

# Epidemiology of MDR-TB in Europe

**Multidrug-resistant tuberculosis: what are we  
fighting for?**

**ESCMID Berlin, 29 April 2013**

Dr Masoud Dara

Programme Manager, TB and M/XDR-TB

WHO Regional Office for Europe

# Outline of presentation

- A brief update on TB situation in WHO European Region
- MDR-TB rates and its associations
- Consolidated Action Plan to Prevent and Combat M-XDR-TB
- Opportunities for synergic approach

# No reason to be complacent about TB in the WHO European Region

- Total of over **500 000** estimated TB patients in the Region
- **380 000** new TB cases estimated to occur in a year
- **44 000** deaths, mostly in the east

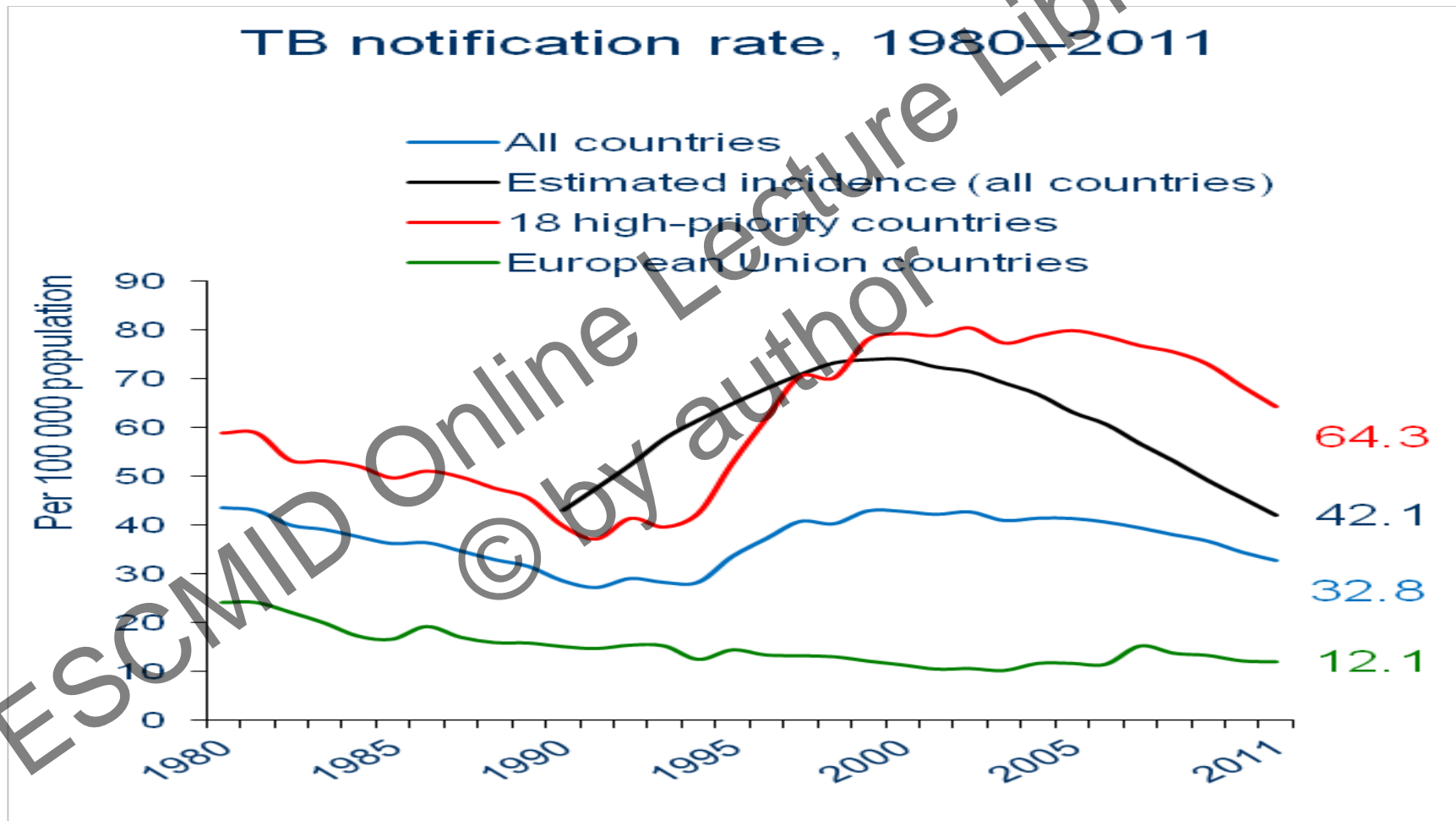


© Carl Cordonnier

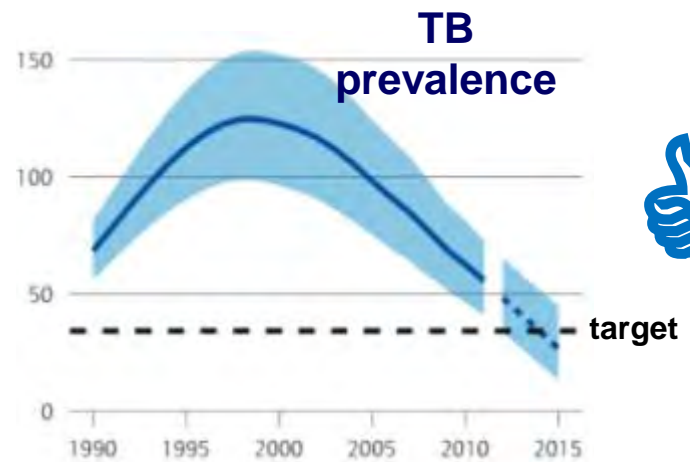
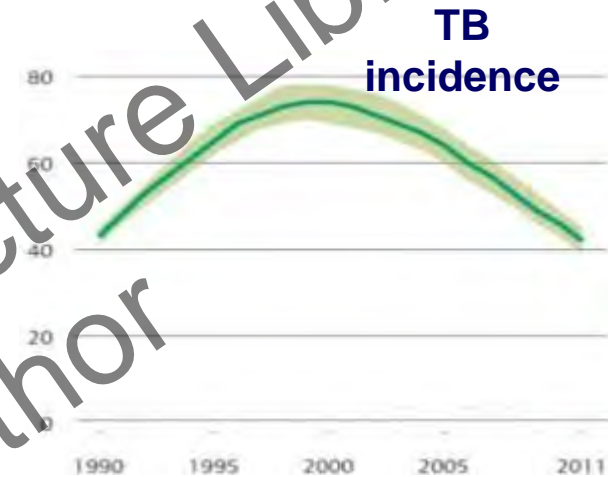
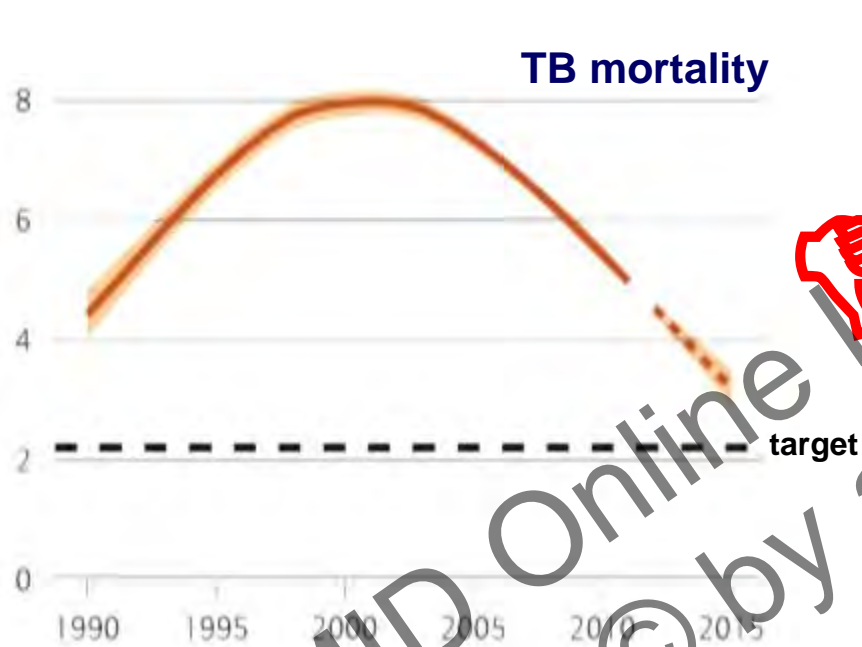


