Malattie diffusive e migrazione

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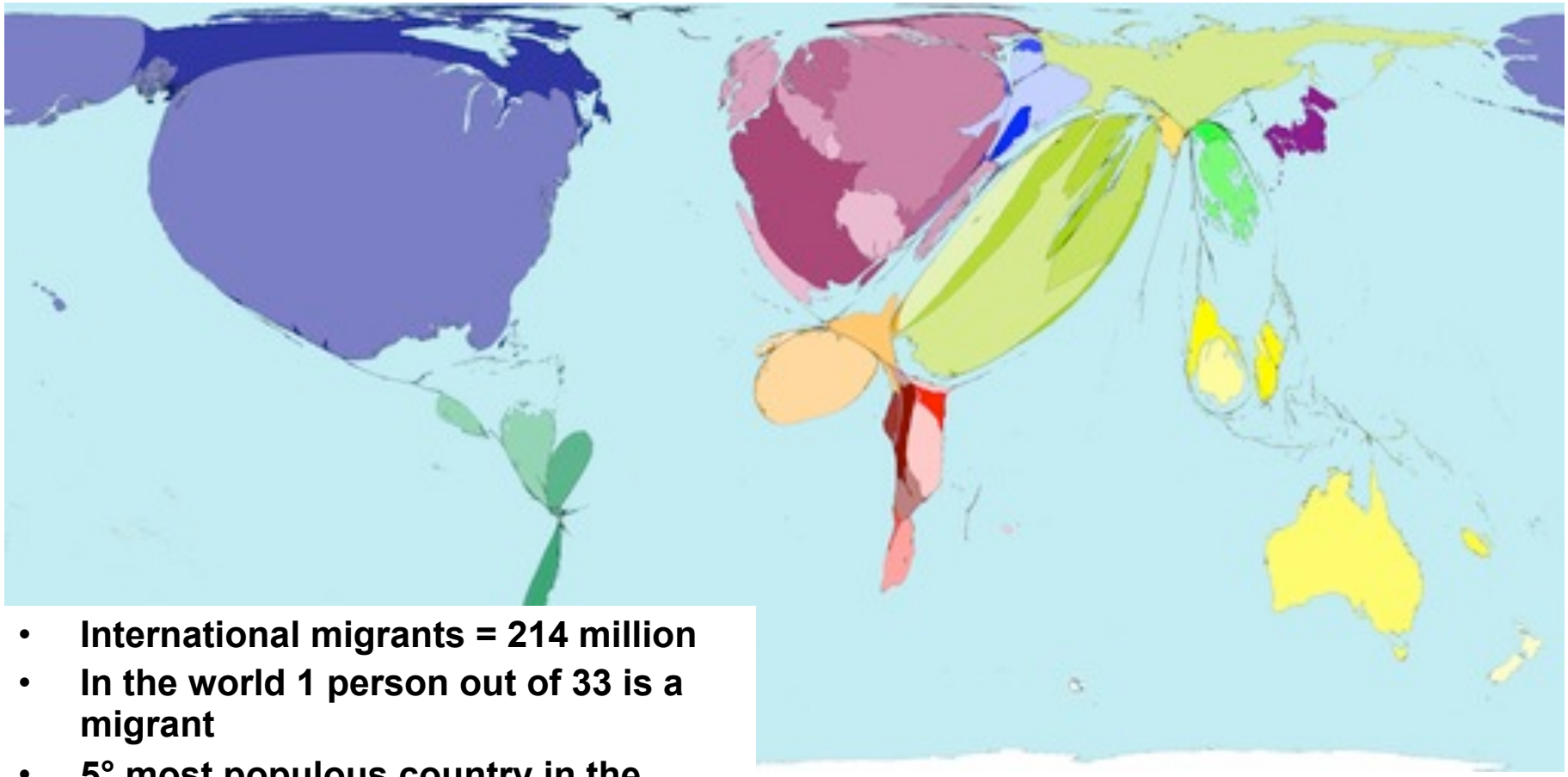


- **International migrants = 214 million**
- **In the world 1 person out of 33 is a migrant**
- **5° most populous country in the world**

Territory size shows the relative levels of net immigration in all territories (immigration less emigration).

http://knowledge.allianz.com/demographics/migration_minorities/?668/real-earth-population-patterns-demographics-worldwide

Are migrants too many?

Table 1: Perceived and actual percentage of the population made up of migrants, in four transatlantic countries, 2010

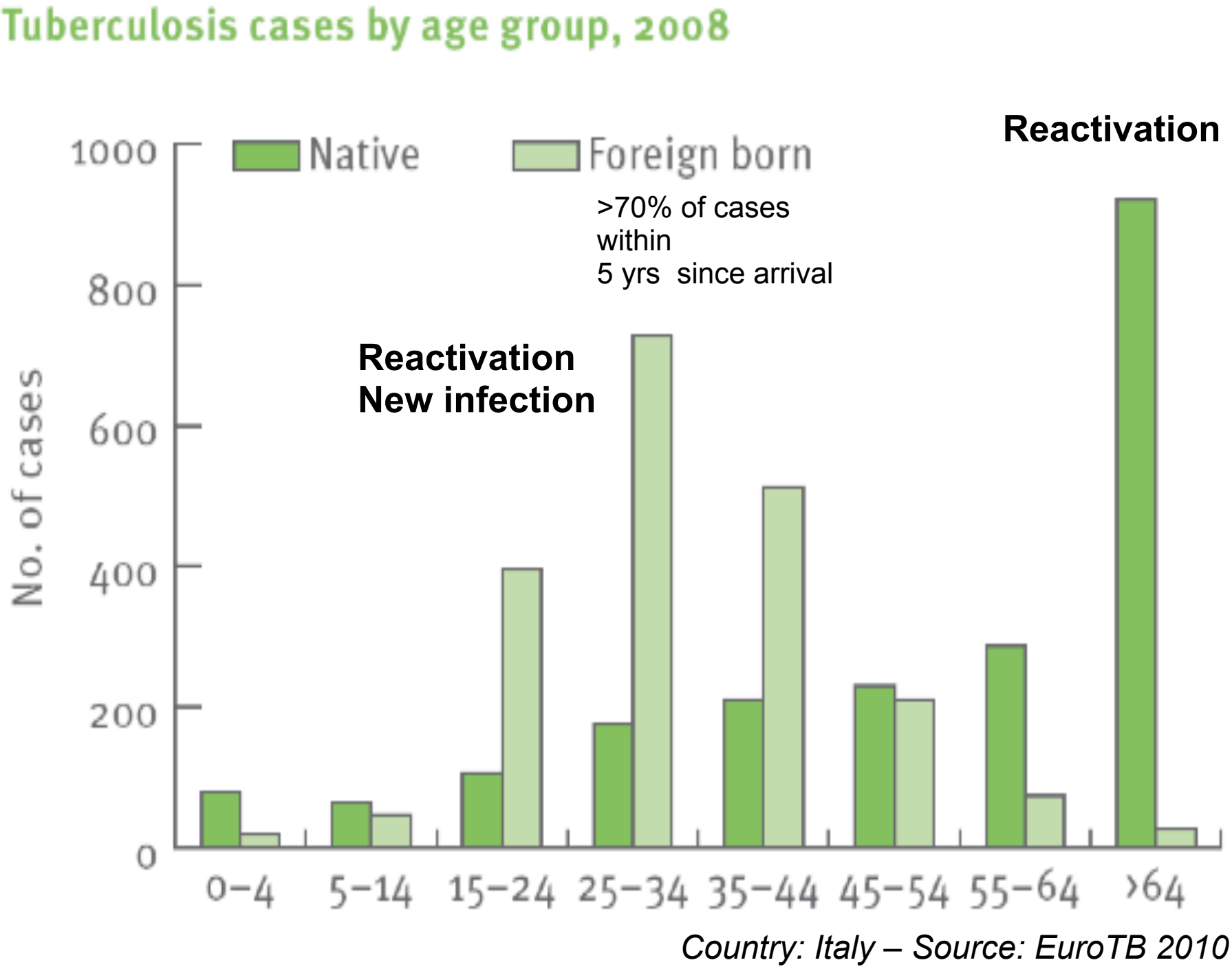
Country	Perceived	Actual
Italy	25	7
Spain	21	14
United States of America	39	14
Canada	39	20

Source: Transatlantic Trends, 2010: 6.

