

# **Tuberculosis Notification Trends and Treatment Outcomes in Penitentiary and Civilian Health Care Sectors in the WHO European Region**

# Objectives

1. to describe the diversity of **notification of incident TB cases\*** and their trends in the civilian and penitentiary sectors between 2014 and 2018
2. to estimate the **relative risks** of developing active TB for prison inmates\*\* in comparison to civilian population
3. to describe the **treatment outcomes** in the penitentiary versus the civilian sectors

\*notification rate of incident TB cases—number of new and relapse tuberculosis cases registered and reported per 100,000 population

\*\* inmates - includes people experience incarceration, detainees and convicts



# Methods and Materials

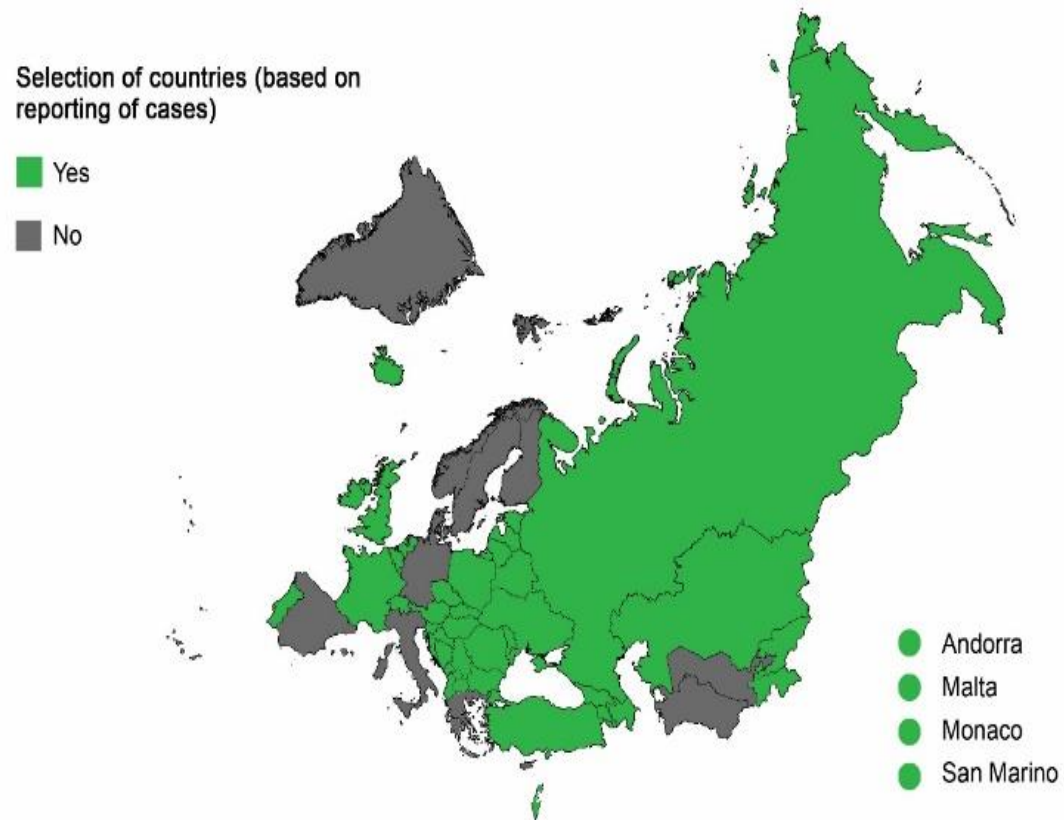
- ❑ Retrospective descriptive study
- ❑ WHO European Region countries
- ❑ New and relapse TB cases and their outcomes from the civilian and penitentiary sectors
- ❑ Selection criteria:
  - ❑ Countries that provided at least **one report on new and relapse TB** cases in both the civilian and penitentiary sectors between 2014 and 2018
  - ❑ Countries that provided at least **two data points on new and relapse TB cases** in both civilian and penitentiary sectors between 2014 and 2019 for enabling analysis of the trend
  - ❑ Countries that reported **outcomes for TB cases on FLD** treatment schemes in both the civilian and penitentiary sectors for at least one cohort between 2012 and 2016

## Sources

- ❑ The WHO global TB data collection system
  - ❑ prison populations
  - ❑ numbers of new and relapse TB cases
  - ❑ treatment outcomes for patients on FLD treatment
- ❑ total population estimates were extracted from World Population Prospects
- ❑ Prison population estimates were taken from the World Prison Brief for countries whose prison population data were missing from The WHO global TB data collection system