© Ivan Chernichkin

# TB burden unequally distributed among countries



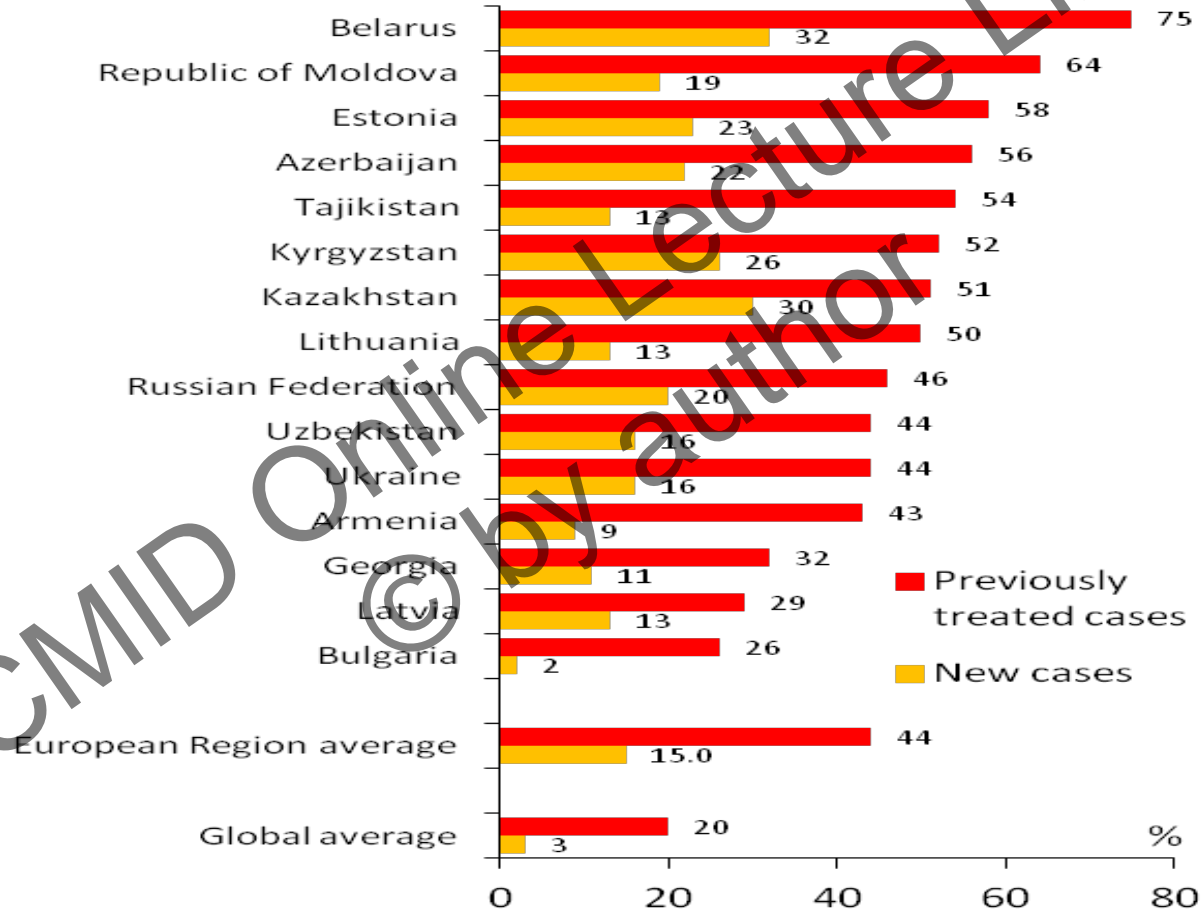
# Millennium Development Goal 6: Europe not on track to halve TB mortality by 2015



Decline of TB incidence and prevalence likely to be achieved

# M/XDR-TB in the European Region

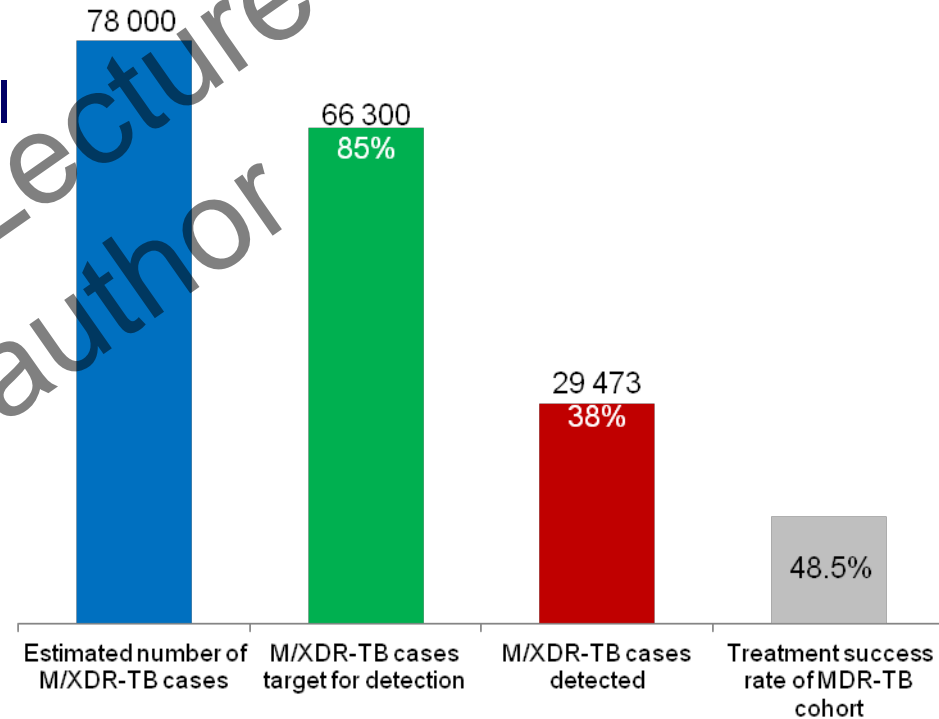
**MDR among TB cases (%),  
WHO European Region, 2011**



