

# Contrasting patterns of HIV and TB co-morbidity in Europe

Isabelle Devaux on behalf of EuroHIV and  
EuroTB teams

Institut de Veille Sanitaire, France



UNAIDS



WHO Collaborating  
Centre



# EuroHIV: The European Network on the Surveillance of HIV/AIDS

- Established in 1984 as the European Centre for the Epidemiological Monitoring of AIDS
- Covers 53 countries of the European Region of WHO
- WHO and UNAIDS Collaborating Centre
- Part-funded by the European Commission (DG SANCO)
- Hosted by the Institut de Veille Sanitaire, France
- EuroHIV aims to:
  - produce standardised, timely and reliable data on the epidemiological situation of HIV in Europe to better inform public health policies of control, prevention and care

# About EuroTB

- Network of national institutions in charge of TB surveillance in 53 countries.
- Funded by DG-SANCO of the European Commission.
- Promotes standardisation of surveillance methods
- Collects data on national TB case surveillance, drug resistance and treatment outcome.
- Main outputs: annual report, publications and communications, and dissemination of data via the website [www.eurotb.org](http://www.eurotb.org).

# Background

- HIV is important to tuberculosis (TB) epidemiology because it increases the likelihood of :
  - reactivation of pre-existing TB infection in persons who become infected with HIV
  - progression from TB infection to disease in persons with pre-existing HIV infection
  - transmission of TB in the general population due to larger TB case-load directly attributable to HIV infection
- TB is the commonest AIDS indicative disease in Europe.
- Monitoring HIV prevalence in TB patients is useful in assessing the spread of HIV in the population

# AIDS case definition

## European AIDS surveillance case definition (for adults/adolescents) 1993

- Aged  $\geq 13$  years
- One or more of the 28 specified indicator diseases
  - Includes pulmonary TB since 1993
  - Pulmonary TB not aids defining for children
- Positive test for HIV infection
  - 2 antibody test
  - Detection HIV DNA or RNA
  - Detection p24 antigen
  - HIV isolation
- Does not include CD4 count of less than  $<200/\mu\text{L}$

# Case Definition – TB

## Classification of notifiable cases (ECDC 2007)

Possible : **Clinical Criteria**

Probable: **Clinical Criteria plus**

**AFB positive on direct microscopy**

**OR detection of *M.tb* nucleic acid**

**OR granulomata on histology**

Confirmed: **Clinical Criteria plus**

**positive culture**

**OR both AFB positive on direct  
microscopy AND**

**detection of *M.tb* nucleic acid**

NB. To report also cases detected through lab surveillance alone

# METHODS

- HIV/AIDS and TB surveillance data in the WHO European Region are collated annually by EuroHIV and EuroTB
- Data for 1998-2004 from 37 countries in the European Union (EU, which includes the Baltic States) and the former Soviet Union (FSU) excluding the Russian Federation.

# METHODS

## Indicators used are:

- i. AIDS cases initially defined by TB (AITB) (31/37 countries)

AIDS database (individual data)

- ii. Proportion of all TB notifications being AITB

AIDS and TB databases (individual data)

- iii. Prevalence of HIV seropositivity among TB notifications (20/37 countries)

TB database (aggregated data)

based on records of HIV testing among TB patients and linkage of databases (completeness for HIV testing variable)