Migratory process & Health

PHASE	HEALTH RISK FACTORS
Pre-departure	Biological characteristics, Local chronic disease patterns and pathogens, Environmental factors, Political and personal circumstances, Depletion of healthcare workers…
Travel	Transports and travel circumstances, Epidemiological characteristics of crossed areas, Sexual violence, Human trafficking…
Interception	Poor living conditions affecting both physical and mental health, Human rights abuses, Inadequate medical care
Destination	Socio-economic conditions, Access to care, Refugee or irregular status, Occupational risks…
Return (e.g. VFR)	Poor medical assistance, Reduced immunity against local pathogens

Zimmerman et al., *Migration and health: A Framework for 21° Century Policy making*, PLoS Med. 2011 May; 8(5): e1001034


Tuberculosis cases by age group, 2008
Native
Foreign born
Reactivation
>70% of cases
within
5 yrs since arrival
Reactivation
New infection
No. of cases
1000
800
600
400
200
0
0–4
5–14
15–24
25–34
35–44
45–54
55–64
›64
Country: Italy – Source: EuroTB 2010

Clustering of TB among foreign borne persons in Italy

Clusters are more common among Senegalese than among Italians (OR=5.9, CI 1.4-23.9

Among senegalese clusters are associated to area of residence (OR=3.5, CI 1.3-9.3)

Only 3 mixed clusters identified: in two of them the index case was likely to be Italian

Matteelli A et al., Int J Tub Lung Dis 2003; 7: 967-72

Pattern of drug resistance among new TB cases by country of birth, Italy, 1998-99

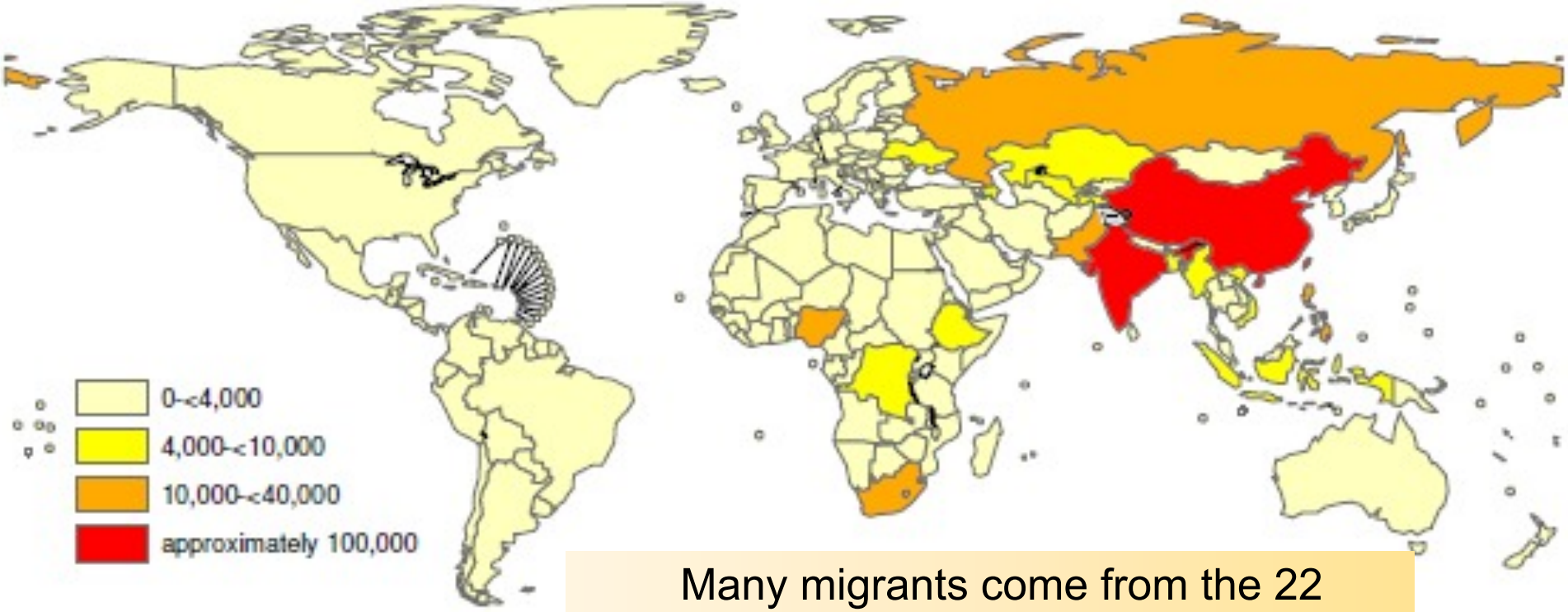
	IMM		ITA				
	N°	%	N°	%	P value	RR	95% CI
Primary mono H	13/ 207	6.3	7/ 476	1.5	0.0014	2.22	1.58-3.13
Primary any H	16/ 207	7.7	22/ 476	4.6	0.14	1.42	0.96-2.10

Migliori GB, Int J Tub Lung Dis 2002; 6: 32

Estimated absolute number of MDR-TB cases, 2009

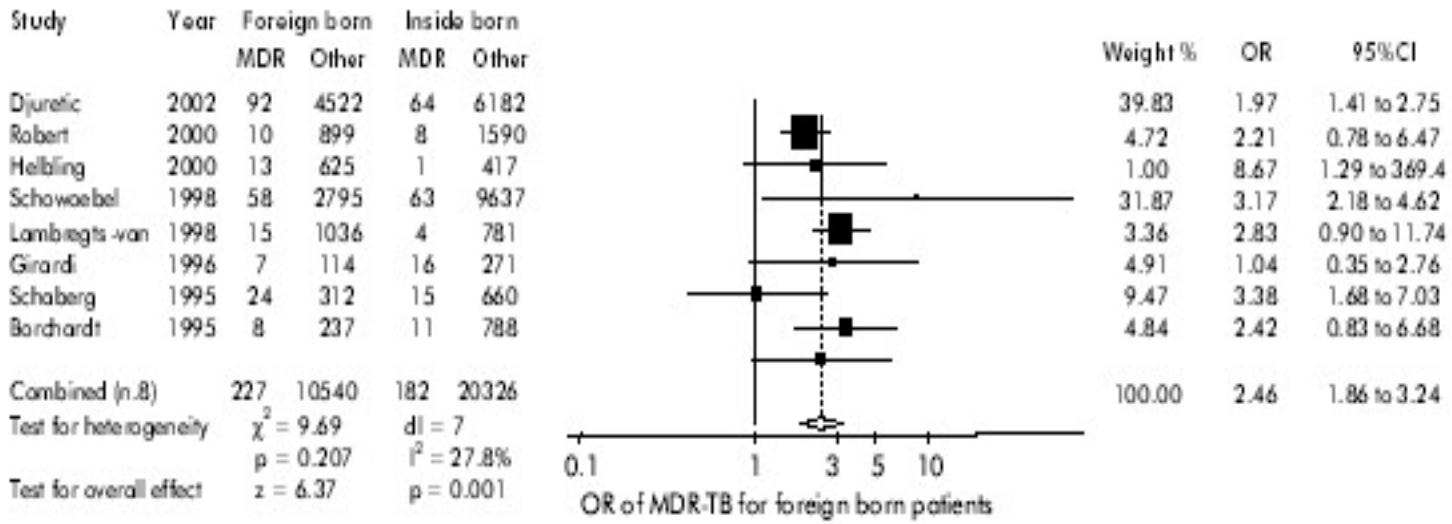
World Health Organization

THE STOP TB DEPARTMENT



Many migrants come from the 22 countries with highest TB-disease burden which make up 80% of global TB cases and a substantial proportion of MDR and XDR TB cases

MDR-TB and immigration



Study	Year	Foreign born		Inside born		Weight %	OR	95%CI
		MDR	Other	MDR	Other			
Djuretic	2002	92	4522	64	6182	39.83	1.97	1.41 to 2.75
Robert	2000	10	899	8	1590	4.72	2.21	0.78 to 6.47
Helbling	2000	13	625	1	417	1.00	8.67	1.29 to 369.4
Schowoebel	1998	58	2795	63	9637	31.87	3.17	2.18 to 4.62
Lambregts-van	1998	15	1036	4	781	3.36	2.83	0.90 to 11.74
Girardi	1996	7	114	16	271	4.91	1.04	0.35 to 2.76
Schaberg	1995	24	312	15	660	9.47	3.38	1.68 to 7.03
Borchardt	1995	8	237	11	788	4.84	2.42	0.83 to 6.68
Combined (n.8)		227	10540	182	20326	100.00	2.46	1.86 to 3.24
Test for heterogeneity		$\chi^2 = 9.69$		df = 7				
		p = 0.207		$I^2 = 27.8\%$				
Test for overall effect		z = 6.37		p = 0.001				

Figure 3 Odds ratio (OR) of multidrug resistant tuberculosis (MDR-TB) for foreign born patients.

