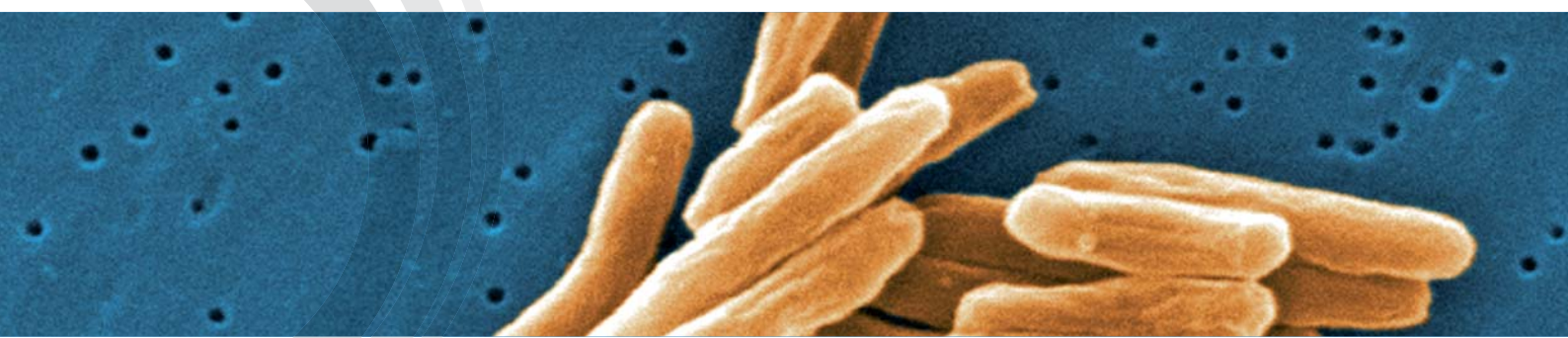




## **SURVEILLANCE** REPORT



# Tuberculosis surveillance in Europe

# 2008

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# **Tuberculosis surveillance in Europe**

**2008**

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# Abbreviations

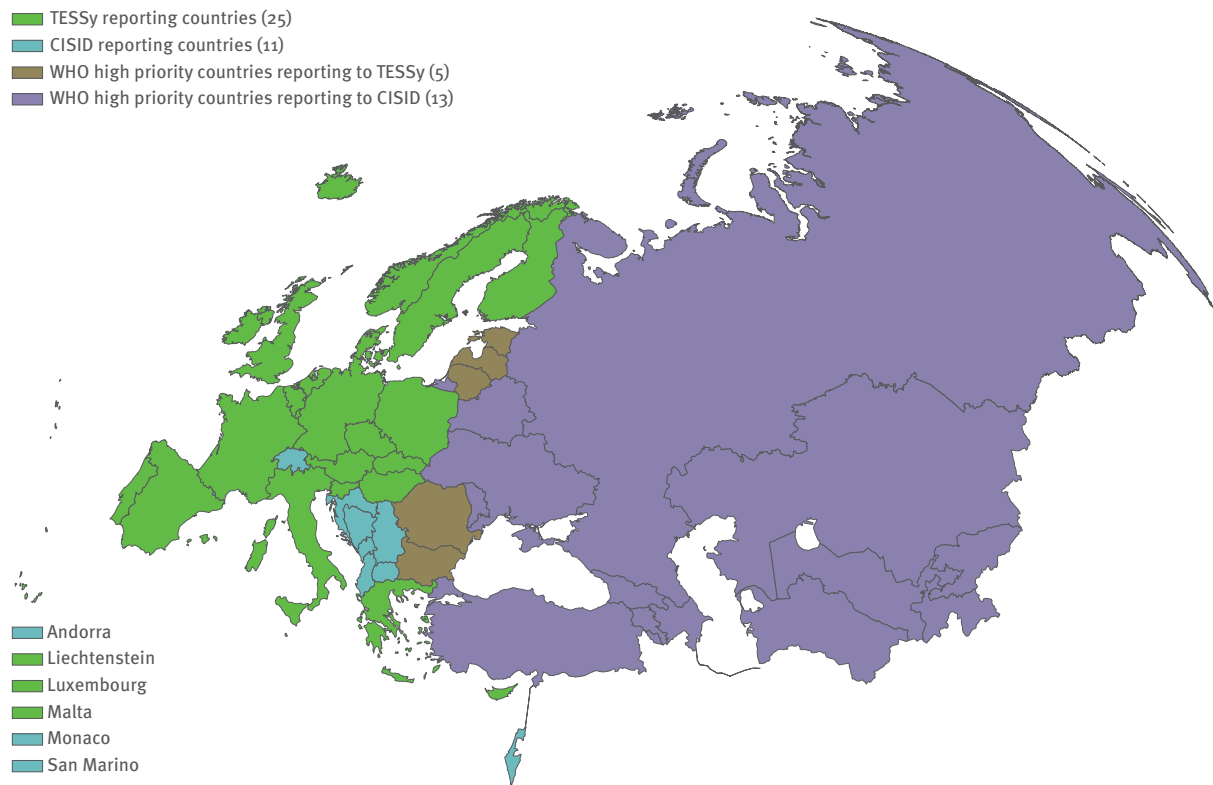
<b>AFB</b>	Acid-fast bacilli
<b>AIDS</b>	Acquired immunodeficiency syndrome
<b>CISID</b>	Centralized Information System for Infectious Diseases
<b>DOTS</b>	The internationally recommended strategy for the control of tuberculosis
<b>DRS</b>	Drug resistance surveillance
<b>DST</b>	Drug sensitivity testing
<b>ECDC</b>	European Centre for Disease Prevention and Control
<b>EEA</b>	European Economic Area
<b>EQA</b>	External quality assessment
<b>EU</b>	European Union
<b>HIV</b>	Human immunodeficiency virus
<b>HPC</b>	High priority countries
<b>MDB</b>	Mortality database
<b>MDR</b>	Multidrug resistance
<b>MDR TB</b>	Multidrug-resistant tuberculosis
<b>TB</b>	Tuberculosis
<b>TESSy</b>	The European Surveillance System
<b>TOM</b>	Treatment outcome monitoring
<b>WHO</b>	World Health Organization
<b>XDR</b>	Extensive drug resistance
<b>XDR TB</b>	Extensively drug-resistant tuberculosis





# Summary

**Map: Tuberculosis surveillance in Europe 2008<sup>a</sup>**



<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

## Summary

Since 1 January 2008, the European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe have jointly coordinated the tuberculosis (TB) surveillance activities in Europe. Their aim is to ensure a high quality of standardised TB data covering all 53 countries of the WHO European Region and Liechtenstein.

### The WHO European Region

For 2008, 461 645 TB cases (52.2 per 100 000 population) were reported by 50 of the 54 countries of the European Region<sup>1</sup>, representing approximately 6% of TB cases reported worldwide to WHO [1]. The trend in overall TB notification rates in the European Region has continued to increase since 2004. However, overall TB notification rates across 18 high priority countries (HPC)<sup>2</sup> decreased from the previous year by 3.9% to 87.6% of all TB cases and across the Region the overall notification decreased by 2.6% between 2007 and 2008. A decrease by 4% from 2007 in the notification of newly detected TB cases suggests reduced spread of TB in the Region. The percentage of previously treated cases has also decreased since 2007 from 31.7% to 29.8%.

The age group with the highest number (42.0%) of newly detected TB cases in the Region is 25–44 years.

The number of reported HIV co-infected TB cases almost doubled, from 5 828 in 2006 to 11 395 in 2008, due to increased testing as part of intensified HIV care services for TB patients in the HPC. There was no appreciable increase in the number of reported HIV co-infections outside of the HPC during this period.

Across the Region, the total number of reported multidrug-resistant TB (MDR TB) cases for 2008 has doubled since the previous year due to improvements in drug susceptibility testing (DST) and MDR TB prevalence among new TB cases was at 11.1%. The highest burden of MDR TB cases in the Region is found in the HPC, with a prevalence of 13.8% among newly diagnosed cases, five times higher than the prevalence reported in the EU/EEA, and over 50% among previously treated cases, a proportion more than twice as high as in the EU/EEA.

The treatment success rate among the newly detected laboratory-confirmed TB cases in 2007 has decreased to the level of 70.7% (compared with 73.1% for cases registered in 2006); 9.0% were reported as failed treatment, 8.4% died, and 6.9% defaulted. The treatment success rate in non-EU/EEA countries is lower than in the EU/EEA:

67.5% compared with 79.5%, respectively. In the 18 HPC, treatment succeeded for only 69.2% of newly detected laboratory confirmed TB cases, which is far from the 85% Stop TB Strategy target [2].

The TB mortality rate has decreased by 45% from 9.0 per 100 000 population in 2005 to 5.0 per 100 000 population in 2007. Similar proportional reductions were seen in the EU/EEA as well as the HPC. However, mortality in the HPC remained almost 15 times higher than in the EU/EEA.

### European Union and European Economic Area countries<sup>3</sup>

For 2008, 82 611 TB cases were reported by 26 European Union (EU) countries (all except Austria) and two other countries of the European Economic Area (EEA) (Iceland and Norway) (Table 1), showing a decrease of 615 cases compared with 2007. Over 80% of cases occurred in the eight countries that reported 3 000 cases or more each (Bulgaria, France, Germany, Italy, Poland, Romania, Spain and United Kingdom).

The overall notification rate in 2008 was 16.7 per 100 000, with rates lower than 20 per 100 000 reported in 21 countries and higher than 20 per 100 000 in Romania (115.1), the Baltic States — Lithuania (66.8), Latvia (47.1), Estonia (33.1) — Bulgaria (41.2), Portugal (28.2) and Poland (21.2). The overall notification rate was 1.2% lower than that in 2007 (for the 28 reporting countries), reflecting a net downward trend in 17 countries.

However, substantial increases were observed in Malta (28.8%), Iceland (19.8%) and Cyprus (12.2%), and some increases were seen in Sweden (4.9%) and in the United Kingdom (2.8%), mostly of foreign origin cases. In 2008, 22.4% of cases (country range: 0–88%) were in persons of foreign origin, more than two-thirds of whom originated from Asia or Africa.

HIV prevalence among TB cases increased between 2006 and 2008 in Estonia (from 9.0% to 9.9%), Latvia (3.4% to 6.7%) and Malta (3.7% to 9.4%). In the rest of the countries that submitted data, the HIV prevalence among TB cases was 1% or less in six countries, 2–5% in three others, 5–8% in two countries and 14.6% in one country.

Multidrug resistance remained most frequent in the Baltic States (combined MDR: 15.6%–21.3%) followed by Romania, which reported results for the first time (14.7%). Other countries reported lower levels of MDR (0%–5%), where it was generally more common in cases of foreign origin. Of the 14 countries reporting extensive drug resistance (XDR), Romania had the highest numbers (total of 54 cases), while Latvia and Estonia had the highest percentage of XDR

<sup>1</sup> No data from Monaco, San Marino, Austria or Liechtenstein; Liechtenstein is included in this report, but is only presented as an EEA country as it is not a WHO European Region Member State.

<sup>2</sup> Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Romania, Russia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan.

<sup>3</sup> The 27 EU Member States, Iceland, Liechtenstein and Norway.

cases among MDR cases (14.7 and 12.2%, respectively) with Latvia showing a sharp increase in XDR cases compared with 2007, from 6 to 19, (6.1% to 14.7%).

Twenty-two countries reported treatment outcome monitoring data for definite pulmonary TB cases in 2007. Among previously untreated, culture-confirmed, pulmonary TB cases, 79.5% had a successful outcome. Successful outcomes were significantly lower among previously treated TB cases (51.8%) and among MDR TB culture-confirmed pulmonary cases at 24 months (30.9%).

## Резюме

С 1 января 2008 г. Европейский центр по профилактике и контролю заболеваний (ECDC) и Европейское региональное бюро ВОЗ совместно координируют усилия в области эпидемиологического надзора за туберкулезом (ТБ) в рамках Европейского региона ВОЗ. Цель этого сотрудничества – обеспечить высокое качество стандартизированных данных о ситуации с туберкулезом во всех 53 государствах-членах Европейского региона ВОЗ и в Лихтенштейне.

### Европейский регион ВОЗ

В 2008 г. в 50 государствах – членах Европейского региона ВОЗ и в Лихтенштейне<sup>4</sup>, было зарегистрировано 461 645 случаев ТБ (52,2 на 100 000 населения), что согласно данным ВОЗ<sup>5</sup> составило примерно 6% случаев ТБ в глобальном масштабе. С 2004 г. общие показатели регистрируемой заболеваемости ТБ в Европейском регионе ВОЗ имеют тенденцию к повышению. С другой стороны, общий показатель регистрируемой заболеваемости ТБ в 18 высокоприоритетных странах (ВПС)<sup>6</sup> снизился с уровня предыдущего года на 3,9% (до 87,6% от всех случаев ТБ), а в рамках всего Региона общий уровень заболеваемости ТБ снизился на 2,6% в период с 2007 по 2008 г. Сокращение на 4% вновь зарегистрированных случаев ТБ по сравнению с 2007 г. свидетельствует об уменьшении распространенности ТБ в Регионе. Доля пациентов, ранее прошедших курс лечения, также снизилась с уровня 2007 г. (с 31,7% до 29,8%).

Наибольшая доля (42,0%) вновь выявленных случаев заболевания ТБ в рамках Региона приходится на возрастную группу 25–44 года.

Число зарегистрированных случаев коинфекции ВИЧ/ТБ в период с 2006 г. по 2008 г. почти удвоилось (с 5828 до 11 395), что объясняется расширением практики тестирования в рамках медицинской помощи по поводу ВИЧ-инфекции, оказываемой больным ТБ в ВПС. Какого-либо заметного увеличения числа коинфекций ВИЧ/ТБ в других странах в этот период не наблюдалось.

В результате совершенствования методов тестирования на чувствительность к противотуберкулезным препаратам (ТЧПП) в рамках Региона общее число зарегистрированных случаев туберкулеза с множественной лекарственной устойчивостью (МЛУ-ТБ) в 2008

г. удвоилось по сравнению с предыдущим годом, а распространенность МЛУ-ТБ среди вновь зарегистрированных больных ТБ составила 11,1%. Наибольшая доля случаев МЛУ-ТБ в Регионе наблюдается в ВПС, в которых этот показатель равен 13,8% среди вновь выявленных случаев заболевания (в пять раз выше соответствующих показателей в странах Европейского союза и Европейского экономического пространства (ЕС/ЕЭП)) и свыше 50% у пациентов, ранее прошедших курс лечения (более чем в два раза выше, чем соответствующие показатели в странах ЕС/ЕЭП).

Показатель успешности лечения среди вновь выявленных и лабораторно подтвержденных случаев ТБ в 2007 г. снизился до 70,7% (в сравнении с 73,1% в 2006 г.); в 9,0% случаев была зарегистрирована неудача лечения, в 8,4% имел место летальный исход, а в 6,9% лечение было самовольно прекращено. Показатели успешности лечения в странах, не входящих в ЕС/ЕЭП, были ниже, чем в странах ЕС/ЕЭП (соответственно 67,5% и 79,5%). В ВПС показатель успешности лечения составил только 69,2% среди вновь выявленных и лабораторно подтвержденных случаев ТБ, что далеко не соответствует целевому показателю, равному 85%, установленному в стратегии “Остановить туберкулез”.

Уровень смертности от ТБ снизился на 45% – с 9,0 на 100 000 населения в 2005 г. до 5,0 на 100 000 населения в 2007 г. Одинаковое пропорциональное снижение было отмечено и в странах ЕС/ЕЭП, и в ВПС. Однако уровень смертности в ВПС продолжает оставаться почти в 15 раз выше, чем в странах ЕС/ЕЭП.

### Страны Европейского союза и Европейского экономического пространства<sup>7</sup>

В 2008 г. в 26 странах Европейского союза (все страны ЕС, за исключением Австрии) и в 2 странах ЕЭП (Исландия и Норвегия) (табл. 1) было зарегистрировано 82 611 случаев ТБ, что было на 615 случаев меньше по сравнению с 2007 г. Свыше 80% всех случаев имели место в восьми странах, в каждой из которых было зарегистрировано не менее 3 000 случаев (Болгария, Франция, Германия, Италия, Польша, Румыния, Испания, Соединенное Королевство).

Общая заболеваемость ТБ в 2008 г. составила 16,7 на 100 000 населения: данный показатель были ниже 20 на 100 000 населения в 21 стране и выше 20 на 100 000 населения в Румынии (115,1), Балтийских государствах (Литва - 66,8, Латвия - 47,1, Эстония - 33,1), Болгарии (41,2), Португалии (28,2) и Польше (21,2). Общая

4 Не имеется данных по Монако, Сан-Марино, Австрии; данные по Лихтенштейну включены в настоящий доклад, но, так как он не является государством-членом Европейского региона ВОЗ, он обозначен в тексте как страна ЕЭП.

5 Global Tuberculosis Control: a short update to the 2009 report. World Health Organization, 2009. WHO/TNM/TB/2009.426. World Health Organization, 2009. Available from [http://www.who.int/tb/publications/global\\_report/2009/update/en/index.html](http://www.who.int/tb/publications/global_report/2009/update/en/index.html).

6 Азербайджан, Армения, Беларусь, Болгария, Грузия, Казахстан, Кыргызстан, Латвия, Литва, Молдова, Российская Федерация, Румыния, Таджикистан, Туркменистан, Турция, Эстония, Украина, Узбекистан.

7 Двадцать семь стран - членом ЕС, Исландия, Лихтенштейн и Норвегия.

заболеваемость ТБ в 2008 г. была на 1,2% ниже, чем в 2007 г. (в 28 странах, представивших такие сведения), что отражает тенденцию к снижению этого показателя в 17 странах.

С другой стороны, существенное повышение заболеваемости ТБ было отмечено в таких странах, как Мальта (28,8%), Исландия (19,8%) и Кипр (12,2%), а определенный ее рост был отмечен в Швеции (4,9%) и Соединенном Королевстве (2,8%) – в основном среди иммигрантов. В 2008 г. 22,4% случаев ТБ (диапазон различий в рамках страны составил 0–88%) были зарегистрированы у иммигрантов, более двух третей из которых приехали из Азии или Африки.

Показатель распространенности ВИЧ среди больных ТБ увеличился в период с 2006 по 2008 гг. в Эстонии (от 9,0% до 9,9%), Латвии (от 3,4% до 6,7%) и Мальте (от 3,7% до 9,4%). В оставшихся странах, представивших данные, распространенность ВИЧ среди больных ТБ составила 1% или менее в шести странах, 2–5% в трех странах, 5–8% в двух странах и 14,6% в одной стране.

Показатели заболеваемости МЛУ-ТБ продолжали оставаться самыми высокими в странах Балтии (15,6–21,3%) и в Румынии (14,7%), которая впервые представила такие данные. Показатели заболеваемости МЛУ-ТБ в других странах были ниже (0–5%), и чаще всего они наблюдались среди иммигрантов. Из 14 стран, сообщивших о случаях туберкулеза с широкой лекарственной устойчивостью (ШЛУ-ТБ), в Румынии было зарегистрировано самое большое их число (54 случая). В Латвии и Эстонии наблюдается самая высокая доля случаев ШЛУ-ТБ среди больных МЛУ-ТБ (соответственно 14,7 и 12,2%). В сравнении с 2007 г. в Латвии было отмечено резкое повышение случаев ШЛУ-ТБ (от 6 до 19 случаев или соответственно от 6,1% до 14,7%).

Двадцать две страны представили данные мониторинга результатов лечения больных с культурально подтвержденным легочным ТБ в 2007 г. Среди больных, ранее не получавших лечения, показатель успешности лечения составил 79,5%. Среди больных с ранее проведенным курсом лечения ТБ и среди больных с легочной формой культурально подтвержденного МЛУ-ТБ показатель успешности через 24 месяца от начала лечения был значительно ниже (соответственно 51,8% и 30,9%).

# 1. Background and technical note





# 1. Background and technical note

## 1.1 Tuberculosis case notifications and data sources for analysis, 2008

Since 1 January 2008, ECDC and the WHO Regional Office for Europe have jointly coordinated the TB surveillance in Europe. Their aim is to ensure a high quality of standardised TB data covering the 53 countries of the WHO European Region and Liechtenstein. Designated national surveillance institutions are responsible for providing the data, which is reported to a joint database. The data from the European Union and European Economic Area (EU/EEA) countries are validated and processed in the platform of The European Surveillance System (TESSy), while data from all other countries are validated and processed in the Centralized Information System for Infectious Diseases (CISID) platform. The procedures and methods guiding these European TB Surveillance activities are those recommended by European experts from ECDC, WHO and the International Union Against Tuberculosis and Lung Disease [3,4,5,6].

The historical data used for the report were collected and analysed by the 'EuroTB' project for TB surveillance activities in Europe from 1996 to 2007. Since 1996, data on TB notifications from the European Region for the previous calendar year have been collected annually.

This report covers the 53 countries of the WHO European Region and Liechtenstein. Together these are collectively referred to as 'European Region'. Data were reported by 50 countries (no data from Austria, Liechtenstein, Monaco or San Marino).

## 1.2 Reporting of tuberculosis cases, mortality, drug resistance and treatment outcome

### TB case reporting and mortality

Case-based data for the last four years have been uploaded by EU/EEA countries to the joint database to allow for the exclusion of duplicate cases or those later found not to have TB, as well as for updates of certain variables, including culture and treatment outcome. Other countries of the European Region submitted data in aggregate form. Notification data were analysed by the main epidemiological determinants (location, gender and age) as well as by the principal case management determinants (anatomical location, previous history of anti-TB treatment, localisation of disease, laboratory results and HIV serostatus). Notification data were provided by 50 countries, however, completeness differs by country due to differences in national surveillance systems and national laws.

The data published in this report might differ from figures in national reports due to different times of reporting. The deadline for updating the data used in this report in the joint database was 31 October 2009.

Countries not reporting case-based data (other than EU/EEA Member States) uploaded their notification data in a standard, aggregate format to CISID (Computerised Information System of Infectious Diseases carried by WHO) and this was collected, analysed and validated by the WHO Regional Office for Europe. Aggregated data reporting from countries to CISID has changed significantly compared to previous years while retaining the core structure and information.

ECDC and WHO Regional Office for Europe jointly conducted data collection for TB surveillance data and TB control programme management information referring to 2008, from 1 August 2009 to 30 September 2009. All countries submitting data uploaded their information to the ECDC-WHO/Europe Joint TB Information System via the common portal: [www.ecdcwhosurveillance.org](http://www.ecdcwhosurveillance.org).

In 2008 all 30 EU/EEA Member States reported individual case-based TB data to TESSy. Changes to TESSy variables were minimal for the 2009 data collection (removed variable 'DOTS', and recoded variable 'Pathogen'). Case-based TB data were collected and validated by the ECDC Surveillance Unit.

By 2009, 28 EU/EEA countries were reporting individual clinical and demographic data on TB cases to TESSy. Of these, 27 countries included data on anti-TB drug susceptibility testing, 22 on outcome for cases notified in 2007, and 15 on MDR TB outcome for cases notified in 2006. Data from TESSy were imported into CISID giving a Region-wide reporting rate of 94.3% (50 out of 53 countries of the WHO European Region).

Regarding the geographical information, information at country level (using the ISO list) is favoured (rather than region/sub-region or continent) as this provides more accurate information and allows better comparison and grouping across diseases. For TB, either of the two categories for defining foreign or national origin should be provided, though 'country of birth' is preferred to 'country of nationality' (used by three countries: Belgium, Poland and Greece (for 2008)).

Data on TB as the underlying cause of death (Table 26) were retrieved from the European mortality database (MDB) of the WHO Regional Office for Europe (Updated: August 2009) or alternatively from CISID, if MDB did not provide any information. These data are coded and reported via national vital registration authorities, or National TB Programme Managers.

Population data used in the calculation of notification rates were taken from: Eurostat<sup>8</sup> mid-year estimates (for EU/EEA countries 1995–2007), Eurostat 1 January population data (for EU/EEA countries 2008<sup>9</sup>), Eurostat and UN Statistical database<sup>10</sup> (for other countries in the European Region).

### TB/HIV surveillance

Information on the HIV serostatus of notified TB cases is collected in aggregate format via CISID. The number of cases with HIV-associated TB obtained from both TB and AIDS notification is known to be underreported, with detection rates of 46% of the estimated total number in the Region [1]. Testing and reporting of HIV serostatus of TB cases is known to be incomplete, especially in the EU/EEA countries (24.3%) as compared with the rest of the Region (73.4%). The Region-wide average for testing HIV serostatus was 64.4%.

### Drug resistance surveillance

Since the reporting year 1998, the results of drug susceptibility testing (DST) from initial isolates of *Mycobacterium tuberculosis* have been collected for isoniazid, rifampicin, ethambutol and streptomycin. Data on second-line drug resistance for amikacin, kanamycin, capreomycin, ciprofloxacin and ofloxacin have been reported via TESSy since 2008 and via CISID since 2009. In countries where DST results are matched with TB case notifications, information on DST is collected as part of the individual data (24 countries in 2008). When drug resistance surveillance (DRS) data are not matched with TB case notifications, or no individual data are available, data are collected in aggregate form in CISID by previous history of anti-TB treatment. Information on the organisation of anti-TB DST in the country and on laboratory practices for DST is also collected using CISID module of the Joint TB surveillance system. Of 53 countries, 37 reported nationwide coverage of routine DST on first-line drugs, while the other 16 reported partial coverage or no data.

### Treatment outcome monitoring

Since the reporting year 2002, outcome data have been collected for all individual cases by resubmission of an updated individual dataset for the year before the last, and for MDR treatment outcome for cases reported two years before the notified cases (thus for data related to 2008 cases, outcome data were collected for TB cases notified in 2007, and MDR TB for cases reported in 2006). Alternatively, aggregated treatment outcome data are reported separately in tabular format to CISID, with the same timeframes.

<sup>8</sup> Available from: <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>

<sup>9</sup> Eurostat mid-year data were not available at the time of analysis.

<sup>10</sup> United Nations, Department of Economic and Social Affairs, Population Division (2009). World Population Prospects: The 2008 Revision Population Database. Available at <http://esa.un.org/unpp/index.asp?panel=2>.

## 1.3 Data analysis and presentation

### TB case notification and mortality

While some countries reported data by October 2009, changes to the national totals of TB notifications shown in this report were permitted until 31 October 2009. Notification data for previous years (2005–2007) were adjusted for under- or overreporting to TESSy. Where relevant, particularly for countries in the EU/EEA, tables have been stratified by origin of the case (national/foreign). Twenty-four countries provided information on origin by place of birth. Data on citizenship was provided by Belgium, Malta (until 2006), Poland, Greece and all other non-EU/EEA countries except Turkey.

For calculation of overall notification rates, country population denominators by age group and gender were obtained from Eurostat<sup>5</sup> (for the EU and EEA countries) and United Nations statistics<sup>10</sup>.

Mortality data were obtained from the European mortality database (MDB) of the World Health Organization Regional Office for Europe (Updated: August 2009), and from CISID. Only deaths coded as ICD-9 010-018 (BTL 020-02S, 029) or ICD10A IS-19 were considered for inter-country comparison. Deaths attributed to late effects of TB or pneumoconiosis associated with TB (codes ICD-9 137 (BTL 077) and ICD-10 B90, J6S, P37.0) are not included.

### TB/HIV surveillance

The number of cases for whom HIV status is known is expressed as a percentage of all reported TB cases, as is the number of cases known to have had a positive HIV test. Therefore, the HIV prevalence among TB patients may be an underestimation. HIV/TB co-infection data for the latest year are presented by year of report. An analysis of outcome data for HIV-positive TB cases is outside the scope of this report.

### Drug resistance surveillance

Data on DST for isoniazid, rifampicin, ethambutol and streptomycin at the start of treatment are reported. Percentages of drug-resistant cases are calculated using as a denominator those cases with DST results available for at least isoniazid and rifampicin. If these cases had results for ethambutol and streptomycin, DST results for these antibiotics are also shown. DRS methodology varies across countries. The results of DST on the second-line drugs were analysed for the MDR cases only. Initial DST results may be collected routinely for all culture-positive TB cases notified, or for cases included in specific surveys or diagnosed in/referred to selected laboratories. Geographical coverage of DRS is partial in some countries. The representativeness of diagnostic DST data depends on the routine use of culture, DST at TB diagnosis and external quality assessment (EQA).

On the basis of differences in geographical coverage and on underlying laboratory practices, DRS data are considered as complete for the country (Y) if nationwide data matched to TB case notification in countries using culture

routinely (90% culture usage and >50% of cases reported as culture positive in 2008), DST results for isoniazid and rifampicin are available for the majority of culture-positive cases (>80% in 2008), and results of external quality control show 95% or more confirmation by a Supranational Reference Laboratory.

DRS data are otherwise considered not complete (N), including diagnostic DST data from countries where culture and DST are routinely used, but do not meet the criteria of >50% culture confirmation and >80% culture-positive cases with DST results.

### Treatment outcome monitoring

This report includes an analysis of the data for outcome at 12 months and first-time outcome at 24 months after the start of treatment. Twenty-three countries provided MDR TB treatment outcome results, although the completeness and data quality are varying. Non-EU countries reported their data in aggregated form for the past three years.

The cases eligible for outcome analysis (cohorts) are expected to include all the laboratory-confirmed (confirmation level varies, especially among the non-EU/EEA countries) pulmonary TB cases notified in the calendar year of interest, after exclusion of cases with final diagnosis other than TB. For countries implementing individual data reporting, the most recently updated information has been used for the purposes of this report. Hence, for these countries, the cohort is defined on the basis of the new dataset, updated following initial notification. This could result in the denominators used for treatment outcome monitoring (TOM) being different from the number of notified cases reported in the previous year's report. For countries reporting aggregate outcome data, completeness of cohorts is assessed by comparing the total number of cases included in TOM cohorts with those initially notified as pulmonary culture or smear-positive, depending on the type of cohort.

On the basis of the available information, TOM data are considered as complete (Y) if:

- cohorts include all laboratory-confirmed pulmonary TB cases notified; and
- the total of 'defaulted, transferred and unknown' does not exceed 35% of cases notified in that particular year.