# RESULTS

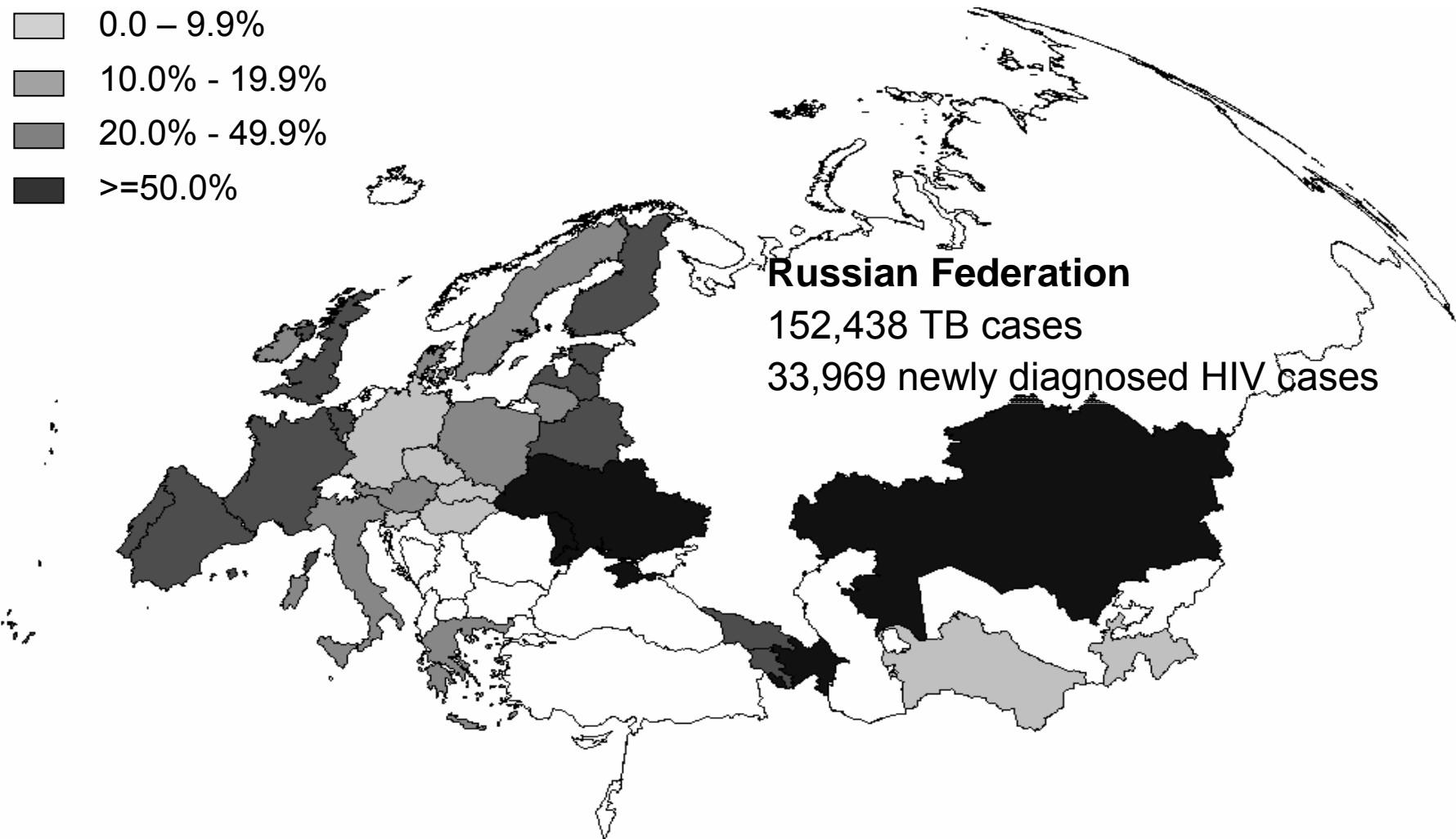
## **AIDS cases initially defined by TB (AITB)**

In 2004, of 12,264 AIDS cases reported in 31 European countries, 3,813 had AITB (31%):

- 24% in EU (country range : 0 - 43.7%)
- 54% in FSU (country range: 24.5 – 81.1%)