# Numbers talk

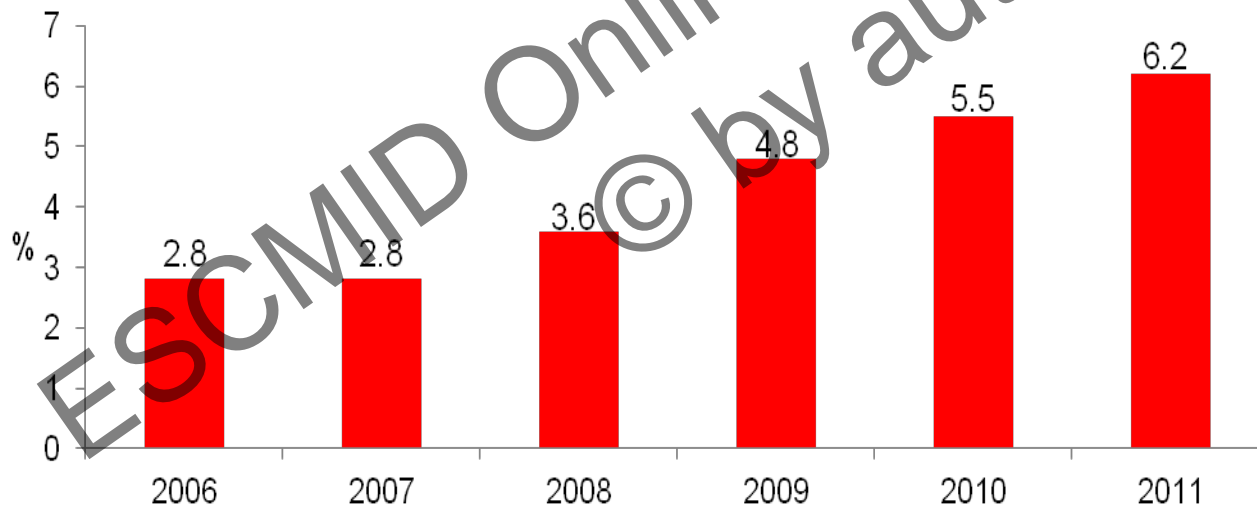
- **78 000** people estimated to fall sick with M/XDR-TB yearly
- Only **30 000** M/XDR-TB patients diagnosed
- Fewer than **50%** of MDR-TB patients successfully treated

Core indicators for monitoring the implementation of the M/XDR-TB action plan, WHO European Region, 2011



# Leading killer among people living with HIV

- Fewer than **13 000** TB cases with HIV co-infection were detected in the Region, or 56.5% of the estimated total.
- Only **70%** of them were offered antiretroviral treatment.