### Geographical areas

The total population of the WHO European Region is 896 million, of which 503 million (56%) live in EU/EEA Member States<sup>11</sup>.

The 54 countries of the European Region have not been grouped into geographical areas. However, the 27 EU Member States with the three EEA countries are presented separately in Tables and in Chapter 2.

In order to highlight better the 18 high priority countries (HPC) [7], their data are presented in italics and subtotals along with subtotals for the EU/EEA and non-EU/EEA Member States.

The 18 high priority countries are: Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Romania, Russia, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

The 30 EU and EEA countries are: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

The 24 countries in the rest of the European Region ('non-EU/EEA') are: Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Georgia, Israel, Kazakhstan, Kyrgyzstan, the former Yugoslav Republic of Macedonia, Moldova, Monaco, Montenegro, Russia, San Marino, Serbia, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

TB notifications from Greenland and Kosovo<sup>12</sup> are footnoted in Table 1, but are not included in the totals of the European Region.

## 1.4 Definitions

### TB case definition for surveillance

For the 2008 data collection, information from EU/EEA countries was collected to enable the classification of cases according to the 2008 case definition published by the European Commission [6]. By this definition, cases are divided into 'possible' (based on clinical criteria only), 'probable' (having in addition positive acid-fast bacilli (AFB) detected or detection of *M. tuberculosis* in nucleic acid or granulomata in histology) and 'confirmed' (by culture or by detection of both positive AFB and *M. tuberculosis* nucleic acid).

Data from other countries of the European Region follow the WHO recommended definitions. According to this definition a 'case of tuberculosis' is a patient in whom TB has been confirmed by bacteriology or diagnosed by a clinician, also a 'definite case' is a patient with positive culture for *Mycobacterium tuberculosis* complex. In countries where culture is not routinely available, a patient with one sputum smear positive for acid-fast bacilli (AFB+) is also considered a definite case.

Cases discovered post-mortem, with gross pathological findings indicative of active TB that would have indicated anti-TB treatment had the patient been diagnosed before dying, also fit the clinical criteria and are included.

<sup>11</sup> For calculation of rates the total population of only the countries that reported data has been used: 28 EU/EEA countries 494.2 million, and 22 non-EU/EEA countries 389.3 million.

<sup>12</sup> Throughout this document, 'Kosovo' means Kosovo in accordance with Security Council Resolution 1244 (1999).

For the purposes of this report, the following definitions apply:

Definite (laboratory confirmed) TB case:

- in countries where laboratories able to perform culture and identification of *M. tuberculosis* complex are routinely available, a definite case is a patient with culture-confirmed disease due to *M. tuberculosis* complex;
- in countries where routine culturing of specimens is not feasible, patients with sputum smear positive for AFB are also considered as definite cases.

Other-than-definite (not laboratory-confirmed cases) TB cases meet the following two conditions:

- a clinician's judgement that the patient's clinical and/or radiological signs and/or symptoms are compatible with tuberculosis; and
- a clinician's decision to treat the patient with a full course of anti-tuberculosis treatment.

### Previous anti-TB treatment status

#### Never treated (new case)

This is defined as a case who had never previously received drug treatment for active TB, or who had received anti-TB drugs for less than one month.

#### Previously treated case (retreatment case)

This is a case previously diagnosed with TB and who had received treatment with anti-TB drugs (excluding preventive therapy) for at least one month. Previously treated cases were reported from 22 EU/EEA Member States. For others, information about previous treatment was not distinguished and so 'previously diagnosed' cases were reported instead (Belgium, Denmark, Ireland, Netherlands, Norway, Sweden (for 2007) and United Kingdom) as a proxy calculation.

### Site of disease

#### Pulmonary case

A case with TB affecting the lung parenchyma, the tracheo-bronchial tree or the larynx.

#### Extrapulmonary case

A case with TB affecting any site other than pulmonary (see above). Pleural TB and intra-thoracic lymphatic TB by themselves are considered as extrapulmonary. Detailed information of further distribution of extrapulmonary cases was provided from 17 EU/EEA countries, but not analysed in this report.

### Notes on the definition

- The above definitions are in accordance with the European Commission's definitions for TB surveillance [6]. Cases with laryngeal TB are included with pulmonary for surveillance purposes.
- All possible, probable and confirmed cases are reported to the joint European surveillance database. For countries with laboratory-based reporting where no clinical

information is available, laboratory-confirmed cases should be reported.

- Cases are to be notified only once in a given 12-month period. A case, however, should be reported again if the diagnosis of confirmed tuberculosis is made following completion of anti-TB treatment (relapse case), even if this occurs within 12 months of reporting the initial episode of disease.
- Never treated cases are commonly referred to as new cases, although this term should not be considered to indicate incidence in the strict epidemiological sense.
- Among re-treated cases, relapses are included in notifications from all countries whereas cases re-treated after failure or after default or chronic cases are variably included. In countries where information on previous anti-TB treatment is incomplete or not available, information on whether or not TB had been previously diagnosed is used as a proxy.

### Geographical origin

Geographical origin of TB cases is classified according to place of birth (born in the country/foreign-born) or, if unavailable, citizenship (citizen/non-citizen). In Denmark, the place of birth of the parents is also used in classifying origin (similarly in the Netherlands the birthplace of parents has been notified for case management purposes). The country or continent of origin is included in individual data. The term 'national' as used in this report refers to cases born in, or having citizenship of, the country of report.

### Drug resistance

**Resistance among cases never treated:** indicates primary drug resistance due to infection with resistant bacilli.

**Resistance among cases previously treated:** usually indicates acquired drug resistance emerging during treatment as a consequence of selection of drug-resistant mutant bacilli. It can also result from exogenous re-infection with resistant bacilli.

**Multi-drug resistance (MDR):** resistance to at least isoniazid and rifampicin.

**Extensive drug resistance (XDR):** resistance to (1) isoniazid and rifampicin (i.e. MDR), and (2) resistance to a fluoroquinolone, and (3) resistance to one or more of the following injectable drugs: amikacin, capreomycin, or kanamycin [8].

### Treatment outcome

#### Cohort

These include all TB cases notified in the calendar year of interest, after exclusion of cases with final diagnosis other than TB or cases found to have been reported more than once.

Notes:

1. Since the 2002 cohort: individual outcome data have been collected for all TB cases.

2. Up to the 2003 cohort: aggregate outcome data were only collected for laboratory-confirmed pulmonary cases.
3. Since the 2004 cohort, individual data collection has been extended to all pulmonary cases as well as new extrapulmonary cases (not analysed in this report).

#### Period of observation

Cases are observed until the first outcome is encountered up to a maximum of 12 months after the start of treatment. For monitoring the multidrug-resistant cases in EU/EEA countries for treatment outcome purposes, two variables were included on the list: Outcome<sub>24Months</sub> and Outcome<sub>36Months</sub>. In these variables, the first outcome for the cases should be reported according to the month, but only for cases reported in the previous outcome field 'still on treatment'<sup>13</sup>. Non-EU countries evaluate treatment outcomes according to the method recommended by the WHO definition. Cases still on treatment after 12 months of treatment were considered as treatment failures. Cases with unknown treatment outcome at 12 months were considered 'treatment unknown'.

#### Treatment outcome categories

Since the 2001 cohort, outcome categories are those generally recommended – with two additional categories: 'still on treatment at 12 months', and 'unknown' [5,8] and are:

**Cured:** treatment completion and:

- culture becoming negative on samples taken at the end of treatment and on at least one previous occasion;
- or
- in countries where sputum smear-positive cases are classified as definite (laboratory-confirmed) cases, sputum microscopy becoming negative for AFB at the end of treatment and on at least one previous occasion.

**Completed:** treatment completed, but does not meet the criteria to be classified as cure or treatment failure.

**Failed:** culture or sputum smear remaining positive or becoming positive again five months or later into the course of treatment.

**Died:** death before cure or treatment completion, irrespective of cause.

**Defaulted:** treatment interrupted for two months or more, not resulting from a decision of the care provider; or patient lost to follow-up for two months or more before the end of treatment, except if transferred.

**Transferred:** patient referred to another clinical unit for treatment and information on outcome not available.

**Still on treatment<sup>14</sup>:** patient still on treatment at 12 months and who did not meet any other outcome during treatment; or patient still on treatment on 24 months belonging to

previous cohort of 'still on treatment 12 months' and not meeting any other outcome category.

**Unknown:** information on outcome not available, for cases not known to have been transferred.

In this report:

- 'Success' refers to the combined ratios of cured and completed.
- 'Loss to follow-up' is the combination of defaulted, transferred and unknown for country profiles. The Tables have distinguished 'defaulted' separately.

<sup>13</sup> The degree of adherence to the 12-month limit is unknown, and a number of countries are known to exceed it.

<sup>14</sup> Definition applicable for the EU/EEA countries only.



## 2. Commentary





## 2. Commentary

### 2.1 The WHO European Region

#### Key conclusions for the European Region

- The joint ECDC-WHO surveillance network reported 315 285 new TB cases in 2008 and 45 448 deaths due to TB in 2007, which is about 36 new cases and five TB deaths every hour. This is 25% lower than the WHO estimates of 425 038 new TB cases and 56 407 TB deaths [1].
- Overall, the TB mortality rate decreased by almost 50% between 2005 (9 per 100 000 population) and 2007 (5 per 100 000).
- While the overall notification rate in 2008 in the European Region remained high (52.2 per 100 000 population), a decrease in the notification of newly detected and previously treated cases is consistent with reduced transmission of TB in the Region.
- The surveillance data on TB suggest a diverse epidemiological situation in the Region, with the burden carried mainly by 18 high priority countries, where the epidemiological situation remains a substantial concern.
- The treatment success rate of newly detected laboratory confirmed TB cases continues to be rather low (70.7%). This is associated with the high prevalence of drug-resistant TB (11.1%), poor adherence to the treatment (6.9%) and prevalence of HIV co-infected TB cases (3.0%).

#### Tuberculosis notification and trends

In 2008, 461 645 TB cases (52.2 per 100 000 population) were reported by 50 countries of the European Region (Table 1), representing approximately 6% of TB cases reported worldwide to WHO [1]. Overall notifications have shown an increasing trend since 2004. However, compared with the previous year, the number of TB cases decreased by 2.6%. It is too soon to determine whether this indicates a reversal of this trend, or a single year variation. TB notification and mortality rates generally increase from west to east across the European Region. While the burden of disease in the 18 high priority countries (HPC) (87.6% of total cases) decreased from the previous year by 3.9%, the overall rate remained twice as high as that for the region as a whole (104.5 compared with 52.2 per 100 000) and more than six times higher than the rate in the EU/EEA.

Newly detected TB notification rates decreased from the previous year, both by 4% [9].

There were twice as many male cases notified as female cases (Table 3). This reflects the over-representation of males in the various risk groups for TB, notably the homeless, prisoners and HIV-infected individuals.

Across the whole Region, the most frequently registered age group for newly detected TB cases was 25–44 years (42.0%) (Table 2). It was also the most affected age group across the EU/EEA countries, accounting for 36.4% of the overall number of new TB patients. Region-wide, lower proportions were recorded in the age groups 45–64 (26.5%) and 15–24 (15.9%).

The percentage of cases that had been previously treated decreased slightly overall from 32% to 29.8% (Table 8a). This, however, masks subregional differences: 13.1% for EU/EEA countries; 33.5% for non-EU/EEA countries of the WHO European Region. The percentage of retreatments was 33.2% for the 18 HPC.

#### Tuberculosis and HIV infection

The number of registered HIV co-infected TB cases increased substantially, almost doubling from 5 828 in 2006 to 11 395 in 2008 (Table 11). This increase is seen entirely in the HPC, reflecting improvements in reporting and intensified HIV care services for TB patients.

#### Drug-resistant tuberculosis

The percentage of MDR among new and previously treated TB cases was 11.1% and 46.9% respectively (Table 15). Across the Region, the total number of MDR TB cases doubled due to increased DST, while MDR TB prevalence among new TB cases increased from 6.5% to 11.1%.

The relatively poor treatment success rate (69.2%) and high treatment failure rate (10.6%) in HPC countries, contributes to drug-resistant TB prevalence, which is highest in the high priority countries, at 13.8% among newly detected, and 50.2% among previously treated, TB cases (Table 15).

In 2008, 17 out of 54 countries from the Region provided data on second-line drug susceptibility testing. Extensively drug-resistant TB was reported in 131 patients, 122 (93.1%) of whom were located in seven high priority countries to STOP TB (Table 17b). The regional overall prevalence of XDR TB was 1.4%.

#### Treatment outcome

The treatment success rate among TB cases newly detected in 2007 with laboratory confirmation of disease was 70.7% (Table 21), a decrease from the 73.1% for cases registered in 2006. The overall success rate was 79.5% in the EU/EEA countries and 67.5% in the non-EU/EEA countries of the Region. Across the whole Region, 9.0% of cases were reported as failed treatment, 8.4% died, and 6.9% defaulted

on treatment. These proportions were considerably lower in the EU/EEA countries than in non-EU/EEA countries, which contain the majority of the HPC (see above).

### Mortality

The decreasing trend in TB mortality, from 9.0 per 100 000 population in 2005, to 7.5 (2006) and then to 5.0 per 100 000 population in 2007, is promising. However, the 18 HPC countries accounted for 93% of the TB deaths in the region. The TB mortality rate in the HPC, at 11.7 deaths per 100 000 population, is almost 15 times greater than the rate in the EU/EEA.

### Conclusions and surveillance recommendations

The surveillance data on TB suggest a diverse epidemiological situation in the Region. Countries in the east remain of concern with higher notification rates than in the west. However, Region-wide trends, as well as in the 18 HPC, indicate a slight decrease of TB in the Region since last year, with notification rates for 2008 at 52.2 (the whole Region) and 104.5 (the 18 HPC) per 100 000 population (Table 1) and mortality rates of 5.0 and 11.7 per 100 000, respectively (Table 26). Factors associated with poor treatment results continue to be widespread. This is demonstrated by the drug resistant TB (15.4%), poor adherence to the treatment (6.9%) and prevalence of HIV co-infected TB cases (3.0%).

The greatest concern remains with the 18 high priority countries, which account for more than 85% of all cases in the region, 93% of the TB deaths, and a disproportionate burden of MDR and XDR TB. Member States and international partners must focus more resources in line with their commitments to the Berlin Declaration on addressing the urgent needs in these countries.

Adherence to the STOP TB strategic principles, especially health system strengthening, can have a significant impact on the TB epidemic in the Region, and should continue to promote: (i) early detection by ensuring better population access to TB care via primary healthcare service; (ii) availability of high quality anti-TB drugs and laboratory services; and (iii) better collaboration with other national programmes and departments including HIV/AIDS, prisons, and others social sectors. Expanding routine drug resistance surveillance and TB/HIV co-infections, computerisation of national data management systems that are compatible with local infrastructure and adoption of international standards on case definition and reporting groups, will increase the quality of data and provide more evidence on which to base decision making at the country and international level.

## 2.2 European Union and European Economic Area countries

### Key conclusions for the EU/EEA

- Despite a sustained mean annual decline over the past five years (3.3%) the decrease recorded between 2008 and 2007 is the lowest for the past four years (1.2%).
- The decline seen in countries with high and intermediate incidence contributes substantially to the average EU/EEA decline.
- Sustained increases in paediatric notification over the past years in selected countries may suggest an increase in transmission rates.
- Despite an improvement in the quality and completeness of treatment outcome monitoring data, these outcome indicators remain sub-optimal with only three countries having achieved the treatment success rate target of 85% or higher<sup>15</sup> set by the StopTB Partnership [2].
- Successful outcome after 24 months' treatment for MDR TB is extremely low at 30.9%; much below acceptable levels.
- MDR TB remains a threat to the EU/EEA population with the proportion of combined MDR TB cases having increased from 4% to 6% between 2007 and 2008. Quality and representativeness of the data remains sub-optimal.
- XDR TB cases have been reported by 13 countries for the first time. That 90 cases were reported in 2008 indicates that increased vigilance of resistance to second-line drugs is warranted.

### TB notification and trends

In 2008, 82 611 TB cases were reported by 26 EU countries (all except Austria) and Iceland and Norway (Table 1), showing a decrease of 615 cases compared with 2007. Over 80% of cases occurred in the eight countries that reported 3 000 cases or more each (Bulgaria, France, Germany, Italy, Poland, Romania, Spain and United Kingdom).

The overall notification rate in 2008 was 16.7 per 100 000 population. Rates lower than 20 per 100 000 were reported by 21 countries and higher than 20 per 100 000 by Romania (115.1), the Baltic States — Lithuania (66.8), Latvia (47.1), Estonia (33.1) — Bulgaria (41.2), Portugal (28.2) and Poland (21.2). The overall notification rate was 1.2% lower than that for 2007 (for the 28 reporting countries<sup>16</sup>), reflecting a net downward trend in 17 countries. This is the lowest

<sup>15</sup> In previously untreated culture-confirmed pulmonary cases.

<sup>16</sup> The 2007 calculation excludes Austria and Liechtenstein to allow comparability with 2008 data as these countries did not report.

percentage decrease to be measured in the last four years. However, the overall average annual decrease in rates between 2004 and 2008 was 3.3%.

### Origin of cases

In 2008, 22.4% of reported TB cases were in people of foreign origin (Table 3). This proportion ranged from 21.3% to 88% in 17 countries and the overall proportion was much higher (33.8%) when excluding data from Bulgaria and Romania (Table 3 and Map 4). Overall, 25 countries reported area of origin of TB cases: 27.4% of cases of foreign origin were from Asia; 22.7% from Africa; 7.9% from other countries of the EU/EEA; and 8.5% from non-EU/EEA countries (Table 5). Excluding France and Spain, who mainly reported 'other or unknown origin' for their cases of foreign origin, the distribution remained unchanged from previous years. Between 2001 and 2008, there was a steady decline in the number of notified cases of national origin in most countries, whilst case notifications of foreign origin generally increased. Since 2003, Italy, Malta, Sweden and the United Kingdom have shown a continued increase in the number of notified cases of foreign origin. In a number of countries, cases of foreign origin levelled off, or declined (see Country Profiles).

### Gender and age

Males predominated among TB cases in nearly all countries, this feature being more marked among nationals than among cases of foreign origin (overall male:female ratio was 2:1 for nationals compared with 1.4:1 for foreign cases; Table 3).

Among previously untreated cases, the age groups 25–44 and 45–64 together accounted for more than 50% of all new cases (36.4% and 28.9%, respectively; Table 2). The age group with the highest number of new TB cases was the 25–44 year-olds (36.4%).

The middle-aged (45–64 years old) and the elderly (> 64 years old) together represented more than half of the cases of national origin but only 27.5% of foreign cases (Tables 4a and 4b). Most cases of foreign origin were reported among younger adults, especially in the 25–44 year age group (53.2%).

Cases in children (<15 years old) accounted for 4.2% of all notified cases. Nearly all countries experienced a decline or stabilisation at low levels in paediatric notification rates since 2003 (Table 12a and Country Profiles), suggesting low levels of transmission in the general population. In Bulgaria, Latvia, Lithuania and Romania, however, rates among children remained high (15.3–32.2 per 100 000 child population) in 2008 and have continued to increase in Bulgaria since 2000 (from 11.8 to 22.3 per 100 000) and in Lithuania (from 15.8 to 19.3 per 100 000) since 2007 (see Country Profiles). Although rates are low in Cyprus, Italy, Norway, Spain and the United Kingdom (<10 per 100 000), some increase in paediatric notifications have also been recorded in these countries.

Among all cases of national origin, 4.4% were paediatric cases and among all notified cases of foreign origin, 3.4%

were paediatric cases (Tables 4a, 4b, 12a and 12b). France, Italy, the Netherlands, Spain and the United Kingdom (all low-incidence countries) showed an elevated proportion of paediatric cases among cases of national origin (between 5.6% and 14.4% of all native-origin cases; Table 12b). This may be a reflection of children born to foreign-born parents and/or living in a foreign-born household. However, no data is available to support this hypothesis.

### Classification and bacterial confirmation of cases

In 2008, 78.8% of the reported cases were previously untreated, with a wide variation between countries (range: 34.0–95.1%) (Table 8a, Map 5). This proportion has not changed markedly in the past years, but the total number of new cases has decreased progressively and is probably the main reason for the decline observed in notification rates of TB in the EU/EEA countries (Figure 1).

Pulmonary TB accounted for 78.7% of all TB cases and 43.3% of these cases were sputum smear positive (Tables 6 and 7). In Iceland, the Netherlands, Norway, Sweden and the United Kingdom, less than 60% of all TB cases were pulmonary. Among paediatric cases (<15 years), 57.0% were pulmonary cases and 40.5% extra pulmonary (Table 13).

Sputum smear-positive rates were lower than five cases per 100 000 population in 19 countries in the last three years (Table 7). The rates were consistently higher than 10.0 per 100 000 in the Baltic States, Bulgaria, Portugal and Romania. Where rates were <2 cases per 100 000, the proportion of pulmonary cases with a positive sputum smear was <40%. However, apart from Italy and Greece, countries with <40% smear-positive pulmonary cases showed a high level of culture-confirmed TB cases (70% to 83%), suggesting these countries use cultures rather than smears for diagnosis of pulmonary TB (Table 9).

Of the cases reported in 2008, 57.5% were culture-confirmed, but the level differed widely across countries (range: 34.6%–94.4%) and data were not complete for eight countries (i.e. <50% of cases culture confirmed; Table 9, Map 6). The overall proportion has remained stable since 2005, except for the following countries, where the proportion of culture confirmation declined between 2007 and 2008: France (45.4% to 39.5%); Ireland (65.6% to 44.5%) and Italy (40.7% to 34.6%). Between 2005 and 2008, a substantial improvement in culture confirmation occurred in Cyprus, Poland, Portugal and Slovenia. It has remained high — 75% or more — in Belgium, Estonia, Iceland, Latvia, Slovenia and Sweden.

Species identification showed *M. tuberculosis* in 84.7% of culture-positive cases in 2008 in 26 countries, *M. bovis* (0.2%) was reported by eight countries and *M. africanum* (0.2%) by eight countries (Table 10). Data on the other members of *M. tuberculosis* complex were not analysed for 2008.

### Tuberculosis and HIV infection

Aggregated data on HIV serostatus of TB cases reported in 2006 or later were available for 18 countries (Table 11).

Overall, for the EU/EEA, the proportion of reported TB cases who were also HIV-seropositive was 3.1% in 2008; a slight increase compared with 2006 (2.6%) and 2007 (3.0%). This could be a reflection of increased HIV testing and better reporting within countries.

The completeness of information varied, with only eight countries reporting complete data in 2008. This is mainly due to differences in testing policies and in data collection. Among the eight countries with complete data, the proportion of TB cases with positive HIV serostatus in 2008 was highest in Portugal (14.6%), Estonia (9.9%) and Malta (9.4%), and ranged between 4 and 7% in Cyprus, Belgium and Latvia. Two countries reported no HIV-positive TB cases. The proportion of HIV-seropositive cases has increased since 2006 in Latvia (from 3.4% to 6.7%), Malta (from 6.7% to 9.4%) and Portugal (from 13.8% to 14.6%). Estonia reported a decline in the proportion of seropositive cases from 11.1% in 2007 to 9.9% in 2008.

### Drug-resistant tuberculosis

Data on anti-TB DRS in 2008 were made available by 25 countries, all of which have national coverage (Table 16). Data from 17 of these 25 countries reporting culture and DST data, or providing DST results as part of a national case-linked dataset, were considered complete (DST conducted on more than 50% of culture-positive cases) (Table 16) for 2008. Nationwide aggregated data were reported from France, Italy and Spain.

Cases resistant to one or more first-line anti-TB drugs were reported by all 25 reporting countries (Table 16). Overall, the proportion of cases with combined MDR TB in the 25 countries was 6.1%, a 2 percentage point increase from 2007, with the Baltic States and Romania reporting the highest proportions (15.6%–21.3% and 14.7%, respectively) (Table 17a). The Baltic States, Italy, Spain, Romania, and the United Kingdom reported 50 or more MDR cases (Table 17a). Drug resistance was generally more common in cases of national origin than in cases of foreign origin (Tables 19 and 20).

The overall proportion of cases with MDR among the previously untreated cases was 2.8%, ranging from 0%–25%, and was highest in the Baltic States (9%–15%) and Iceland (25%, but representing one case) (Tables 15 and 18, Map 7). Among previously treated cases (Table 15), the overall proportion of MDR cases was 23.2%, with the highest proportions in the Baltic States (31.9%–45.5%), Cyprus (33.3%) and Romania (27.2%). In Estonia, the number of previously untreated MDR TB (primary MDR TB) has decreased since 2007. However, the level of previously treated MDR TB (acquired MDR TB) has continued to increase since 2006 (see Country Profile). Latvia reported an increase in previously untreated MDR cases and, although smaller, an increase in the number of previously treated MDR cases. Since 2005, the numbers of previously untreated and treated MDR cases in Lithuania have declined, though the total amount remains high (more than 100 cases).

Thirteen countries reported data on extensive drug-resistance (XDR) for which all data were considered complete (Table 17b). In 2008, 90 XDR TB cases were reported, with

the proportion of XDR cases increasing from 6.1% of MDR cases in 2007 to 7.3%. Estonia reported a decline in the total number and proportion of XDR cases (15% to 12.2%) compared with 2007, while Latvia reported more than a doubling in the number of XDR cases in 2008 (from 6 to 19 cases). XDR TB cases made up 14.7% of Latvia's MDR TB cases. Latvia and Romania had the highest numbers of XDR cases in 2008 (19 and 54 cases, respectively).

### Treatment outcome and mortality

Twenty-two countries reported treatment outcome monitoring (TOM) data for culture-confirmed pulmonary TB cases reported in 2007 that were followed up (Tables 21 to 24). The overall treatment success rate for all culture confirmed pulmonary cases was 73.6%, with two countries reporting >85% treatment success (Portugal and Slovakia; Table 24). Compared with the situation in 2007, treatment success increased among culture-confirmed pulmonary TB cases of foreign origin (75.5% compared with 73.9%), reaching a level similar to that of cases of national origin (73.4%; Table 23). A higher proportion of cases of national origin died compared with those of foreign origin, which might reflect the older age cohort among cases of national origin (Tables 2 and 23).

Among previously untreated cases (Table 21), 79.5% had a successful outcome, 6.6% died, 2.0% failed, 5.1% defaulted from treatment, 2.5% were still on treatment, and 4.4% were transferred or had an unknown outcome. Among countries with more than 20 previously untreated laboratory-confirmed pulmonary cases, success rates varied widely from 50.8% in Hungary to 86.6% and 85.5% in Portugal and Slovakia, respectively. Three countries achieved treatment success in 85% or more of this category of cases: Iceland, 85.7%, Portugal, 86.6% and Slovakia, 85.5%. Treatment success rates below 75% were associated with a high loss to follow-up (defaulted and transferred or unknown: 6.6%–23.2%). Five countries reported a decrease of more than 5 percentage points in treatment success rates compared with the 2006 treatment cohort (Denmark, Estonia, Lithuania, the Netherlands and Norway). Of these Denmark, the Netherlands and Norway reported treatment success in more than 85% of new pulmonary culture-confirmed cases reported in the 2006 treatment cohort (see Country Profile).

Among previously treated laboratory-confirmed pulmonary TB cases (Table 22), the overall success rate was lower than among new cases (51.8%; range: 0%–100%). Death (11.4%), treatment failure (10.1%), default (14.8%) or still on treatment (7.4%) were more frequently reported for the previously treated cases than among previously untreated cases, due to the higher prevalence of drug resistance in this group and to the longer duration of re-treatment regimens.

Fifteen countries reported the treatment outcome at 24 months for all laboratory-confirmed MDR TB cases; 11 of these provided complete data (Table 25). The overall treatment success among these cases was 30.9% and ranged between 19.8% and 100%, indicating a wide variation between countries with regards to successfully treating MDR TB.

Only five countries reported the number of deaths and mortality rates through the European Mortality Database or through CISID for 2008 (Table 26). Among these the mortality rate ranged from 0.59 per 100 000 population in Austria to 8.44 per 100 000 in Lithuania.

**Conclusions and surveillance recommendations**

As for previous years, the 2008 data confirm the heterogeneous epidemiological picture of TB in the EU/EEA. For discussion purposes it is useful to define three broad epidemiological areas:

- low-incidence countries, with cases increasingly aggregating in the foreign born population and occasionally reporting increasing notifications;
- countries with relatively moderate to high notification rates that are in decline, with low MDR TB; and
- countries with relatively high notification rates and with a high proportion of MDR TB cases, but again with declining overall TB rates.

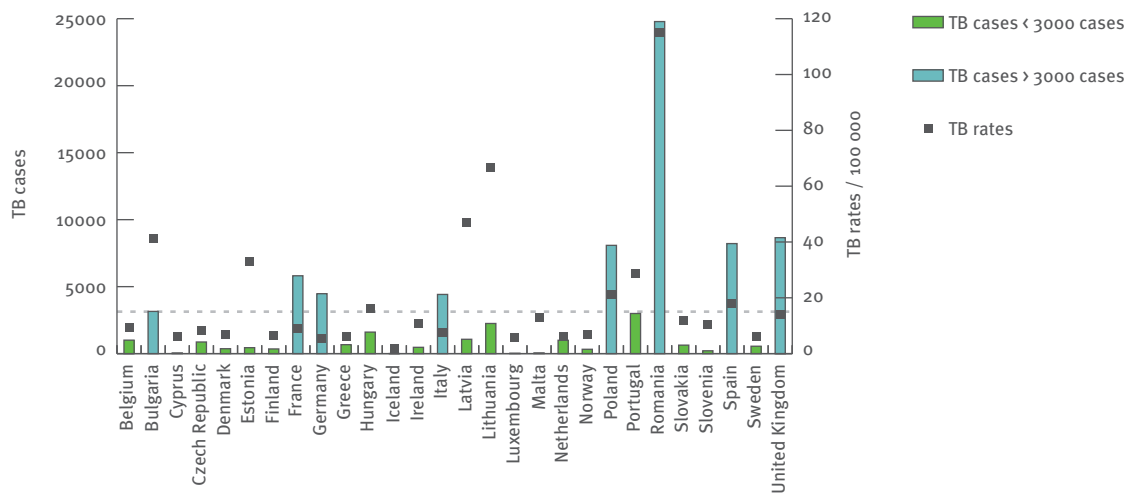
Despite the heterogeneity among the 30 Member States in terms of TB epidemiology, it is noteworthy that 80% of cases are attributable to just eight countries, of which five are low-incidence countries (See Figure A).