# Figure 1 : Percentage of AIDS cases initially defined by TB (AITB) in 31 EU and FSU countries, 2004






- Missing data
- 0.0 – 9.9%
- 10.0% - 19.9%
- 20.0% - 49.9%
- $\geq 50.0\%$

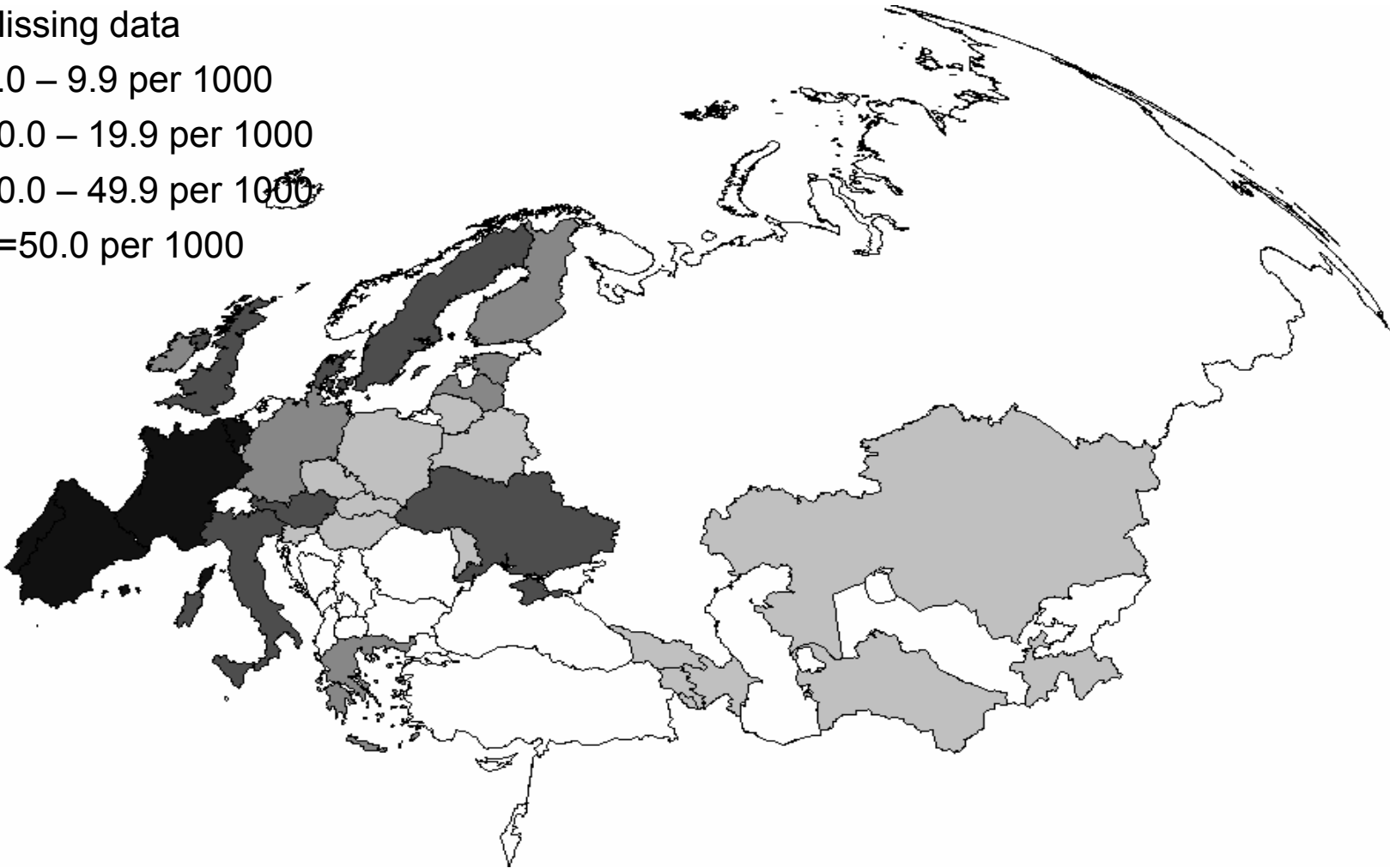


# Proportion of all TB notifications being AITB

- In the EU in 2004, 3% of TB notifications were diagnosed AITB (country range: 0 -11.6%).
- whilst in the FSU, AITB represented 0.5% of TB cases (range: 0 - 3.6%), the large majority of which deriving from Ukraine.