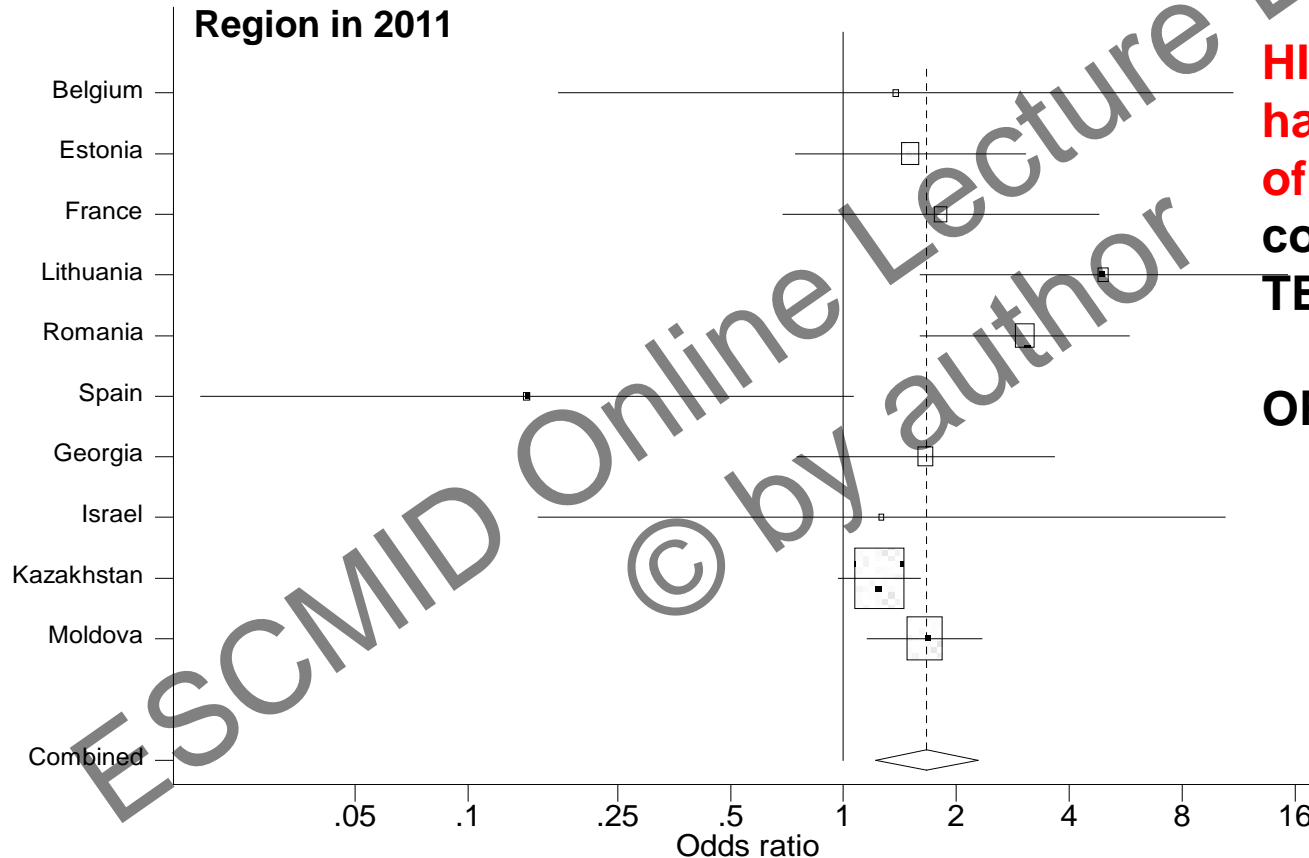


**Percentage of TB cases with HIV co-infection among all HIV-tested TB cases increased by 20% a year in 2006–2011.**



# HIV and MDR TB association

Forest plot depicting the association between cases of HIV and MDR TB in 10 countries of the European Region in 2011