The EU/EEA as a whole continues to experience a decline of the TB epidemic. However, the percentage annual decline between 2007 and 2008 (1.2%) is the smallest recorded over the past four years (See Figure B).

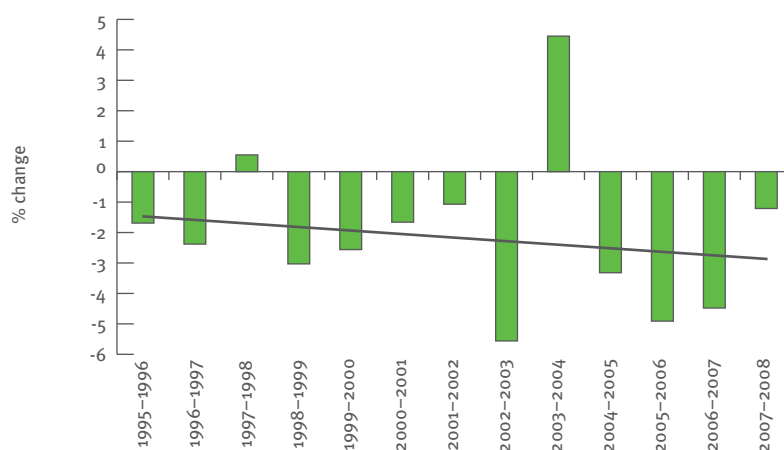
Furthermore, the downward trend in incidence is mainly attributable to the decline recorded by high/intermediate-incidence countries (defined by using an incidence threshold of 20 per 100 000).

As demonstrated in Figure C, the rate of decline over the past seven years in the high/intermediate-incidence countries (Bulgaria, the Baltic States, Romania, Poland and Portugal) has been over ten times that of the low-incidence countries; a reversal of the increasing trend seen for the period 1995–2001 that had been typical for the high/intermediate-incidence countries (with the exception of Portugal and Poland).

**Figure A: EU/EEA caseload burden 2008 by Member State (n=82 611)**



**Figure B: Percentage annual change in TB notification rates, EU/EEA, 1996–2008**



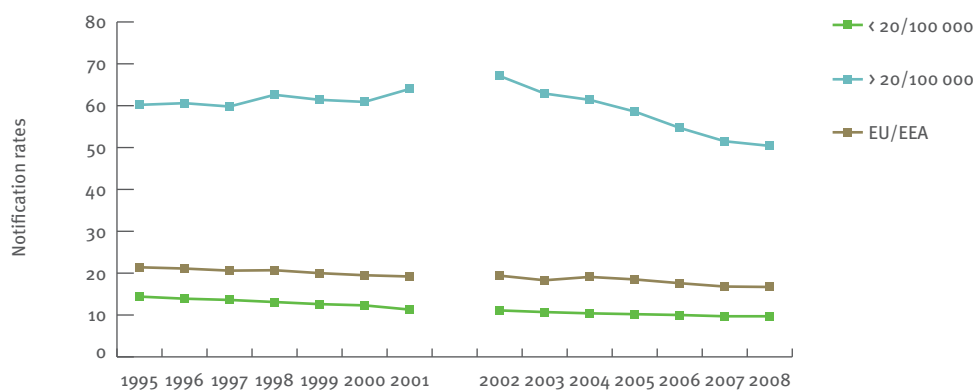
A levelling off of the epidemic in the low-incidence countries is, by contrast, apparent. This is due to the slowing of the decline in several Member States and an increase of notifications in others, often related to foreign-born cases.

Caution should be exercised when attributing the increase in incidence in some low-incidence countries solely to the reactivation of imported latent TB cases (foreign-born cases). The increasing trends in paediatric TB (children 0–14 years old) in seven countries (two high/intermediate-incidence and five low-incidence countries) are a possible sign of increased transmission within the EU, which might be occurring among certain vulnerable populations. The

significance of this finding and its correlation to a potential reversal of the decline remains, however, unclear and requires further investigation.

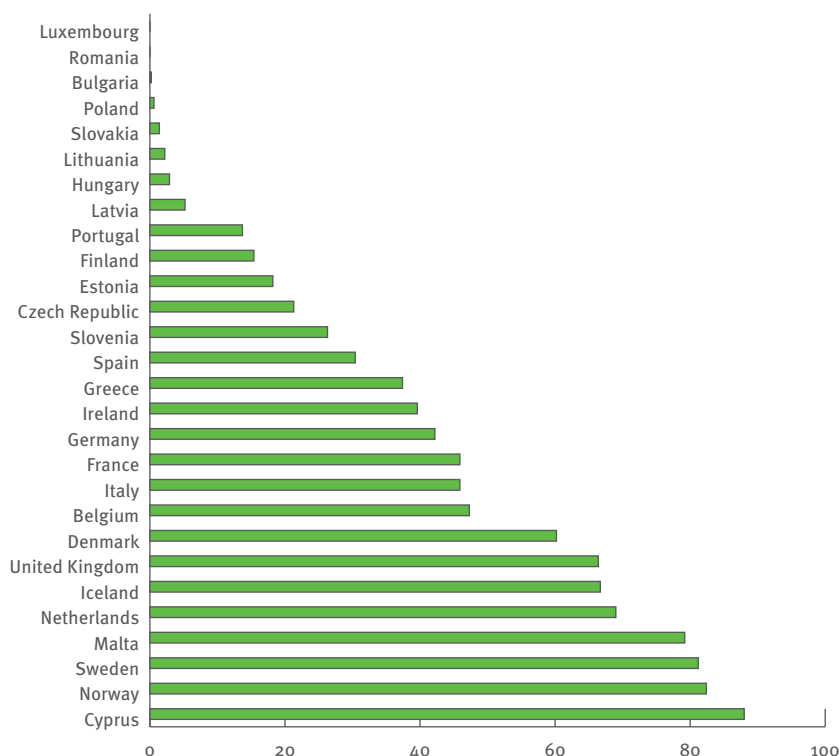
With regards to foreign-origin cases – which account for over 20% of cases in 17 countries (see Figure D) – the 2008 data indicate an interesting finding. In five low-incidence countries (France, Italy, the Netherlands, Spain and the United Kingdom) with percentages of foreign-origin cases between 30 and 80%, the percentage of children is higher among the native than among the foreign-born TB patients. This could be the result of paediatric TB patients born in these countries but to foreign-born parents and/or living

**Figure C: TB notification rates by incidence grouping\*, 1995–2001 and 2002–2008**



\* Reference year 2008

**Figure D: Proportion of foreign-origin cases as a percentage of all TB cases, 2008**



in a foreign-born household and thus becoming exposed to a higher risk of TB infection in the home. Should this hypothesis hold true it would warrant a discussion on the use of the foreign-born variable in assessing TB epidemiology, particularly among the youngest cohorts.

Treatment outcome monitoring shows a marginal improvement in the completeness and number of countries reporting outcomes for the 2007 cohort. However, no significant improvement in the percentage of cases successfully treated can be observed over the past five years, with 79.5% of previously untreated (new) culture-confirmed pulmonary cases having been successfully treated and with the percentage dropping to 51.8% in previously treated (retreatment) cases [8] (see Figure E).

It is important to note that for the 2007 treatment cohort, only three countries have achieved the treatment success

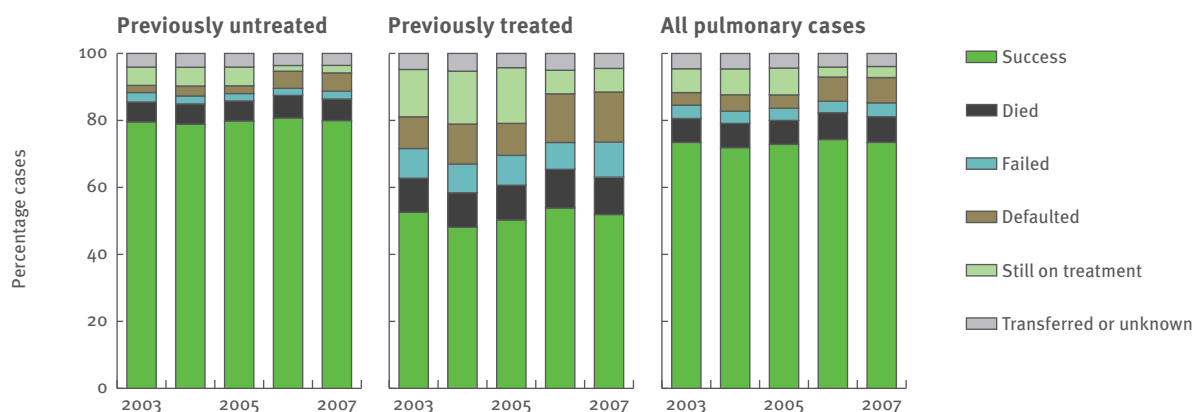
rate target of 85%<sup>17</sup> or higher set by the StopTB partnership (see Figure F), compared with seven countries for the 2006 cohort [2].

The outcome for MDR TB cases at 24 months has been reported for the first time by fifteen countries. In this subset of data, the success rate remains extremely low at 30.9% for the 2006 cohort.

The 2008 data collection records an improvement in the quality of the reported information on MDR TB. However, completeness of the data remains sub-optimal. MDR TB remains a threat to the EU/EEA with an increase from 4.0 to 6.0% of the proportion of combined MDR TB. Furthermore, the increase of acquired MDR TB (MDR TB in previously treated cases) in countries that had seen a reversal of

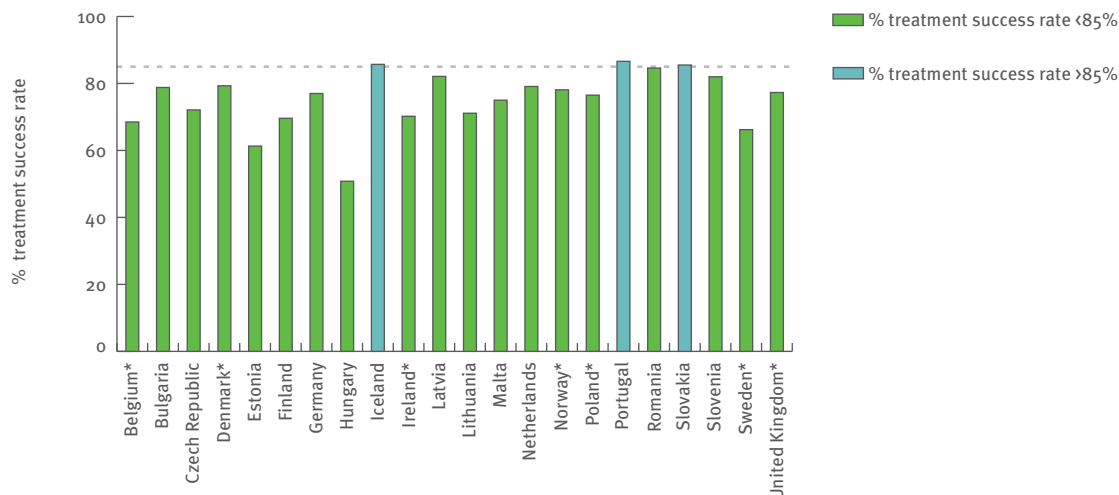
<sup>17</sup> In previously untreated culture-confirmed pulmonary cases

**Figure E: Treatment outcome of laboratory-confirmed pulmonary cases, EU/EEA countries\*, 2003–2007**



\* Excluded: Austria, Bulgaria, Cyprus, Finland, France, Greece, Italy, Liechtenstein, Luxembourg, and Spain

**Figure F: Treatment success rate among previously untreated laboratory-confirmed pulmonary TB cases, 2007**



\* Not previously diagnosed cases

the trend in previous years could indicate a worsening of programmatic MDR TB control [11].

For the first time since its launch in 1996, this report presents notification data on XDR TB. Although the quality and completeness of second-line resistance data remain questionable, the numbers confirm that XDR TB is now established within the EU borders.

As for previous years, the reporting of TB/HIV co-morbidity remains incomplete, not allowing a thorough assessment of the dual epidemic. Available data, however, indicate that there is no substantial increase in the co-infection epidemic [12].

Finally, it should be noted that a systematic and objective assessment of surveillance coverage and hence of the level of underreporting is not feasible with the available data. Despite the fact that overall case detection/reporting in the EU/EEA is believed to be high, a formal evaluation of the latter has yet to be attempted. This should be considered when interpreting the reported data.

### Surveillance recommendations for the EU/EEA

In line with the strategies for surveillance outlined in the Framework Action Plan to Fight TB in the European Union, a number of recommendations are suggested. These aim at improving monitoring of the evolving TB epidemiological situation [13].

Specifically, the following actions are to be considered:

- Further discussion on how to assess underreporting and surveillance coverage in a systematic manner should be held at EU/EEA level.
- Optimisation of reporting bacteriological results to increase the percentage of culture-confirmed cases, thereby improving the completeness of DST data.
- Wider implementation of drug-resistance surveillance, including by ensuring collection and reporting of diagnostic and follow-up DST results [14].
- Further strengthening TOM recording by increasing the number of reporting countries, and improving the completeness of information at both 12 and 24 months (particularly for MDR TB cases).
- Assessment of paediatric trends and their correlation to the general TB epidemic trends.
- Assessment of the use and interpretation of the 'foreign-born' variable based on Member States' specific epidemiological, social and demographic settings.

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## 3. Tables



**Summary table: Tuberculosis surveillance data by region, European Region, 2008**

	Table showing data by country	Region <sup>a</sup>							
		EU/EEA		Non-EU/EEA		Total		18 high priority countries (HPC)	
		N <sup>b</sup>		N <sup>b</sup>		N <sup>b</sup>		N <sup>b</sup>	
<b>Total population (millions)</b>	-	<b>28</b>	<b>494.2</b>	<b>22</b>	<b>389.3</b>	<b>50</b>	<b>883.4</b>	<b>18</b>	<b>386.9</b>
<b>Demographic and clinical features of TB cases, 2008</b>									
Total number of TB cases	1	28	82 611	22	379 034	50	461 645	18	404 285
TB cases per 100 000 population	1	28	16.7	22	97.5	50	52.2	18	104.5
Mean annual % change in notification rate (2004–2008)	1	28	-3.3%	22	4.5%	50	2.7%	18	6.0%
Foreign origin, percentage of all cases	2	28	22.4%	22	0.8%	50	4.8%	18	1.0%
Sex ratio (male to female) <sup>c</sup>	2	28	1.8	21	2.0	49	2.0	17	1.5
Percentage of pulmonary TB cases among all TB cases	6	27	78.7%	22	-	49	-	18	63.8%
Pulmonary sputum smear-positive TB cases per 100 000 population	7	27	5.7	22	14.9	49	14.6	18	30.1
Percentage of new cases among all TB cases	8a	27	78.8%	22	66.0%	49	68.3%	18	66.3%
Percentage of culture-positive TB cases among all TB cases	9	27	57.5%	16	21.5%	43	48.7%	13	0.0%
HIV infections, percentage of all TB cases	11	15	3.1%	17	3.0%	32	3.0%	13	2.8%
TB deaths per 100 000 population (median, latest available rates 2005–2008)	26	27	1.0	19	10.8	46	1.4	16	8.6
<b>Multidrug resistance (MDR), 2008</b>									
Percentage of MDR TB among new TB cases	15	25	2.8%	15	14.2%	40	11.0%	13	13.8%
Percentage of MDR TB among all TB cases	17a	24	6.0%	17	18.0%	41	22.6%	13	22.6%
Percentage of XDR TB among all MDR TB cases	17b	13	7.3%	5	0.5%	18	1.5%	7	1.4%
<b>Treatment outcome, new laboratory-confirmed pulmonary cases, 2007</b>									
Success (cure or treatment completion)	21	22	79.5%	20	67.5%	42	70.7%	18	69.2%
Death	21	22	6.6%	20	9.1%	42	8.4%	18	8.6%
Failure	21	22	2.0%	20	11.5%	42	9.0%	18	10.6%
Default	21	22	5.1%	20	7.6%	42	6.9%	18	7.5%
Still on treatment	21	22	2.5%	-	-	22	0.7%	18	0.3%
Lost to follow-up (transfer, unknown)	21	22	4.4%	20	4.3%	42	4.3%	18	3.8%
Loss to follow-up (default, transfer, unknown)	29	21	9%	23	9%	7	5%	12	13%

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

HPC: 18 high priority countries to STOP TB in the WHO European Region: Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Romania, Russia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan.

<sup>b</sup> Mean value unless otherwise indicated; for definition of regions see Chapter 1 Background and Technical Note.

<sup>c</sup> Number of countries with available data and included in the statistics.

<sup>d</sup> For non-EU/EEA countries, these data are only available for new cases.

**Table 1: Tuberculosis cases, notification rates per 100 000 population and mean annual change in rates, European Region, 2004–2008**

Country	2004		2005		2006		2007		2008		Mean annual % change in rate, 2004–2008
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	
<b>EU/EEA</b>											
Austria	1061	13.0	998	12.1	906	11.0	874	10.5	-	-	-
Belgium	1198	11.5	1107	10.6	1117	10.6	1020	9.6	1006	9.4	-4.7%
Bulgaria	3232	41.5	3302	42.7	3232	42.0	3038	39.7	3151	41.2	-0.1%
Cyprus	30	4.1	37	4.9	37	4.8	42	5.4	50	6.3	12.2%
Czech Republic	1057	10.3	984	9.6	951	9.3	846	8.2	868	8.4	-5.1%
Denmark <sup>a</sup>	385	7.1	428	7.9	387	7.1	391	7.2	367	6.7	-1.2%
Estonia	594	44.0	518	38.5	456	33.9	488	36.4	444	33.1	-6.6%
Finland	331	6.3	369	7.0	297	5.6	348	6.6	350	6.6	2.1%
France <sup>b</sup>	5514	8.8	5374	8.5	5336	8.4	5588	8.8	5812	9.1	0.8%
Germany	6542	7.9	6020	7.3	5378	6.5	4998	6.1	4543	5.5	-8.6%
Greece	774	7.0	769	6.9	681	6.1	659	5.9	669	6.0	-3.8%
Hungary	2340	23.2	1964	19.5	1855	18.4	1682	16.7	1606	16.0	-8.7%
Iceland	5	1.7	11	3.7	13	4.3	14	4.5	6	1.9	19.8%
Ireland	432	10.6	450	10.8	463	10.9	480	11.0	470	10.7	0.2%
Italy	4220	7.3	4212	7.2	4503	7.6	4525	7.6	4418	7.4	0.6%
Latvia	1610	69.6	1443	62.7	1328	58.0	1255	55.1	1070	47.1	-9.2%
Liechtenstein	-	-	-	-	-	-	5	14.2	-	-	-
Lithuania	2514	73.2	2574	75.4	2559	75.4	2408	71.3	2250	66.8	-2.2%
Luxembourg	31	6.8	37	8.0	33	7.0	39	8.1	28	5.8	-1.8%
Malta	19	4.7	25	6.2	30	7.4	38	9.3	53	13.0	28.8%
Netherlands	1344	8.3	1146	7.0	1015	6.2	1000	6.1	997	6.1	-7.2%
Norway	337	7.3	302	6.5	290	6.2	307	6.5	324	6.8	-1.5%
Poland	9493	24.9	9269	24.3	8587	22.5	8614	22.6	8081	21.2	-3.9%
Portugal	3854	36.7	3558	33.7	3425	32.4	3139	29.8	2995	28.7	-5.9%
Romania	31034	143.1	29288	135.4	26935	124.8	24844	115.3	24786	115.1	-5.2%
Slovakia	705	13.1	760	14.1	730	13.5	682	12.6	633	11.7	-2.6%
Slovenia	263	13.2	278	13.9	215	10.7	218	10.8	213	10.6	-4.6%
Spain	7766	18.2	7820	18.0	8029	18.2	7768	17.3	8214	18.1	0.0%
Sweden	461	5.1	559	6.2	497	5.5	481	5.3	552	6.0	4.9%
United Kingdom <sup>c</sup>	7609	12.7	8317	13.8	8298	13.7	8314	13.6	8655	14.1	2.8%
<b>Subtotal EU/EEA</b>	<b>94755</b>	<b>19.1</b>	<b>91919</b>	<b>18.5</b>	<b>87583</b>	<b>17.5</b>	<b>84105</b>	<b>16.8</b>	<b>82611</b>	<b>16.7</b>	<b>-3.3%</b>
<b>Non-EU/EEA</b>											
Albania	581	18.7	540	17.4	502	16.1	447	14.3	434	13.8	-7.3%
Andorra	7	9.1	10	12.5	13	15.9	6	7.2	4	4.7	-5.9%
Armenia	1701	55.6	2322	75.8	2155	70.2	2129	69.3	2125	69.1	6.8%
Azerbaijan	6501	77.6	7920	93.7	7498	87.8	7347	85.1	10078	115.4	11.7%
Belarus	6490	65.8	6357	64.8	6065	62.1	5756	59.2	5483	56.6	-3.7%
Bosnia and Herzegovina	2382	63.0	2160	57.1	1800	47.6	2400	63.5	1736	46.0	-5.0%
Croatia	1297	29.1	1141	25.7	1135	25.6	982	22.2	980	22.2	-6.4%
Georgia	5967	132.1	6448	144.4	6311	143.1	5912	135.7	5836	135.5	0.8%
Israel	519	7.9	406	6.1	386	5.7	397	5.7	369	5.2	-9.3%
Kazakhstan	32131	212.9	31187	205.3	43204	282.4	40279	261.4	31809	204.9	1.2%
Kyrgyzstan	6641	128.5	6765	129.6	6656	126.0	6707	125.5	7127	131.6	0.6%
Macedonia, the former Yugoslav Republic of	680	33.5	658	32.3	627	30.8	563	27.6	457	22.4	-9.3%
Moldova	6008	157.3	6278	167.0	6118	165.0	6367	173.6	5838	160.7	0.7%
Monaco	-	-	-	-	-	-	-	-	-	-	-
Montenegro	-	-	170	27.2	171	27.5	159	25.6	133	21.4	-7.5%
Russia	152438	106.0	156047	109.0	152265	106.8	214924	151.4	214905	152.0	10.7%
San Marino	-	-	-	-	-	-	-	-	-	-	-
Serbia <sup>d</sup>	2824	26.8	2378	24.1	2150	21.9	2051	20.9	1821	18.5	-8.8%
Switzerland	593	8.0	567	7.6	520	7.0	478	6.4	516	6.8	-3.7%
Tajikistan	5122	79.4	7142	109.3	6671	100.7	8081	120.1	7996	117.0	11.6%
Turkey	19799	28.2	20535	28.9	20526	28.5	19694	27.0	18452	25.0	-2.9%
Turkmenistan	4172	87.4	3291	68.0	3369	68.6	3698	74.3	3909	77.5	-2.2%
Ukraine	38403	81.2	43367	92.4	41265	88.5	40643	87.8	37832	82.3	0.6%
Uzbekistan	25714	98.8	28891	109.8	25310	95.1	23390	87.0	21194	77.9	-5.3%
<b>Subtotal non-EU/EEA</b>	<b>319970</b>	<b>82.8</b>	<b>334580</b>	<b>86.6</b>	<b>334717</b>	<b>86.5</b>	<b>392410</b>	<b>101.2</b>	<b>379034</b>	<b>97.5</b>	<b>4.5%</b>
<b>Total European Region</b>	<b>414725</b>	<b>47.3</b>	<b>418182</b>	<b>48.3</b>	<b>422300</b>	<b>47.7</b>	<b>476515</b>	<b>53.6</b>	<b>461645</b>	<b>52.2</b>	<b>2.7%</b>
<b>Subtotal 18 HPC</b>	<b>319970</b>	<b>83.8</b>	<b>363675</b>	<b>95.1</b>	<b>361923</b>	<b>94.6</b>	<b>416960</b>	<b>108.8</b>	<b>404285</b>	<b>104.5</b>	<b>6.0%</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in *italics*.

Note: For TB cases and case rates by country and year for the period 1995–2006, see [www.eurotb.org](http://www.eurotb.org).

<sup>b</sup> Excluding Greenland (63 cases in 2008, see Chapter 1.3).

<sup>c</sup> Provisional data for 2008 from France.

<sup>d</sup> Data before 2007 differ from those published in the UK due to a revision of the UK surveillance system.

<sup>e</sup> Excluding 992 cases from UN Administered Province of Kosovo.

Table 2: New TB cases by age group, European Region, 2008

Country	0-4		5-14		15-24		25-44		45-64		>64		Unknown		Total
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
<b>EU/EEA</b>															
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	28	(3.5)	23	(2.9)	97	(12.1)	343	(42.9)	174	(21.8)	134	(16.8)	0	(0.0)	799
Bulgaria	57	(2.0)	168	(5.9)	308	(10.9)	878	(30.9)	914	(32.2)	513	(18.1)	0	(0.0)	2838
Cyprus	0	(0.0)	1	(5.9)	3	(17.6)	10	(58.8)	2	(11.8)	1	(5.9)	0	(0.0)	17
Czech Republic	1	(0.1)	3	(0.4)	51	(6.3)	230	(28.5)	270	(33.5)	252	(31.2)	0	(0.0)	807
Denmark	8	(2.4)	14	(4.2)	42	(12.7)	124	(37.6)	101	(30.6)	41	(12.4)	0	(0.0)	330
Estonia	0	(0.0)	2	(0.6)	22	(6.2)	128	(36.2)	139	(39.3)	63	(17.8)	0	(0.0)	354
Finland	1	(0.3)	3	(0.9)	21	(6.3)	48	(14.5)	92	(27.8)	166	(50.2)	0	(0.0)	331
France	75	(2.2)	112	(3.3)	359	(10.7)	1199	(35.7)	842	(25.1)	767	(22.9)	1	(0.0)	3355
Germany	58	(1.6)	58	(1.6)	287	(7.9)	1121	(30.9)	1069	(29.5)	1029	(28.4)	1	(0.0)	3623
Greece	14	(2.6)	17	(3.2)	54	(10.0)	172	(32.0)	123	(22.9)	157	(29.2)	1	(0.2)	538
Hungary	0	(0.0)	4	(0.3)	66	(5.0)	319	(24.1)	596	(45.1)	335	(25.4)	1	(0.1)	1321
Iceland	0	(0.0)	0	(0.0)	1	(20.0)	3	(60.0)	1	(20.0)	0	(0.0)	0	(0.0)	5
Ireland	7	(2.1)	7	(2.1)	47	(14.0)	140	(41.8)	84	(25.1)	50	(14.9)	0	(0.0)	335
Italy	104	(3.1)	105	(3.1)	431	(12.6)	1393	(40.9)	627	(18.4)	731	(21.4)	18	(0.5)	3409
Latvia	26	(2.8)	22	(2.4)	94	(10.2)	384	(41.8)	288	(31.4)	104	(11.3)	0	(0.0)	918
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	30	(1.6)	70	(3.7)	132	(7.0)	688	(36.4)	689	(36.4)	283	(15.0)	0	(0.0)	1892
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	0	(0.0)	0	(0.0)	14	(30.4)	21	(45.7)	4	(8.7)	7	(15.2)	0	(0.0)	46
Netherlands	19	(2.0)	31	(3.3)	166	(17.5)	398	(42.0)	199	(21.0)	135	(14.2)	0	(0.0)	948
Norway	5	(2.1)	15	(6.3)	42	(17.7)	121	(51.1)	29	(12.2)	25	(10.5)	0	(0.0)	237
Poland	26	(0.4)	50	(0.7)	352	(5.0)	1809	(25.6)	3083	(43.7)	1741	(24.7)	0	(0.0)	7061
Portugal	17	(0.6)	43	(1.6)	252	(9.3)	1122	(41.5)	751	(27.8)	518	(19.2)	0	(0.0)	2703
Romania	357	(1.9)	559	(3.0)	2994	(15.9)	6754	(36.0)	5758	(30.7)	2352	(12.5)	0	(0.0)	18774
Slovakia	4	(0.8)	10	(2.0)	23	(4.5)	100	(19.6)	197	(38.6)	176	(34.5)	0	(0.0)	510
Slovenia	2	(1.0)	1	(0.5)	12	(6.1)	48	(24.2)	66	(33.3)	69	(34.8)	0	(0.0)	198
Spain	311	(4.6)	231	(3.4)	895	(13.2)	2876	(42.5)	1390	(20.5)	1054	(15.6)	12	(0.2)	6769
Sweden	5	(1.1)	12	(2.6)	89	(19.5)	206	(45.2)	83	(18.2)	61	(13.4)	0	(0.0)	456
United Kingdom	163	(2.5)	225	(3.5)	988	(15.2)	3070	(47.1)	1271	(19.5)	803	(12.3)	0	(0.0)	6520
<b>Subtotal EU/EEA</b>	<b>1318</b>	<b>(2.0)</b>	<b>1786</b>	<b>(2.7)</b>	<b>7842</b>	<b>(12.0)</b>	<b>23705</b>	<b>(36.4)</b>	<b>18842</b>	<b>(28.9)</b>	<b>11567</b>	<b>(17.8)</b>	<b>34</b>	<b>(0.1)</b>	<b>65094</b>
<b>Non-EU/EEA</b>															
Albania	4	(1.0)	15	(3.7)	81	(20.1)	110	(27.4)	112	(27.9)	80	(19.9)	0	(0.0)	402
Andorra	0	(0.0)	0	(0.0)	0	(0.0)	1	(25.0)	2	(50.0)	1	(25.0)	0	(0.0)	4
Armenia	35	(2.3)	50	(3.3)	316	(21.0)	531	(35.2)	441	(29.3)	134	(8.9)	0	(0.0)	1507
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belarus	10	(0.7)	15	(1.1)	94	(6.7)	537	(38.1)	541	(38.3)	214	(15.2)	3223	(69.6)	4634
Bosnia and Herzegovina	4	(0.2)	13	(0.8)	129	(7.7)	352	(21.1)	502	(30.1)	669	(40.1)	0	(0.0)	1669
Croatia	5	(0.5)	22	(2.4)	64	(6.9)	206	(22.1)	310	(33.3)	324	(34.8)	13	(1.4)	944
Georgia	63	(1.6)	204	(4.9)	961	(20.1)	1682	(40.8)	869	(23.3)	369	(9.3)	0	(0.0)	4148
Israel	7	(1.9)	9	(2.5)	33	(9.1)	146	(40.1)	83	(22.8)	86	(23.6)	0	(0.0)	364
Kazakhstan	245	(1.2)	736	(3.7)	5959	(30.3)	8352	(42.4)	3627	(18.4)	765	(3.9)	0	(0.0)	19684
Kyrgyzstan	107	(2.0)	523	(9.8)	1483	(27.8)	1967	(36.9)	932	(17.5)	321	(6.0)	897	(14.4)	6230
Macedonia, the former Yugoslav Republic of	11	(2.6)	29	(6.8)	86	(20.1)	125	(29.2)	112	(26.2)	65	(15.2)	0	(0.0)	428
Moldova	67	(1.7)	93	(2.4)	696	(17.6)	1715	(43.4)	1196	(30.3)	184	(4.7)	0	(0.0)	3951
Monaco	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	0	(0.0)	1	(0.8)	14	(11.4)	42	(34.1)	44	(35.8)	22	(17.9)	0	(0.0)	123
Russia	1173	(1.0)	2030	(1.7)	18014	(14.9)	58268	(48.2)	34338	(28.4)	7012	(5.8)	0	(0.0)	120835
San Marino	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Serbia	7	(0.4)	15	(0.9)	139	(8.8)	382	(24.1)	569	(35.9)	473	(29.8)	0	(0.0)	1585
Switzerland	1	(0.5)	2	(1.1)	23	(12.3)	108	(57.8)	29	(15.5)	24	(12.8)	132	(41.4)	319
Tajikistan	94	(1.5)	453	(7.4)	2029	(33.2)	2293	(37.5)	939	(15.4)	307	(5.0)	35	(0.6)	6150
Turkey	232	(1.4)	717	(4.3)	3770	(22.5)	6152	(36.7)	4056	(24.2)	1833	(10.9)	0	(0.0)	16760
Turkmenistan	0	(0.0)	7	(0.0)	302	(9.4)	663	(20.5)	305	(9.4)	54	(1.7)	1904	(58.9)	3235
Ukraine	206	(0.6)	375	(1.0)	4441	(12.4)	17048	(47.7)	10805	(30.2)	2864	(8.0)	0	(0.0)	35739
Uzbekistan	275	(1.7)	1733	(10.9)	2853	(17.9)	5789	(36.2)	3469	(21.7)	1852	(11.6)	0	(0.0)	15971
<b>Subtotal non-EU/EEA</b>	<b>2546</b>	<b>(1.0)</b>	<b>7042</b>	<b>(2.9)</b>	<b>41487</b>	<b>(17.0)</b>	<b>106469</b>	<b>(43.5)</b>	<b>63281</b>	<b>(25.9)</b>	<b>17653</b>	<b>(7.2)</b>	<b>6204</b>	<b>(2.5)</b>	<b>244682</b>
<b>Total European Region</b>	<b>3864</b>	<b>(1.2)</b>	<b>8828</b>	<b>(2.8)</b>	<b>49329</b>	<b>(15.9)</b>	<b>130174</b>	<b>(42.0)</b>	<b>82123</b>	<b>(26.5)</b>	<b>29220</b>	<b>(9.4)</b>	<b>6238</b>	<b>(2.0)</b>	<b>309776</b>
<b>Subtotal 18 HPC</b>	<b>2977</b>	<b>(1.1)</b>	<b>7757</b>	<b>(3.0)</b>	<b>44468</b>	<b>(17.1)</b>	<b>113829</b>	<b>(43.7)</b>	<b>69306</b>	<b>(26.6)</b>	<b>19224</b>	<b>(7.4)</b>	<b>6059</b>	<b>(2.3)</b>	<b>260643</b>

\*European Region\* comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB High Priority Countries presented in italics.