# Results

## Notification Rate of Incident TB Cases in the Penitentiary Sector Compared with the Civilian Sector, 2014 - 2018



79%

of countries of the WHO European Region reported the number of new and relapse TB cases in the civilian and penitentiary sectors at least once in the five-year period between 2014 and 2018

# Results

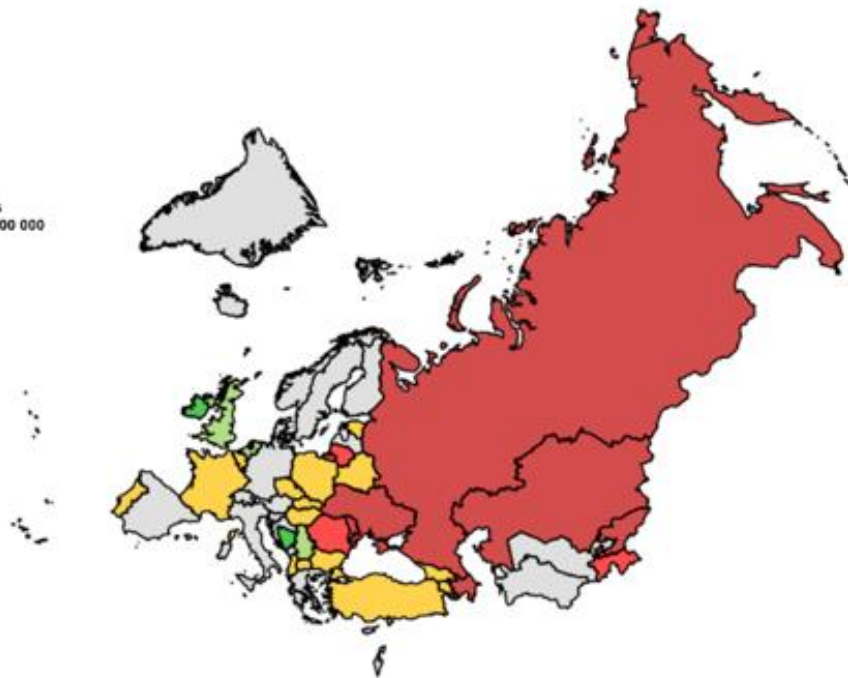
## Notification Rate of Incident TB Cases in the Penitentiary Sector Compared with the Civilian Sector, 2014 - 2018

- ❑ Decreasing trend in the notification of new TB cases and relapses both in the penitentiary and in the civilian sector
- ❑ In the 42 countries the average annual change in incident TB rates was – 7.0% in the civilian sector and –10.9% in the penitentiary sector.
- ❑ The decline in incident TB rates among prisoners in the nine EECA countries should be noted from –6.0% in Kyrgyzstan to –16.5% in Georgia
- ❑ TB cases registered in prisons accounted approximately 7% for all notified new and relapse TB patients in EECA countries the highest level in the Russia Federation - 10% in the other countries in the region the proportion was 1.5%

# Results

## Notification Rate of Incident TB Cases in the Penitentiary Sector Compared with the Civilian Sector, 2014 - 2018

Incident TB notification rate of tuberculosis among prisoners compared to civilian per 100 000 population, 2018



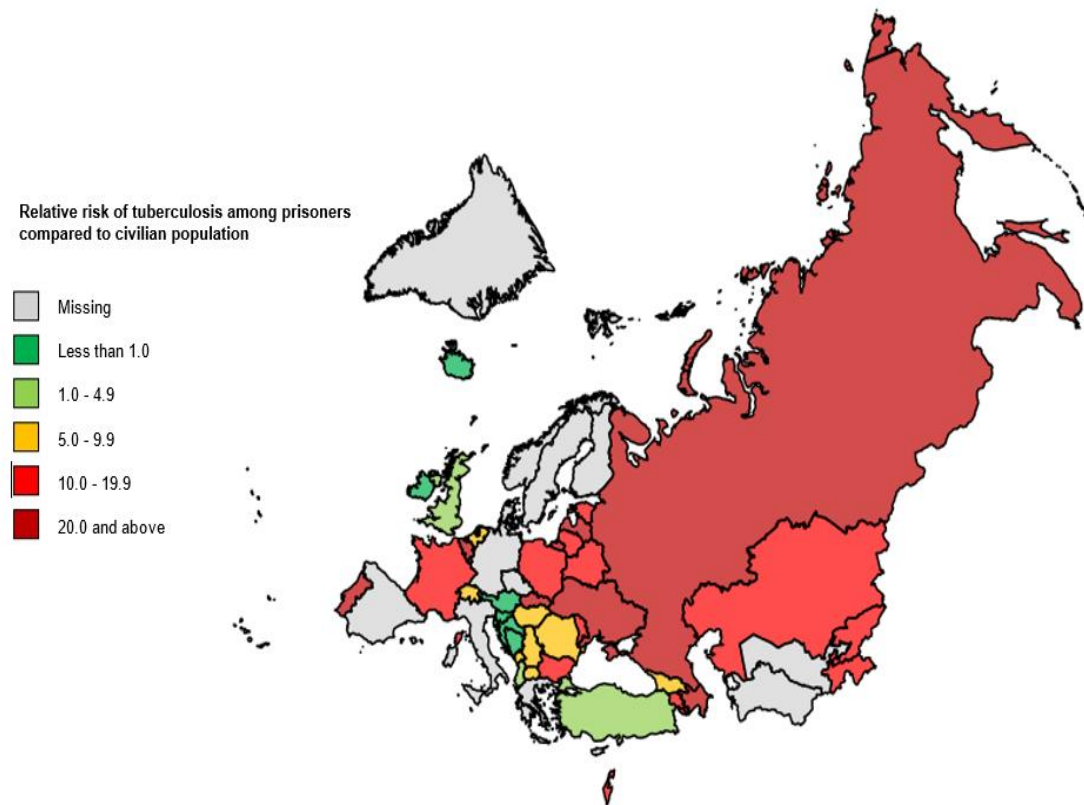
Notification rate of incident TB cases in the penitentiary sector per 100 000 population, WHO European Region, 2018