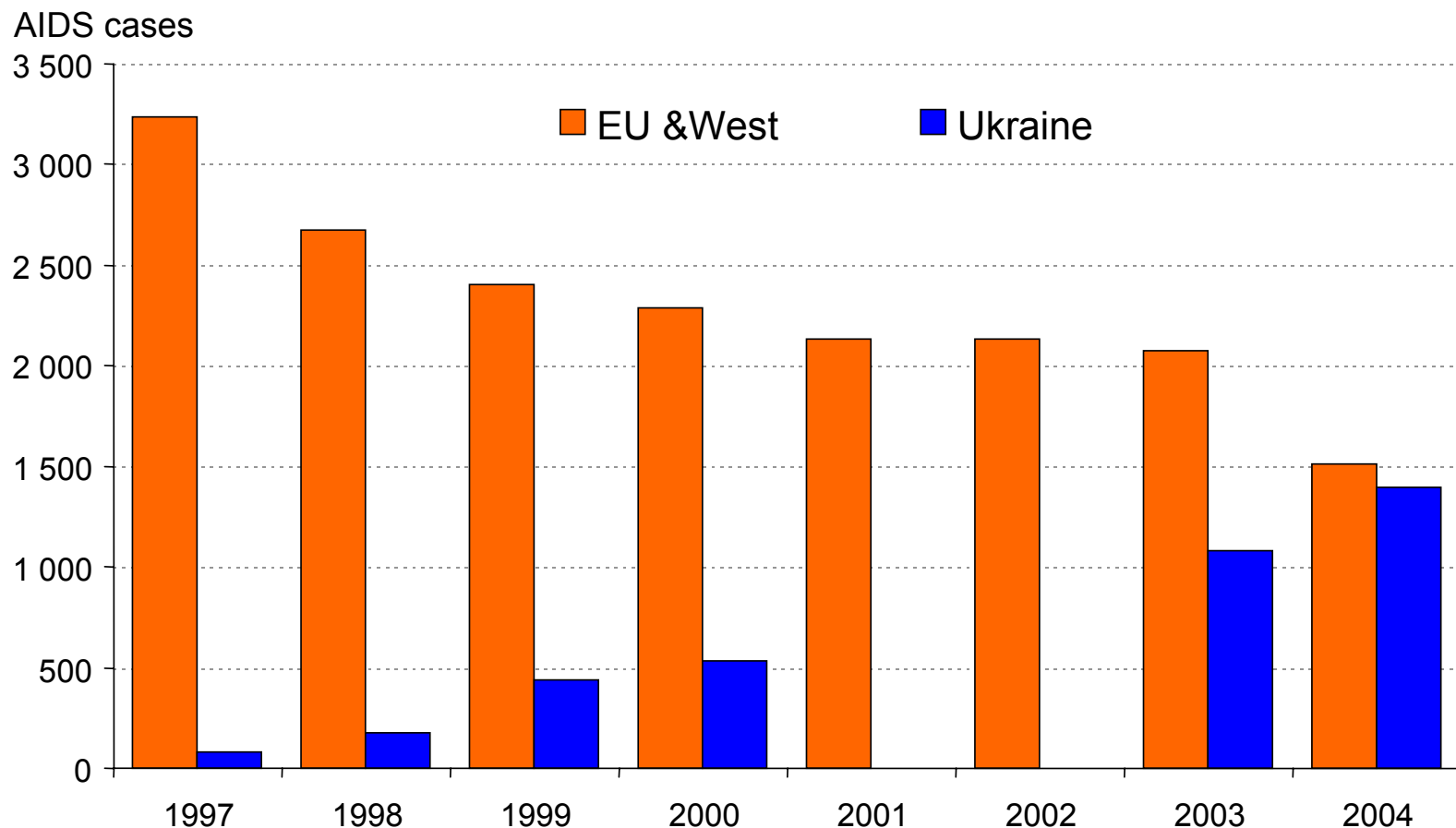
**Figure 2: Proportion of all TB notifications (per 1,000 TB cases) being AITB in 31 EU and FSU countries, 2004**

-  Missing data
-  0.0 – 9.9 per 1000
-  10.0 – 19.9 per 1000
-  20.0 – 49.9 per 1000
-   $\geq 50.0$  per 1000



# AIDS cases with TB, EU & West and Ukraine,\* 1997-2004

As anti-retroviral medication became more widely available in the EU & West after 1997, less HIV-TB was reported. Nonetheless, TB remains an important HIV-related illness in the EU & West, with at least one fifth of AIDS cases reported each year having TB as initial indicator illness. In contrast, in Ukraine - which reported most of the AIDS cases in the East - the number of AIDS-TB cases has increased progressively in recent years.