Faustini et al., Thorax. 2006;61;158-163;

MDR-Tb represented 2.7% of new cases in Italy in 2008

MDR-tb was 5-times more likely to present in migrants

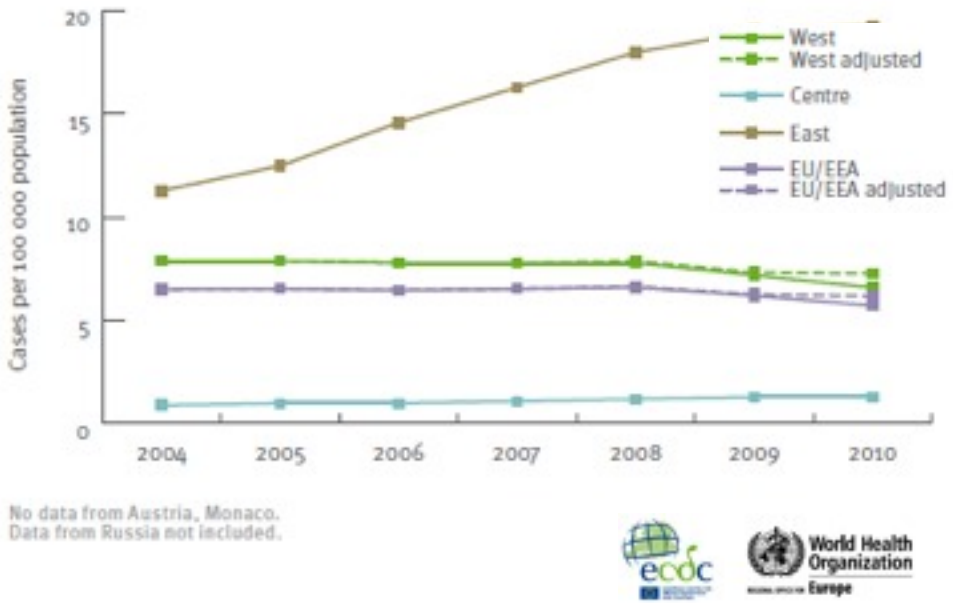
Daniela Cirillo, WHO-Collaborating Center, Milan, Italy (personal communication)

What is the risk that immigration will increase transmission of MDR ?

More than 30 000 former Soviet citizens arrived in Norway since 2001. Only four of these were diagnosed with multidrug resistant tuberculosis on arrival, and their infections were not transmitted to other people in Norway

Dahle UR, TB in immigrants is not public health risk, but uncontrolled epidemics are. *BMJ 2005;331:237*

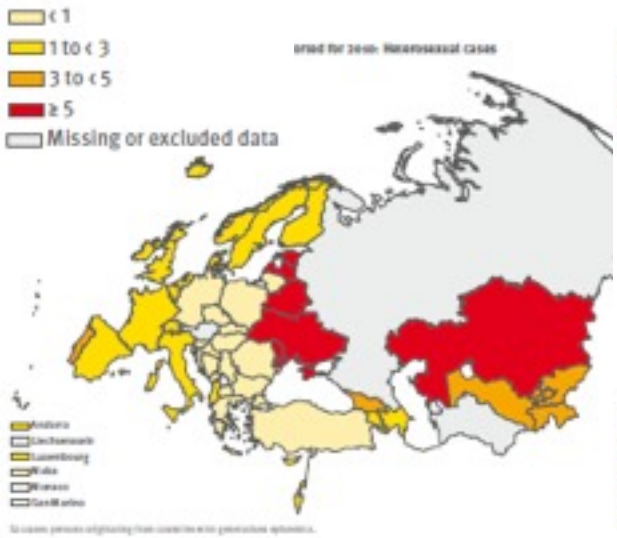
HIV infection rates by geographical area, WHO European and EU/EEA, 2004-2010



Sexually Transmitted Infections:

- HIV infection
- Resistant *STIs*

Heterosexuals



IVDUsers

MSM

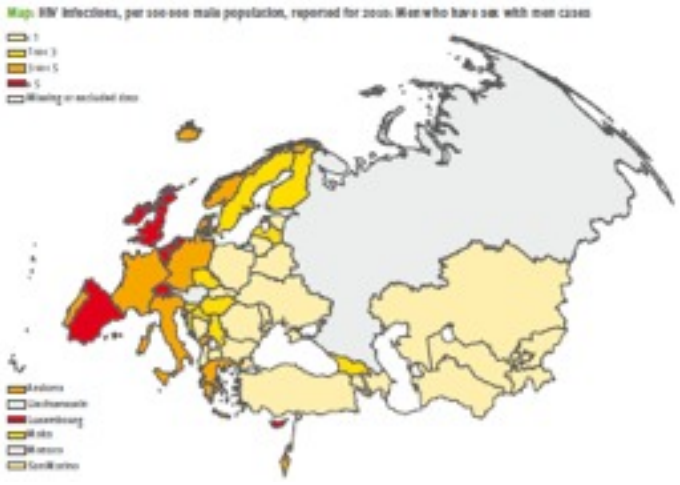


Figure B: Distribution of percentage of persons originating from countries with generalised epidemics among all cases reported as heterosexually acquired, EU/EEA countries with percentages >25%, 2010

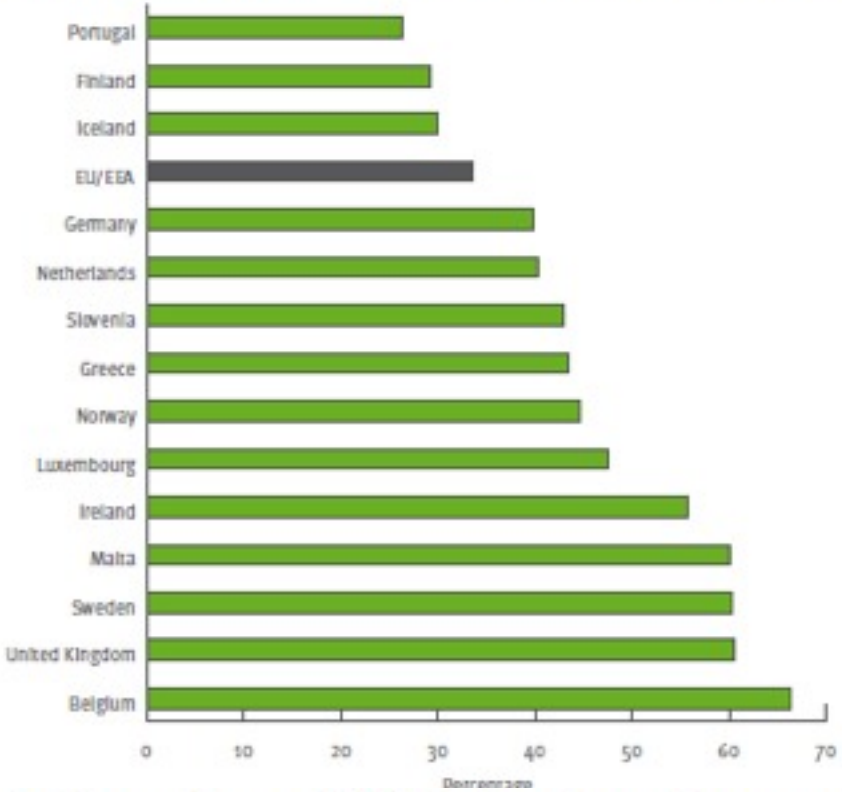


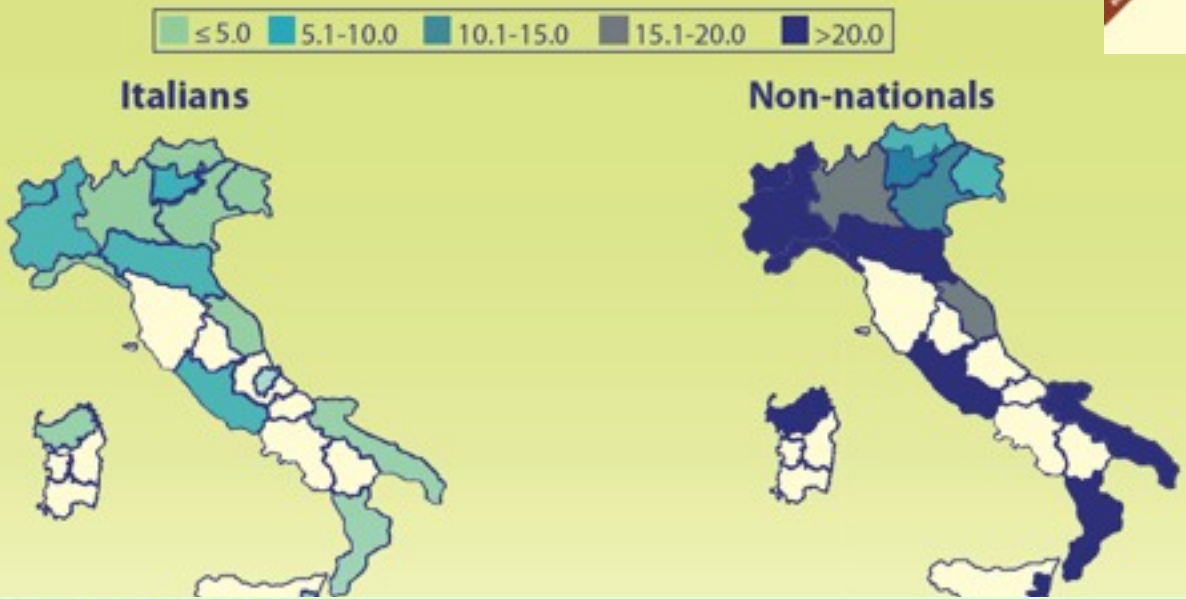
Table B: Total number and proportion of newly diagnosed cases of HIV infection and cases from countries with generalised epidemics, by mode of transmission in the WHO European Region, 2010

