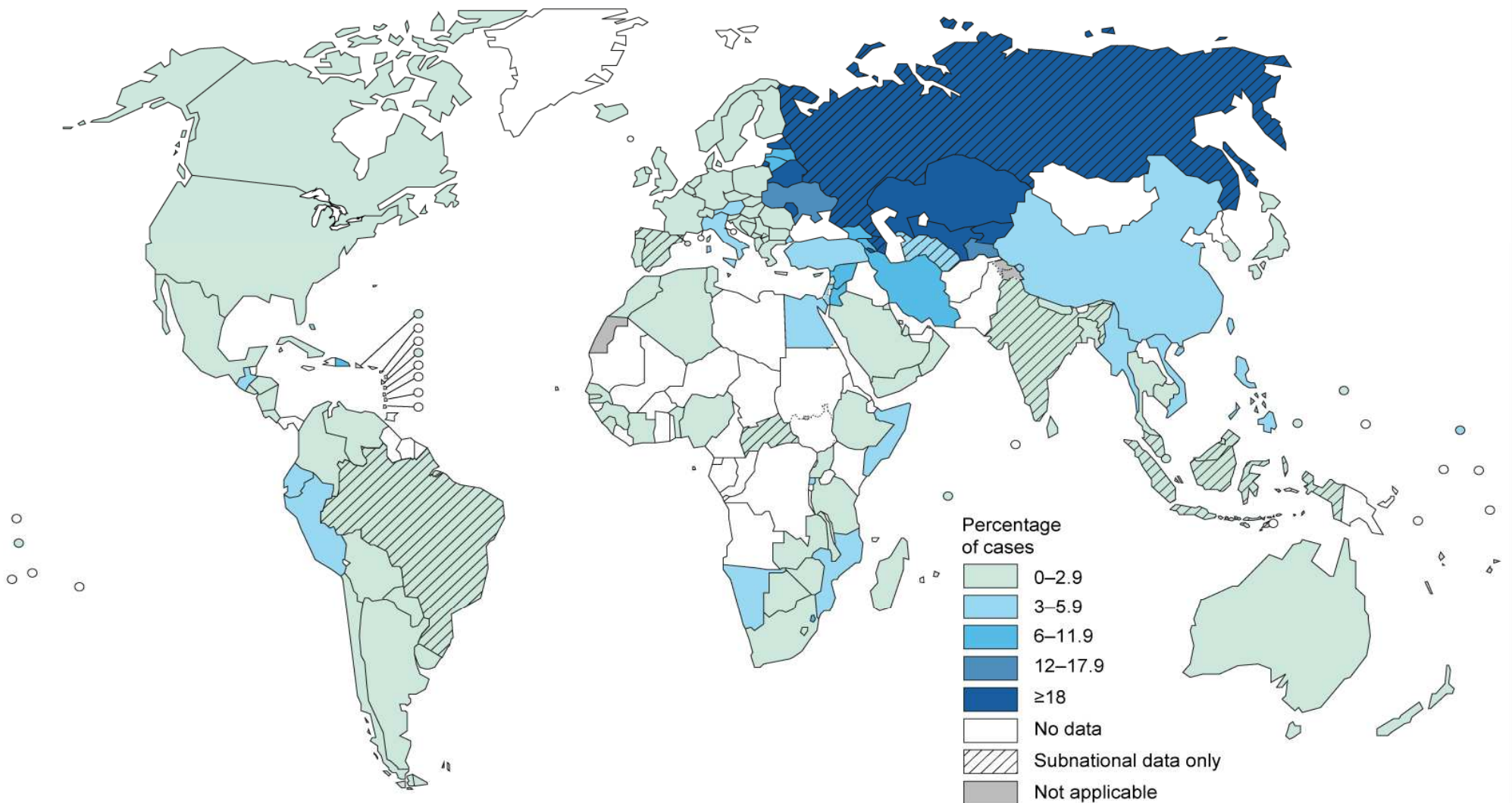
Encounter within the hosp. or in the hosp. area

- **Pt 2:** HIV +; CD4: 650/mm³; VL < 20/ml; shared cigarettes with the index Pt at the entrance of our building

Two main risk factors for MDR - TB

- History of TB treatment
- Country of birth

Percentage of new TB cases with multidrug-resistant tuberculosis*



* Figures are based on the most recent year for which data have been reported, which varies among countries.