**Table 3: Tuberculosis cases by geographical origin and sex ratio, European Region, 2008**

Country	Criterion	National			Foreign			Unknown <sup>c</sup>			Total <sup>a</sup>	
		N	(%)	Sex ratio (M:F) <sup>b</sup>	N	(%)	Sex ratio (M:F) <sup>b</sup>	N	(%)	Sex ratio (M:F) <sup>b</sup>	N	Sex ratio (M:F) <sup>b</sup>
<b>EU/EEA</b>												
Austria	citizenship	-	-	-	-	-	-	-	-	-	-	-
Belgium	citizenship	530	(52.7)	1.9	476	(47.3)	1.8	0	(0.0)	-	1006	1.9
Bulgaria	birthplace	3145	(99.8)	2.0	6	(0.2)	5.0	0	(0.0)	-	3151	2.0
Cyprus	birthplace	6	(12.0)	2.0	44	(88.0)	0.9	0	(0.0)	-	50	1.0
Czech Republic	birthplace	683	(78.7)	1.7	185	(21.3)	2.2	0	(0.0)	-	868	1.8
Denmark <sup>a</sup>	birthplace	146	(39.8)	1.9	221	(60.2)	1.4	0	(0.0)	-	367	1.6
Estonia	birthplace	359	(80.9)	2.5	81	(18.2)	3.8	4	(0.9)	3.0	444	2.7
Finland	birthplace	295	(84.3)	1.6	54	(15.4)	1.3	1	(0.3)	N/F	350	1.6
France	birthplace	2708	(46.6)	1.4	2665	(45.9)	1.5	439	(7.6)	1.3	5812	1.4
Germany	birthplace	2455	(54.0)	1.7	1918	(42.2)	1.4	170	(3.7)	1.3	4543	1.6
Greece	birthplace	414	(61.9)	1.9	250	(37.4)	2.4	5	(0.7)	1.5	669	2.1
Hungary	birthplace	1535	(95.6)	2.0	47	(2.9)	2.6	24	(1.5)	3.8	1606	2.0
Iceland	birthplace	2	(33.3)	N/F <sup>d</sup>	4	(66.7)	1.0	0	(0.0)	-	6	2.0
Ireland	birthplace	265	(56.4)	1.8	186	(39.6)	1.3	19	(4.0)	1.7	470	1.6
Italy	birthplace	2102	(47.6)	1.5	2026	(45.9)	1.6	290	(6.6)	1.5	4418	1.5
Latvia	birthplace	1002	(93.6)	2.5	56	(5.2)	3.3	12	(1.1)	2.0	1070	2.5
Liechtenstein	citizenship	-	-	-	-	-	-	-	-	-	-	-
Lithuania	birthplace	2201	(97.8)	2.6	49	(2.2)	3.5	0	(0.0)	-	2250	2.6
Luxembourg	birthplace	-	-	-	-	-	-	28	(100.0)	1.7	28	1.7
Malta	birthplace	11	(20.8)	1.8	42	(79.2)	6.0	0	(0.0)	-	53	4.3
Netherlands	birthplace	304	(30.5)	1.5	688	(69.0)	1.2	5	(0.5)	1.5	997	1.3
Norway	birthplace	55	(17.0)	1.4	267	(82.4)	0.9	2	(0.6)	N/F	324	1.0
Poland	citizenship	8029	(99.4)	2.1	52	(0.6)	1.9	0	(0.0)	-	8081	2.1
Portugal	birthplace	2549	(85.1)	1.9	411	(13.7)	2.3	35	(1.2)	2.9	2995	2.0
Romania	birthplace	24786	(100.0)	2.3	0	(0.0)	-	0	(0.0)	-	24786	2.3
Slovakia	birthplace	624	(98.6)	1.6	9	(1.4)	2.0	0	(0.0)	-	633	1.6
Slovenia	birthplace	157	(73.7)	1.3	56	(26.3)	4.1	0	(0.0)	-	213	1.7
Spain	birthplace	5143	(62.6)	1.9	2495	(30.4)	1.6	576	(7.0)	1.8	8214	1.8
Sweden	birthplace	87	(15.8)	1.1	448	(81.2)	0.9	17	(3.1)	1.1	552	1.0
United Kingdom	birthplace	2229	(25.8)	1.3	5751	(66.4)	1.1	675	(7.8)	1.3	8655	1.2
<b>Subtotal EU/EEA</b>		<b>61822</b>	<b>(74.8)</b>	<b>2.0</b>	<b>18487</b>	<b>(22.4)</b>	<b>1.4</b>	<b>2302</b>	<b>(2.8)</b>	<b>1.5</b>	<b>82611</b>	<b>1.8</b>
<b>Non-EU/EEA</b>												
Albania	citizenship	433	(99.8)	-	1	(0.2)	-	-	-	-	434	1.4
Andorra	citizenship	4	(100.0)	-	0	(0.0)	-	-	-	-	4	1.0
Armenia	citizenship	2108	99.2	-	17	0.8	-	-	-	-	2125	2.7
Azerbaijan	citizenship	10078	(100.0)	-	-	-	-	-	-	-	10078	-
Belarus	citizenship	5483	100	-	-	-	-	-	-	-	5483	2.4
Bosnia and Herzegovina	citizenship	1736	(100.0)	-	-	-	-	-	-	-	1736	1.3
Croatia	citizenship	935	(95.4)	-	45	(4.6)	-	-	-	-	980	1.5
Georgia	citizenship	5836	(100.0)	-	-	-	-	-	-	-	5836	2.3
Israel	citizenship	56	(15.2)	-	313	(84.8)	-	-	-	-	369	1.6
Kazakhstan	citizenship	31720	(99.7)	-	89	(0.3)	-	-	-	-	31809	1.3
Kyrgyzstan	citizenship	7127	(100.0)	-	-	-	-	-	-	-	7127	1.3
Macedonia, the former Yugoslav Republic of	citizenship	435	(95.2)	-	22	(4.8)	-	-	-	-	457	1.3
Moldova	citizenship	5819	(99.7)	-	19	(0.3)	-	-	-	-	5838	2.4
Monaco	citizenship	-	-	-	-	-	-	-	-	-	-	-
Montenegro	citizenship	130	(97.7)	-	3	(2.3)	-	-	-	-	133	0.8
Russia	citizenship	212405	(98.8)	-	2500	(1.2)	-	-	-	-	214905	2.4
San Marino	citizenship	-	-	-	-	-	-	-	-	-	-	-
Serbia	citizenship	1814	(99.6)	-	7	(0.4)	-	-	-	-	1821	1.4
Switzerland	citizenship	131	(25.4)	-	385	(74.6)	-	-	-	-	516	1.1
Tajikistan	citizenship	7996	(100.0)	-	-	-	-	-	-	-	7996	1.5
Turkey	birthplace	18277	(99.1)	-	175	(0.9)	-	-	-	-	18452	1.6
Turkmenistan	citizenship	3909	(100.0)	-	-	-	-	-	-	-	3909	1.6
Ukraine	citizenship	37832	(100.0)	-	-	-	-	-	-	-	37832	2.4
Uzbekistan	citizenship	21164	(99.9)	-	30	(0.1)	-	-	-	-	21194	1.5
<b>Subtotal non-EU/EEA</b>		<b>375428</b>	<b>(99.0)</b>	<b>-</b>	<b>3606</b>	<b>(1.0)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>379034</b>	<b>2.0</b>
<b>Total European Region</b>		<b>437250</b>	<b>(94.7)</b>	<b>-</b>	<b>22093</b>	<b>(4.8)</b>	<b>-</b>	<b>2302</b>	<b>(0.5)</b>	<b>1.5</b>	<b>461645</b>	<b>2.0</b>
<b>Subtotal 18 HPC</b>		<b>401247</b>	<b>(99.2)</b>	<b>-</b>	<b>3022</b>	<b>(0.8)</b>	<b>-</b>	<b>16</b>	<b>(0.0)</b>	<b>2.4</b>	<b>404285</b>	<b>1.5</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.  
WHO European Region 18 TB High Priority Countries presented in italics.

<sup>b</sup> By birthplace of parents for Danish-born cases under 26 years of age.

<sup>c</sup> For Other EUR countries, these data are only available for new cases.

<sup>d</sup> Cases with unknown origin are included in national cases for non-EU countries.

<sup>e</sup> N/F: no females in subgroup

**Table 4a: Tuberculosis cases of national origin, by age group, EU/EEA, 2008**

Country	0-4		5-14		15-24		25-44		45-64		>64		Unknown		Total
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	15	(2.8)	12	(2.3)	43	(8.1)	166	(31.3)	144	(27.2)	150	(28.3)	0	(0.0)	530
<i>Bulgaria</i>	57	(1.8)	171	(5.4)	320	(10.2)	1006	(32.0)	1033	(32.8)	558	(17.7)	0	(0.0)	3145
Cyprus	2	(33.3)	0	(0.0)	1	(16.7)	0	(0.0)	1	(16.7)	2	(33.3)	0	(0.0)	6
Czech Republic	0	(0.0)	2	(0.3)	12	(1.8)	129	(18.9)	274	(40.1)	266	(38.9)	0	(0.0)	683
Denmark <sup>a</sup>	4	(2.7)	3	(2.1)	10	(6.8)	32	(21.9)	71	(48.6)	26	(17.8)	0	(0.0)	146
<i>Estonia</i>	0	(0.0)	2	(0.6)	23	(6.4)	134	(37.3)	144	(40.1)	56	(15.6)	0	(0.0)	359
Finland	1	(0.3)	1	(0.3)	6	(2.0)	20	(6.8)	90	(30.5)	177	(60.0)	0	(0.0)	295
France	119	(4.4)	96	(3.5)	217	(8.0)	664	(24.5)	658	(24.3)	953	(35.2)	1	(0.0)	2708
Germany	54	(2.2)	34	(1.4)	116	(4.7)	463	(18.9)	802	(32.7)	986	(40.2)	0	(0.0)	2455
Greece	8	(1.9)	9	(2.2)	14	(3.4)	69	(16.7)	121	(29.2)	193	(46.6)	0	(0.0)	414
Hungary	0	(0.0)	4	(0.3)	60	(3.9)	348	(22.7)	715	(46.6)	406	(26.4)	2	(0.1)	1535
Iceland	0	(0.0)	0	(0.0)	1	(50.0)	1	(50.0)	0	(0.0)	0	(0.0)	0	(0.0)	2
Ireland	6	(2.3)	5	(1.9)	22	(8.3)	69	(26.0)	80	(30.2)	83	(31.3)	0	(0.0)	265
Italy	78	(3.7)	63	(3.0)	106	(5.0)	386	(18.4)	516	(24.5)	920	(43.8)	33	(1.6)	2102
<i>Latvia</i>	26	(2.6)	22	(2.2)	94	(9.4)	433	(43.2)	321	(32.0)	106	(10.6)	0	(0.0)	1002
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	30	(1.4)	70	(3.2)	140	(6.4)	809	(36.7)	842	(38.2)	311	(14.1)	0	(0.0)	2202
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	3	(27.3)	8	(72.7)	0	(0.0)	11
Netherlands	14	(4.6)	19	(6.3)	30	(9.9)	79	(26.0)	73	(24.0)	89	(29.3)	0	(0.0)	304
Norway	3	(5.5)	4	(7.3)	2	(3.6)	0	(0.0)	14	(25.5)	32	(58.2)	0	(0.0)	55
Poland	23	(0.3)	49	(0.6)	357	(4.4)	1964	(24.5)	3679	(45.8)	1957	(24.4)	0	(0.0)	8029
Portugal	15	(0.6)	36	(1.4)	213	(8.4)	1013	(39.7)	734	(28.8)	538	(21.1)	0	(0.0)	2549
<i>Romania</i>	357	(1.4)	569	(2.3)	3261	(13.2)	8983	(36.2)	8720	(35.2)	2896	(11.7)	0	(0.0)	24786
Slovakia	4	(0.6)	10	(1.6)	27	(4.3)	119	(19.1)	244	(39.1)	220	(35.3)	0	(0.0)	624
Slovenia	1	(0.6)	1	(0.6)	7	(4.5)	26	(16.6)	55	(35.0)	67	(42.7)	0	(0.0)	157
Spain	265	(5.2)	150	(2.9)	453	(8.8)	1757	(34.2)	1286	(25.0)	1198	(23.3)	34	(0.7)	5143
Sweden	5	(5.7)	4	(4.6)	9	(10.3)	11	(12.6)	15	(17.2)	43	(49.4)	0	(0.0)	87
United Kingdom	156	(7.0)	164	(7.4)	345	(15.5)	593	(26.6)	478	(21.4)	493	(22.1)	0	(0.0)	2229
<b>Total EU/EEA</b>	<b>1243</b>	<b>(2.0)</b>	<b>1500</b>	<b>(2.4)</b>	<b>5889</b>	<b>(9.5)</b>	<b>19274</b>	<b>(31.2)</b>	<b>21113</b>	<b>(34.2)</b>	<b>12734</b>	<b>(20.6)</b>	<b>70</b>	<b>(0.1)</b>	<b>61823</b>

WHO European Region TB High Priority Countries presented in *italics*.<sup>a</sup> Excluding native cases <26 years old whose parents were born outside Denmark.**Table 4b: Tuberculosis cases of foreign origin, by age group, EU/EEA, 2008**

Country	0-4		5-14		15-24		25-44		45-64		>64		Unknown		Total
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	14	(2.9)	12	(2.5)	71	(14.9)	275	(57.8)	73	(15.3)	31	(6.5)	0	(0.0)	476
<i>Bulgaria</i>	0	(0.0)	0	(0.0)	1	(16.7)	4	(66.7)	1	(16.7)	0	(0.0)	0	(0.0)	6
Cyprus	0	(0.0)	1	(2.3)	9	(20.5)	28	(63.6)	5	(11.4)	1	(2.3)	0	(0.0)	44
Czech Republic	1	(0.5)	1	(0.5)	40	(21.6)	112	(60.5)	23	(12.4)	8	(4.3)	0	(0.0)	185
Denmark <sup>a</sup>	4	(1.8)	11	(5.0)	34	(15.4)	102	(46.2)	52	(23.5)	18	(8.1)	0	(0.0)	221
<i>Estonia</i>	0	(0.0)	0	(0.0)	0	(0.0)	20	(24.7)	38	(46.9)	23	(28.4)	0	(0.0)	81
Finland	0	(0.0)	2	(3.7)	14	(25.9)	29	(53.7)	7	(13.0)	2	(3.7)	0	(0.0)	54
France	28	(1.1)	76	(2.9)	336	(12.6)	1165	(43.7)	669	(25.1)	391	(14.7)	0	(0.0)	2665
Germany	6	(0.3)	25	(1.3)	210	(10.9)	870	(45.4)	479	(25.0)	327	(17.0)	1	(0.1)	1918
Greece	8	(3.2)	12	(4.8)	49	(19.6)	138	(55.2)	34	(13.6)	8	(3.2)	1	(0.4)	250
Hungary	0	(0.0)	0	(0.0)	7	(14.9)	24	(51.1)	11	(23.4)	5	(10.6)	0	(0.0)	47
Iceland	0	(0.0)	0	(0.0)	0	(0.0)	3	(75.0)	1	(25.0)	0	(0.0)	0	(0.0)	4
Ireland	2	(1.1)	2	(1.1)	34	(18.3)	120	(64.5)	25	(13.4)	3	(1.6)	0	(0.0)	186
Italy	20	(1.0)	47	(2.3)	396	(19.5)	1241	(61.3)	283	(14.0)	28	(1.4)	11	(0.5)	2026
<i>Latvia</i>	0	(0.0)	0	(0.0)	1	(1.8)	12	(21.4)	27	(48.2)	16	(28.6)	0	(0.0)	56
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	0	(0.0)	0	(0.0)	1	(2.0)	15	(30.6)	23	(46.9)	10	(20.4)	0	(0.0)	49
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	0	(0.0)	0	(0.0)	18	(42.9)	23	(54.8)	1	(2.4)	0	(0.0)	0	(0.0)	42
Netherlands	5	(0.7)	12	(1.7)	140	(20.3)	337	(49.0)	139	(20.2)	55	(8.0)	0	(0.0)	688
Norway	3	(1.1)	13	(4.9)	56	(21.0)	165	(61.8)	21	(7.9)	9	(3.4)	0	(0.0)	267
Poland	3	(5.8)	1	(1.9)	9	(17.3)	33	(63.5)	6	(11.5)	0	(0.0)	0	(0.0)	52
Portugal	0	(0.0)	6	(1.5)	49	(11.9)	221	(53.8)	112	(27.3)	23	(5.6)	0	(0.0)	411
<i>Romania</i>	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0
Slovakia	0	(0.0)	0	(0.0)	1	(11.1)	5	(55.6)	2	(22.2)	1	(11.1)	0	(0.0)	9
Slovenia	1	(1.8)	0	(0.0)	5	(8.9)	26	(46.4)	18	(32.1)	6	(10.7)	0	(0.0)	56
Spain	40	(1.6)	96	(3.8)	503	(20.2)	1513	(60.6)	296	(11.9)	44	(1.8)	3	(0.1)	2495
Sweden	4	(0.9)	13	(2.9)	90	(20.1)	231	(51.6)	81	(18.1)	29	(6.5)	0	(0.0)	448
United Kingdom	23	(0.4)	132	(2.3)	854	(14.8)	3132	(54.5)	1041	(18.1)	569	(9.9)	0	(0.0)	5751
<b>Total EU/EEA</b>	<b>162</b>	<b>(0.9)</b>	<b>462</b>	<b>(2.5)</b>	<b>2928</b>	<b>(15.8)</b>	<b>9844</b>	<b>(53.2)</b>	<b>3468</b>	<b>(18.8)</b>	<b>1607</b>	<b>(8.7)</b>	<b>16</b>	<b>(0.1)</b>	<b>18487</b>

WHO European Region TB High Priority Countries presented in *italics*.<sup>a</sup> Excluding native cases <26 years old whose parents were born outside Denmark.

**Table 5: Tuberculosis cases of foreign origin by country and geographical area of origin, EU/EEA, 2008**

Country	Criterion	European Region				Rest of Asia		Africa		Other <sup>b</sup> / unknown		Total
		EU/EEA		Other European Region		N	(%)	N	(%)	N	(%)	
		N	(%)	N	(%)							
Austria	citizenship	-	-	-	-	-	-	-	-	-	-	-
Belgium	citizenship	66	(13.9)	61	(12.8)	86	(18.1)	235	(49.4)	28	(5.9)	476
<i>Bulgaria</i>	<i>birthplace</i>	0	(0.0)	4	(66.7)	2	(33.3)	0	(0.0)	0	(0.0)	6
Cyprus	birthplace	12	(27.3)	10	(22.7)	19	(43.2)	3	(6.8)	0	(0.0)	44
Czech Republic	birthplace	35	(18.9)	44	(23.8)	99	(53.5)	6	(3.2)	1	(0.5)	185
Denmark <sup>a</sup>	birthplace	9	(4.1)	19	(8.6)	92	(41.6)	61	(27.6)	40	(18.1)	221
<i>Estonia</i>	<i>birthplace</i>	3	(3.7)	77	(95.1)	1	(1.2)	0	(0.0)	0	(0.0)	81
Finland	birthplace	1	(1.9)	0	(0.0)	20	(37.0)	24	(44.4)	9	(16.7)	54
France	birthplace	-	-	-	-	-	-	-	-	2 665	(100.0)	2 665
Germany	birthplace	309	(16.1)	761	(39.7)	445	(23.2)	292	(15.2)	111	(5.8)	1 918
Greece	birthplace	40	(16.0)	79	(31.6)	68	(27.2)	38	(15.2)	25	(10.0)	250
Hungary	birthplace	27	(57.4)	5	(10.6)	5	(10.6)	7	(14.9)	3	(6.4)	47
Iceland	birthplace	2	(50.0)	0	(0.0)	1	(25.0)	1	(25.0)	0	(0.0)	4
Ireland	birthplace	28	(15.1)	6	(3.2)	86	(46.2)	54	(29.0)	12	(6.5)	186
Italy	birthplace	552	(27.2)	111	(5.5)	440	(21.7)	605	(29.9)	318	(15.7)	2 026
<i>Latvia</i>	<i>birthplace</i>	4	(7.1)	52	(92.9)	0	(0.0)	0	(0.0)	0	(0.0)	56
Liechtenstein	birthplace	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	<i>birthplace</i>	1	(2.0)	46	(93.9)	2	(4.1)	0	(0.0)	0	(0.0)	49
Luxembourg	birthplace	-	-	-	-	-	-	-	-	-	-	-
Malta	birthplace	0	(0.0)	1	(2.4)	5	(11.9)	36	(85.7)	0	(0.0)	42
Netherlands	birthplace	43	(6.3)	51	(7.4)	174	(25.3)	338	(49.1)	82	(11.9)	688
Norway	birthplace	9	(3.4)	17	(6.4)	107	(40.1)	127	(47.6)	7	(2.6)	267
Poland	citizenship	3	(5.8)	30	(57.7)	15	(28.8)	3	(5.8)	1	(1.9)	52
Portugal	birthplace	31	(7.5)	23	(5.6)	12	(2.9)	313	(76.2)	32	(7.8)	411
<i>Romania</i>	<i>birthplace</i>	-	-	-	-	-	-	-	-	-	-	-
Slovakia	birthplace	0	(0.0)	5	(55.6)	4	(44.4)	0	(0.0)	0	(0.0)	9
Slovenia	birthplace	1	(1.8)	53	(94.6)	2	(3.6)	0	(0.0)	0	(0.0)	56
Spain	birthplace	0	(0.0)	0	(0.0)	2	(0.1)	12	(0.5)	2 481	(99.4)	2 495
Sweden	birthplace	24	(5.4)	49	(10.9)	112	(25.0)	238	(53.1)	25	(5.6)	448
United Kingdom	birthplace	259	(4.5)	74	(1.3)	3 268	(56.8)	1 810	(31.5)	340	(5.9)	5 751
<b>Total EU/EEA</b>		<b>1 459</b>	<b>(7.9)</b>	<b>1 578</b>	<b>(8.5)</b>	<b>5 067</b>	<b>(27.4)</b>	<b>4 203</b>	<b>(22.7)</b>	<b>6 180</b>	<b>(33.4)</b>	<b>18 487</b>

WHO European Region TB High Priority Countries presented in italics.

<sup>a</sup> Including native cases < 26 years old whose parents were born outside Denmark.

<sup>b</sup> Of these, 524 were from the Americas and 14 from Western Pacific countries.



**Table 6: Tuberculosis cases by site of disease, European Region, 2008**

Country	Pulmonary		Extrapulmonary <sup>a</sup>		No site reported		Total
	N	(%)	N	(%)	N	(%)	
<b>EU/EEA</b>							
Austria	-	-	-	-	-	-	-
Belgium	730	(72.6)	276	(27.4)	0	(0.0)	1006
<i>Bulgaria</i>	2408	(76.4)	733	(23.3)	10	(0.3)	3151
Cyprus	42	(84.0)	8	(16.0)	0	(0.0)	50
Czech Republic	737	(84.9)	131	(15.1)	0	(0.0)	868
Denmark	275	(74.9)	91	(24.8)	1	(0.3)	367
Estonia	410	(92.3)	34	(7.7)	0	(0.0)	444
Finland	225	(64.3)	125	(35.7)	0	(0.0)	350
France	4021	(69.2)	1583	(27.2)	208	(3.6)	5812
Germany	3504	(77.1)	1006	(22.1)	33	(0.7)	4543
Greece	579	(86.5)	90	(13.5)	0	(0.0)	669
Hungary	1519	(94.6)	87	(5.4)	0	(0.0)	1606
Iceland	3	(50.0)	3	(50.0)	0	(0.0)	6
Ireland	329	(70.0)	123	(26.2)	18	(3.8)	470
Italy	3287	(74.4)	1131	(25.6)	0	(0.0)	4418
<i>Latvia</i>	950	(88.8)	120	(11.2)	0	(0.0)	1070
Liechtenstein	-	-	-	-	-	-	-
<i>Lithuania</i>	1984	(88.2)	266	(11.8)	0	(0.0)	2250
Luxembourg	-	-	-	-	28	(100.0)	28
Malta	40	(75.5)	13	(24.5)	0	(0.0)	53
Netherlands	596	(59.8)	401	(40.2)	0	(0.0)	997
Norway	194	(59.9)	130	(40.1)	0	(0.0)	324
Poland	7484	(92.6)	597	(7.4)	0	(0.0)	8081
Portugal	2238	(74.7)	686	(22.9)	71	(2.4)	2995
<i>Romania</i>	21453	(86.6)	3333	(13.4)	0	(0.0)	24786
Slovakia	522	(82.5)	111	(17.5)	0	(0.0)	633
Slovenia	180	(84.5)	33	(15.5)	0	(0.0)	213
Spain	6313	(76.9)	1901	(23.1)	0	(0.0)	8214
Sweden	311	(56.3)	241	(43.7)	0	(0.0)	552
United Kingdom	4668	(53.9)	3873	(44.7)	114	(1.3)	8655
<b>Total EU/EEA</b>	<b>65002</b>	<b>(78.7)</b>	<b>17126</b>	<b>(20.7)</b>	<b>483</b>	<b>(0.6)</b>	<b>82611</b>
<b>Non-EU/EEA</b>							
Albania	282	(65.0)	145	(33.4)	7	(1.6)	434
Andorra	4	(100.0)	0	(0.0)	0	(0.0)	4
Armenia	1454	(68.4)	296	(13.9)	375	(17.6)	2125
<i>Azerbaijan</i>	5424	(53.8)	993	(9.9)	3661	(36.3)	10078
<i>Belarus</i>	4626	(84.4)	500	(9.1)	357	(6.5)	5483
Bosnia and Herzegovina	1495	(86.1)	235	(13.5)	6	(0.3)	1736
Croatia	879	(89.7)	101	(10.3)	0	(0.0)	980
<i>Georgia</i>	3497	(59.9)	1217	(20.9)	1122	(19.2)	5836
Israel	275	(74.5)	92	(24.9)	2	(0.5)	369
<i>Kazakhstan</i>	22464	(70.6)	2754	(8.7)	6591	(20.7)	31809
<i>Kyrgyzstan</i>	4146	(58.2)	1585	(22.2)	1396	(19.6)	7127
Macedonia, the former Yugoslav Republic of	350	(76.6)	106	(23.2)	1	(0.2)	457
<i>Moldova</i>	4547	(77.9)	476	(8.2)	815	(14.0)	5838
Monaco	-	-	-	-	-	-	-
Montenegro	111	(83.5)	20	(15.0)	2	(1.5)	133
<i>Russia</i>	117152	(54.5)	3769	(1.8)	93984	(43.7)	214905
San Marino	-	-	-	-	-	-	-
Serbia	1539	(84.5)	211	(11.6)	71	(3.9)	1821
Switzerland	220	(42.6)	99	(19.2)	197	(38.2)	516
<i>Tajikistan</i>	4793	(59.9)	1774	(22.2)	1429	(17.9)	7996
<i>Turkey</i>	12382	(67.1)	5442	(29.5)	628	(3.4)	18452
<i>Turkmenistan</i>	2753	(70.4)	611	(15.6)	545	(13.9)	3909
<i>Ukraine</i>	34172	(90.3)	3660	(9.7)	0	(0.0)	37832
<i>Uzbekistan</i>	13262	(62.6)	4214	(19.9)	3718	(17.5)	21194
<b>Total non-EU/EEA</b>	<b>235827</b>	<b>(62.2)</b>	<b>28300</b>	<b>(7.5)</b>	<b>114907</b>	<b>(30.3)</b>	<b>379034</b>
<b>Subtotal 18 HPC</b>	<b>257877</b>	<b>(63.8)</b>	<b>31777</b>	<b>(7.9)</b>	<b>114631</b>	<b>(28.4)</b>	<b>404285</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

<sup>a</sup> For Non-EU/EEA countries, these data are only available for new cases.