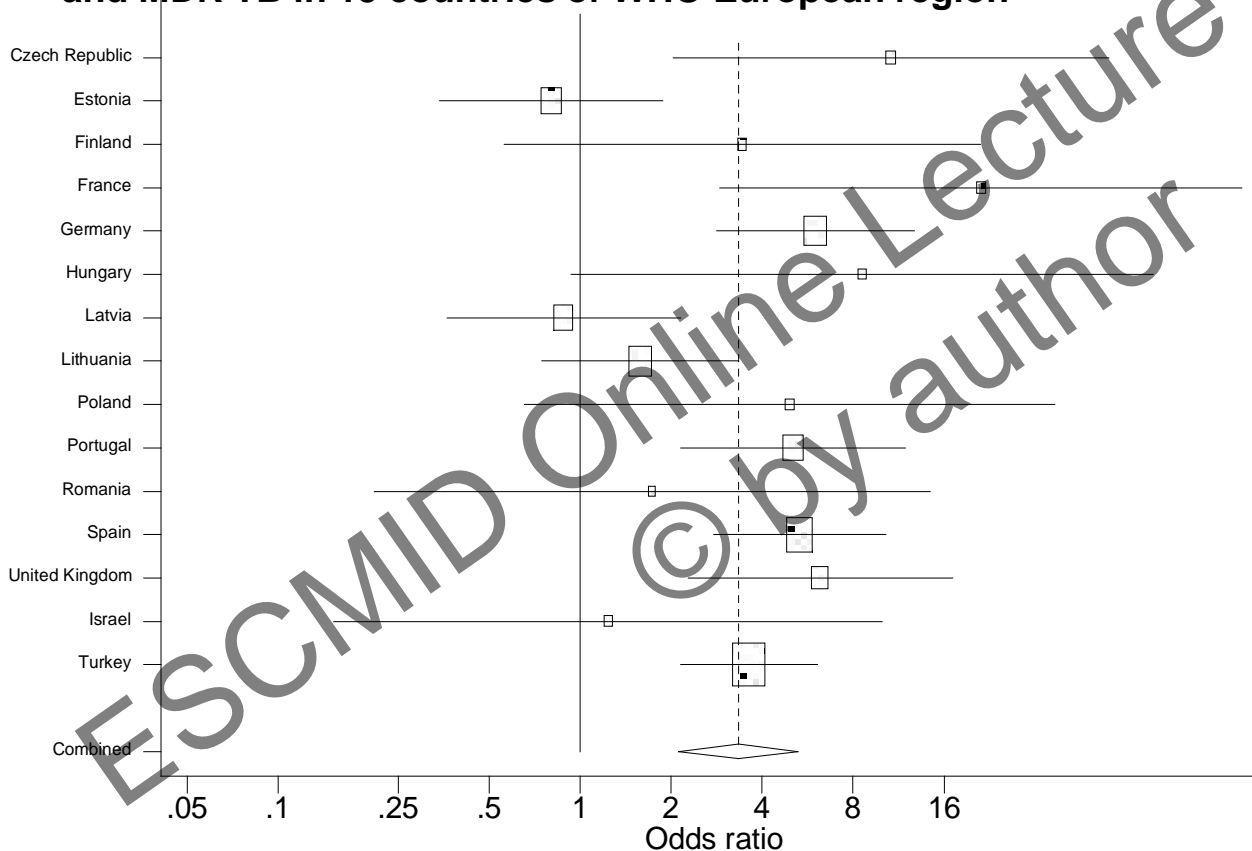


**HIV positive TB patients had a 67% higher odds of harboring MDR-TB compared with no HIV TB cases**

**OR 1.67; 95% CI 1.2-2.3**

# Foreign origin and MDR TB association

Forest plot depicting the association between foreign origin and MDR TB in 15 countries of WHO European region