Incident TB rate **>1,000** / 100,000 pop.

- Azerbaijan
- Kazakhstan
- Kyrgyzstan
- Republic of Moldova
- Russian Federation
- Tajikistan
- Ukraine

# Results

## Relative Risks of Developing TB Disease in the Penitentiary Sector Compared with the Civilian Sector, 2014 - 2018



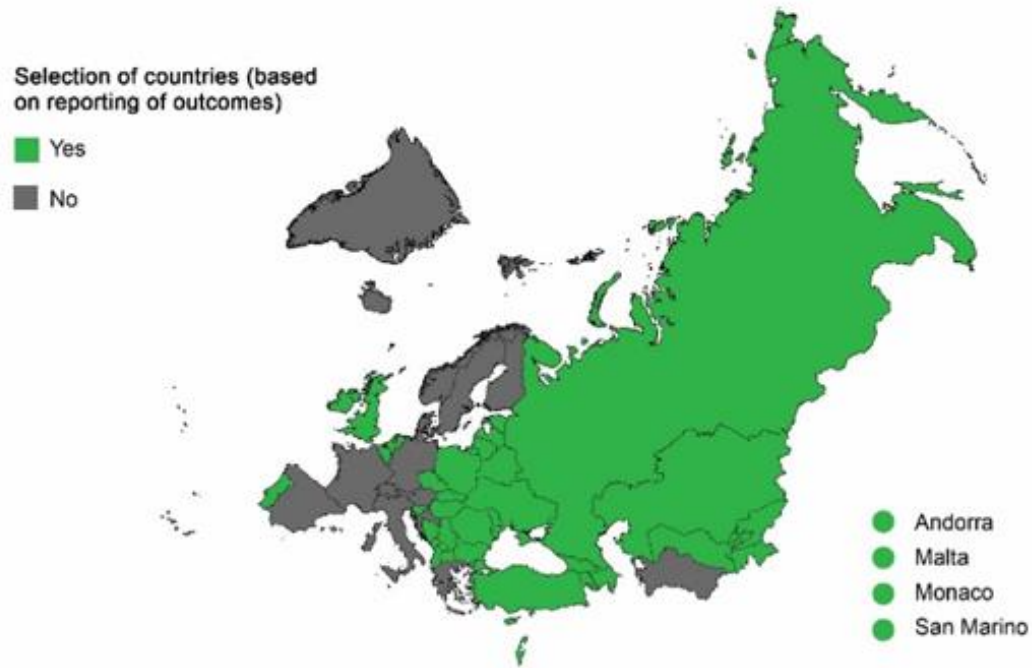
Relative risks of developing TB among prisoners compared to civilian population, WHO European Region, 2014–2018

Prisoners had the **highest risks** of developing an active TB disease compared with their respective civilian populations