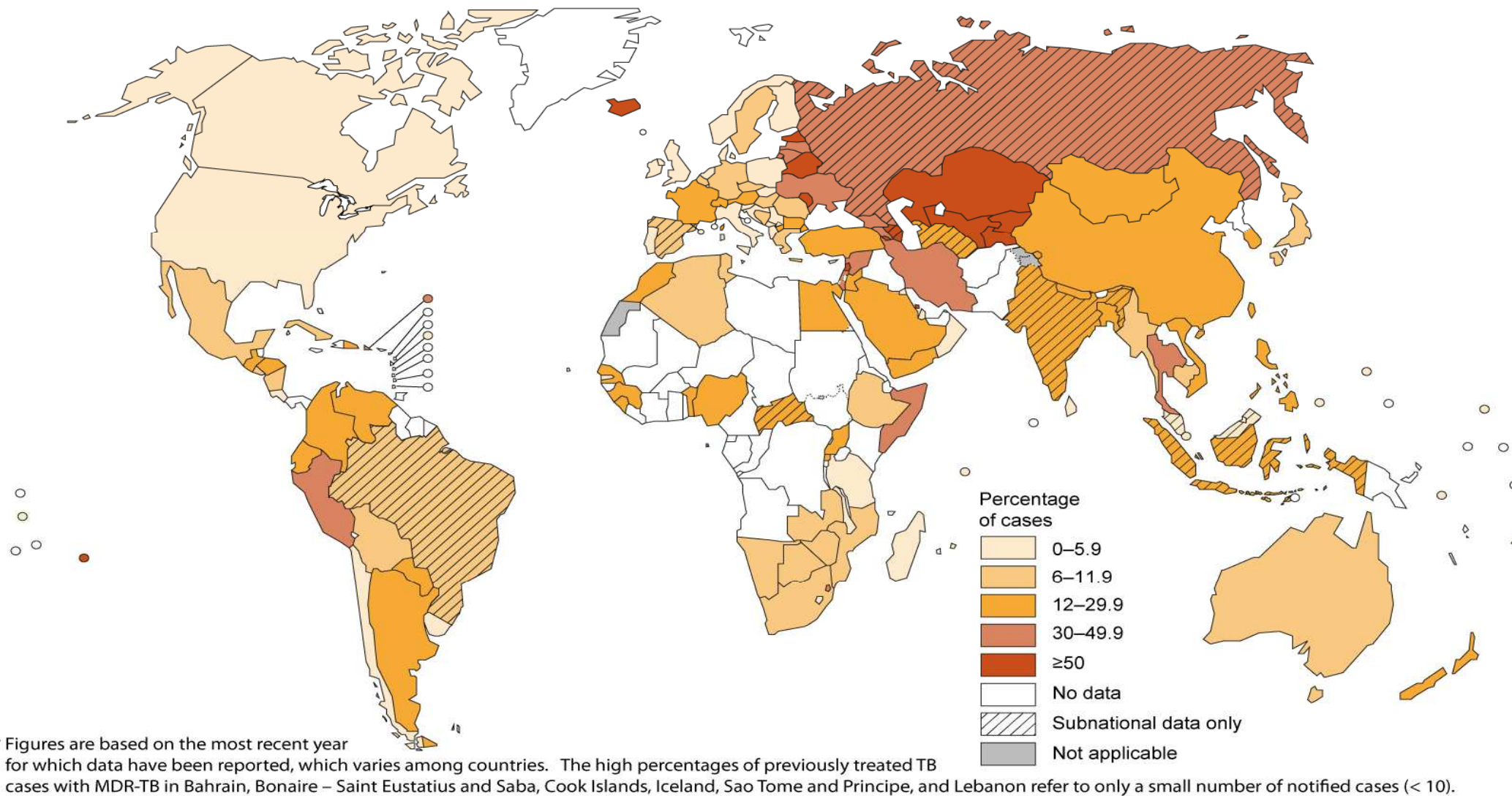
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: *Global Tuberculosis Report 2013*. WHO, 2013.

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Percentage of previously treated TB cases with multidrug-resistant tuberculosis*



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MDR enterobacteriaceae (ESBL *E.coli*) portage

Author	Tangden	Peirano	Ostholm..	Peltans..
Year	2010	2011	2013	2013
Place	Sweden	Canada	NYC	Leiden
Nb	101/100	113/113	262/226	370/338
PreTrav	1%	4% NTr	2.4%	8%
PostTrav	24%	23%	30%	30%