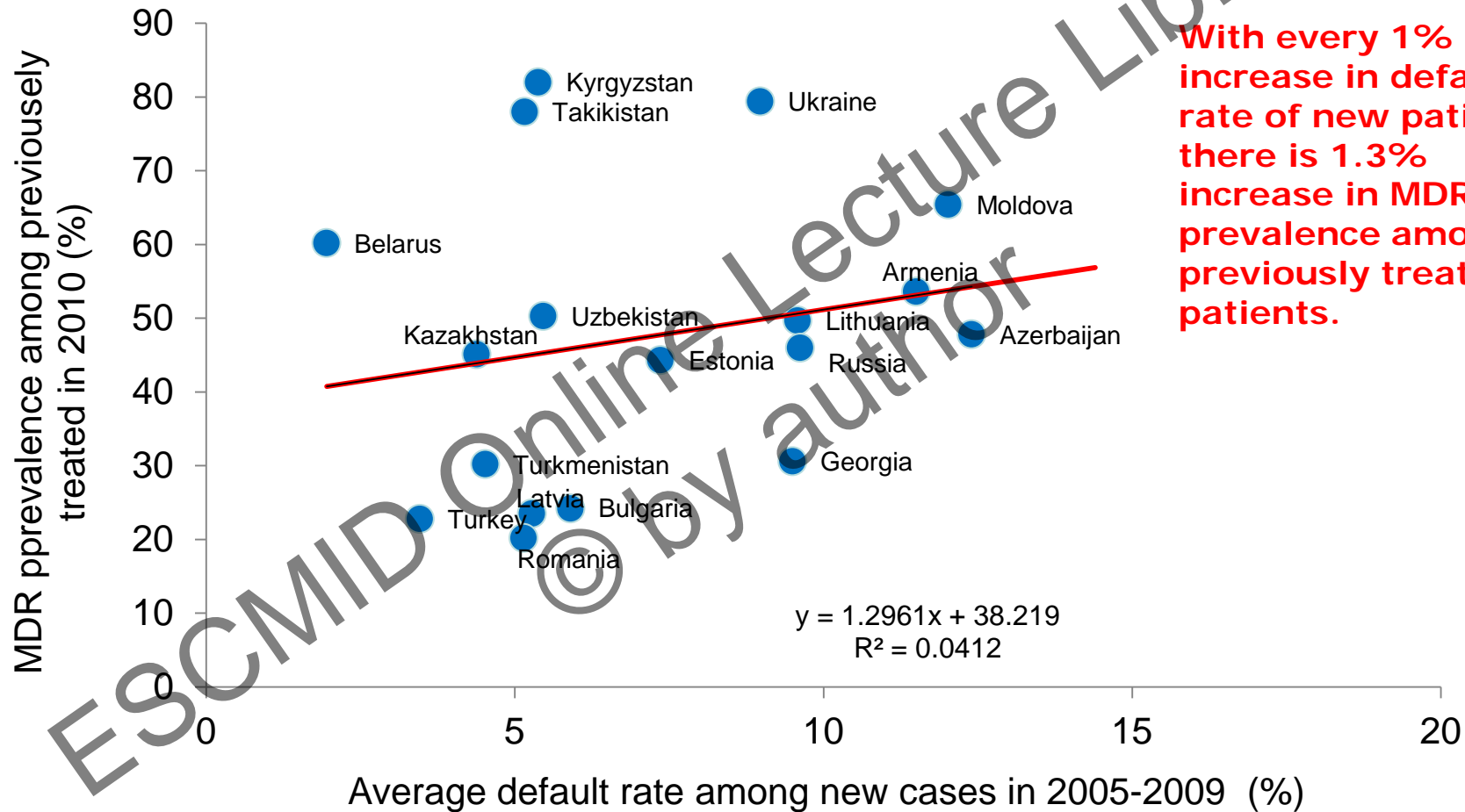


The foreign-born TB had statistically significant higher risk of harboring MDR TB compared to natives in Czech Republic, France, Germany, Portugal, Spain, UK, Turkey.

In the rest of countries there was no association.

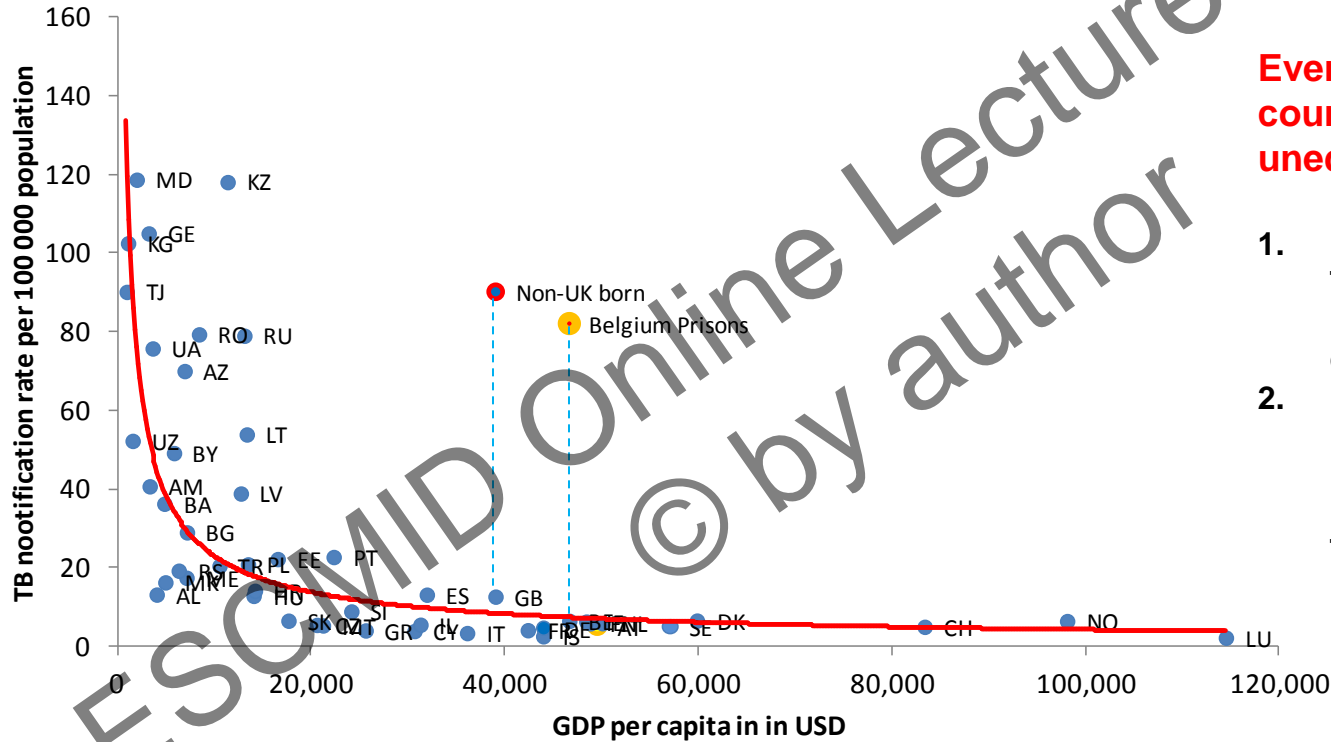
Overall combined OR is 3.33 (95% CI 2.12- 5.24) indicating strong association between MDR and foreign origin.

# Correlation between defaulting of treatment and development of MDR-TB; 2005-2009



# Determinants of TB: inequalities

Correlation of TB rate (new and relapse, all forms) and GDP per capita in 49 Member States of WHO European region, 2011



There are few TB cases in countries with higher income.