Reported HIV cases	Transmission mode							
	Heterosexual	IDU	MSM	Mother-to-child	Use of blood products/ transfusion	Nosocomial	Unknown*	Total*
Cases from countries with generalised epidemic	4116 (17%)	16 (0.1%)	165 (1.5%)	125 (19%)	24 (32%)	9 (25%)	305 (4%)	4760 (9%)
Number and proportion of cases and excluding cases originating from countries with generalised epidemics	19964 (39%)	12763 (25%)	10836 (21%)	521 (1%)	51 (0.1%)	27 (0.1%)	7137 (14%)	50994 (100%)
Total number and proportion of HIV reported cases	24080 (43%)	12779 (23%)	11001 (20%)	646 (1.2%)	75 (0.1%)	36 (0.1%)	7137 (13%)	55754 (100%)

* Data from Russia not included.

ITALIAN DATA ABOUT HIV INFECTION AND AIDS CASES 1982-2010

COA



Area geografica di provenienza	Less than 6 months		More than 6 months	
Italia	9.426	39,6	14.367	60,4
Estera	2.613	71,0	1.066	29,0
Non nota	170	64,6	93	35,4
Totale	**12.209**	**44,0**	**15.526**	**56,0**

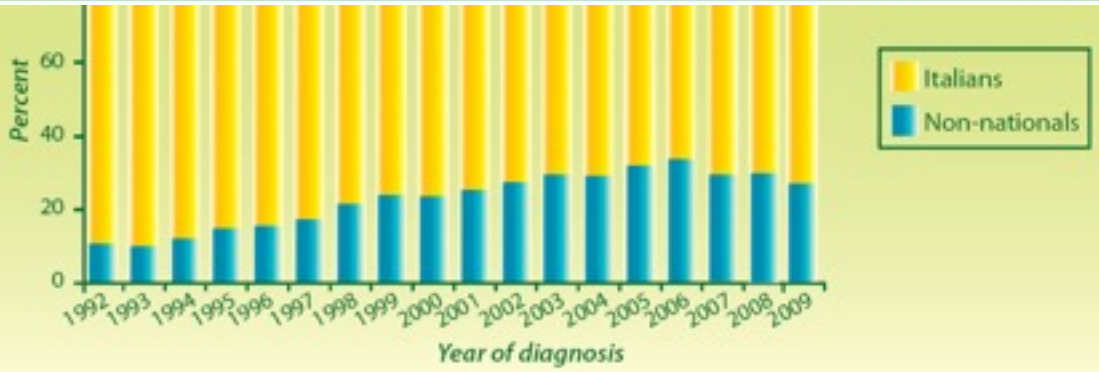


Figure 3 - Percent distribution of new HIV diagnoses among Italians and non-nationals, by year of diagnosis

HIV Infection among Illegal Migrants, Italy, 2004–2007

Maria Chiara Pezzoli, Issa El Hamad, Carmelo Scarcella, Francesco Vassallo, Fabrizio Speziani, Graziella Cristini, Carla Scolari, Barbara Suligoi, Anna Maria Luzi, Daniela Bernasconi, Miriam Lichtner, Giuseppina Cassara', Nino Manca, Giampiero Carosi, Francesco Castelli, and the PRISHMA Study Group[1]

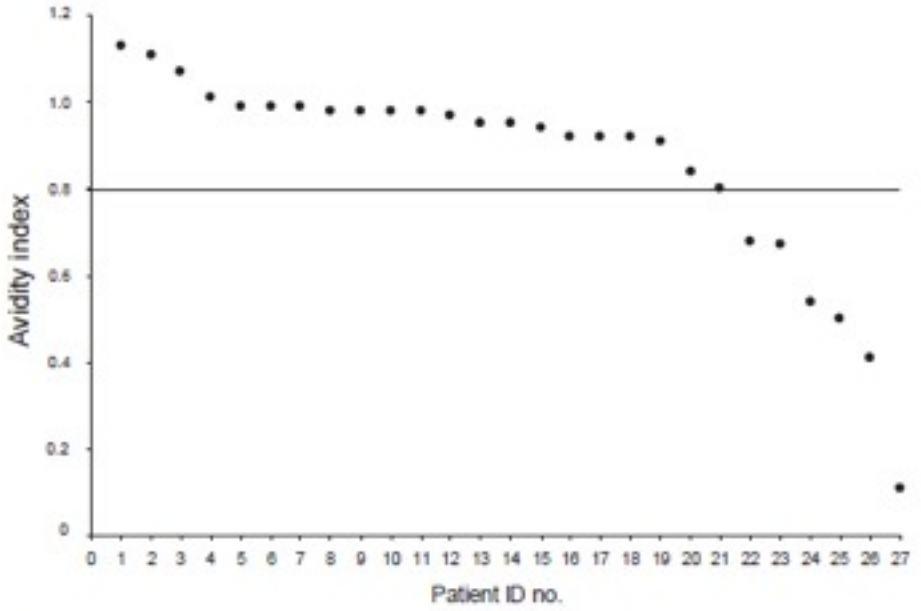


Figure. Antibody avidity indices for 27 HIV-infected migrants, Italy, 2004–2007. Horizontal line indicates the cutoff value. ID, identification.

To determine HIV prevalence and place of exposure for illegal migrants in Italy, we tested 3,003 illegal adult migrants for HIV; 29 (0.97%) were HIV positive.
Antibody avidity index results (indicators of time of infection) were available for 27 of them.
6/27 (22.2%) presumably acquired HIV after migration.

Table 2. Likely time and place of infection for 27 HIV-infected migrants, Italy, 2004–2007

Time of migration	Antibody avidity index ≤0.8 (infection acquired in past 6 mo), no. (%)	Antibody avidity index >0.8 (infection acquired >6 mo earlier), no. (%)
Past 6 mo	1 (3.7) (place of infection is undetermined)	4 (14.8) (likely place of infection is country of origin)
>6 mo before HIV testing	6 (22.2) (likely place of infection is Italy)	16 (59.3) (place of infection is undetermined)

The Role of Migration and Domestic Transmission in the Spread of HIV-1 Non-B Subtypes in Switzerland

Viktor von Wyl,[1,2,3] Roger D. Kouyos,[2,3] Sabine Yerly,[4] Jürg Böni,[2] Cyril Shah,[2] Philippe Bürgisser,[5] Thomas Klimkait,[7] Rainer Weber,[1] Bernard Hirschel,[8] Matthias Cavassini,[6] Cornelia Staehelin,[9] Manuel Battegay,[10] Pietro L. Vernazza,[11] Enos Bernasconi,[12] Bruno Ledergerber,[1] Sebastian Bonhoeffer,[3] Huldrych F. Günthard,[1] and the Swiss HIV Cohort Study

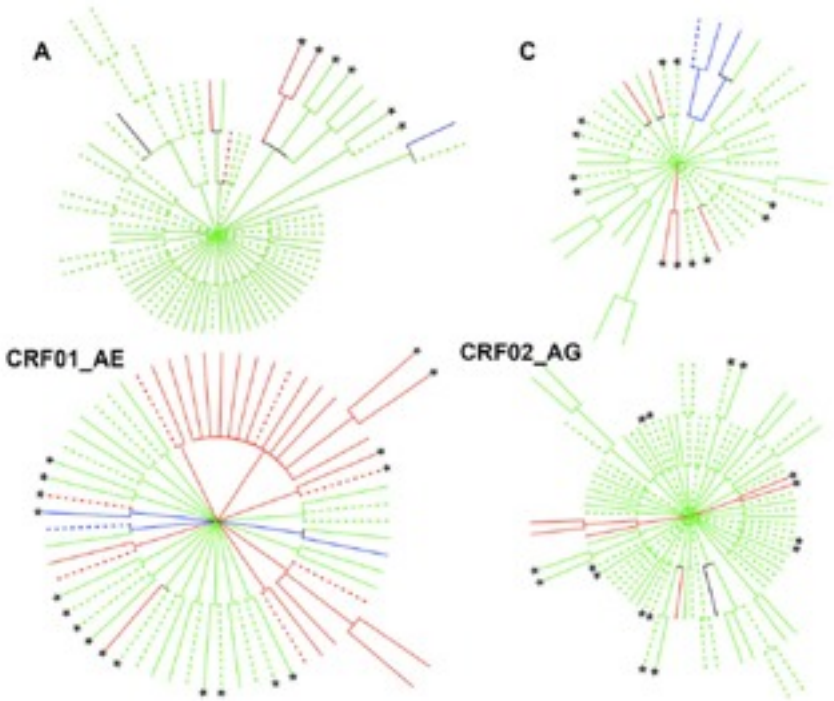


Figure 2. Swiss-specific subepidemics for subtypes A and C and CRFs AE and AG. Only tips belonging to Swiss patients in a Swiss transmission cluster are depicted. Each edge emerging from the center corresponds to one transmission cluster. Colors indicate the transmission group (*green*: heterosexual, *red*: MSM, *blue*: IDU, *turquoise*: unknown transmission group). Dashed lines indicate patients of nonwhite ethnicity. Stars indicate possible transmission pairs