**Table 7: Pulmonary sputum smear-positive TB cases, percentage of all pulmonary TB cases and cases per 100 000 population, European Region, 2006–2008**

Country	2006			2007			2008		
	N	% of all pulmonary cases	cases per 100 000 population	N	% of all pulmonary cases	cases per 100 000 population	N	% of all pulmonary cases	cases per 100 000 population
<b>EU/EEA</b>									
Austria	223	(29.3)	2.7	201	(27.5)	2.4	-	-	-
Belgium	374	(48.8)	3.6	352	(47.6)	3.3	373	(51.1)	3.5
<i>Bulgaria</i>	1432	(44.3)	18.6	1230	(44.9)	16.0	1164	(48.3)	15.2
Cyprus	9	(29.0)	1.2	8	(22.2)	1.0	11	(26.2)	1.4
Czech Republic	311	(39.3)	3.0	279	(38.6)	2.7	271	(36.8)	2.6
Denmark	136	(48.4)	2.5	146	(48.7)	2.7	120	(43.6)	2.2
<i>Estonia</i>	189	(45.1)	14.1	200	(44.1)	14.9	187	(45.6)	13.9
Finland	101	(47.6)	1.9	95	(40.1)	1.8	112	(49.8)	2.1
France	2091	(39.2)	3.3	2092	(51.1)	3.3	2072	(51.5)	3.3
Germany	1401	(33.5)	1.7	1309	(33.4)	1.6	1184	(33.8)	1.4
Greece	240	(43.7)	2.2	295	(53.7)	2.6	103	(17.8)	0.9
Hungary	523	(29.7)	5.2	474	(30.0)	4.7	425	(28.0)	4.2
Iceland	4	(57.1)	1.3	3	(33.3)	1.0	2	(66.7)	0.6
Ireland	154	(45.6)	3.7	153	(43.8)	3.5	159	(48.3)	3.6
Italy	1571	(47.1)	2.7	1640	(47.8)	2.8	1234	(37.5)	2.1
<i>Latvia</i>	631	(52.4)	27.5	606	(54.4)	26.6	494	(52.0)	21.8
Liechtenstein	-	-	-	4	(100.0)	11.4	-	-	-
<i>Lithuania</i>	1380	(61.6)	40.5	1266	(59.5)	37.4	1167	(58.8)	34.7
Luxembourg	22	(66.7)	4.7	0	(0.0)	0.0	-	-	-
Malta	4	(16.7)	1.0	9	(33.3)	2.2	18	(45.0)	4.4
Netherlands	221	(35.1)	1.4	213	(35.3)	1.3	202	(33.9)	1.2
Norway	50	(27.0)	1.1	44	(24.2)	0.9	68	(35.1)	1.4
Poland	3307	(42.0)	8.7	3314	(41.5)	8.7	3084	(41.2)	8.1
Portugal	1547	(60.1)	14.6	1324	(56.7)	12.5	1179	(52.7)	11.1
<i>Romania</i>	15067	(65.1)	69.7	14252	(66.3)	66.1	14245	(66.4)	66.2
Slovakia	193	(32.3)	3.6	196	(35.8)	3.6	164	(31.4)	3.0
Slovenia	85	(48.9)	4.2	96	(53.9)	4.8	90	(50.0)	4.4
Spain	2129	(26.5)	4.9	2483	(39.6)	5.6	2746	(43.5)	6.1
Sweden	110	(22.1)	1.2	100	(33.1)	1.1	113	(36.3)	1.2
United Kingdom	1777	(38.7)	2.9	1714	(38.0)	2.8	1652	(35.4)	2.7
<b>Subtotal EU/EEA</b>	<b>35282</b>	<b>(47.8)</b>	<b>7.1</b>	<b>29801</b>	<b>(44.1)</b>	<b>6.0</b>	<b>28128</b>	<b>(43.3)</b>	<b>5.7</b>
<b>Non-EU/EEA</b>									
Albania	199	(62.0)	6.4	183	(62.7)	5.8	195	-	6.2
Andorra	8	(80.0)	9.8	2	(66.7)	2.4	3	-	3.6
Armenia	884	(49.7)	28.8	784	(45.3)	25.5	730	-	23.7
<i>Azerbaijan</i>	2730	(40.1)	32.0	2433	(36.9)	28.2	2696	-	30.9
<i>Belarus</i>	1072	(50.4)	11.0	1305	(24.2)	13.4	1552	-	16.0
Bosnia and Herzegovina	598	(10.5)	15.8	816	(37.7)	21.6	576	-	15.3
Croatia	448	(44.1)	10.1	431	(49.4)	9.7	364	-	8.2
Georgia	2984	(60.5)	67.7	2999	(65.9)	68.8	2434	-	56.5
Israel	72	(23.2)	1.1	148	(46.7)	2.1	176	-	2.5
<i>Kazakhstan</i>	17936	(49.9)	117.2	19147	(53.2)	124.3	11727	-	75.6
<i>Kyrgyzstan</i>	2428	(49.6)	46.0	2361	(47.4)	44.2	2110	-	39.0
Macedonia, the former Yugoslav Republic of	216	(44.7)	10.6	237	(54.0)	11.6	217	-	10.6
<i>Moldova</i>	2737	(50.0)	73.8	3028	(52.2)	82.6	2605	-	71.7
Monaco	-	-	-	-	-	-	-	-	-
Montenegro	68	(45.3)	10.9	46	(33.1)	7.4	73	-	11.7
<i>Russia</i>	43264	(31.1)	30.4	79864	(39.4)	56.3	41377	-	29.3
San Marino	-	-	-	-	-	-	-	-	-
Serbia	984	(53.1)	10.0	1061	(58.7)	10.8	1020	-	10.4
Switzerland	121	(32.1)	1.6	111	(26.4)	1.5	64	-	0.8
<i>Tajikistan</i>	2790	(59.6)	42.1	3332	(52.5)	49.5	2509	-	36.7
Turkey	9132	(62.0)	12.7	8797	(64.3)	12.1	8057	-	10.9
<i>Turkmenistan</i>	1334	(48.8)	27.2	1637	(54.3)	32.9	1460	-	28.9
<i>Ukraine</i>	16587	(45.1)	35.6	13654	(36.9)	29.5	16667	-	36.2
<i>Uzbekistan</i>	8488	(43.4)	31.9	7816	(43.7)	29.1	6622	-	24.4
<b>Subtotal non-EU/EEA</b>	<b>115080</b>	<b>(39.8)</b>	<b>29.7</b>	<b>150192</b>	<b>(42.9)</b>	<b>20.3</b>	<b>103234</b>	-	<b>14.9</b>
<b>Total European Region</b>	<b>150362</b>	<b>(51.9)</b>	<b>17.0</b>	<b>179993</b>	<b>(51.1)</b>	<b>20.1</b>	<b>131362</b>	-	<b>14.6</b>
<b>Subtotal 18 HPC</b>	<b>129633</b>	<b>(41.4)</b>	<b>33.9</b>	<b>163481</b>	<b>(42.9)</b>	<b>42.7</b>	<b>116639</b>	-	<b>30.1</b>

'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB High Priority Countries presented in italics.

**Table 8a: Tuberculosis cases by history of previous TB treatment<sup>a</sup>, European Region, 2008**

Country	New		Previously treated		Unknown previous TB history	
	N	(%)	N	(%)	N	(%)
<b>EU/EEA</b>						
Austria	-	-	-	-	-	-
Belgium <sup>b</sup>	799	(79.4)	79	(7.9)	128	(12.7)
<i>Bulgaria</i>	2 838	(90.1)	313	(9.9)	0	(0.0)
Cyprus	17	(34.0)	3	(6.0)	30	(60.0)
Czech Republic	807	(93.0)	61	(7.0)	0	(0.0)
Denmark <sup>b</sup>	330	(89.9)	37	(10.1)	0	(0.0)
<i>Estonia</i>	354	(79.7)	90	(20.3)	0	(0.0)
Finland	331	(94.6)	19	(5.4)	0	(0.0)
France	3 355	(57.7)	379	(6.5)	2 078	(35.8)
Germany	3 623	(79.7)	323	(7.1)	597	(13.1)
Greece	538	(80.4)	79	(11.8)	52	(7.8)
Hungary	1 321	(82.3)	266	(16.6)	19	(1.2)
Iceland	5	(83.3)	0	(0.0)	1	(16.7)
Ireland <sup>b</sup>	335	(71.3)	42	(8.9)	93	(19.8)
Italy	3 409	(77.2)	178	(4.0)	831	(18.8)
<i>Latvia</i>	918	(85.8)	152	(14.2)	0	(0.0)
Liechtenstein	-	-	-	-	-	-
<i>Lithuania</i>	1 892	(84.1)	357	(15.9)	1	(0.0)
Luxembourg	-	-	-	-	28	-
Malta	46	(86.8)	7	(13.2)	0	(0.0)
Netherlands	948	(95.1)	34	(3.4)	15	(1.5)
Norway <sup>b</sup>	237	(73.1)	42	(13.0)	45	(13.9)
Poland	7 061	(87.4)	982	(12.2)	38	(0.5)
Portugal	2 703	(90.3)	292	(9.7)	0	(0.0)
<i>Romania</i>	18 774	(75.7)	6 012	(24.3)	0	(0.0)
Slovakia	510	(80.6)	94	(14.8)	29	(4.6)
Slovenia	198	(93.0)	15	(7.0)	0	(0.0)
Spain	6 769	(82.4)	461	(5.6)	984	(12.0)
Sweden	456	(82.6)	37	(6.7)	59	(10.7)
United Kingdom <sup>b</sup>	6 520	(75.3)	479	(5.5)	1 656	(19.1)
<b>Subtotal EU/EEA</b>	<b>65 094</b>	<b>(78.8)</b>	<b>10 833</b>	<b>(13.1)</b>	<b>6 684</b>	<b>(8.1)</b>
<b>Non-EU/EEA</b>						
Albania	402	(92.6)	32	(7.4)	0	(0.0)
Andorra	4	(100.0)	0	(0.0)	0	(0.0)
<i>Armenia</i>	1 507	(70.9)	618	(29.1)	0	(0.0)
<i>Azerbaijan</i>	5 130	(50.9)	3 733	(37.0)	1 215	(12.1)
<i>Belarus</i>	4 634	(84.5)	849	(15.5)	0	(0.0)
Bosnia and Herzegovina	1 663	(95.8)	67	(3.9)	6	(0.3)
Croatia	944	(96.3)	36	(3.7)	0	(0.0)
<i>Georgia</i>	4 148	(71.1)	1 677	(28.7)	11	(0.2)
Israel	364	(98.6)	5	(1.4)	0	(0.0)
<i>Kazakhstan</i>	19 684	(61.9)	12 125	(38.1)	0	(0.0)
<i>Kyrgyzstan</i>	6 230	(87.4)	756	(10.6)	141	(2.0)
Macedonia, the former Yugoslav Republic of	427	(93.4)	30	(6.6)	0	(0.0)
<i>Moldova</i>	3 951	(67.7)	1 865	(31.9)	22	(0.4)
Monaco	-	-	-	-	-	-
Montenegro	123	(92.5)	10	(7.5)	0	(0.0)
<i>Russia</i>	120 835	(56.2)	94 070	(43.8)	0	(0.0)
San Marino	-	-	-	-	-	-
Serbia	1 578	(86.7)	236	(13.0)	7	(0.4)
Switzerland	319	(61.8)	54	(10.5)	143	(27.7)
<i>Tajikistan</i>	6 150	(76.9)	1 846	(23.1)	0	(0.0)
<i>Turkey</i>	16 760	(90.8)	1 495	(8.1)	197	(1.1)
<i>Turkmenistan</i>	3 628	(92.8)	281	(7.2)	0	(0.0)
<i>Ukraine</i>	35 739	(94.5)	2 093	(5.5)	0	(0.0)
<i>Uzbekistan</i>	15 971	(75.4)	5 087	(24.0)	136	(0.6)
<b>Subtotal non-EU/EEA</b>	<b>250 191</b>	<b>(66.0)</b>	<b>126 965</b>	<b>(33.5)</b>	<b>1 878</b>	<b>(0.5)</b>
<b>Total European Region</b>	<b>315 285</b>	<b>(68.3)</b>	<b>137 798</b>	<b>(29.8)</b>	<b>8 562</b>	<b>(1.9)</b>
<b>Subtotal 18 HPC</b>	<b>264 509</b>	<b>(66.3)</b>	<b>132 570</b>	<b>(33.2)</b>	<b>1 723</b>	<b>(0.4)</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

<sup>b</sup> Distribution of cases by previous anti-TB treatment, except where indicated (previous diagnosis).

<sup>c</sup> Distribution by previous diagnosis.

**Table 8b: Previously treated TB cases by history of previous treatment<sup>a</sup>, European Region, 2008**

Country	Previous treatment completed		Previous treatment failed		Previous treatment defaulted		Previous treatment not completed, unspecified		Other retreatment		Previous treatment total
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N
<b>EU/EEA</b>											
Austria	-	-	-	-	-	-	-	-	-	-	-
Belgium <sup>b</sup>	-	-	-	-	-	-	-	-	79	(100.0)	79
Bulgaria	231	(73.8)	13	(4.2)	38	(12.1)	16	(5.1)	15	(4.8)	313
Cyprus	1	(33.3)	0	(0.0)	0	(0.0)	1	(33.3)	1	(33.3)	3
Czech Republic	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	61	(100.0)	61
Denmark <sup>b</sup>	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	37	(100.0)	37
Estonia	61	(67.8)	4	(4.4)	25	(27.8)	0	(0.0)	0	(0.0)	90
Finland	-	-	-	-	-	-	-	-	19	(100.0)	19
France	-	-	-	-	-	-	-	-	379	(100.0)	379
Germany	205	(63.5)	17	(5.3)	0	(0.0)	40	(12.4)	61	(18.9)	323
Greece	1	(1.3)	2	(2.5)	1	(1.3)	0	(0.0)	75	(94.9)	79
Hungary	230	(86.5)	0	(0.0)	4	(1.5)	32	(12.0)	0	(0.0)	266
Iceland	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0
Ireland <sup>b</sup>	8	(19.0)	0	(0.0)	0	(0.0)	1	(2.4)	33	(78.6)	42
Italy	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	178	(100.0)	178
Latvia	133	(87.5)	1	(0.7)	18	(11.8)	0	(0.0)	0	(0.0)	152
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-
Lithuania	205	(57.4)	48	(13.4)	104	(29.1)	0	(0.0)	0	(0.0)	357
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Malta	5	(71.4)	0	(0.0)	0	(0.0)	2	(28.6)	0	(0.0)	7
Netherlands	29	(85.3)	0	(0.0)	5	(14.7)	0	(0.0)	0	(0.0)	34
Norway <sup>b</sup>	-	-	-	-	-	-	-	-	42	(100.0)	42
Poland	583	(59.4)	0	(0.0)	0	(0.0)	140	(14.3)	259	(26.4)	982
Portugal	192	(65.8)	2	(0.7)	36	(12.3)	62	(21.2)	0	(0.0)	292
Romania	4 002	(66.6)	1 182	(19.7)	828	(13.8)	0	(0.0)	0	(0.0)	6 012
Slovakia	80	(85.1)	2	(2.1)	4	(4.3)	8	(8.5)	0	(0.0)	94
Slovenia	11	(73.3)	1	(6.7)	3	(20.0)	0	(0.0)	0	(0.0)	15
Spain	-	-	-	-	-	-	-	-	461	(100.0)	461
Sweden	-	-	-	-	-	-	-	-	37	(100.0)	37
United Kingdom <sup>b</sup>	-	-	-	-	-	-	-	-	479	(100.0)	479
<b>Subtotal EU/EEA</b>	<b>5977</b>	<b>(55.2)</b>	<b>1272</b>	<b>(11.7)</b>	<b>1066</b>	<b>(9.8)</b>	<b>302</b>	<b>(2.8)</b>	<b>2216</b>	<b>(20.5)</b>	<b>10 833</b>
<b>Non-EU/EEA</b>											
Albania	25	(78.1)	0	(0.0)	0	(0.0)	-	-	7	(21.9)	32
Andorra	0	-	0	-	0	-	0	-	0	-	0
Armenia	148	(23.9)	51	(8.3)	44	(7.1)	-	-	375	(60.7)	618
Azerbaijan	1 287	(34.5)	0	(0.0)	0	(0.0)	-	-	2 446	(65.5)	3 733
Belarus	492	(58.0)	0	(0.0)	0	(0.0)	-	-	357	(42.0)	849
Bosnia and Herzegovina	50	(74.6)	9	(13.4)	8	(11.9)	-	-	0	(0.0)	67
Croatia	36	(100.0)	0	(0.0)	0	(0.0)	-	-	0	(0.0)	36
Georgia	264	(15.7)	154	(9.2)	148	(8.8)	-	-	1 111	(66.2)	1 677
Israel	3	(60.0)	0	(0.0)	0	(0.0)	-	-	2	(40.0)	5
Kazakhstan	3 418	(28.2)	866	(7.1)	1 250	(10.3)	-	-	6 591	(54.4)	12 125
Kyrgyzstan	398	(52.6)	0	(0.0)	0	(0.0)	-	-	358	(47.4)	756
Macedonia, the former Yugoslav Republic of	23	(76.7)	2	(6.7)	4	(13.3)	-	-	1	(3.3)	30
Moldova	491	(26.3)	276	(14.8)	305	(16.4)	-	-	793	(42.5)	1 865
Monaco	-	-	-	-	-	-	-	-	-	-	-
Montenegro	8	(80.0)	0	(0.0)	0	(0.0)	-	-	2	(20.0)	10
Russia	7 428	(7.9)	0	(0.0)	0	(0.0)	-	-	86 642	(92.1)	94 070
San Marino	-	-	-	-	-	-	-	-	-	-	-
Serbia	144	(61.0)	9	(3.8)	19	(8.1)	-	-	64	(27.1)	236
Switzerland	-	-	-	-	-	-	-	-	54	(100.0)	54
Tajikistan	246	(13.3)	116	(6.3)	90	(4.9)	-	-	1 394	(75.5)	1 846
Turkey	840	(56.2)	65	(4.3)	159	(10.6)	-	-	431	(28.8)	1 495
Turkmenistan	129	(45.9)	0	(0.0)	0	(0.0)	-	-	152	(54.1)	281
Ukraine	2 093	(100.0)	0	(0.0)	0	(0.0)	-	-	0	(0.0)	2 093
Uzbekistan	1 069	(21.0)	344	(6.8)	92	(1.8)	-	-	3 582	(70.4)	5 087
<b>Subtotal non-EU/EEA</b>	<b>18 592</b>	<b>(14.6)</b>	<b>1 892</b>	<b>(1.5)</b>	<b>2 119</b>	<b>(1.7)</b>	<b>-</b>	<b>-</b>	<b>104 362</b>	<b>(82.2)</b>	<b>126 965</b>
<b>Total European Region</b>	<b>24 569</b>	<b>(17.8)</b>	<b>3 164</b>	<b>(2.3)</b>	<b>3 185</b>	<b>(2.3)</b>	<b>302</b>	<b>(0.2)</b>	<b>106 578</b>	<b>(77.3)</b>	<b>137 798</b>
<b>Subtotal 18 HPC</b>	<b>22 935</b>	<b>(17.2)</b>	<b>3 120</b>	<b>(2.3)</b>	<b>3 101</b>	<b>(2.3)</b>	<b>16</b>	<b>(0.0)</b>	<b>104 247</b>	<b>(78.1)</b>	<b>133 419</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB High Priority Countries presented in italics.

<sup>b</sup> Distribution of cases by previous anti-TB treatment, except where indicated (previous diagnosis).

<sup>c</sup> Distribution by previous diagnosis.

**Table 9: Tuberculosis cases confirmed by culture, European Region, 2005–2008**

Country	2005		2006		2007		2008		Data completeness <sup>b</sup> (2008)
	Culture confirmed cases	% of all TB cases reported	Culture confirmed cases	% of all TB cases reported	Culture confirmed cases	% of all TB cases reported	Culture confirmed cases	% of all TB cases reported	
<b>EU/EEA</b>									
Austria	651	(65.2)	565	(62.4)	538	(61.6)	-	-	-
Belgium	834	(75.3)	884	(79.1)	798	(78.2)	812	(80.7)	Y
<i>Bulgaria</i>	<i>1254</i>	<i>(38.0)</i>	<i>1360</i>	<i>(42.1)</i>	<i>1385</i>	<i>(45.6)</i>	<i>1361</i>	<i>(43.2)</i>	<i>N</i>
Cyprus	19	(51.4)	23	(62.2)	33	(78.6)	36	(72.0)	Y
Czech Republic	644	(65.4)	619	(65.1)	557	(65.8)	561	(64.6)	Y
Denmark	328	(76.6)	301	(77.8)	292	(74.7)	283	(77.1)	Y
<i>Estonia</i>	<i>389</i>	<i>(75.1)</i>	<i>348</i>	<i>(76.3)</i>	<i>382</i>	<i>(78.3)</i>	<i>347</i>	<i>(78.2)</i>	<i>Y</i>
Finland	322	(87.3)	272	(91.6)	252	(72.4)	248	(70.9)	Y
France	2163	(40.2)	2369	(44.4)	2535	(45.4)	2296	(39.5)	N
Germany	4108	(68.2)	3771	(70.1)	3470	(69.4)	3112	(68.5)	Y
Greece	214	(27.8)	210	(30.8)	209	(31.7)	252	(37.7)	N
Hungary	777	(39.6)	819	(44.2)	771	(45.8)	766	(47.7)	N
Iceland	8	(72.7)	12	(92.3)	11	(78.6)	5	(83.3)	Y
Ireland	283	(62.9)	316	(68.3)	315	(65.6)	209	(44.5)	N
Italy <sup>a</sup>	1662	(39.5)	1735	(38.5)	1840	(40.7)	1529	(34.6)	N
<i>Latvia</i>	<i>1109</i>	<i>(76.9)</i>	<i>995</i>	<i>(74.9)</i>	<i>994</i>	<i>(79.2)</i>	<i>838</i>	<i>(78.3)</i>	<i>Y</i>
Liechtenstein	-	-	-	-	5	(100.0)	-	-	-
<i>Lithuania</i>	<i>1739</i>	<i>(67.6)</i>	<i>1787</i>	<i>(69.8)</i>	<i>1686</i>	<i>(70.0)</i>	<i>1616</i>	<i>(71.8)</i>	<i>N</i>
Luxembourg	37	(100.0)	33	(100.0)	26	(66.7)	-	-	-
Malta	11	(44.0)	15	(50.0)	19	(50.0)	25	(47.2)	N
Netherlands	842	(73.5)	738	(72.7)	716	(71.6)	728	(73.0)	Y
Norway	214	(70.9)	225	(77.6)	245	(79.8)	227	(70.1)	Y
Poland	5399	(58.2)	5229	(60.9)	5410	(62.8)	5094	(63.0)	Y
Portugal	2193	(61.6)	2239	(65.4)	2076	(66.1)	2007	(67.0)	Y
<i>Romania</i>	<i>18483</i>	<i>(63.1)</i>	<i>17047</i>	<i>(63.3)</i>	<i>16178</i>	<i>(65.1)</i>	<i>14762</i>	<i>(59.6)</i>	<i>Y</i>
Slovakia	357	(47.0)	401	(54.9)	396	(58.1)	383	(60.5)	Y
Slovenia	245	(88.1)	184	(85.6)	189	(86.7)	201	(94.4)	Y
Spain	3686	(47.1)	3651	(45.5)	3950	(50.8)	4493	(54.7)	Y
Sweden	444	(79.4)	397	(79.9)	364	(75.7)	436	(79.0)	Y
United Kingdom	5063	(60.9)	5251	(63.3)	4780	(57.5)	4870	(56.3)	Y
<b>Subtotal EU/EEA</b>	<b>53478</b>	<b>(56.4)</b>	<b>51796</b>	<b>(59.1)</b>	<b>50422</b>	<b>(60.0)</b>	<b>47497</b>	<b>(57.5)</b>	
<b>Non-EU/EEA</b>									
Albania	196	(36.3)	166	(33.1)	187	(41.8)	214	(49.3)	N
Andorra	9	(90.0)	8	(61.5)	3	(50.0)	3	(75.0)	Y
<i>Armenia</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>607</i>	<i>(28.6)</i>	<i>N</i>
<i>Azerbaijan</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>0</i>	<i>-</i>	<i>-</i>
<i>Belarus</i>	<i>2295</i>	<i>(36.1)</i>	<i>2126</i>	<i>(35.1)</i>	<i>2751</i>	<i>(47.8)</i>	<i>-</i>	<i>-</i>	<i>-</i>
Bosnia and Herzegovina	1142	(52.9)	1086	(60.3)	1423	(59.3)	834	(48.0)	N
Croatia	647	(56.7)	696	(61.3)	688	(70.1)	-	-	N
<i>Georgia</i>	<i>257</i>	<i>(4.0)</i>	<i>94</i>	<i>(1.5)</i>	<i>2182</i>	<i>(36.9)</i>	<i>2409</i>	<i>(41.3)</i>	<i>N</i>
Israel	217	(53.4)	267	(69.2)	273	(68.8)	225	(61.0)	Y
<i>Kazakhstan</i>	<i>5955</i>	<i>(19.1)</i>	<i>8470</i>	<i>(19.6)</i>	<i>6883</i>	<i>(17.1)</i>	<i>20139</i>	<i>(70.8)</i>	<i>Y</i>
<i>Kyrgyzstan</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>2062</i>	<i>(28.9)</i>	<i>-</i>
Macedonia, the former Yugoslav Republic of	160	(24.3)	208	(33.2)	225	(40.0)	205	(44.9)	N
<i>Moldova</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>2297</i>	<i>(36.1)</i>	<i>2547</i>	<i>(43.6)</i>	<i>N</i>
Monaco	-	-	-	-	-	-	-	-	-
Montenegro	107	(62.9)	119	(69.6)	89	(56.0)	83	(62.4)	Y
<i>Russia</i>	<i>31224</i>	<i>(20.0)</i>	<i>60240</i>	<i>(39.6)</i>	<i>94878</i>	<i>(44.1)</i>	<i>-</i>	<i>-</i>	<i>-</i>
San Marino	-	-	-	-	-	-	-	-	-
Serbia	1365	(57.4)	1271	(59.1)	1397	(68.1)	1316	(72.3)	Y
Switzerland	463	(81.7)	449	(86.3)	393	(82.2)	419	(81.2)	Y
<i>Tajikistan</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>4231</i>	<i>(52.4)</i>	<i>-</i>	<i>(0.0)</i>	<i>N</i>
<i>Turkey</i>	<i>5793</i>	<i>(28.2)</i>	<i>6786</i>	<i>(33.1)</i>	<i>6988</i>	<i>(35.5)</i>	<i>6730</i>	<i>(36.5)</i>	<i>N</i>
<i>Turkmenistan</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>3698</i>	<i>(100.0)</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>Ukraine</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>524</i>	<i>(1.3)</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>Uzbekistan</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>923</i>	<i>(4.4)</i>	<i>N</i>
<b>Subtotal non-EU/EEA</b>	<b>49830</b>	<b>(21.8)</b>	<b>81986</b>	<b>(34.8)</b>	<b>129110</b>	<b>(36.6)</b>	<b>38716</b>	<b>(36.2)</b>	
<b>Total European Region</b>	<b>103308</b>	<b>(32.2)</b>	<b>133782</b>	<b>(41.4)</b>	<b>179532</b>	<b>(41.1)</b>	<b>86213</b>	<b>(45.5)</b>	
<b>Subtotal 18 HPC</b>	<b>68498</b>	<b>(26.6)</b>	<b>99253</b>	<b>(37.8)</b>	<b>145057</b>	<b>(38.4)</b>	<b>54341</b>	<b>(41.1)</b>	

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

<sup>b</sup> Italy data for 2008 as they are reported to TESSy, might differ from other numbers in the report where the data source is NRL/CISID.

<sup>c</sup> Data considered to be complete if culture is used routinely and 50% or more of all cases reported as culture positive.