Risk of acquiring ESBL *Enterobacteriaceae* in 90/430 (21 %) Fin travelers

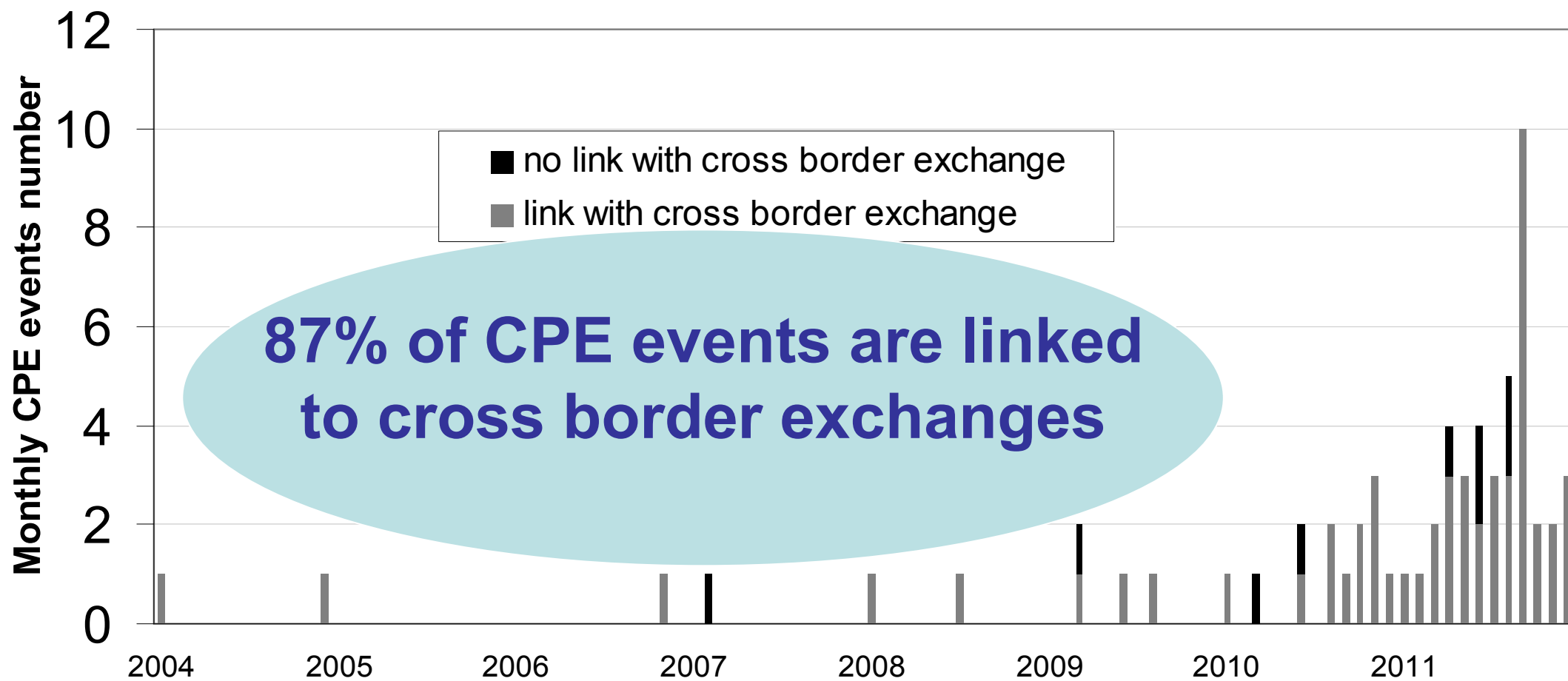
Region	Overall	TD-/AB-	TD+/AB-	TD+/AB+
Entire population	21%	11%	21%	37%
Africa	12%	12%	8%	28%
South central Asia	46%	23%	47%	80%
SE Asia	33%	14%	32%	69%

Author	N=	ESBL	ESBL /TD+	ESBL+ /TD+/AB+
Than	242	58 (28%)	28%	NA
Tangden	100	24 (24%)	43%	30%
Kennedy	102	50 (49%)	68%	68%
Peirano	113	26 (23%)	23%	NA
Weisenberg	28	7 (25%)	NA	NA
Ostholtm-...	231	72 (31%)	38%	25%
Larisch	88	11 (13%)	28%	21%
Paltensing	338	113 (33%)	35%	47%
Kanlele	430	90 (21%)	36%	42%

Risk factors for colonisation by ESBL *Enterobacteriaceae* in 90/430 (21 %) Fin travelers

Increasing age	2.5 (1.4-4.6)
Subsaharan Africa	0.1 (0.1-0.3)
Having TD	31 (2.7-358)
Use of AB for TD	3 (1.4-6.7)
Meals with locals	0.3 (0.1-0.8)

Carbapenemase-Producing *Enterobacteria* events and Cross Border Exchanges, Paris 2004-11



En résumé....

- **Pré-voyages:** couverture vaccinale; restrictions chimio prophylaxie paludisme, mefloquine; vaccination FJ recommandations Sage WHO,
- **Pendant le voyage:** accidents, hygiène, PPAV le jour po arboviroses
- **Retour. Conséquence Santé Publique :** risque croissant d'apparition et d'implantation de
 - a) certaines arboviroses (*A.albopictus*),
 - b) tuberculose MDR/XDR
 - c) infections/portage Ec BLSE, BHRe (EPC)
 - c) MERS-CoV, grippe animale humanisée