Conclusions. Of all non-B infections diagnosed in Switzerland, <25% could be prevented by domestic interventions. Awareness should be raised among immigrants and Swiss individuals with partners from high prevalence countries to contain the spread of non-B subtypes.

SURVEILLANCE AND OUTBREAK REPORTS

The European gonococcal antimicrobial surveillance programme, 2009

Euro Surveill. 2011;16(42)

M J Cole (michelle.cole@hpa.org.uk)[1], M Unemo[2], S Hoffmann[3], S A Chisholm[1], C A Ison[1], M J van de Laar[4]

Neisseria gonorrhoea resistance

	Number of isolates	Resistance			
Latvia	9	0	1 (11)	0	8 (89)
Malta	22	1 (5)	20 (91)	0	0
The Netherlands	114	3 (3)	56 (49)	5 (4)	58 (51)
Norway	110	2 (2)	88 (80)	41 (37)	14 (13)
Portugal	79	0	27 (34)	13 (16)	46 (58)
Slovakia	15	1 (7)	15 (100)	1 (7)	0
Slovenia	24	2 (8)	19 (79)	3 (13)	3 (13)
Spain	103	6 (6)	67 (65)	7 (7)	33 (32)
Sweden	108	11 (10)	77 (71)	37 (34)	25 (23)
United Kingdom[b]	120	5 (4)	42 (35)	7 (6)	76 (63)
Total	**1,366**	**180 (13)**	**857 (63)**	**172 (13)**	**459 (34)**
95% CI		(11.4–15)	(60.2–65.3)	(10.8–14.4)	(31.1–36.1)

Perspective

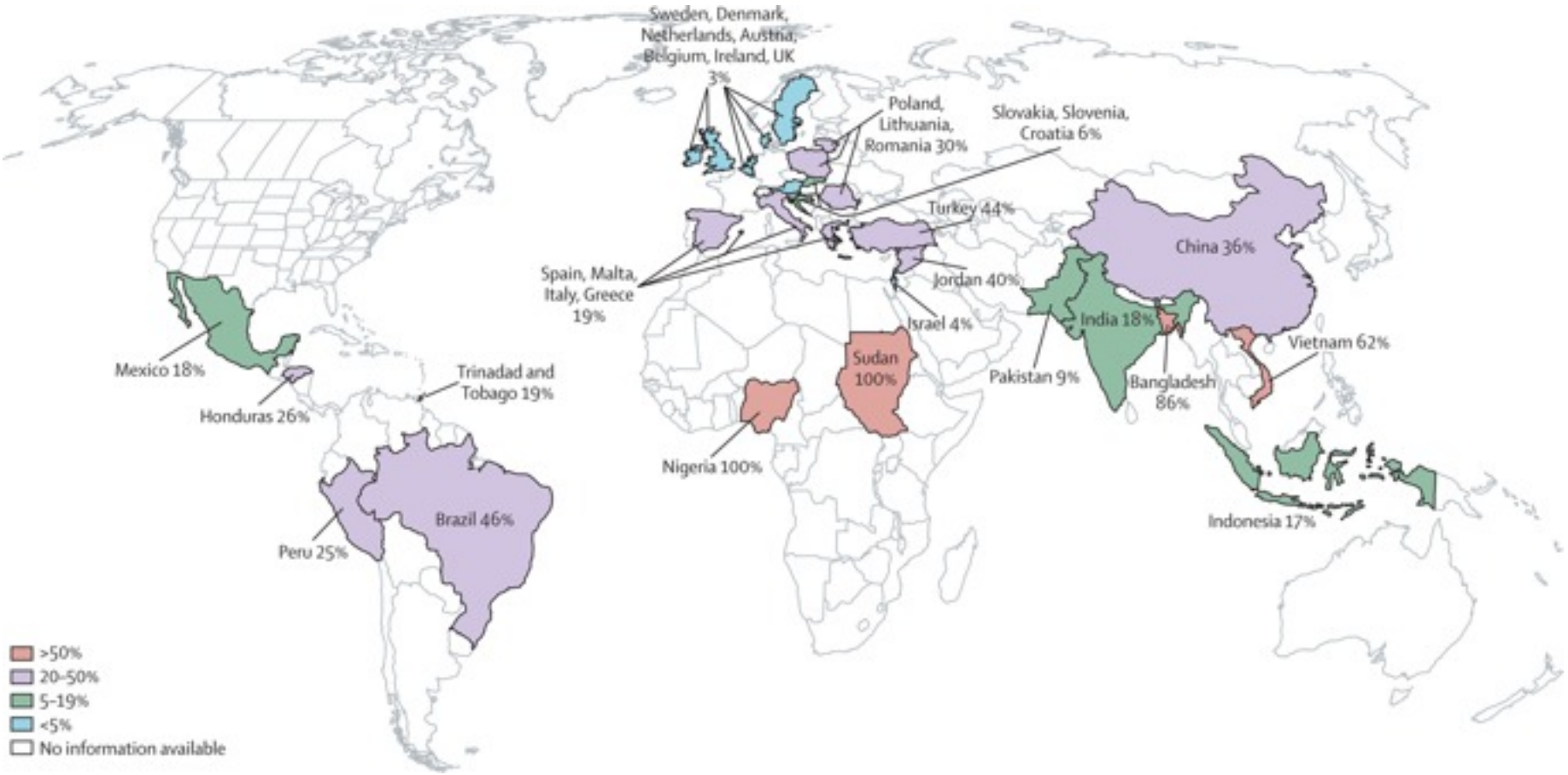
FEBRUARY 9, 2012

The Emerging Threat of Untreatable Gonococcal Infection

Gail A. Bolan, M.D., P. Frederick Sparling, M.D., and Judith N. Wasserheit, M.D., M.P.H.

Prevalence of decreased susceptibility to cefixime among *Neisseria gonorrhoea* isolates from 10 EU/EEA countries, 2009 (n=908)

Country (total number of isolates tested)	Isolates with DS-cefixime Number (%)
Austria (104)	22 (21.2)
Italy (70)	13 (18.6)
Denmark (119)	18 (15.1)
Slovenia (24)	2 (8.3)
Belgium (110)	7 (6.4)
Sweden (108)	3 (2.8)
Germany (45)	1 (2.2)
France (104)	2 (1.9)
The Netherlands (114)	1 (0.9)
Norway (110)	1 (0.9)



Daniel J Morgan. Non-prescription antimicrobial use worldwide: a systematic review, *Lancet Infect Dis 2011;* 11: 692–701

The state of hepatitis B and C in Europe: report from the hepatitis B and C summit conference†

Hepatitis B

Persons born in geographic regions that have hepatitis B surface antigen prevalence of at least 2%

Infants born to infected mothers

Household contacts of persons who have chronic HBV infection

Sex partners of infected persons

Injection-drug users

Sexually active persons who are not in long-term, mutually monogamous relationships (for example, more than one sex partner during previous 6 months)

Men who have sex with men

Health care and public safety workers at risk for occupational exposure to blood or blood-contaminated body fluids

Residents and staff of facilities for developmentally disabled persons

Persons who have chronic liver disease

Haemodialysis patients

Travellers to countries that have intermediate or high prevalence of HBV infection

Journal of Viral Hepatitis
pages 1-16, 9 AUG 2011 DOI: 10.1111/j.1365-2893.2011.01499.x
http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2893.2011.01499.x/full#f1

ORIGINAL ARTICLE Clin Microbiol Infect 10.1111/j.1469-0691.2011.03596.x

Travel-related imported infections in Europe, EuroTravNet 2009

S. Odolini[1], P. Parola[2], E. Gkrania-Klotsas[3], E. Caumes[4], P. Schlagenhauf[5], R. López-Vélez[6], G.-D. Burchard[7], F. Santos-O'Connor[8], L. Weld[9], F. von Sonnenburg[10], V. Field[11], P. de Vries[12], M. Jensenius[13], L. Loutan[14] and F. Castelli[1]