- ❑ Russian Federation  $RR=25$
- ❑ Slovakia  $RR=57$

# Results

## Treatment outcomes in TB patients on FLD treatment schemes, 2012-2016



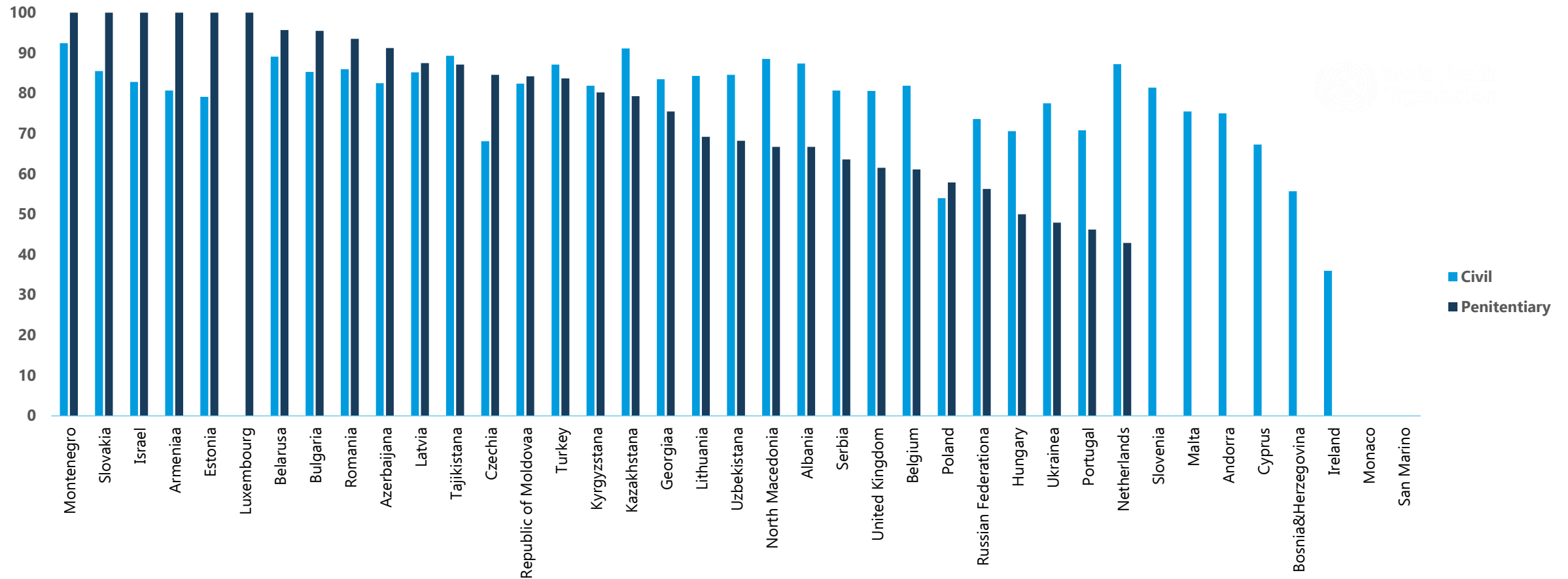
74%

of countries in the WHO European Region reported treatment outcomes for at least one cohort of TB patients, both civilians and prisoners, who started on one of the FLD treatment schemes between 2012 and 2016



# Results

## Favourable TB treatment outcomes for civilians and prisoners on FLD treatment schemes, 2012–2016 cohorts



# Results

## Treatment outcomes in TB patients on FLD treatment schemes

**TB treatment success rates of over 85% among prisoners – in 12 of the 39 countries**

**More than 85% favourable outcomes in both sectors civilian and penitentiary**

- ❑ Belarus and Tajikistan (EECA)
- ❑ Bulgaria, Latvia, Montenegro, Romania, Slovakia

**Higher levels of unfavourable outcomes for prisoners vs. civilians**

- ❑ Cyprus (100% vs. 0%)
- ❑ Netherlands (29% vs. 9%)
- ❑ Kazakhstan (21% vs. 9%).

**Higher proportion of unfavourable treatment outcomes among civilians vs. prisoners**

- ❑ Czech Republic (28% vs. 8%), Andorra (25% vs. 0%)
- ❑ Estonia (20% vs. 0%), Armenia (19% vs. 0%) and Slovenia (16% vs. 0%)

# Conclusion

1. This review provides an **overview of active TB in prisons** in the WHO European Region
2. The completeness of TB reporting for prisons by NTPs was **79%** (42 out of 53 countries from the WHO European Region).
3. Our analysis highlights **the vulnerability of prisoners to TB** and emphasizes the necessity of **improving TB prevention and care policies** and their **practical application** in prisons with respect to active TB detection, infection control, TB treatment and continuity of care
4. Most of countries achieved a substantial **decline of TB burden in prisons**, which indicates the effectiveness of recent interventions in correctional institutions.
5. These results provide the basis for an understanding that TB prevention and care in prisons should be elevated to be a **health care priority** and should facilitate **intersectional collaboration** between civilian health authorities and prison administrations to enable ending TB in the WHO European Region