**Table 10: Tuberculosis cases by *M. tuberculosis* complex species, EU/EEA, 2008**

Country	<i>M. tuberculosis</i>		<i>M. bovis</i>		<i>M. africanum</i>		Unknown or not done		Total culture positive
	N	(%)	N	(%)	N	(%)	N	(%)	
Austria	-	-	-	-	-	-	-	-	-
Belgium	810	(99.8)	2	(0.2)	0	(0.0)	0	(0.0)	812
<i>Bulgaria</i>	1361	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	1361
Cyprus	36	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	36
Czech Republic	561	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	561
Denmark	282	(99.6)	0	(0.0)	1	(0.4)	0	(0.0)	283
<i>Estonia</i>	347	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	347
Finland	248	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	248
France	-	-	-	-	-	-	2296	(100.0)	2296
Germany	2729	(87.7)	47	(1.5)	14	(0.4)	322	(10.3)	3112
Greece	245	(97.2)	0	(0.0)	0	(0.0)	7	(2.8)	252
Hungary	766	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	766
Iceland	5	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	5
Ireland	177	(84.7)	10	(4.8)	0	(0.0)	22	(10.5)	209
Italy	381	(24.9)	1	(0.1)	7	(0.5)	1140	(74.6)	1529
<i>Latvia</i>	838	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	838
Liechtenstein	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	1616	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	1616
Luxembourg	-	-	-	-	-	-	-	-	-
Malta	24	(96.0)	0	(0.0)	1	(4.0)	0	(0.0)	25
Netherlands	700	(96.2)	18	(2.5)	0	(0.0)	10	(1.4)	728
Norway	225	(99.1)	0	(0.0)	2	(0.9)	0	(0.0)	227
Poland	5094	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	5094
Portugal	2006	(100.0)	1	(0.0)	0	(0.0)	0	(0.0)	2007
<i>Romania</i>	14762	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	14762
Slovakia	383	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	383
Slovenia	194	(96.5)	0	(0.0)	0	(0.0)	7	(3.5)	201
Spain	1206	(26.8)	11	(0.2)	8	(0.2)	3268	(72.7)	4493
Sweden	433	(99.3)	2	(0.5)	1	(0.2)	0	(0.0)	436
United Kingdom	4823	(99.0)	21	(0.4)	26	(0.5)	0	(0.0)	4870
<b>Total EU/EEA</b>	<b>40 252</b>	<b>(84.7)</b>	<b>113</b>	<b>(0.2)</b>	<b>60</b>	<b>(0.1)</b>	<b>7 072</b>	<b>(14.9)</b>	<b>47 497</b>

WHO European Region TB High Priority Countries presented in italics.

<sup>a</sup> Including native cases < 26 years old whose parents were born outside Denmark.

<sup>b</sup> Of these, 524 were from the Americas and 14 from Western Pacific countries.

**Table 11: Tuberculosis cases with HIV infection<sup>a</sup>, European Region, 2006–2008**

Country	% known HIV status (latest year with data)	2006			2007			2008			Data completeness <sup>c</sup>
		TB cases	HIV positive		TB cases	HIV positive		TB cases	HIV positive		
			N	(%) <sup>b</sup>		N	(%) <sup>b</sup>		N	(%) <sup>b</sup>	
<b>EU/EEA</b>											
Austria	-	-	-	-	-	-	-	-	-	-	-
Belgium	(90.1)	1117	55	(4.9)	1020	52	(5.1)	1006	56	(5.6)	Y
Bulgaria	(16.5)	3232	6	(0.2)	3038	6	(0.2)	3151	0	(0.0)	N
Cyprus	(72.0)	37	0	(0.0)	42	0	(0.0)	50	2	(4.0)	Y
Czech Republic	(20.0)	951	4	(0.4)	846	7	(0.8)	868	7	(0.8)	N
Denmark	(40.4)	387	11	(2.8)	391	13	(3.3)	-	-	-	N
Estonia	(90.1)	456	41	(9.0)	488	54	(11.1)	444	44	(9.9)	Y
Finland	unknown	297	6	(2.0)	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-	-	-
Iceland	unknown	13	2	(15.4)	-	-	-	-	-	-	-
Ireland	(11.5)	463	15	(3.2)	480	16	(3.3)	470	15	(3.2)	N
Italy	-	-	-	-	-	-	-	-	-	-	-
Latvia	(85.0)	1328	45	(3.4)	1255	55	(4.4)	1070	72	(6.7)	Y
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-
Lithuania	unknown	2559	13	(0.5)	2408	21	(0.9)	-	-	-	N
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Malta	(84.9)	30	2	(6.7)	38	2	(5.3)	53	5	(9.4)	Y
Netherlands	(26.2)	1021	41	(4.0)	1000	32	(3.2)	997	37	(3.7)	N
Norway	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-
Portugal	(78.5)	3423	474	(13.8)	3139	467	(14.9)	2995	438	(14.6)	Y
Romania	(24.8)	26935	251	(0.9)	24844	178	(0.7)	24786	202	(0.8)	N
Slovakia	(100.0)	730	0	(0.0)	218	0	(0.0)	633	0	(0.0)	Y
Slovenia	(61.0)	215	1	(0.5)	682	0	(0.0)	213	0	(0.0)	Y
Spain	(47.9)	8029	354	(4.4)	7768	548	(7.1)	8214	507	(6.2)	N
Sweden	-	-	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal EU/EEA</b>		<b>51223</b>	<b>1321</b>	<b>(2.6)</b>	<b>47657</b>	<b>1451</b>	<b>(3.0)</b>	<b>44950</b>	<b>1385</b>	<b>(3.1)</b>	
<b>Non-EU/EEA</b>											
Albania	40.8	502	3	(0.6)	502	1	(0.2)	434	4	(0.9)	N
Andorra	unknown	13	0	(0.0)	13	0	(0.0)	4	0	(0.0)	N
Armenia	16.7	2155	25	(1.2)	2155	8	(0.4)	2125	12	(0.6)	N
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-
Belarus	95.3	6065	0	(0.0)	6065	0	(0.0)	5483	156	(2.8)	Y
Bosnia and Herzegovina	unknown	1800	0	(0.0)	1800	0	(0.0)	1736	1	(0.1)	N
Croatia	unknown	1135	0	(0.0)	1135	3	(0.3)	980	0	(0.0)	N
Georgia	25.4	6311	17	(0.3)	6311	32	(0.5)	5836	20	(0.3)	N
Israel	100.0	386	15	(3.9)	386	18	(4.7)	369	25	(6.8)	Y
Kazakhstan	99.2	43204	234	(0.5)	43204	213	(0.5)	31809	238	(0.7)	Y
Kyrgyzstan	-	-	-	-	-	-	-	-	-	-	-
Macedonia, the former Yugoslav Republic of	21.7	627	0	(0.0)	627	1	(0.2)	457	2	(0.4)	N
Moldova	84.3	6118	0	(0.0)	6118	194	(3.2)	5838	258	(4.4)	Y
Monaco	-	-	-	-	-	-	-	-	-	-	-
Montenegro	54.9	171	1	(0.6)	171	0	(0.0)	133	0	(0.0)	Y
Russia	103.2	152265	1979	(1.3)	214924	4828	(3.2)	214905	6083	(2.8)	Y
San Marino	-	-	-	-	-	-	-	-	-	-	-
Serbia	0.3	2150	5	(0.2)	2150	9	(0.4)	1821	5	(0.3)	N
Switzerland	-	-	-	-	-	-	-	-	-	-	-
Tajikistan	49.4	6671	3	(0.0)	6671	43	(0.6)	7996	48	(0.6)	N
Turkey	-	-	-	-	-	-	-	-	-	-	-
Turkmenistan	-	-	-	-	-	-	-	-	-	-	-
Ukraine	94.5	41265	1987	(4.8)	41265	2345	(5.7)	37832	2902	(7.7)	Y
Uzbekistan	100.0	25310	238	(0.9)	25310	371	(1.5)	21194	256	(1.2)	Y
<b>Subtotal non-EU/EEA</b>		<b>296148</b>	<b>4507</b>	<b>(1.5)</b>	<b>358807</b>	<b>8066</b>	<b>(2.2)</b>	<b>338952</b>	<b>10010</b>	<b>(3.0)</b>	
<b>Total European Region</b>		<b>347371</b>	<b>5828</b>	<b>(1.7)</b>	<b>406464</b>	<b>9517</b>	<b>(2.8)</b>	<b>383902</b>	<b>11395</b>	<b>(3.0)</b>	
<b>Subtotal 18 HPC</b>		<b>323874</b>	<b>4839</b>	<b>(1.5)</b>	<b>384056</b>	<b>8348</b>	<b>(2.2)</b>	<b>362469</b>	<b>10291</b>	<b>(2.8)</b>	

<sup>a</sup>European Region<sup>a</sup> comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

<sup>b</sup>Aggregate data; HIV prevalence may be underestimated due to incomplete HIV testing and/or reporting of HIV serostatus.

<sup>c</sup>Percentages calculated from all reported TB cases.

<sup>d</sup>Data considered complete when known HIV status is 50% or more of all reported TB cases at the latest year with data.

Table 12a: Tuberculosis cases in children (&lt;15 years old), European Region, 2003–2008

Country	2004 <sup>b</sup>		2005 <sup>b</sup>		2006 <sup>b</sup>		2007 <sup>b</sup>		2008 <sup>b</sup>	
	N	(%) <sup>c</sup>	N	(%) <sup>c</sup>	N	(%) <sup>c</sup>	N	(%) <sup>c</sup>	N	(%) <sup>c</sup>
<b>EU/EEA</b>										
Austria	53	(5.0)	42	(4.2)	61	(6.7)	25	(2.9)	-	-
Belgium	70	(5.8)	73	(6.6)	63	(5.6)	67	(6.6)	53	(5.3)
<i>Bulgaria</i>	199	(6.2)	180	(5.5)	197	(6.1)	196	(6.5)	228	(7.2)
Cyprus	0	(0.0)	3	(8.1)	3	(8.1)	1	(2.4)	3	(6.0)
Czech Republic	7	(0.7)	5	(0.5)	4	(0.4)	4	(0.5)	4	(0.5)
Denmark	28	(7.3)	39	(9.1)	26	(6.7)	27	(6.9)	22	(6.0)
<i>Estonia</i>	2	(0.3)	1	(0.2)	8	(1.8)	1	(0.2)	2	(0.5)
Finland	4	(1.2)	5	(1.4)	1	(0.3)	4	(1.1)	4	(1.1)
France	327	(5.9)	302	(5.6)	306	(5.7)	345	(6.2)	336	(5.8)
Germany	264	(4.0)	228	(3.8)	192	(3.6)	180	(3.6)	124	(2.7)
Greece	58	(7.5)	62	(8.1)	45	(6.6)	45	(6.8)	37	(5.5)
Hungary	9	(0.4)	5	(0.3)	9	(0.5)	7	(0.4)	4	(0.2)
Iceland	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Ireland	10	(2.3)	28	(6.2)	21	(4.5)	41	(8.5)	15	(3.2)
Italy	197	(4.7)	191	(4.5)	170	(3.8)	154	(3.4)	229	(5.2)
<i>Latvia</i>	110	(6.8)	68	(4.7)	84	(6.3)	57	(4.5)	48	(4.5)
Liechtenstein	-	-	-	-	-	-	0	(0.0)	-	-
<i>Lithuania</i>	119	(4.7)	90	(3.5)	106	(4.1)	85	(3.5)	100	(4.4)
Luxembourg	0	(0.0)	0	(0.0)	0	(0.0)	2	(5.1)	0	(0.0)
Malta	0	(0.0)	0	(0.0)	1	(3.3)	2	(5.3)	0	(0.0)
Netherlands	76	(5.7)	55	(4.8)	46	(4.5)	49	(4.9)	50	(5.0)
Norway	23	(6.8)	18	(6.0)	23	(7.9)	20	(6.5)	23	(7.1)
Poland	120	(1.3)	99	(1.1)	69	(0.8)	74	(0.9)	76	(0.9)
Portugal	75	(1.9)	86	(2.4)	90	(2.6)	71	(2.3)	62	(2.1)
<i>Romania</i>	1413	(4.6)	1105	(3.8)	1057	(3.9)	1008	(4.1)	926	(3.7)
Slovakia	19	(2.7)	22	(2.9)	23	(3.2)	16	(2.3)	14	(2.2)
Slovenia	5	(1.9)	7	(2.5)	8	(3.7)	6	(2.8)	3	(1.4)
Spain	511	(6.6)	498	(6.4)	544	(6.8)	477	(6.1)	600	(7.3)
Sweden	20	(4.3)	37	(6.6)	29	(5.8)	36	(7.5)	27	(4.9)
United Kingdom	448	(5.9)	456	(5.5)	388	(4.7)	490	(5.9)	495	(5.7)
<b>Subtotal EU/EEA</b>	<b>4 167</b>	<b>(4.4)</b>	<b>3 705</b>	<b>(4.0)</b>	<b>3 574</b>	<b>(4.1)</b>	<b>3 490</b>	<b>(4.1)</b>	<b>3 485</b>	<b>(4.2)</b>
<b>Non-EU/EEA<sup>a</sup></b>										
Albania	52	(9.0)	33	(6.1)	43	(8.6)	27	(6.0)	19	(4.7)
Andorra	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Armenia	74	(4.4)	107	(4.6)	106	(4.9)	101	(4.7)	85	(5.6)
<i>Azerbaijan</i>	42	(0.6)	415	(5.2)	430	(5.7)	-	-	-	-
<i>Belarus</i>	-	-	-	-	-	-	31	(0.5)	38	(0.8)
Bosnia and Herzegovina	37	(1.6)	36	(1.7)	24	(1.3)	24	(1.0)	17	(1.0)
Croatia	44	(3.4)	25	(2.2)	29	(2.6)	21	(2.1)	27	(2.9)
<i>Georgia</i>	355	(5.9)	404	(6.3)	360	(5.7)	315	(5.3)	267	(6.4)
Israel	37	(7.1)	40	(9.9)	39	(10.1)	21	(5.3)	16	(4.4)
<i>Kazakhstan</i>	1 828	(5.7)	1 785	(5.7)	3 384	(7.8)	2 625	(6.5)	981	(5.0)
<i>Kyrgyzstan</i>	-	-	-	-	-	-	679	(10.1)	630	(11.8)
Macedonia, the former Yugoslav Republic of	86	(12.6)	90	(13.7)	80	(12.8)	56	(9.9)	40	(9.3)
<i>Moldova</i>	-	-	-	-	-	-	181	(2.8)	160	(4.0)
Monaco	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Montenegro	-	-	-	-	1	(0.6)	2	(1.3)	1	(0.8)
<i>Russia</i>	-	-	-	-	-	-	3 446	(1.6)	932	(0.8)
San Marino	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Serbia	27	(1.0)	19	(0.8)	24	(1.1)	29	(1.4)	22	(1.4)
Switzerland	15	(2.5)	22	(3.9)	17	(3.3)	19	(4.0)	3	(1.6)
<i>Tajikistan</i>	-	-	-	-	-	-	585	(7.2)	547	(8.9)
<i>Turkey</i>	-	-	1 235	(6.0)	1 145	(5.6)	984	(5.0)	949	(5.7)
<i>Turkmenistan</i>	263	(6.3)	173	(5.3)	186	(5.5)	186	(5.0)	7	(0.2)
<i>Ukraine</i>	-	-	-	-	-	-	-	-	581	(1.6)
<i>Uzbekistan</i>	-	-	2 401	(8.3)	2 949	(11.7)	2 740	(11.7)	2 008	(12.6)
<b>Subtotal non-EU/EEA</b>	<b>2 860</b>	<b>(0.9)</b>	<b>6 785</b>	<b>(2.0)</b>	<b>8 817</b>	<b>(2.6)</b>	<b>12 072</b>	<b>(3.1)</b>	<b>7 330</b>	<b>(3.1)</b>
<b>Total European Region</b>	<b>7 027</b>	<b>(1.7)</b>	<b>10 490</b>	<b>(2.5)</b>	<b>12 391</b>	<b>(2.9)</b>	<b>15 562</b>	<b>(3.3)</b>	<b>10 815</b>	<b>(3.4)</b>
<b>Subtotal 18 HPC</b>	<b>4 403</b>	<b>(1.4)</b>	<b>4 327</b>	<b>(1.2)</b>	<b>5 910</b>	<b>(1.6)</b>	<b>5 158</b>	<b>(1.2)</b>	<b>3 189</b>	<b>(1.4)</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

<sup>b</sup> Data for 2008 available for new cases only.

<sup>c</sup> Data (not updated) from EuroTB historical databases.

<sup>d</sup> Percentages calculated from all cases notified in particular year.



**Table 12b: Tuberculosis cases in children (<15 years old), by age group and origin, EU/EEA, 2008**

Country	National origin				Foreign origin <sup>a</sup>				Unknown				Total	
	0-4		5-14		0-4		5-14		0-4		5-14		N	(%)
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)		
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	15	(2.8)	12	(2.3)	14	(2.9)	12	(2.5)	0	(0.0)	0	(0.0)	53	(5.3)
<i>Bulgaria</i>	57	(1.8)	171	(5.4)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	228	(7.2)
Cyprus	2	(33.3)	0	(0.0)	0	(0.0)	1	(2.3)	0	(0.0)	0	(0.0)	3	(6.0)
Czech Republic	0	(0.0)	2	(0.3)	1	(0.5)	1	(0.5)	0	(0.0)	0	(0.0)	4	(0.5)
Denmark	4	(2.7)	3	(2.1)	4	(1.8)	11	(5.0)	0	(0.0)	0	(0.0)	22	(6.0)
<i>Estonia</i>	0	(0.0)	2	(0.6)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	2	(0.5)
Finland	1	(0.3)	1	(0.3)	0	(0.0)	2	(3.7)	0	(0.0)	0	(0.0)	4	(1.1)
France	119	(4.4)	96	(3.5)	28	(1.1)	76	(2.9)	8	(1.8)	9	(2.1)	336	(5.8)
Germany	53	(2.2)	32	(1.3)	6	(0.3)	25	(1.3)	1	(0.6)	4	(2.4)	121	(2.7)
Greece	8	(1.9)	9	(2.2)	8	(3.2)	12	(4.8)	0	(0.0)	0	(0.0)	37	(5.5)
Hungary	0	(0.0)	4	(0.3)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	4	(0.2)
Iceland	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Ireland	6	(2.3)	5	(1.9)	2	(1.1)	2	(1.1)	0	(0.0)	0	(0.0)	15	(3.2)
Italy	78	(3.7)	63	(3.0)	20	(1.0)	47	(2.3)	14	(4.8)	7	(2.4)	229	(5.2)
<i>Latvia</i>	26	(2.6)	22	(2.2)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	48	(4.5)
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	30	(1.4)	70	(3.2)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	100	(4.4)
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Netherlands	14	(4.6)	19	(6.3)	5	(0.7)	12	(1.7)	0	(0.0)	0	(0.0)	50	(5.0)
Norway	3	(5.5)	4	(7.3)	3	(1.1)	13	(4.9)	0	(0.0)	0	(0.0)	23	(7.1)
Poland	23	(0.3)	49	(0.6)	3	(5.8)	1	(1.9)	0	(0.0)	0	(0.0)	76	(0.9)
Portugal	15	(0.6)	36	(1.4)	0	(0.0)	6	(1.5)	2	(5.7)	3	(8.6)	62	(2.1)
<i>Romania</i>	357	(1.4)	569	(2.3)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	926	(3.7)
Slovakia	4	(0.6)	10	(1.6)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	14	(2.2)
Slovenia	1	(0.6)	1	(0.6)	1	(1.8)	0	(0.0)	0	(0.0)	0	(0.0)	3	(1.4)
Spain	265	(5.2)	150	(2.9)	40	(1.6)	96	(3.8)	31	(5.4)	18	(3.1)	600	(7.3)
Sweden	5	(5.7)	4	(4.6)	4	(0.9)	13	(2.9)	0	(0.0)	1	(5.9)	27	(4.9)
United Kingdom	156	(7.0)	164	(7.4)	23	(0.4)	132	(2.3)	6	(0.9)	14	(2.1)	495	(5.7)
<b>Total EU/EEA</b>	<b>1242</b>	<b>(2.0)</b>	<b>1498</b>	<b>(2.4)</b>	<b>162</b>	<b>(0.9)</b>	<b>462</b>	<b>(2.5)</b>	<b>62</b>	<b>(2.7)</b>	<b>56</b>	<b>(2.4)</b>	<b>3482</b>	<b>(4.2)</b>

WHO European Region TB High Priority Countries presented in italics.

<sup>a</sup> 'Foreign origin' is defined as foreign-born cases for all countries except Austria, Belgium, Poland and Greece, where 'foreign citizen' is used.

**Table 13: Tuberculosis cases in children (<15 age), by site of disease, European Region, 2008**

Country	Pulmonary				Extrapulmonary				Unknown				Total	
	0-4		5-14		0-4		5-14		0-4		5-14		N	(%) <sup>a</sup>
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)		
<b>EU/EEA</b>														
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	21	(39.6)	18	(34.0)	8	(15.1)	6	(11.3)	0	(0.0)	0	(0.0)	53	(5.3)
<i>Bulgaria</i>	8	(3.5)	17	(7.5)	49	(21.5)	154	(67.5)	0	(0.0)	0	(0.0)	228	(7.2)
Cyprus	0	(0.0)	1	(33.3)	2	(66.7)	0	(0.0)	0	(0.0)	0	(0.0)	3	(6.0)
Czech Republic	0	(0.0)	0	(0.0)	1	(25.0)	3	(75.0)	0	(0.0)	0	(0.0)	4	(0.5)
Denmark	7	(31.8)	11	(50.0)	0	(0.0)	3	(13.6)	1	(4.5)	0	(0.0)	22	(6.0)
<i>Estonia</i>	0	(0.0)	1	(50.0)	0	(0.0)	1	(50.0)	0	(0.0)	0	(0.0)	2	(0.5)
Finland	1	(25.0)	3	(75.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	4	(1.1)
France	84	(25.0)	66	(19.6)	53	(15.8)	68	(20.2)	18	(5.4)	47	(14.0)	336	(5.8)
Germany	48	(38.7)	47	(37.9)	13	(10.5)	15	(12.1)	0	(0.0)	1	(0.8)	124	(2.7)
Greece	11	(29.7)	17	(45.9)	5	(13.5)	4	(10.8)	0	(0.0)	0	(0.0)	37	(5.5)
Hungary	0	(0.0)	3	(75.0)	0	(0.0)	1	(25.0)	0	(0.0)	0	(0.0)	4	(0.2)
Iceland	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Ireland	6	(40.0)	6	(40.0)	1	(6.7)	1	(6.7)	1	(6.7)	0	(0.0)	15	(3.2)
Italy	85	(37.1)	95	(41.5)	27	(11.8)	22	(9.6)	0	(0.0)	0	(0.0)	229	(5.2)
<i>Latvia</i>	5	(10.4)	8	(16.7)	21	(43.8)	14	(29.2)	0	(0.0)	0	(0.0)	48	(4.5)
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	0	(0.0)	3	(3.0)	30	(30.0)	67	(67.0)	0	(0.0)	0	(0.0)	100	(4.4)
Luxembourg	0	-	0	-	0	-	0	-	0	-	0	-	-	-
Malta	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Netherlands	9	(18.0)	12	(24.0)	10	(20.0)	19	(38.0)	0	(0.0)	0	(0.0)	50	(5.0)
Norway	3	(13.0)	6	(26.1)	3	(13.0)	11	(47.8)	0	(0.0)	0	(0.0)	23	(7.1)
Poland	11	(14.5)	30	(39.5)	15	(19.7)	20	(26.3)	0	(0.0)	0	(0.0)	76	(0.9)
Portugal	12	(19.4)	25	(40.3)	5	(8.1)	18	(29.0)	0	(0.0)	2	(3.2)	62	(2.1)
<i>Romania</i>	215	(23.2)	262	(28.3)	142	(15.3)	307	(33.2)	0	(0.0)	0	(0.0)	926	(3.7)
Slovakia	3	(21.4)	5	(35.7)	1	(7.1)	5	(35.7)	0	(0.0)	0	(0.0)	14	(2.2)
Slovenia	1	(33.3)	1	(33.3)	1	(33.3)	0	(0.0)	0	(0.0)	0	(0.0)	3	(1.4)
Spain	285	(47.5)	219	(36.5)	51	(8.5)	45	(7.5)	0	(0.0)	0	(0.0)	600	(7.3)
Sweden	6	(22.2)	8	(29.6)	3	(11.1)	10	(37.0)	0	(0.0)	0	(0.0)	27	(4.9)
United Kingdom	125	(25.3)	178	(36.0)	56	(11.3)	123	(24.8)	4	(0.8)	9	(1.8)	495	(5.7)
<b>Subtotal EU/EEA</b>	<b>946</b>	<b>(27.1)</b>	<b>1042</b>	<b>(29.9)</b>	<b>497</b>	<b>(14.3)</b>	<b>917</b>	<b>(26.3)</b>	<b>24</b>	<b>(0.7)</b>	<b>59</b>	<b>(1.7)</b>	<b>3485</b>	<b>(4.2)</b>
<b>Non-EU/EEA</b>														
Albania	4	(21.1)	12	(63.2)	0	(0.0)	3	(15.8)	-	-	-	-	19	(4.7)
Andorra	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.0)
<i>Armenia</i>	16	(18.8)	21	(24.7)	19	(22.4)	29	(34.1)	-	-	-	-	85	(5.6)
<i>Azerbaijan</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Belarus</i>	0	(0.0)	9	(23.7)	11	(28.9)	18	(47.4)	-	-	-	-	38	(0.8)
Bosnia and Herzegovina	2	(11.8)	7	(41.2)	2	(11.8)	6	(35.3)	-	-	-	-	17	(1.0)
Croatia	5	(18.5)	19	(70.4)	0	(0.0)	3	(11.1)	-	-	-	-	27	(2.9)
<i>Georgia</i>	5	(1.9)	34	(12.7)	58	(21.7)	170	(63.7)	-	-	-	-	267	(6.4)
Israel	5	(31.3)	6	(37.5)	2	(12.5)	3	(18.8)	-	-	-	-	16	(4.4)
<i>Kazakhstan</i>	42	(4.3)	339	(34.6)	203	(20.7)	397	(40.5)	-	-	-	-	981	(5.0)
<i>Kyrgyzstan</i>	10	(1.6)	136	(21.6)	97	(15.4)	387	(61.4)	-	-	-	-	630	(11.8)
Macedonia, the former Yugoslav Republic of	9	(22.5)	26	(65.0)	2	(5.0)	3	(7.5)	-	-	-	-	40	(9.3)
<i>Moldova</i>	10	(6.3)	13	(8.1)	57	(35.6)	80	(50.0)	-	-	-	-	160	(4.0)
Monaco	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	0	(0.0)	1	(100.0)	0	(0.0)	0	(0.0)	-	-	-	-	1	(0.8)
<i>Russia</i>	87	(9.3)	484	(51.9)	175	(18.8)	186	(20.0)	-	-	-	-	932	(0.8)
San Marino	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Serbia	7	(31.8)	13	(59.1)	0	(0.0)	2	(9.1)	-	-	-	-	22	(1.4)
Switzerland	0	(0.0)	1	(33.3)	1	(33.3)	1	(33.3)	-	-	-	-	3	(1.6)
<i>Tajikistan</i>	28	(5.1)	135	(24.7)	66	(12.1)	318	(58.1)	-	-	-	-	547	(8.9)
<i>Turkey</i>	149	(15.7)	409	(43.1)	83	(8.7)	308	(32.5)	-	-	-	-	949	(5.7)
<i>Turkmenistan</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Ukraine</i>	68	(11.7)	141	(24.3)	138	(23.8)	234	(40.3)	-	-	-	-	581	(1.6)
<i>Uzbekistan</i>	60	(3.0)	236	(11.8)	215	(10.7)	1497	(74.6)	-	-	-	-	2008	(12.6)
<b>Subtotal non-EU/EEA</b>	<b>507</b>	<b>(6.9)</b>	<b>2042</b>	<b>(27.9)</b>	<b>1129</b>	<b>(15.4)</b>	<b>3645</b>	<b>(49.8)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>7323</b>	<b>(3.1)</b>
<b>Total European Region</b>	<b>1453</b>	<b>(13.4)</b>	<b>3084</b>	<b>(28.5)</b>	<b>1626</b>	<b>(15.0)</b>	<b>4562</b>	<b>(42.2)</b>	<b>24</b>	<b>(0.2)</b>	<b>59</b>	<b>(0.5)</b>	<b>10808</b>	<b>(3.4)</b>
<b>Subtotal 18 HPC</b>	<b>688</b>	<b>(8.5)</b>	<b>2201</b>	<b>(27.3)</b>	<b>1249</b>	<b>(15.5)</b>	<b>3917</b>	<b>(48.6)</b>	<b>0</b>	<b>(0.0)</b>	<b>0</b>	<b>(0.0)</b>	<b>8055</b>	<b>(1.4)</b>

\*European Region\* comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

<sup>a</sup> Percentage calculated from all cases.