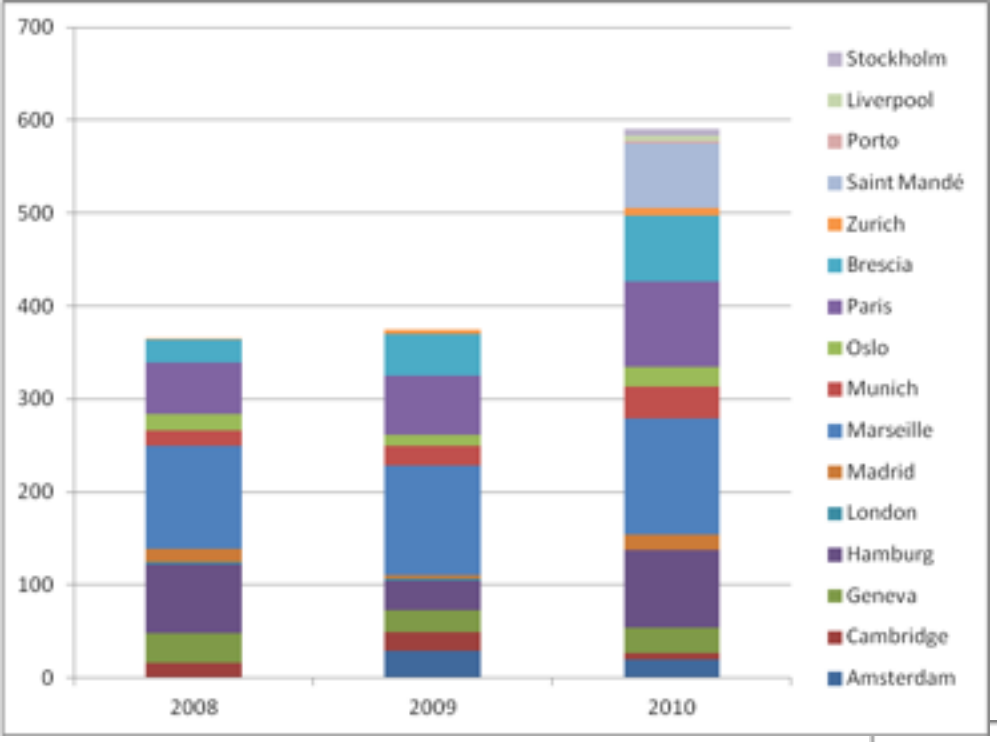
TABLE 1. Demographic characteristics of travellers

Site	2008	2009	p-value
Gender (%)			
Female	48.9	50.3	
Travel reason (%)			
Business	10.5	11.0	<0.001
Immigration	9.4	7.7	
Medical tourism	0.1	0.4	
Military	0.6	1.0	
MVAWR	22.6	20.0	
Student	1.3	2.5	
Tourism	43.5	45.0	
VFR	11.9	12.5	
Risk level (%)			
Expatriate	6.9	8.6	<0.001
Pre-arranged or organized travel	22.6	26.6	
Risk travel[a]	69.8	63.7	
Missing	0.8	1.2	
Clinical setting (%)			
Immigration only	9.4	7.7	0.001
Seen after travel	82.0	84.4	
Seen during travel	8.5	7.9	
Inpatient	11.0	14.6	<0.001
Pre-travel advice (%)			
Yes	45.4	43.2	<0.001
No	22.4	26.1	
Do not know	32.2	30.7	

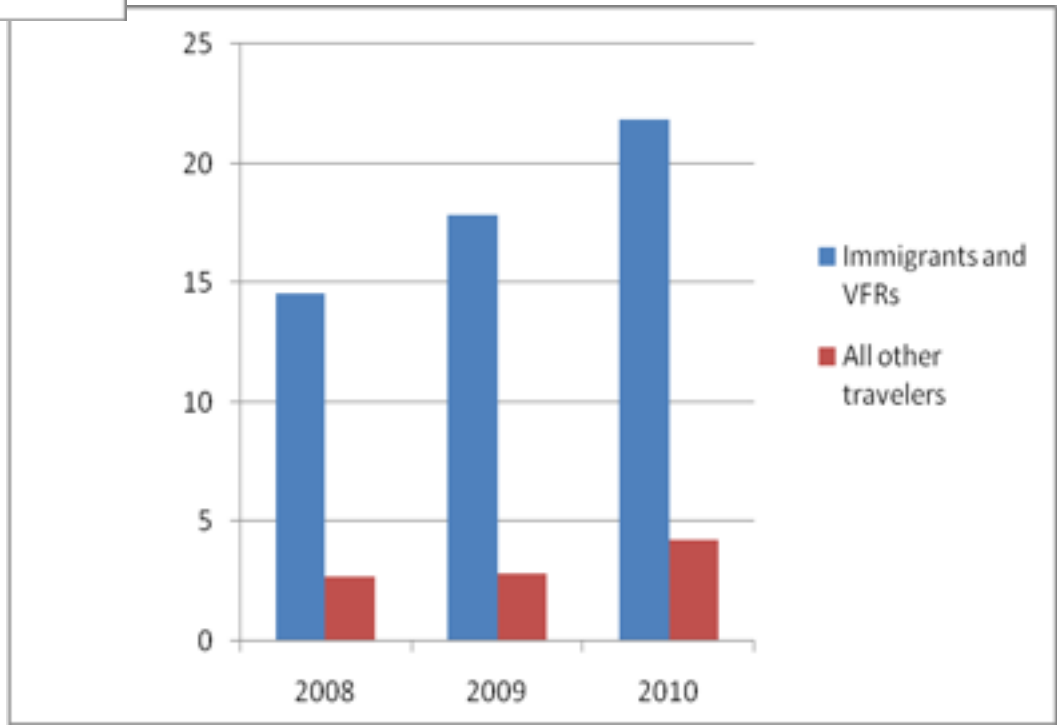
During the last few years, the number of imported malaria cases in Europe has decreased, possibly reflecting malaria control activities in endemic countries [4,5]. However, malaria in Europe remains an important travel medicine issue, given the large number of imported cases [6]. Moreover, there is potential for the reappearance of malaria in countries where it was previously eradicated, and limited outbreaks do occur in Europe, where *Anopheles* mosquitoes are still present, mainly in the Mediterranean area [7], making the slight, although not statistically significant, increase observed in our dataset in 2009 a phenomenon that requires attention. In August 2006, one case of indigenous *P. vivax*

Travel-related imported infections in Europe, EuroTravNet 2010

Gautret P. et al, under submission



Number of malaria cases per year reported by EuroTravNet sites.
Malaria (all cases) by reporting site.