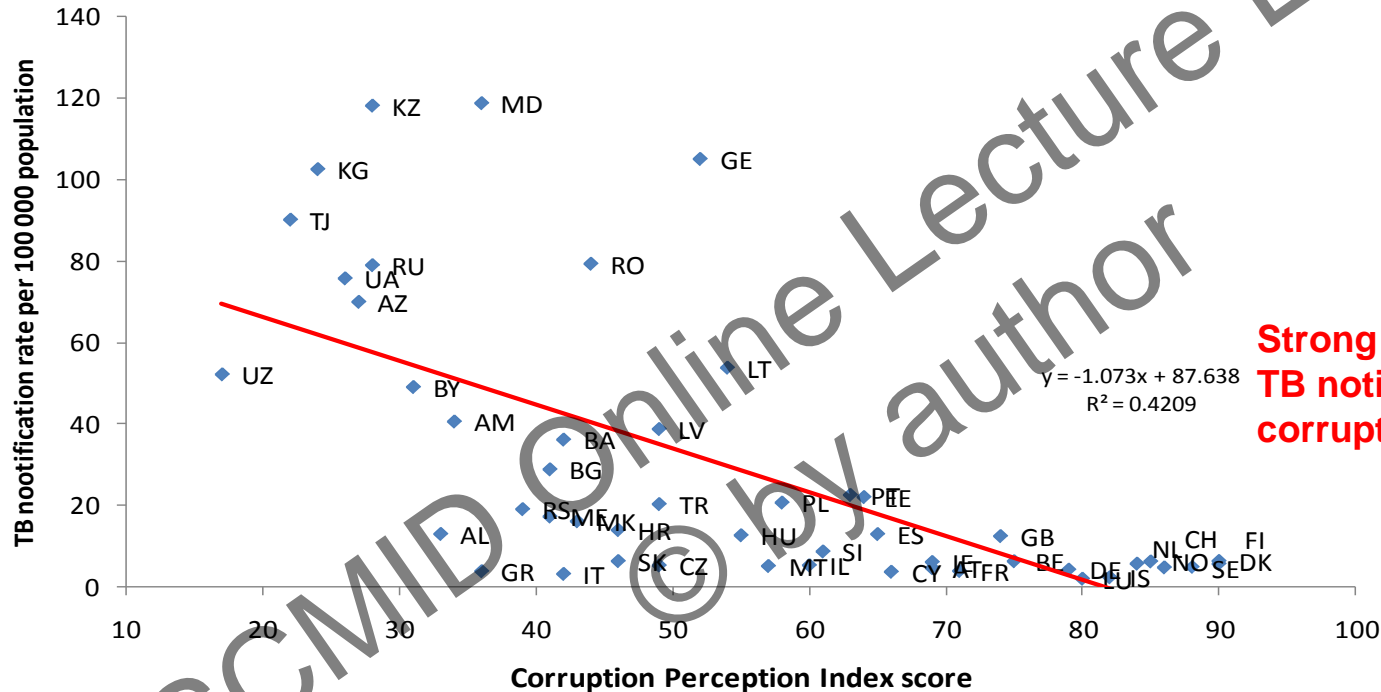
Even within low incident countries TB affects population unequally:

1. in prisons of Belgium the rate of TB reaches 82 per 100 000, which is higher than in many non EU countries
2. in UK TB notification is 12.6 per 100 000 population. Among non-UK born population in the UK TB incidence is as high as in Tajikistan reaching 90 per 100 000 population, while in natives is as low as 4.0 per 100 000 population

Data sources: <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD/countries> (accessed 15 February 2013) and [http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1294740307825](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1294740307825)

# Determinants of TB: Good governance

TB notification (new and relapse, all forms) over CPI score in 49 Member States of WHO European region 2011



Data source: <http://cpi.transparency.org/cpi2012/results/> (accessed 15 February, 2013)

# 120 000 lives and US\$ 12 billion saved by implementing the Consolidated Action Plan

The goal is to contain the spread of drug-resistant TB by:

- decreasing M/XDR-TB cases among previously treated cases by **20** percentage points;
- detecting **85%** (or **225 000**) M/XDR-TB patients;
- successfully treating at least **75%** (**127 000**) of them.



# Consolidated Action Plan to Prevent and Combat Multidrug- and Extensively Drug-resistant Tuberculosis in the WHO European Region



**Prevent the development of M/XDR-TB**



**Scale up access to early diagnosis**



**Scale up access to effective treatment**



**Improve infection control**



**Strengthen surveillance**



**Expand management capacity of the programmes**



**Address the needs of special populations**

# Opportunities for synergic approach

- GLC/Europe
- TBTEAM
- Regional Interagency Collaborating Committee
- Programme reviews
- Health System support
- High Level visits and regional events



# Acknowledgements

My colleagues at TBM particularly Dr Andrei Dadu

Email: [mdd@euro.who.int](mailto:mdd@euro.who.int)

Thank you very much for your attention

Subscribe to our quarterly newsletter

[tuberculosis@euro.who.int](mailto:tuberculosis@euro.who.int)