**Table 14: Laboratory practices and quality assurance for anti-TB drug susceptibility testing, European Region, 2008**

Country	No. of labs performing			DST methodology					External quality assurance for DST						
	Microscopy	Culture	DST	Non-radiometric proportion	Radiometric proportion	Resistance ratio	Absolute concentr.	Other	National <sup>a</sup>		International				
									No. labs	Year	% agreement of results for:		Isoniazid	Rifampicin	
<b>EU/EEA</b>															
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	163	155	17	Yes	Yes	.	.	Yes	Yes	-	No	-	-	-	-
Bulgaria	36	33	22	.	.	.	.	Yes	Yes	-	Yes	2007	100	100	100
Cyprus	-	1	0	.	.	.	.	Yes	Yes	-	Yes	2008	100	100	100
Czech Republic	45	45	14	Yes	.	.	.	Yes	Yes	-	Yes	2008	100	100	100
Denmark	-	1	1	.	Yes	.	.	Yes	Yes	1	Yes	2008	100	100	100
Estonia	8	2	2	.	.	.	.	Yes	Yes	2	Yes	2008	90	100	100
Finland	-	-	-	.	.	.	.	.	Yes	-	Yes	2008	100	100	100
France	300	300	100	Yes	.	.	.	Yes	Yes	30	Yes	2007	100	100	100
Germany	245	180	78	.	.	.	.	.	Yes	-	Yes	2008	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	12	12	7	Yes	.	.	.	.	Yes	3	Yes	2007	100	89	89
Iceland	-	-	-	.	.	.	.	.	Yes	-	-	-	-	-	-
Ireland	13	13	2	.	Yes	.	.	.	Yes	-	Yes	2007	100	100	100
Italy	-	-	-	Yes	Yes	.	.	Yes	Yes	-	Yes	2008	-	-	-
Latvia	26	6	1	.	.	.	Yes	.	Yes	1	Yes	2008	100	100	100
Liechtenstein	-	-	-	.	.	.	.	.	-	-	Yes	2008	-	-	-
Lithuania	-	-	-	.	.	.	.	.	-	-	-	-	-	-	-
Luxembourg	-	-	-	.	.	.	.	.	-	-	-	-	-	-	-
Malta	-	-	-	.	.	.	.	.	No	-	-	-	-	-	-
Netherlands	81	53	17	Yes	.	.	Yes	.	Yes	-	Yes	-	100	100	100
Norway	19	11	3	Yes	Yes	.	.	.	Yes	2	Yes	2008	100	100	100
Poland	95	95	45	Yes	Yes	.	.	.	Yes	45	Yes	2008	98	97	97
Portugal	60	60	20	Yes	Yes	.	.	Yes	Yes	9	Yes	2008	100	100	100
Romania	124	99	43	Yes	.	.	Yes	.	Yes	43	Yes	2008	100	100	100
Slovakia	-	-	0	Yes	Yes	Yes	Yes	.	Yes	-	Yes	2007	80	80	80
Slovenia	4	4	1	Yes	.	.	.	Yes	Yes	1	Yes	2008	100	100	100
Spain	-	-	-	Yes	.	.	.	.	Yes	-	Yes	2008	100	100	100
Sweden	-	-	-	Yes	.	.	.	.	Yes	-	Yes	2008	100	100	100
United Kingdom	-	-	9	.	.	.	.	.	Yes	6	Yes	2008	100	100	100
<b>Non-EU/EEA</b>															
Albania	17	1	1	Yes	.	.	.	.	Yes	0	Yes	2008	100	100	100
Andorra	8	8	8	Yes	.	.	.	Yes	Yes	-	No	-	-	-	-
Armenia	54	1	1	Yes	.	.	.	.	Yes	1	Yes	2008	100	100	100
Azerbaijan	69	0	0	Yes	.	.	.	.	No	-	No	-	-	-	-
Belarus	1500	91	22	.	.	.	Yes	.	Yes	22	Yes	2008	100	100	100
Bosnia and Herzegovina	4	7	3	Yes	.	.	.	.	Yes	2	No	-	-	-	-
Croatia	15	15	8	Yes	.	.	.	.	Yes	7	Yes	2008	100	100	100
Georgia	30	2	1	Yes	.	.	.	.	Yes	1	Yes	2008	99	98	98
Israel	18	20	2	.	.	.	Yes	.	Yes	2	Yes	2007	100	100	100
Kazakhstan	446	21	21	Yes	.	.	Yes	.	Yes	21	Yes	2008	100	100	100
Kyrgyzstan	122	13	1	Yes	.	.	.	.	Yes	1	No	-	-	-	-
Macedonia, the former Yugoslav Republic of	10	3	1	.	.	.	Yes	.	Yes	1	No	-	-	-	-
Moldova	57	4	4	Yes	.	.	Yes	.	Yes	3	Yes	2008	100	95	95
Monaco	-	-	-	Yes	.	.	.	.	-	-	-	-	-	-	-
Montenegro	1	1	1	.	Yes	.	.	Yes	No	-	No	-	-	-	-
Russia	3 999	397	272	Yes	.	.	.	.	No	141	-	-	-	-	-
San Marino	-	-	-	Yes	.	.	.	.	-	-	-	-	-	-	-
Serbia	4	25	8	Yes	.	.	.	Yes	Yes	7	Yes	2008	100	100	100
Switzerland	-	0	0	Yes	.	.	.	.	Yes	10	Yes	2008	100	100	100
Tajikistan	-	0	0	Yes	.	.	.	.	Yes	-	Yes	2007	-	-	-
Turkey	124	24	11	Yes	.	.	.	Yes	Yes	11	Yes	2008	97	99	99
Turkmenistan	40	1	1	.	.	.	.	.	Yes	1	Yes	2008	-	-	-
Ukraine	1863	107	47	.	Yes	.	.	.	No	1	No	-	-	-	-
Uzbekistan	310	2	2	.	Yes	.	.	.	Yes	2	Yes	2008	100	100	100

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB High Priority Countries presented in italics.

<sup>a</sup> For countries with more than one DST laboratory.

Table 15: Multidrug-resistant TB cases by previous history of TB treatment<sup>a</sup>, European Region, 2008

Country	Source of data / coverage	Year	New			Previously treated			Previous treatment unknown			Data completeness <sup>c</sup>
			Cases with DST results	Multidrug resistant		Cases with DST results	Multidrug resistant		Cases with DST results	Multidrug resistant		
				N	(%)		N	(%)		N	(%)	
<b>EU/EEA</b>												
Austria	-	-	-	-	-	-	-	-	-	-	-	-
Belgium <sup>b</sup>	case-base / national	2008	621	14	(2.3)	57	7	(12.3)	95	1	(1.1)	Y
Bulgaria	case-base / national	2008	833	14	(1.7)	105	18	(17.1)	0	0	-	N
Cyprus	case-base / national	2008	11	0	(0.0)	3	1	(33.3)	22	0	(0.0)	Y
Czech Republic	case-base / national	2008	483	10	(2.1)	37	1	(2.7)	0	0	-	Y
Denmark <sup>b</sup>	case-base / national	2008	253	0	(0.0)	28	0	(0.0)	0	0	-	Y
Estonia	case-base / national	2008	272	42	(15.4)	75	32	(42.7)	0	0	-	Y
Finland	case-base / national	2008	238	1	(0.4)	9	0	(0.0)	0	0	-	Y
France	NRL-CISID/ national	2008	1313	16	(1.2)	104	10	(9.6)	139	1	(0.7)	N
Germany	case-base / national	2008	2450	16	(0.7)	153	21	(13.7)	343	8	(2.3)	Y
Greece	case-base / national	2008	-	-	-	-	-	-	-	-	-	N
Hungary	case-base / national	2008	509	8	(1.6)	97	6	(6.2)	5	2	(40.0)	N
Iceland	case-base / national	2008	4	1	(25.0)	0	0	(0.0)	1	0	(0.0)	Y
Ireland <sup>b</sup>	case-base / national	2008	113	2	(1.8)	9	0	(0.0)	24	1	(4.2)	N
Italy	NRL-CISID/ national	2008	1018	27	(2.7)	165	24	(14.5)	749	20	(2.7)	N
Latvia	case-base / national	2008	684	83	(12.1)	144	46	(31.9)	0	0	-	Y
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	case-base / national	2008	1259	113	(9.0)	356	162	(45.5)	1	1	(100.0)	Y
Luxembourg	case-base / national	2008	-	-	-	-	-	-	-	-	-	-
Malta	case-base / national	2008	22	0	(0.0)	3	0	(0.0)	0	0	-	N
Netherlands	case-base / national	2008	696	11	(1.6)	23	2	(8.7)	9	0	(0.0)	Y
Norway <sup>b</sup>	case-base / national	2008	174	1	(0.6)	20	2	(10.0)	33	1	(3.0)	Y
Poland	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	case-base / national	2008	1496	19	(1.3)	145	9	(6.2)	0	0	-	Y
Romania	case-base / national	2008	3025	130	(4.3)	2522	686	(27.2)	0	0	-	N
Slovakia	case-base / national	2008	300	1	(0.3)	61	2	(3.3)	22	1	(4.5)	Y
Slovenia	case-base / national	2008	183	1	(0.5)	12	1	(8.3)	0	0	-	Y
Spain	NRL-CISID/ unknown	2008	1080	31	(2.9)	174	23	(13.2)	374	22	(5.9)	N
Sweden	case-base / national	2008	341	7	(2.1)	38	4	(10.5)	44	1	(2.3)	Y
United Kingdom <sup>b</sup>	case-base / national	2008	3707	38	(1.0)	228	7	(3.1)	873	8	(0.9)	Y
<b>Subtotal EU/EEA</b>			<b>21085</b>	<b>586</b>	<b>(2.8)</b>	<b>4568</b>	<b>1064</b>	<b>(23.3)</b>	<b>2734</b>	<b>67</b>	<b>(2.5)</b>	
<b>Non-EU/EEA</b>												
Albania	CISID/national	2008	192	1	(0.5)	22	1	(4.5)	0	0	(0.0)	N
Andorra	CISID/national	2008	3	0	(0.0)	0	0	-	0	0	(0.0)	Y
Armenia	CISID/national	2008	417	60	(14.4)	190	68	(35.8)	0	0	(0.0)	N
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-
Belarus	CISID/national	-	-	-	-	-	-	-	-	-	-	-
Bosnia and Herzegovina	CISID/national	2008	0	0	(0.0)	0	0	(0.0)	834	20	(2.4)	N
Croatia	CISID/national	2008	-	4	-	-	0	-	-	0	-	N
Georgia	CISID/national	2008	1685	190	(11.3)	720	290	(40.3)	4	1	(25.0)	-
Israel	CISID/national	2008	222	8	(3.6)	3	1	(33.3)	0	0	(0.0)	Y
Kazakhstan	CISID/national	2008	9633	2023	(21.0)	5192	4715	(90.8)	544	362	(66.5)	Y
Kyrgyzstan	CISID/partial	2008	484	97	(20.0)	325	172	(52.9)	0	0	(0.0)	N
Macedonia, the former Yugoslav Republic of	CISID/national	2008	130	0	(0.0)	17	2	(11.8)	0	0	(0.0)	N
Moldova	CISID/national	2008	1212	300	(24.8)	1227	748	(61.0)	0	0	(0.0)	N
Monaco	-	-	0	0	-	0	0	-	0	0	-	-
Montenegro	CISID/national	2008	75	0	(0.0)	9	0	(0.0)	0	0	(0.0)	Y
Russia	CISID/unknown	2008	36249	5061	(14.0)	6404	1899	(29.7)	0	0	(0.0)	N
San Marino	-	-	-	-	-	-	-	-	-	-	-	-
Serbia	CISID/partial	2008	923	6	(0.7)	130	10	(7.7)	5	0	(0.0)	Y
Switzerland	CISID/national	2008	258	3	(1.2)	34	1	(2.9)	123	0	(0.0)	Y
Tajikistan	-	-	-	-	-	-	-	-	-	-	-	-
Turkey	CISID/national	2008	4212	125	(3.0)	740	138	(18.6)	0	0	(0.0)	N
Turkmenistan	CISID/unknown	-	-	-	-	-	-	-	-	-	-	-
Ukraine	CISID/unknown	-	-	-	-	-	-	-	-	-	-	-
Uzbekistan	CISID/partial	2008	274	52	(19.0)	470	290	(61.7)	0	0	(0.0)	N
<b>Subtotal non-EU/EEA</b>			<b>55969</b>	<b>7930</b>	<b>(14.2)</b>	<b>15483</b>	<b>8335</b>	<b>(53.8)</b>	<b>1510</b>	<b>383</b>	<b>(25.4)</b>	
<b>Total European Region</b>			<b>77054</b>	<b>8516</b>	<b>(11.1)</b>	<b>20051</b>	<b>9399</b>	<b>(46.9)</b>	<b>4244</b>	<b>450</b>	<b>(10.6)</b>	
<b>Subtotal 18 HPC</b>			<b>60239</b>	<b>8290</b>	<b>(13.8)</b>	<b>18470</b>	<b>9264</b>	<b>(50.2)</b>	<b>549</b>	<b>1</b>	<b>(0.2)</b>	

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in *italics*.

DST: Drug Susceptibility Testing; NRL: National Reference Laboratory

<sup>b</sup> Distribution of cases by previous anti-TB treatment, except where indicated (previous diagnosis).

<sup>c</sup> Distribution by previous diagnosis.

<sup>d</sup> Data considered complete if 50% of all cases were culture-positive, and 80% of them had reported DST results.

Table 16: Characteristics of anti-TB drug resistance surveillance, European Region, 2008

Country	Source of data / coverage <sup>a</sup>	Culture confirmed cases (%) <sup>b</sup>	Cases included			Cases resistant to any anti-TB drug <sup>c</sup>		Data completeness <sup>d</sup>
			Total culture positive <sup>e</sup>	DST results (Isoniazid and Rifampicin)		N	(%)	
				N	(%)			
<b>EU/EEA</b>								
Austria	-	-	-	-	-	-	-	-
Belgium	case-base / national	80.7%	812	773	(95.2)	62	(8.0)	Y
Bulgaria	case-base / national	43.2%	1361	938	(68.9)	179	(19.1)	N
Cyprus	case-base / national	72.0%	36	36	(100.0)	6	(16.7)	Y
Czech Republic	case-base / national	64.6%	561	520	(92.7)	41	(7.9)	Y
Denmark	case-base / national	77.1%	283	281	(99.3)	12	(4.3)	Y
Estonia	case-base / national	78.2%	347	347	(100.0)	130	(37.5)	Y
Finland	case-base / national	70.9%	248	247	(99.6)	15	(6.1)	Y
France	NRL-CISID/ national	39.5%	2296	1556	(67.8)	171	(11.0)	N
Germany	case-base / national	68.5%	3112	2854	(91.7)	287	(10.1)	Y
Greece	case-base / national	-	-	-	-	-	-	-
Hungary	case-base / national	47.7%	766	611	(79.8)	71	(11.6)	N
Iceland	case-base / national	83.3%	5	5	(100.0)	2	(40.0)	Y
Ireland	case-base / national	44.5%	209	146	(69.9)	13	(8.9)	N
Italy	NRL-CISID/ national	45.9%	2026	1932	(95.4)	381	(19.7)	N
Latvia	case-base / national	78.3%	838	828	(98.8)	285	(34.4)	Y
Liechtenstein	-	-	-	-	-	-	-	-
Lithuania	case-base / national	71.8%	1616	1616	(100.0)	513	(31.7)	Y
Luxembourg	case-base / national	-	-	-	-	-	-	-
Malta	case-base / national	47.2%	25	25	(100.0)	5	(20.0)	N
Netherlands	case-base / national	73.0%	728	728	(100.0)	56	(7.7)	Y
Norway	case-base / national	70.1%	227	227	(100.0)	48	(21.1)	Y
Poland	-	-	-	-	-	-	-	-
Portugal	case-base / national	67.0%	2007	1641	(81.8)	213	(13.0)	Y
Romania	case-base / national	59.6%	14762	5547	(37.6)	1187	(21.4)	N
Slovakia	case-base / national	60.5%	383	383	(100.0)	12	(3.1)	Y
Slovenia	case-base / national	94.4%	201	195	(97.0)	6	(3.1)	Y
Spain	NRL-CISID/ unknown	54.7%	4493	1628	(36.2)	191	(11.7)	N
Sweden	case-base / national	79.0%	436	423	(97.0)	52	(12.3)	Y
United Kingdom	case-base / national	56.3%	4870	4808	(98.7)	405	(8.4)	Y
<b>Subtotal EU/EEA</b>		<b>51.6%</b>	<b>42 648</b>	<b>28 295</b>	<b>(66.3)</b>	<b>4 343</b>	<b>(15.3)</b>	
<b>Non-EU/EEA</b>								
Albania	CISID/national	49.3%	214	214	(100.0)	22	(10.3)	N
Andorra	CISID/national	75.0%	3	3	(100.0)	0	(0.0)	Y
Armenia	CISID/national	28.6%	607	607	(100.0)	307	(50.6)	N
Azerbaijan	-	-	-	-	-	-	-	-
Belarus	CISID/national	-	-	-	-	-	-	-
Bosnia and Herzegovina	CISID/national	48.0%	834	834	(100.0)	53	(6.4)	N
Croatia	CISID/national	-	-	-	-	-	-	N
Georgia	CISID/national	41.3%	2409	2409	(100.0)	1265	(52.5)	-
Israel	CISID/national	61.0%	225	225	(100.0)	41	(18.2)	Y
Kazakhstan	CISID/national	70.8%	20 139	15 369	(76.3)	10 004	(65.1)	Y
Kyrgyzstan	CISID/partial	28.9%	2 062	809	(39.2)	506	(62.5)	N
Macedonia, the former Yugoslav Republic of	CISID/national	44.9%	205	147	(71.7)	32	(21.8)	N
Moldova	CISID/national	43.6%	2 547	2 439	(95.8)	1 432	(58.7)	N
Monaco	-	-	-	-	-	-	-	-
Montenegro	CISID/national	62.4%	83	84	(101.2)	6	(7.1)	Y
Russia	CISID/unknown	19.8%	42 653	42 653	(100.0)	6 960	(16.3)	N
San Marino	-	-	-	-	-	-	-	-
Serbia	CISID/partial	72.3%	1 316	1 058	(80.4)	67	(6.3)	Y
Switzerland	CISID/national	81.2%	419	415	(99.0)	20	(4.8)	-
Tajikistan	-	-	-	-	-	-	-	-
Turkey	CISID/national	36.5%	6 730	4 952	(73.6)	958	(19.3)	N
Turkmenistan	CISID/unknown	-	-	-	-	-	-	-
Ukraine	CISID/unknown	-	-	-	-	-	-	-
Uzbekistan	CISID/partial	4.4%	923	342	(37.1)	744	(217.5)	N
<b>Subtotal non-EU/EEA</b>		<b>21.5%</b>	<b>81 369</b>	<b>72 560</b>	<b>(89.2)</b>	<b>22 417</b>	<b>(27.5)</b>	
<b>Total European Region</b>		<b>27.2%</b>	<b>124 017</b>	<b>100 855</b>	<b>(81.3)</b>	<b>26 760</b>	<b>(21.6)</b>	
<b>Subtotal 18 HPC</b>		<b>22.5%</b>	<b>96 994</b>	<b>78 856</b>	<b>(81.3)</b>	<b>24 470</b>	<b>(25.2)</b>	

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB High Priority Countries presented in italics.

DST: Drug Susceptibility Testing; NRL: National Reference Laboratory

<sup>b</sup> Case-base data means DST results provided to ECDC/TESSy as part of a case-based individual dataset; otherwise submitted as aggregate tables to WHO/CISID.

<sup>c</sup> In areas included in drug-resistance surveillance; may differ from data shown elsewhere in this report.

<sup>d</sup> Any resistance to isoniazid, rifampicin, ethambutol or streptomycin; expressed as a percentage of cases with DST results available at least to isoniazid and rifampicin. Testing for ethambutol and streptomycin not routine in all countries.

<sup>e</sup> Data considered complete when 50% of all cases were culture-positive, and 80% of them had reported DST results.

Table 17a: Anti-TB drug resistance among all TB cases, European Region, 2008

Country	Cases with DST results	Cases resistant to at least <sup>a</sup> :										Data completeness <sup>b</sup>
		Isoniazid		Rifampicin		Isoniazid and Rifampicin (multidrug resistant)		Ethambutol		Streptomycin		
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
<b>EU/EEA</b>												
Austria	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	773	56 (7.2)	24 (3.1)	22 (2.8)	22 (2.8)	84 (9.0)	4 (0.5)	Y				
Bulgaria	938	121 (12.9)	43 (4.6)	32 (3.4)	84 (9.0)	55 (5.9)	N					
Cyprus	36	4 (11.1)	1 (2.8)	1 (2.8)	0 (0.0)	3 (8.3)	Y					
Czech Republic	520	26 (5.0)	14 (2.7)	11 (2.1)	7 (1.3)	29 (5.6)	Y					
Denmark	281	11 (3.9)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	Y					
Estonia	347	103 (29.7)	74 (21.3)	74 (21.3)	78 (22.5)	122 (35.2)	Y					
Finland	247	12 (4.9)	2 (0.8)	1 (0.4)	0 (0.0)	6 (2.4)	Y					
France	1556	103 (6.6)	32 (2.1)	27 (1.7)	18 (1.2)	112 (7.2)	N					
Germany	2963	197 (6.6)	55 (1.9)	45 (1.5)	45 (1.5)	194 (6.5)	Y					
Greece	-	-	-	-	-	-	-	N				
Hungary	611	48 (7.9)	18 (2.9)	16 (2.6)	19 (3.1)	37 (6.1)	N					
Iceland	5	2 (40.0)	1 (20.0)	1 (20.0)	0 (0.0)	1 (20.0)	Y					
Ireland	146	9 (6.2)	4 (2.7)	3 (2.1)	2 (1.4)	5 (3.4)	N					
Italy	1932	244 (12.6)	89 (4.6)	71 (3.7)	71 (3.7)	238 (12.3)	N					
Latvia	828	257 (31.0)	132 (15.9)	129 (15.6)	115 (13.9)	242 (29.2)	Y					
Liechtenstein	-	-	-	-	-	-	-	-				
Lithuania	1616	469 (29.0)	287 (17.8)	276 (17.1)	167 (10.3)	412 (25.5)	N					
Luxembourg	-	-	-	-	-	-	-	-				
Malta	25	2 (8.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (20.0)	N					
Netherlands	728	55 (7.6)	14 (1.9)	13 (1.8)	3 (0.4)	0 (0.0)	Y					
Norway	227	36 (15.9)	6 (2.6)	4 (1.8)	6 (2.6)	29 (12.8)	Y					
Poland	-	-	-	-	-	-	-	N				
Portugal	1641	121 (7.4)	29 (1.8)	28 (1.7)	17 (1.0)	156 (9.5)	Y					
Romania	5547	1126 (20.3)	873 (15.7)	816 (14.7)	297 (5.4)	229 (4.1)	N					
Slovakia	383	10 (2.6)	4 (1.0)	4 (1.0)	2 (0.5)	3 (0.8)	Y					
Slovenia	195	3 (1.5)	2 (1.0)	2 (1.0)	1 (0.5)	5 (2.6)	Y					
Spain	1628	161 (9.9)	88 (5.4)	76 (4.7)	32 (2.0)	77 (4.7)	N					
Sweden	423	49 (11.6)	13 (3.1)	12 (2.8)	15 (3.5)	9 (2.1)	Y					
United Kingdom	4808	288 (6.0)	71 (1.5)	53 (1.1)	35 (0.7)	186 (3.9)	Y					
<b>Subtotal EU/EEA</b>	<b>28404</b>	<b>3513 (12.4)</b>	<b>1876 (6.6)</b>	<b>1717 (6.0)</b>	<b>1037 (3.7)</b>	<b>2159 (7.6)</b>						
<b>Non-EU/EEA</b>												
Albania	214	4 (1.9)	5 (2.3)	2 (0.9)	3 (1.4)	17 (7.9)	N					
Andorra	3	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	Y					
Armenia	607	251 (41.4)	135 (22.2)	128 (21.1)	176 (29.0)	186 (30.6)	N					
Azerbaijan	-	-	-	-	-	-	-					
Belarus	-	-	-	-	-	-	-					
Bosnia and Herzegovina	834	33 (4.0)	21 (2.5)	20 (2.4)	10 (1.2)	25 (3.0)	N					
Croatia	604	31 (5.1)	8 (1.3)	4 (0.7)	5 (0.8)	22 (3.6)	Y					
Georgia	2409	847 (35.2)	510 (21.2)	481 (20.0)	380 (15.8)	1093 (45.4)	-					
Israel	225	24 (10.7)	13 (5.8)	9 (4.0)	5 (2.2)	31 (13.8)	N					
Kazakhstan	15369	8709 (56.7)	7420 (48.3)	7100 (46.2)	6863 (44.7)	9345 (60.8)	Y					
Kyrgyzstan	809	456 (56.4)	310 (38.3)	269 (33.3)	175 (21.6)	387 (47.8)	N					
Macedonia, the former Yugoslav Republic of	147	10 (6.8)	8 (5.4)	2 (1.4)	12 (8.2)	11 (7.5)	-					
Moldova	2439	1269 (52.0)	1083 (44.4)	1048 (43.0)	829 (34.0)	1294 (53.1)	Y					
Monaco	-	-	-	-	-	-	N					
Montenegro	84	0 (0.0)	1 (1.2)	0 (0.0)	1 (1.2)	5 (6.0)	-					
Russia	42653	6960 (16.3)	6960 (16.3)	6960 (16.3)	0 (0.0)	0 (0.0)	N					
San Marino	-	-	-	-	-	-	-					
Serbia	1058	34 (3.2)	19 (1.8)	16 (1.5)	13 (1.2)	40 (3.8)	-					
Switzerland	415	17 (4.1)	5 (1.2)	5 (1.2)	4 (1.0)	7 (1.7)	N					
Tajikistan	-	-	-	-	-	-	-					
Turkey	4952	685 (13.8)	328 (6.6)	263 (5.3)	213 (4.3)	371 (7.5)	N					
Turkmenistan	-	-	-	-	-	-	-					
Ukraine	-	-	-	-	-	-	-					
Uzbekistan	744	525 (70.6)	412 (55.4)	342 (46.0)	382 (51.3)	690 (92.7)	N					
<b>Subtotal non-EU/EEA</b>	<b>73566</b>	<b>19855 (27.0)</b>	<b>17238 (23.4)</b>	<b>16649 (22.6)</b>	<b>9071 (12.3)</b>	<b>13524 (18.4)</b>						
<b>Total European Region</b>	<b>101970</b>	<b>23368 (22.9)</b>	<b>19114 (18.7)</b>	<b>18366 (18.0)</b>	<b>10108 (9.9)</b>	<b>15683 (15.4)</b>						
<b>Subtotal 18 HPC</b>	<b>79258</b>	<b>21778 (27.5)</b>	<b>18567 (23.4)</b>	<b>17918 (22.6)</b>	<b>9759 (12.3)</b>	<b>14426 (18.2)</b>						

<sup>a</sup>European Region<sup>c</sup> comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB High Priority Countries presented in italics.

DST: Drug Susceptibility Testing

<sup>b</sup> Any resistance to isoniazid, rifampicin, ethambutol or streptomycin; expressed as a percentage of cases with DST results available at least to isoniazid and rifampicin. Testing for ethambutol and streptomycin not routine in all countries.

<sup>c</sup> Data considered complete when 50% of all cases were culture-positive, and 80% of them had reported DST results.

**Table 17b: Anti-TB drug resistance among all XDR TB cases, European Region, 2007–2008<sup>a</sup>**

Country	2007					2008				
	Total Number of TB cases	Total culture positive	Total MDR TB	Total XDR TB	XDR/MDR	Total Number of TB cases	Total culture positive	Total MDR TB	Total XDR TB	XDR/MDR
<b>EU/EEA</b>										
<i>Belgium</i>	1020	798	14	1	(7.1)	1006	812	22	2	(9.1)
<i>Bulgaria</i>	3038	1385	76	0	(0.0)	3151	1361	32	0	(0.0)
<i>Cyprus</i>	42	33	3	0	(0.0)	50	36	1	0	(0.0)
<i>Czech Republic</i>	846	557	8	0	(0.0)	868	561	11	1	(9.1)
<i>Estonia</i>	488	382	80	12	(15.0)	444	347	74	9	(12.2)
<i>Iceland</i>	14	11	1	0	(0.0)	6	5	1	0	(0.0)
<i>Latvia</i>	1255	994	99	6	(6.1)	1070	838	129	19	(14.7)
<i>Norway</i>	307	245	3	1	(33.3)	324	227	4	0	(0.0)
<i>Romania</i>	24 844	16 178	701	47	(6.7)	24 786	14 762	816	54	(6.6)
<i>Slovakia</i>	682	396	7	0	(0.0)	633	383	4	0	(0.0)
<i>Spain</i>	7768	3950	59	0	-	8214	4493	76	3	(3.9)
<i>Sweden</i>	481	364	15	1	(6.7)	552	436	12	1	(8.3)
<i>United Kingdom</i>	8314	4780	56	0	(0.0)	8655	4870	53	1	(1.9)
<b>Subtotal EU/EEA</b>	<b>49 099</b>	<b>30 073</b>	<b>1122</b>	<b>68</b>	<b>(6.1)</b>	<b>49 759</b>	<b>29 131</b>	<b>1235</b>	<b>90</b>	<b>(7.3)</b>
<b>Non-EU/EEA</b>										
<i>Armenia</i>	2129	429	50	-	-	2125	607	128	10	(7.8)
<i>Israel</i>	397	273	18	-	-	369	225	225	1	(0.4)
<i>Kazakhstan</i>	40 279	6 883	5 568	-	-	31 809	20 139	7 100	22	(0.1)
<i>Uzbekistan</i>	23 390	-	484	-	-	21 194	923	342	8	(2.3)
<b>Subtotal non-EU/EEA</b>	<b>66 195</b>	<b>7 585</b>	<b>6 120</b>	-	-	<b>55 497</b>	<b>21 894</b>	<b>7 795</b>	<b>41</b>	<b>(0.5)</b>
<b>Total European Region</b>	<b>115 294</b>	<b>37 658</b>	<b>7 242</b>	<b>68</b>	<b>(6.1)</b>	<b>105 256</b>	<b>51 025</b>	<b>9 030</b>	<b>131</b>	<b>(1.5)</b>
<b>Subtotal 18 HPC</b>	<b>95 423</b>	<b>26 251</b>	<b>7 228</b>	<b>65</b>	<b>(6.8)</b>	<b>84 579</b>	<b>38 977</b>	<b>8 621</b>	<b>122</b>	<b>(1.4)</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region TB High Priority Countries presented in italics.

<sup>a</sup> Includes only countries reporting second-line anti-TB drug susceptibility testing.