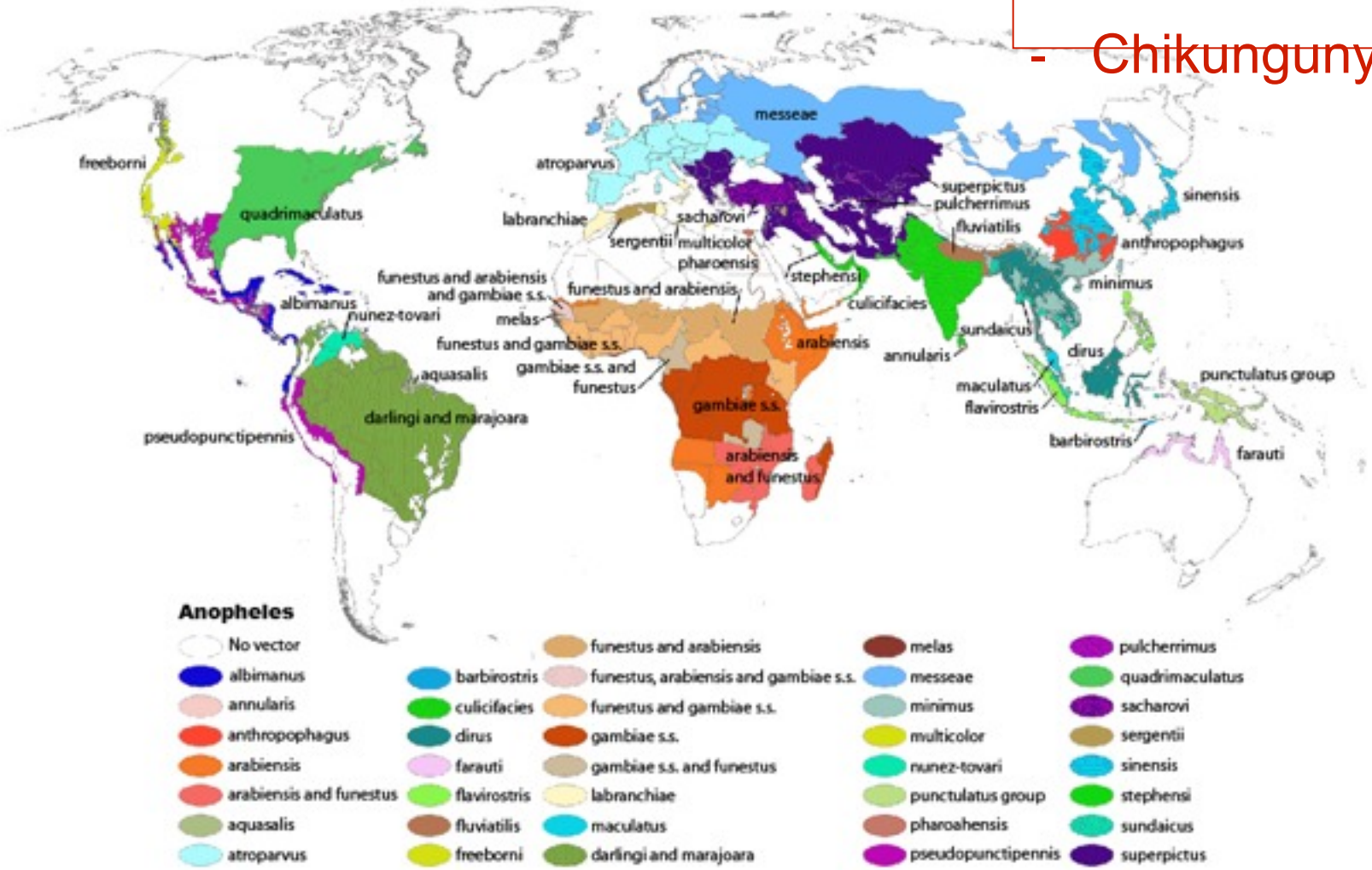
Proportion of immigrants/VFRs and other travelers with malaria among all ill immigrants/VFRs and other travelers returning to EuroTravNet sites

Global Distribution (Robinson Projection) of Dominant or Potentially Important Malaria Vectors

From Kiszewksi et al., Am. J. Trop. Med. Hyg., 2004; 70:486-498.

Vector borne infections:

- Malaria
- Chikungunyia



http://www.cdc.gov/malaria/about/biology/mosquitoes/map.html

Rapid communications

Autochthonous *Plasmodium vivax* malaria in Greece, 2011

N Danis (danisconstas@yahoo.com)[1], A Baka[1], A Lenglet[2], W Van Bortel[2], I Terzaki[1], M Tsiamis[1], M Detsis[1], E Papanikolaou[1], A Balatsos[1], S Gewehr[1], G Dougas[3], T Sideroglou[1], A Economopoulou[1], N Vakalis[4], S Tsiodras[1], S Bonovas[1], J Kremastinou[1]

1. Hellenic Centre for Disease Control and Prevention, Athens, Greece
2. European Centre for Disease Prevention and Control (ECDC), Stockholm, Sweden
3. Ecodevelopment S.A., Thessaloniki, Greece
4. National School of Public Health, Athens, Greece

Citation style for this article:
Danis N, Baka A, Lenglet A, Van Bortel W, Terzaki I, Tsiamis M, Detsis M, Papanikolaou E, Balatsos A, Gewehr S, Dougas G, Sideroglou T, Economopoulou A, Vakalis N, Tsiodras S, Bonovas S, Kremastinou J. Autochthonous Plasmodium vivax malaria in Greece, 2011. Euro Surveill. 2011;16(43):pii=20002. Available online: http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20002

Article published on 27 October 2011

Figure 1

Place of residence of reported malaria cases, Greece, May–September 2011 (n=36)

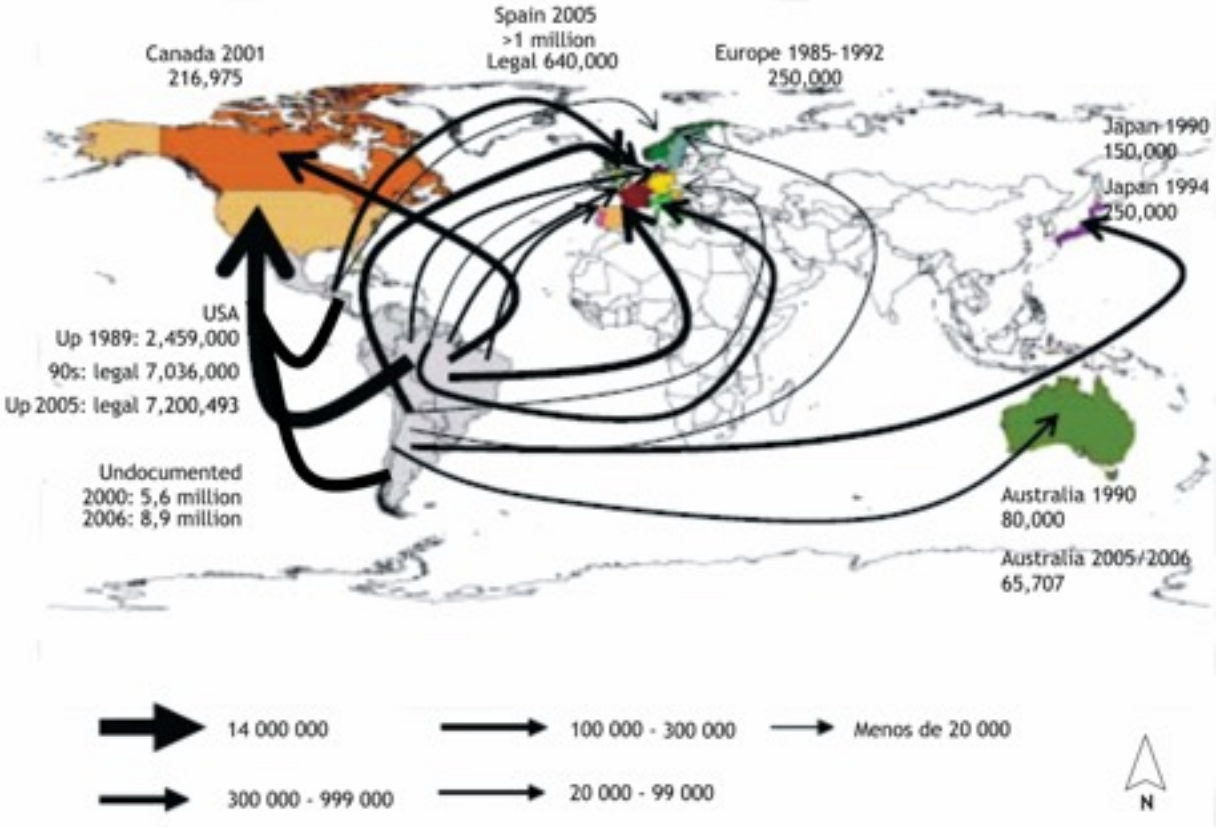
Malaria Journal

BioMed Central
The Open Access Publisher

Autochthonous plasmodium vivax malaria in a Greek schoolgirl of the Attica region

Malaria Journal 2012, **11**:52 doi:10.1186/1475-2875-11-52

In non-endemic countries, malaria cases are mostly imported (from travelers or immigrants), but blood transfusion malaria, or malaria in transplant recipients, or even cases of "airport malaria" can occasionally be seen [1]. Greece has been malaria free since 1974. However, rare cases of autochthonous malaria are occasionally reported. Recently, in August 2011, an announcement was posted by European Centres for Disease Prevention and Control (ECDC) and American Centers for Disease Control and Prevention (CDC) that six autochthonous malaria cases were reported in southern Greece [2,3]. An autochthonous case in a schoolgirl in the Attica region in 2009 is hereby described.



Vertically transmitted infections:

- Chagas disease
- (rubella, HBV, etc.)