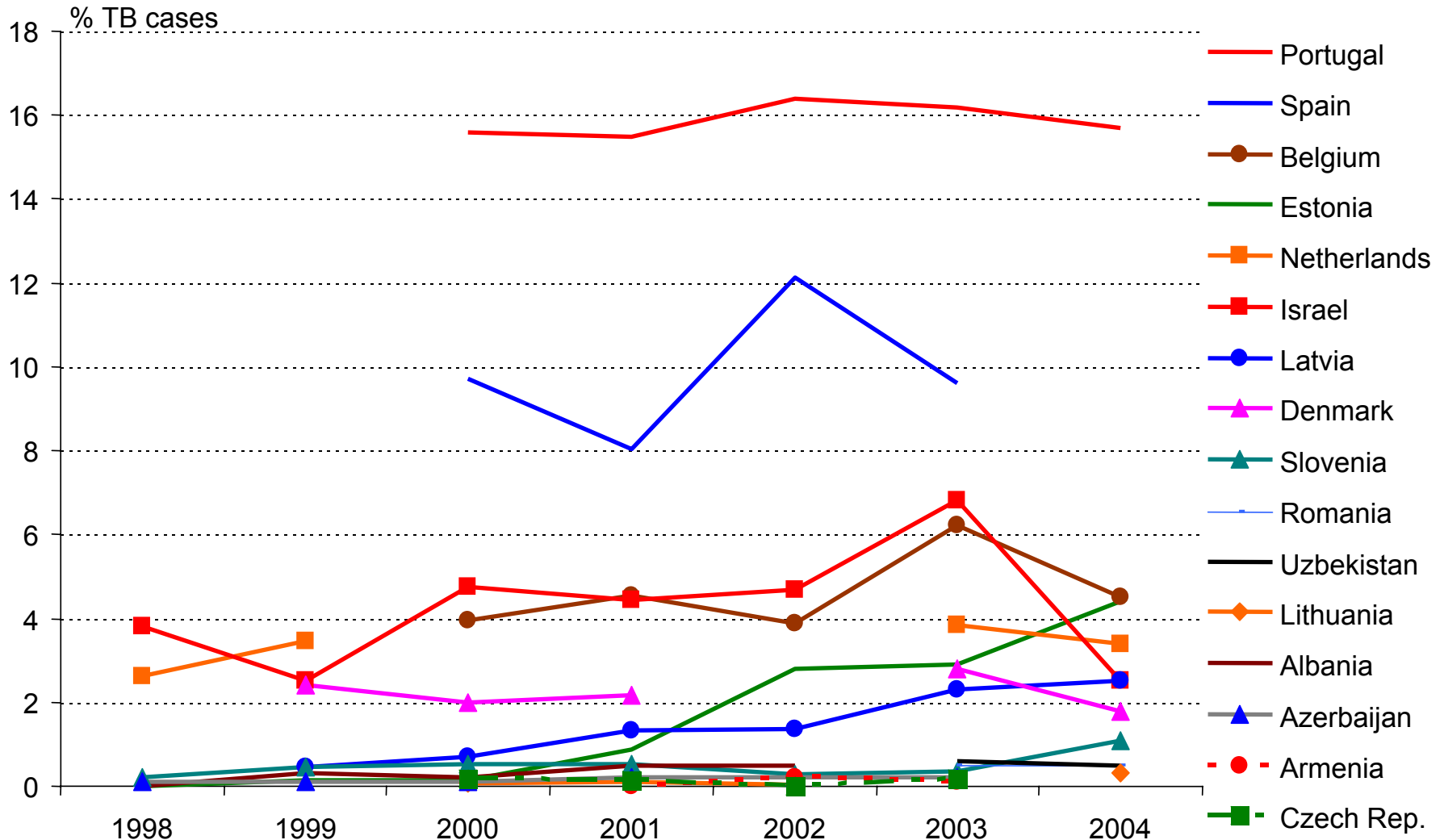


\* Excludes countries with missing (Andorra, Cyprus, Latvia, Netherlands) or incomplete (Ukraine 2001-2) data. Adjusted for reporting delays in certain countries.