OPEN ACCESS Freely available online

PLoS NEGLECTED TROPICAL DISEASES

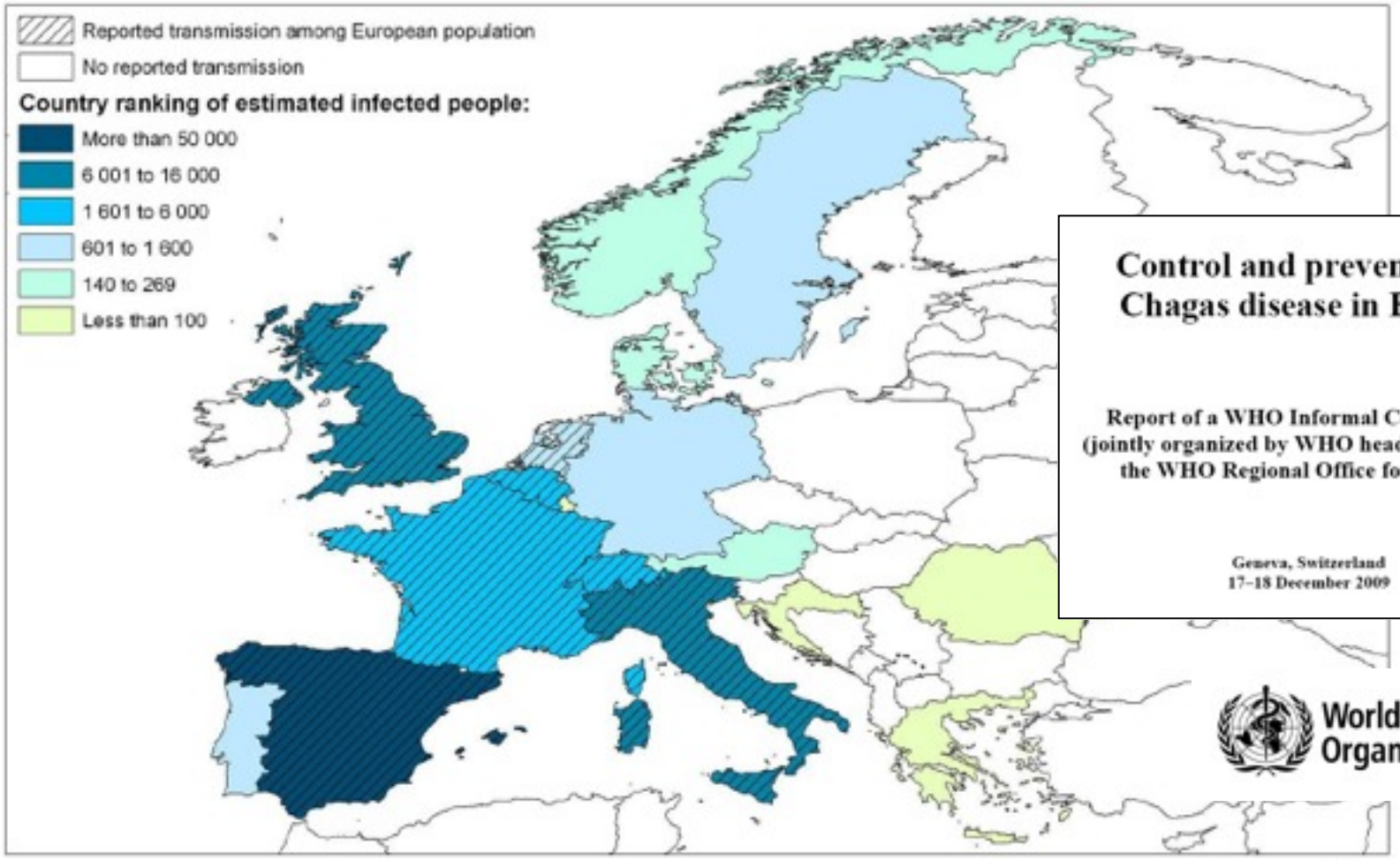
Expert Commentary

Chagas Disease Has Now Gone Global

Herbert B. Tanowitz[1,2,3,4]*, Louis M. Weiss[1,2,3], Susan P. Montgomery[5]

1 Department of Pathology (Division of Parasitology), Albert Einstein College of Medicine, Bronx, New York, United States of America, **2** Department of Medicine (Division of Infectious Disease), Albert Einstein College of Medicine, Bronx, New York, United States of America, **3** Global Health Center, Albert Einstein College of Medicine, Bronx, New York, United States of America, **4** Jacobi Medical Center (Diagnostic Parasitology Laboratory), Bronx, New York, United States of America, **5** Division of Parasitic Diseases and Malaria, Centers for Disease Control and Prevention, Atlanta, Georgia, United States of America

Map A3. Distribution of cases of *Trypanosoma cruzi* infection in Europe by country, and reported transmission (autochthonous, transfusional or congenital transmission of infection acquired among European travellers to disease-endemic areas) among the European population (data reported to WHO as of December 2009)



Congenital Chagas disease

Respiratory Distress: 25% in Bolivia

Hepatosplenomegaly

Muscle hypotonia

Fever

Seizures

Jaundice

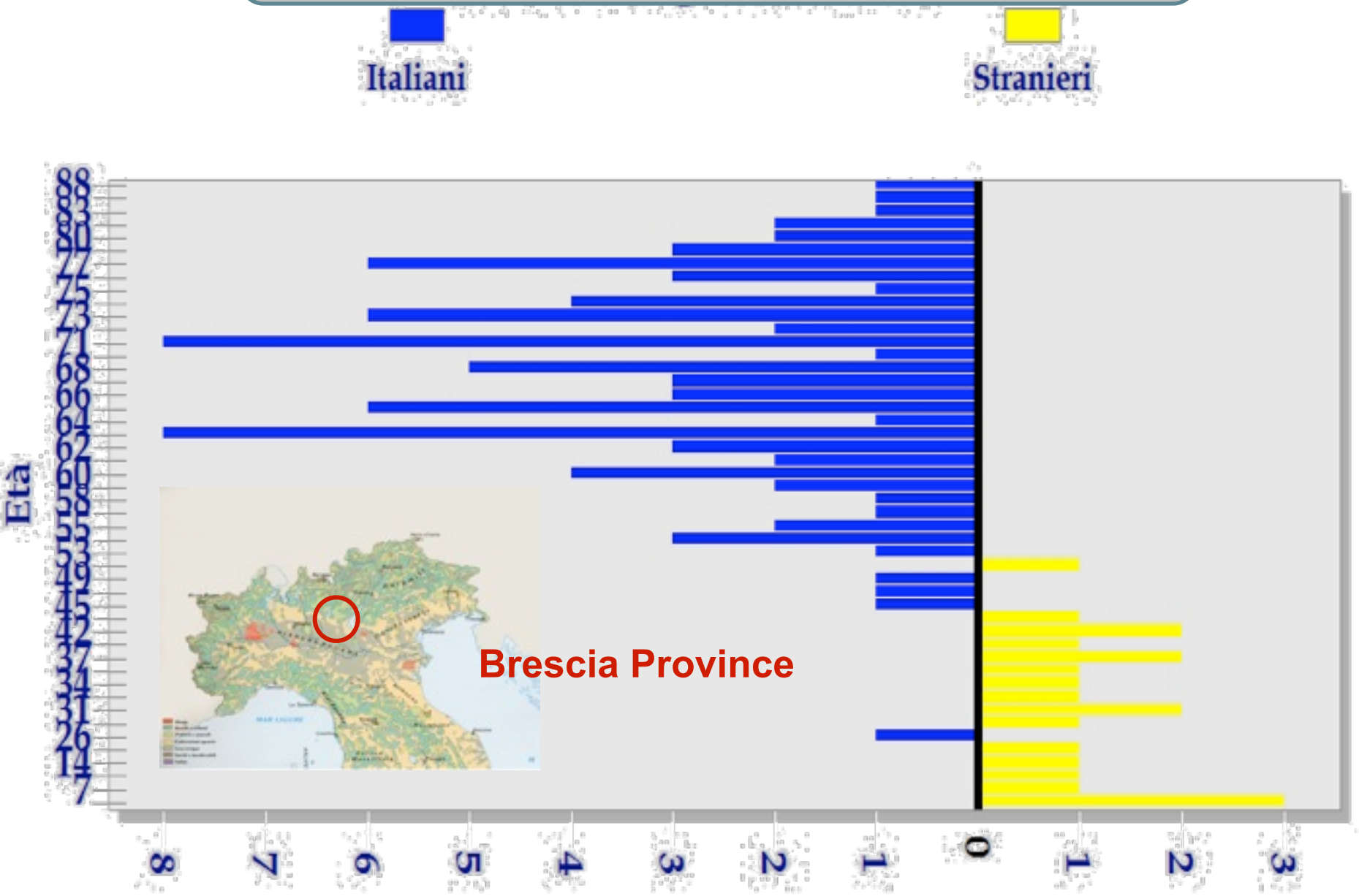
Anasarca

Tachicardia

Hart failure

Meningoencephalitis

Patients with strongyloidosis in Brescia
Age distribution by origin



Considerazioni conclusive

- Migrazione è una componente essenziale della mobilità umana e può contribuire significativamente alla mobilità delle infezioni
- Numerose infezioni latenti possono indurre malattia anche molti anni dopo la migrazione
- La conoscenza della storia migratoria è un elemento importante dei sistemi di sorveglianza
- Favorire l'accesso dei migranti alle cure mediche aiuta a prevenire la diffusione delle infezioni in una comunità
- La tuberculosi è una epidemia globale che deve essere affrontata globalmente