Source: EuroHIV

# Prevalence of HIV seropositivity among TB notifications \*

The proportion of TB cases with HIV infection has increased in Estonia and Latvia, but is still highest in Portugal and Spain. In other countries of the Balkans and East providing data, levels have remained below 1%.



\* Excluding countries with less than 2 datapoints in the last 3 years or less than 50 TB notifications annually

# Conclusion

- Prevalence of HIV seropositivity among TB patients is probably underestimated, considering the high percentage of cases unknown HIV serostatus.
- The percentage of AIDS cases initially defined by TB (AITB) remains high in most European countries, especially in Eastern European countries.
- Recent increase in HIV/TB co-morbidity in Ukraine and Baltic States.
- TB/HIV co-morbidity remains stable in non-Baltic EU countries.

# Recommendations

- Need to re-inforce control measures for both diseases in Eastern european countries (e.g. case finding, joined TB/HIV management)
- All countries should monitor both diseases using suitable surveillance systems and report these results.



## **National EuroTB Contact Points:**

M. Safarian, Armenia; J.P. Klein, Austria; S. Mamedova, Azerbaijan; G. Gurevich, Belarus; M. Wanlin, Belgium; L. Trnka, Czech Republic; P. Andersen, Denmark; V. Hollo, Estonia; P. Ruutu, Finland; D. Che, France; A. Salakaia, Georgia; W. Haas, Germany; G. Spala, Greece; J. Mester, Hungary; J. O'Donnell, Ireland; M.G. Pompa, Italy; G.B. Rakishev, Kazakhstan; J. Leimans, Latvia; E. Davidaciené, Lithuania; P. Huberty-Krau, Luxembourg; S. Sofronie, Republic of Moldova; M. Korzeniewska-Kosela, Poland; A.F. Fonseca Antunes, Portugal; I. Solovic, Slovakia; J. Sorli, Slovenia; E. Rodriguez Valin, Spain; V. Romanus, Sweden; U.I. Sirojiddinova, Tajikistan; B. Jumaev, Turkmenistan; V.M. Melnik, Ukraine; J. McMenamin, R. Salmon, B. Smyth and J. Watson, United Kingdom;

## **EuroHIV: participating countries and national institutions**

Armenia: National Centre for AIDS Prevention, Yerevan. Austria: Federal Ministry for Health and Women, Vienna. Azerbaijan: Azerbaijan Centre for AIDS Prevention, Baku. Belarus: National Centre for AIDS Prevention, Minsk. Belgium: Scientific Institute of Public Health, Brussels. Czech Republic: National Institute of Public Health, Prague. Denmark: Statens Serum Institute, Copenhagen. Estonia: Health Protection Inspectorate, Tallin. Finland: National Public Health Institute, Helsinki. France: Institut de Veille Sanitaire, Saint-Maurice. Georgia: Georgian AIDS and Clinical Immunology Research Centre, Tbilisi. Germany: Robert Koch-Institut, Berlin. Greece: Hellenic Centre for Infectious Disease Control, Athens. Hungary: National Centre for Epidemiology, Budapest. Ireland: Health Protection Surveillance Centre, Dublin. Italy: Istituto Superiore di Sanità, Rome. Kazakhstan: Centre for AIDS Prevention and Control, Almaty. Latvia: AIDS Prevention Centre, Riga. Lithuania: Lithuanian AIDS Centre, Vilnius. Luxembourg: Direction de la Santé, Luxembourg. Republic of Moldova: National Centre for AIDS Prevention and Control, Chisinau. Poland: National Institute of Hygiene, Warsaw. Portugal: National Institute of Health Dr Ricardo Jorge, Lisbon. Slovakia: National Public Health Institute, Bratislava. Slovenia: Institute of Public Health, Ljubljana. Spain: Ministerio de Sanidad y Consumo, Instituto de Salud "Carlos III", Madrid. Sweden: Swedish Institute for Infectious Disease Control, Solna. Tajikistan: National AIDS Centre, Dushanbe. Turkmenistan: National AIDS Prevention Centre, Ashgabat. Ukraine: Ukrainian AIDS Centre, Kiev. United Kingdom: Health Protection Agency, London & Scottish Centre for Infection and Environmental Health, Glasgow.