Table 18: Anti-TB drug resistance among new TB cases<sup>a</sup>, European Region, 2008

Country	Cases with DST results	Cases resistant to at least <sup>b</sup> :									
		Isoniazid		Rifampicin		Isoniazid and Rifampicin (multidrug resistant)		Ethambutol		Streptomycin	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>EU/EEA</b>											
Austria	-	-	-	-	-	-	-	-	-	-	-
Belgium	621	41	(6.6)	16	(2.6)	14	(2.3)	15	(2.4)	3	(0.5)
<i>Bulgaria</i>	<i>833</i>	<i>94</i>	<i>(11.3)</i>	<i>23</i>	<i>(2.8)</i>	<i>14</i>	<i>(1.7)</i>	<i>69</i>	<i>(8.3)</i>	<i>43</i>	<i>(5.2)</i>
Cyprus	11	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Czech Republic	483	24	(5.0)	13	(2.7)	10	(2.1)	6	(1.2)	27	(5.6)
Denmark	253	11	(4.3)	0	(0.0)	0	(0.0)	1	(0.4)	0	(0.0)
<i>Estonia</i>	<i>272</i>	<i>69</i>	<i>(25.4)</i>	<i>42</i>	<i>(15.4)</i>	<i>42</i>	<i>(15.4)</i>	<i>47</i>	<i>(17.3)</i>	<i>87</i>	<i>(32.0)</i>
Finland	238	12	(5.0)	2	(0.8)	1	(0.4)	0	(0.0)	6	(2.5)
France	1313	72	(5.5)	16	(1.2)	16	(1.2)	11	(0.8)	91	(6.9)
Germany	2450	144	(5.9)	24	(1.0)	16	(0.7)	25	(1.0)	134	(5.5)
Greece	-	-	-	-	-	-	-	-	-	-	-
Hungary	509	35	(6.9)	10	(2.0)	8	(1.6)	12	(2.4)	25	(4.9)
Iceland	4	2	(50.0)	1	(25.0)	1	(25.0)	0	(0.0)	1	(25.0)
Ireland	113	7	(6.2)	3	(2.7)	2	(1.8)	1	(0.9)	4	(3.5)
Italy	1018	118	(11.6)	35	(3.4)	27	(2.7)	30	(2.9)	128	(12.6)
<i>Latvia</i>	<i>684</i>	<i>193</i>	<i>(28.2)</i>	<i>84</i>	<i>(12.3)</i>	<i>83</i>	<i>(12.1)</i>	<i>72</i>	<i>(10.5)</i>	<i>178</i>	<i>(26.0)</i>
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	<i>1259</i>	<i>269</i>	<i>(21.4)</i>	<i>120</i>	<i>(9.5)</i>	<i>113</i>	<i>(9.0)</i>	<i>56</i>	<i>(4.4)</i>	<i>223</i>	<i>(17.7)</i>
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Malta	22	2	(9.1)	0	(0.0)	0	(0.0)	0	(0.0)	5	(22.7)
Netherlands	696	45	(7.5)	10	(1.7)	11	(1.5)	2	(0.3)	0	(0.0)
Norway	174	25	(14.4)	2	(1.1)	1	(0.6)	3	(1.7)	19	(10.9)
Poland	-	-	-	-	-	-	-	-	-	-	-
Portugal	1496	104	(7.0)	20	(1.3)	19	(1.3)	14	(0.9)	138	(9.2)
<i>Romania</i>	<i>3025</i>	<i>262</i>	<i>(8.7)</i>	<i>149</i>	<i>(4.9)</i>	<i>130</i>	<i>(4.3)</i>	<i>35</i>	<i>(1.2)</i>	<i>21</i>	<i>(0.7)</i>
Slovakia	300	7	(2.3)	1	(0.3)	1	(0.3)	1	(0.3)	2	(0.7)
Slovenia	183	2	(1.1)	1	(0.5)	1	(0.5)	0	(0.0)	4	(2.2)
Spain	1080	69	(6.4)	37	(3.4)	31	(2.9)	8	(0.7)	33	(3.1)
Sweden	341	36	(10.6)	8	(2.3)	7	(2.1)	9	(2.6)	5	(1.5)
United Kingdom	3707	218	(5.9)	53	(1.4)	38	(1.0)	24	(0.6)	151	(4.1)
<b>Subtotal EU/EEA</b>	<b>21085</b>	<b>1861</b>	<b>(8.8)</b>	<b>670</b>	<b>(3.2)</b>	<b>586</b>	<b>(2.8)</b>	<b>441</b>	<b>(2.1)</b>	<b>1328</b>	<b>(6.3)</b>
<b>Non-EU/EEA</b>											
Albania	192	3	(1.6)	4	(2.1)	1	(0.5)	2	(1.0)	13	(6.8)
Andorra	3	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
<i>Armenia</i>	<i>417</i>	<i>144</i>	<i>(34.5)</i>	<i>63</i>	<i>(15.1)</i>	<i>60</i>	<i>(14.4)</i>	<i>95</i>	<i>(22.8)</i>	<i>105</i>	<i>(25.2)</i>
<i>Azerbaijan</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Belarus</i>	-	-	-	-	-	-	-	-	-	-	-
Bosnia and Herzegovina	-	-	-	-	-	-	-	-	-	-	-
Croatia	-	-	-	-	-	-	-	-	-	-	-
<i>Georgia</i>	<i>1685</i>	<i>552</i>	<i>(32.8)</i>	<i>208</i>	<i>(12.3)</i>	<i>190</i>	<i>(11.3)</i>	<i>159</i>	<i>(9.4)</i>	<i>645</i>	<i>(38.3)</i>
Israel	222	16	(7.2)	12	(5.4)	8	(3.6)	4	(1.8)	30	(13.5)
<i>Kazakhstan</i>	<i>9633</i>	<i>5599</i>	<i>(58.1)</i>	<i>2170</i>	<i>(22.5)</i>	<i>2023</i>	<i>(21.0)</i>	<i>2231</i>	<i>(23.2)</i>	<i>3246</i>	<i>(33.7)</i>
<i>Kyrgyzstan</i>	<i>484</i>	<i>305</i>	<i>(63.0)</i>	<i>112</i>	<i>(23.1)</i>	<i>97</i>	<i>(20.0)</i>	<i>70</i>	<i>(14.5)</i>	<i>184</i>	<i>(38.0)</i>
Macedonia, the former Yugoslav Republic of	130	7	(5.4)	3	(2.3)	0	(0.0)	10	(7.7)	9	(6.9)
<i>Moldova</i>	<i>1212</i>	<i>866</i>	<i>(71.5)</i>	<i>311</i>	<i>(25.7)</i>	<i>300</i>	<i>(24.8)</i>	<i>228</i>	<i>(18.8)</i>	<i>442</i>	<i>(36.5)</i>
Monaco	-	-	-	-	-	-	-	-	-	-	-
Montenegro	75	0	(0.0)	1	(1.3)	0	(0.0)	0	(0.0)	3	(4.0)
<i>Russia</i>	<i>36249</i>	<i>1899</i>	<i>(5.2)</i>	<i>5061</i>	<i>(14.0)</i>	<i>5061</i>	<i>(14.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>
San Marino	-	-	-	-	-	-	-	-	-	-	-
Serbia	923	22	(2.4)	8	(0.9)	6	(0.7)	4	(0.4)	28	(3.0)
Switzerland	258	5	(1.9)	3	(1.2)	3	(1.2)	2	(0.8)	4	(1.6)
<i>Tajikistan</i>	-	-	-	-	-	-	-	-	-	-	-
Turkey	4212	491	(11.7)	166	(3.9)	125	(3.0)	142	(3.4)	271	(6.4)
<i>Turkmenistan</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Ukraine</i>	-	-	-	-	-	-	-	-	-	-	-
<i>Uzbekistan</i>	<i>274</i>	<i>109</i>	<i>(39.8)</i>	<i>120</i>	<i>(43.8)</i>	<i>52</i>	<i>(19.0)</i>	<i>51</i>	<i>(18.6)</i>	<i>217</i>	<i>(79.2)</i>
<b>Subtotal non-EU/EEA</b>	<b>55969</b>	<b>10018</b>	<b>(17.9)</b>	<b>8242</b>	<b>(14.7)</b>	<b>7926</b>	<b>(14.2)</b>	<b>2998</b>	<b>(5.4)</b>	<b>5197</b>	<b>(9.3)</b>
<b>Total European Region</b>	<b>77054</b>	<b>11879</b>	<b>(15.4)</b>	<b>8912</b>	<b>(11.6)</b>	<b>8512</b>	<b>(11.0)</b>	<b>3439</b>	<b>(4.5)</b>	<b>6525</b>	<b>(8.5)</b>
<b>Subtotal 18 HPC</b>	<b>60239</b>	<b>10852</b>	<b>(18.0)</b>	<b>8629</b>	<b>(14.3)</b>	<b>8290</b>	<b>(13.8)</b>	<b>3255</b>	<b>(5.4)</b>	<b>5662</b>	<b>(9.4)</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB High Priority Countries presented in italics.

DST: Drug Susceptibility Testing

<sup>b</sup> Cases classified according to previous TB treatment history (see Chapter 1).

<sup>c</sup> Any resistance to isoniazid, rifampicin, ethambutol or streptomycin; expressed as a percentage of cases with DST results available at least to isoniazid and rifampicin. Testing for ethambutol and streptomycin not routine in all countries.



**Table 19: Anti-TB drug resistance among all TB cases of national origin, EU/EEA, 2008**

Country	Criterion	Cases with DST results	Cases resistant to at least <sup>a</sup> :										
			Isoniazid		Rifampicin		Isoniazid and Rifampicin (multidrug resistant)		Ethambutol <sup>b</sup>		Streptomycin <sup>b</sup>		
			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	citizenship	408	18 (4.4)	5 (1.2)	4 (1.0)	5 (1.2)	1 (0.2)	-	-	-	-	-	
<i>Bulgaria</i>	<i>birthplace</i>	<i>935</i>	<i>121 (12.9)</i>	<i>43 (4.6)</i>	<i>32 (3.4)</i>	<i>84 (9.0)</i>	<i>55 (5.9)</i>	-	-	-	-	-	
Cyprus	birthplace	4	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Czech Republic	birthplace	397	11 (2.8)	8 (2.0)	6 (1.5)	6 (1.5)	12 (3.0)	-	-	-	-	-	
Denmark	birthplace	121	5 (4.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
<i>Estonia</i>	<i>birthplace</i>	<i>275</i>	<i>84 (30.5)</i>	<i>60 (21.8)</i>	<i>60 (21.8)</i>	<i>63 (22.9)</i>	<i>96 (34.9)</i>	-	-	-	-	-	
Finland	birthplace	206	7 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.0)	-	-	-	-	-	
France	-	-	-	-	-	-	-	-	-	-	-	-	
Germany	birthplace	1556	62 (4.0)	12 (0.8)	9 (0.6)	9 (0.6)	59 (3.8)	-	-	-	-	-	
Greece	-	-	-	-	-	-	-	-	-	-	-	-	
Hungary	birthplace	587	46 (7.8)	17 (2.9)	15 (2.6)	17 (2.9)	34 (5.8)	-	-	-	-	-	
Iceland	birthplace	1	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Ireland	birthplace	77	2 (2.6)	1 (1.3)	1 (1.3)	1 (1.3)	1 (1.3)	-	-	-	-	-	
Italy	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Latvia</i>	<i>birthplace</i>	<i>781</i>	<i>243 (31.1)</i>	<i>126 (16.1)</i>	<i>123 (15.7)</i>	<i>109 (14.0)</i>	<i>226 (28.9)</i>	-	-	-	-	-	
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Lithuania</i>	<i>birthplace</i>	<i>1578</i>	<i>456 (28.9)</i>	<i>277 (17.6)</i>	<i>266 (16.9)</i>	<i>159 (10.1)</i>	<i>402 (25.5)</i>	-	-	-	-	-	
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	
Malta	birthplace	2	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Netherlands	birthplace	199	9 (4.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Norway	birthplace	33	2 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	4 (12.1)	-	-	-	-	-	
Poland	-	-	-	-	-	-	-	-	-	-	-	-	
Portugal	birthplace	1418	102 (7.2)	21 (1.5)	20 (1.4)	11 (0.8)	130 (9.2)	-	-	-	-	-	
<i>Romania</i>	<i>birthplace</i>	<i>5547</i>	<i>1126 (20.3)</i>	<i>873 (15.7)</i>	<i>816 (14.7)</i>	<i>297 (5.4)</i>	<i>229 (4.1)</i>	-	-	-	-	-	
Slovakia	birthplace	378	9 (2.4)	4 (1.1)	4 (1.1)	2 (0.5)	3 (0.8)	-	-	-	-	-	
Slovenia	birthplace	140	1 (0.7)	1 (0.7)	1 (0.7)	0 (0.0)	2 (1.4)	-	-	-	-	-	
Spain	-	-	-	-	-	-	-	-	-	-	-	-	
Sweden	birthplace	68	3 (4.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
United Kingdom	birthplace	1194	53 (4.4)	13 (1.1)	10 (0.8)	5 (0.4)	28 (2.3)	-	-	-	-	-	
<b>Total EU/EEA</b>		<b>15905</b>	<b>2360 (14.8)</b>	<b>1461 (9.2)</b>	<b>1367 (8.6)</b>	<b>768 (4.8)</b>	<b>1284 (8.1)</b>						

WHO European Region TB High Priority Countries presented in italics.

DST: Drug Susceptibility Testing

<sup>a</sup> Any resistance to isoniazid, rifampicin, ethambutol or streptomycin; expressed as a percentage of cases with DST results available at least to isoniazid and rifampicin. Testing for ethambutol and streptomycin not routine in all countries.

<sup>b</sup> DST shown, if tested also to isoniazid and rifampicin.

**Table 20: Anti-TB drug resistance among all TB cases of foreign origin, EU/EEA, 2008**

Country	Criterion	Cases with DST results	Cases resistant to at least <sup>a</sup> :										
			Isoniazid		Rifampicin		Isoniazid and Rifampicin (multidrug resistant)		Ethambutol <sup>b</sup>		Streptomycin <sup>b</sup>		
			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	citizenship	365	38	(10.4)	19	(5.2)	18	(4.9)	17	(4.7)	3	(0.8)	
<i>Bulgaria</i>	<i>birthplace</i>	<i>3</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	
Cyprus	birthplace	32	4	(12.5)	1	(3.1)	1	(3.1)	0	(0.0)	3	(9.4)	
Czech Republic	birthplace	123	15	(12.2)	6	(4.9)	5	(4.1)	1	(0.8)	17	(13.8)	
Denmark <sup>c</sup>	birthplace	160	6	(3.8)	0	(0.0)	0	(0.0)	1	(0.6)	0	(0.0)	
<i>Estonia</i>	<i>birthplace</i>	<i>70</i>	<i>18</i>	<i>(25.7)</i>	<i>13</i>	<i>(18.6)</i>	<i>13</i>	<i>(18.6)</i>	<i>14</i>	<i>(20.0)</i>	<i>24</i>	<i>(34.3)</i>	
Finland	birthplace	40	5	(12.5)	2	(5.0)	1	(2.5)	0	(0.0)	4	(10.0)	
France	-	-	-	-	-	-	-	-	-	-	-	-	
Germany	birthplace	1294	133	(10.3)	43	(3.3)	36	(2.8)	36	(2.8)	134	(10.4)	
Greece	-	-	-	-	-	-	-	-	-	-	-	-	
Hungary	birthplace	15	2	(13.3)	1	(6.7)	1	(6.7)	2	(13.3)	3	(20.0)	
Iceland	birthplace	4	2	(50.0)	1	(25.0)	1	(25.0)	0	(0.0)	1	(25.0)	
Ireland	birthplace	67	6	(9.0)	2	(3.0)	1	(1.5)	1	(1.5)	4	(6.0)	
Italy	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Latvia</i>	<i>birthplace</i>	<i>47</i>	<i>14</i>	<i>(29.8)</i>	<i>6</i>	<i>(12.8)</i>	<i>6</i>	<i>(12.8)</i>	<i>6</i>	<i>(12.8)</i>	<i>16</i>	<i>(34.0)</i>	
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Lithuania</i>	<i>birthplace</i>	<i>38</i>	<i>13</i>	<i>(34.2)</i>	<i>10</i>	<i>(26.3)</i>	<i>10</i>	<i>(26.3)</i>	<i>8</i>	<i>(21.1)</i>	<i>10</i>	<i>(26.3)</i>	
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	
Malta	birthplace	23	2	(8.7)	0	(0.0)	0	(0.0)	0	(0.0)	5	(21.7)	
Netherlands	birthplace	525	46	(8.8)	14	(2.7)	13	(2.5)	3	(0.6)	0	(0.0)	
Norway	birthplace	192	33	(17.2)	6	(3.1)	4	(2.1)	6	(3.1)	25	(13.0)	
Poland	-	-	-	-	-	-	-	-	-	-	-	-	
Portugal	birthplace	221	18	(8.1)	7	(3.2)	7	(3.2)	6	(2.7)	25	(11.3)	
<i>Romania</i>	<i>birthplace</i>	<i>0</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	<i>0</i>	<i>(0.0)</i>	
Slovakia	birthplace	5	1	(20.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	
Slovenia	birthplace	55	2	(3.6)	1	(1.8)	1	(1.8)	1	(1.8)	3	(5.5)	
Spain	-	-	-	-	-	-	-	-	-	-	-	-	
Sweden	birthplace	338	45	(13.3)	12	(3.6)	11	(3.3)	15	(4.4)	9	(2.7)	
United Kingdom	birthplace	3265	218	(6.7)	54	(1.7)	41	(1.3)	29	(0.9)	144	(4.4)	
<b>Total EU/EEA</b>		<b>6882</b>	<b>621</b>	<b>(9.0)</b>	<b>198</b>	<b>(2.9)</b>	<b>170</b>	<b>(2.5)</b>	<b>146</b>	<b>(2.1)</b>	<b>430</b>	<b>(6.2)</b>	

WHO European Region TB High Priority Countries presented in italics.

DST: Drug Susceptibility Testing

<sup>a</sup> Any resistance to isoniazid, rifampicin, ethambutol or streptomycin; expressed as a percentage of cases with DST results available at least to isoniazid and rifampicin. Testing for ethambutol and streptomycin not routine in all countries.

<sup>b</sup> DST shown, if tested also to isoniazid and rifampicin.

<sup>c</sup> By birthplace of parents for Danish-born cases <26 years of age.

**Table 21: Treatment outcome of new laboratory-confirmed pulmonary TB cases, European Region, 2007**

Country	Cases notified in 2007	Success		Died		Failed		Defaulted		Still on treatment		Transferred or unknown		Data completeness <sup>d</sup>
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
<b>EU/EEA<sup>a</sup></b>														
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium <sup>b</sup>	499	342	(68.5)	42	(8.4)	0	(0.0)	44	(8.8)	12	(2.4)	59	(11.8)	Y
Bulgaria	1233	972	(78.8)	85	(6.9)	4	(0.3)	96	(7.8)	41	(3.3)	35	(2.8)	Y
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	459	331	(72.1)	86	(18.7)	4	(0.9)	32	(7.0)	4	(0.9)	2	(0.4)	Y
Denmark <sup>b</sup>	213	169	(79.3)	11	(5.2)	2	(0.9)	3	(1.4)	11	(5.2)	17	(8.0)	Y
Estonia	302	185	(61.3)	41	(13.6)	2	(0.7)	29	(9.6)	45	(14.9)	0	(0.0)	Y
Finland	181	126	(69.6)	35	(19.3)	1	(0.6)	2	(1.1)	7	(3.9)	10	(5.5)	Y
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	2421	1863	(77.0)	277	(11.4)	3	(0.1)	36	(1.5)	69	(2.9)	173	(7.1)	Y
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	612	311	(50.8)	74	(12.1)	86	(14.1)	34	(5.6)	84	(13.7)	23	(3.8)	Y
Iceland	7	6	(85.7)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(14.3)	Y
Ireland <sup>b</sup>	181	127	(70.2)	10	(5.5)	0	(0.0)	3	(1.7)	8	(4.4)	33	(18.2)	Y
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	772	634	(82.1)	54	(7.0)	1	(0.1)	32	(4.1)	51	(6.6)	0	(0.0)	Y
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	1209	860	(71.1)	144	(11.9)	18	(1.5)	89	(7.4)	94	(7.8)	4	(0.3)	Y
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	12	9	(75.0)	0	(0.0)	0	(0.0)	1	(8.3)	1	(8.3)	1	(8.3)	Y
Netherlands <sup>b</sup>	397	314	(79.1)	18	(4.5)	0	(0.0)	8	(2.0)	0	(0.0)	57	(14.4)	Y
Norway <sup>b</sup>	114	89	(78.1)	2	(1.8)	0	(0.0)	0	(0.0)	4	(3.5)	19	(16.7)	Y
Poland	4502	3444	(76.5)	269	(6.0)	12	(0.3)	448	(10.0)	16	(0.4)	313	(7.0)	Y
Portugal	1694	1467	(86.6)	90	(5.3)	5	(0.3)	52	(3.1)	56	(3.3)	24	(1.4)	Y
Romania	11245	9508	(84.6)	453	(4.0)	442	(3.9)	533	(4.7)	95	(0.8)	214	(1.9)	Y
Slovakia	304	260	(85.5)	36	(11.8)	1	(0.3)	5	(1.6)	1	(0.3)	1	(0.3)	Y
Slovenia	150	123	(82.0)	16	(10.7)	0	(0.0)	4	(2.7)	0	(0.0)	7	(4.7)	Y
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden <sup>b</sup>	237	157	(66.2)	17	(7.2)	0	(0.0)	2	(0.8)	8	(3.4)	53	(22.4)	Y
United Kingdom <sup>b</sup>	2241	1733	(77.3)	145	(6.5)	0	(0.0)	15	(0.7)	128	(5.7)	220	(9.8)	Y
<b>Subtotal EU/EEA</b>	<b>28985</b>	<b>23030</b>	<b>(79.5)</b>	<b>1905</b>	<b>(6.6)</b>	<b>581</b>	<b>(2.0)</b>	<b>1468</b>	<b>(5.1)</b>	<b>735</b>	<b>(2.5)</b>	<b>1266</b>	<b>(4.4)</b>	
<b>Non-EU/EEA<sup>c</sup></b>														
Albania	181	153	(84.5)	8	(4.4)	3	(1.7)	8	(4.4)	-	-	9	(5.0)	
Andorra	2	2	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-	0	(0.0)	
Armenia	490	343	(70.0)	30	(6.1)	52	(10.6)	59	(12.0)	-	-	6	(1.2)	
Azerbaijan	1356	782	(57.7)	35	(2.6)	31	(2.3)	146	(10.8)	-	-	362	(26.7)	
Belarus	1987	1466	(73.8)	173	(8.7)	200	(10.1)	34	(1.7)	-	-	114	(5.7)	
Bosnia and Herzegovina	1267	1227	(96.8)	12	(0.9)	9	(0.7)	9	(0.7)	-	-	10	(0.8)	
Croatia	637	389	(61.1)	83	(13.0)	0	(0.0)	9	(1.4)	-	-	156	(24.5)	
Georgia	1975	1523	(77.1)	46	(2.3)	122	(6.2)	170	(8.6)	-	-	114	(5.8)	
Israel	213	163	(76.5)	24	(11.3)	0	(0.0)	11	(5.2)	-	-	15	(7.0)	
Kazakhstan	6140	4206	(68.5)	228	(3.7)	1234	(20.1)	282	(4.6)	-	-	190	(3.1)	
Kyrgyzstan	1718	1455	(84.7)	57	(3.3)	67	(3.9)	102	(5.9)	-	-	37	(2.2)	
Macedonia, the former Yugoslav Republic of	197	172	(87.3)	20	(10.2)	3	(1.5)	2	(1.0)	-	-	0	(0.0)	
Moldova	1599	991	(62.0)	165	(10.3)	260	(16.3)	181	(11.3)	-	-	2	(0.1)	
Monaco	-	-	-	-	-	-	-	-	-	-	-	-	-	
Montenegro	76	60	(78.9)	2	(2.6)	0	(0.0)	0	(0.0)	-	-	14	(18.4)	
Russia	31857	18378	(57.7)	3888	(12.2)	5085	(16.0)	3056	(9.6)	-	-	1450	(4.6)	
San Marino	-	-	-	-	-	-	-	-	-	-	-	-	-	
Serbia	904	756	(83.6)	60	(6.6)	17	(1.9)	39	(4.3)	-	-	32	(3.5)	
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tajikistan	2073	1713	(82.6)	96	(4.6)	117	(5.6)	114	(5.5)	-	-	33	(1.6)	
Turkey	7510	6870	(91.5)	208	(2.8)	52	(0.7)	260	(3.5)	-	-	120	(1.6)	
Turkmenistan	1288	1077	(83.6)	65	(5.0)	73	(5.7)	60	(4.7)	-	-	13	(1.0)	
Ukraine	11068	6533	(59.0)	1505	(13.6)	1373	(12.4)	1124	(10.2)	-	-	533	(4.8)	
Uzbekistan	6326	5010	(79.2)	445	(7.0)	375	(5.9)	351	(5.5)	-	-	145	(2.3)	
<b>Subtotal non-EU/EEA</b>	<b>78864</b>	<b>53269</b>	<b>(67.5)</b>	<b>7150</b>	<b>(9.1)</b>	<b>9073</b>	<b>(11.5)</b>	<b>6017</b>	<b>(7.6)</b>	<b>-</b>	<b>-</b>	<b>3355</b>	<b>(4.3)</b>	
<b>Total European Region</b>	<b>107849</b>	<b>76299</b>	<b>(70.7)</b>	<b>9055</b>	<b>(8.4)</b>	<b>9654</b>	<b>(9.0)</b>	<b>7485</b>	<b>(6.9)</b>	<b>735</b>	<b>(0.7)</b>	<b>4621</b>	<b>(4.3)</b>	
<b>Subtotal 18 HPC</b>	<b>89376</b>	<b>61872</b>	<b>(69.2)</b>	<b>7664</b>	<b>(8.6)</b>	<b>9507</b>	<b>(10.6)</b>	<b>6686</b>	<b>(7.5)</b>	<b>275</b>	<b>(0.3)</b>	<b>3372</b>	<b>(3.8)</b>	

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

<sup>b</sup> WHO European Region 18 TB High Priority Countries presented in italics.

<sup>c</sup> New pulmonary culture positive-positive for EU/EEA countries.

<sup>d</sup> Not previously diagnosed cases.

<sup>e</sup> New pulmonary smear-positive (and/or culture-positive) have been reported for non-EU/EEA.

<sup>f</sup> Data considered to be complete if the total of 'defaulted, transferred and unknown' does not exceed 35% of cases notified in particular year.

**Table 22: Treatment outcome, retreatment laboratory-confirmed pulmonary TB cases, European Region, 2007**

Country	Cases	Success		Died		Failed		Defaulted		Still on treatment		Transferred or unknown		Data completeness <sup>d</sup>
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
<b>EU/EEA<sup>a</sup></b>														
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium <sup>b</sup>	49	27	(55.1)	6	(12.2)	0	(0.0)	4	(8.2)	8	(16.3)	4	(8.2)	Y
Bulgaria	146	52	(35.6)	38	(26.0)	2	(1.4)	23	(15.8)	27	(18.5)	4	(2.7)	Y
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	44	30	(68.2)	7	(15.9)	0	(0.0)	4	(9.1)	2	(4.5)	1	(2.3)	Y
Denmark <sup>b</sup>	18	8	(44.4)	3	(16.7)	0	(0.0)	1	(5.6)	1	(5.6)	5	(27.8)	Y
Estonia	66	31	(47.0)	5	(7.6)	3	(4.5)	13	(19.7)	14	(21.2)	0	(0.0)	Y
Finland	7	7	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	Y
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	178	114	(64.0)	25	(14.0)	3	(1.7)	8	(4.5)	13	(7.3)	15	(8.4)	Y
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	130	51	(39.2)	26	(20.0)	26	(20.0)	12	(9.2)	13	(10.0)	2	(1.5)	Y
Iceland	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(100.0)	Y
Ireland <sup>b</sup>	28	16	(57.1)	4	(14.3)	0	(0.0)	0	(0.0)	3	(10.7)	5	(17.9)	Y
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	167	96	(57.5)	14	(8.4)	2	(1.2)	17	(10.2)	36	(21.6)	2	(1.2)	Y
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	423	130	(30.7)	119	(28.1)	21	(5.0)	89	(21.0)	63	(14.9)	1	(0.2)	Y
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(100.0)	Y
Netherlands <sup>b</sup>	40	27	(67.5)	3	(7.5)	0	(0.0)	1	(2.5)	0	(0.0)	9	(22.5)	Y
Norway <sup>b</sup>	17	13	(76.5)	1	(5.9)	0	(0.0)	0	(0.0)	1	(5.9)	2	(11.8)	Y
Poland	698	429	(61.5)	69	(9.9)	4	(0.6)	141	(20.2)	8	(1.1)	47	(6.7)	Y
Portugal	182	140	(76.9)	13	(7.1)	0	(0.0)	11	(6.0)	12	(6.6)	6	(3.3)	Y
Romania	4 933	2 462	(49.9)	479	(9.7)	683	(13.8)	767	(15.5)	325	(6.6)	217	(4.4)	Y
Slovakia	42	35	(83.3)	1	(2.4)	1	(2.4)	1	(2.4)	4	(9.5)	0	(0.0)	Y
Slovenia	13	10	(76.9)	3	(23.1)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	Y
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden <sup>b</sup>	13	7	(53.8)	2	(15.4)	0	(0.0)	1	(7.7)	1	(7.7)	2	(15.4)	Y
United Kingdom <sup>b</sup>	196	141	(71.9)	22	(11.2)	0	(0.0)	0	(0.0)	14	(7.1)	19	(9.7)	Y
<b>Subtotal EU/EEA</b>	<b>7 392</b>	<b>3 826</b>	<b>(51.8)</b>	<b>840</b>	<b>(11.4)</b>	<b>745</b>	<b>(10.1)</b>	<b>1 093</b>	<b>(14.8)</b>	<b>545</b>	<b>(7.4)</b>	<b>343</b>	<b>(4.6)</b>	
<b>Non-EU/EEA<sup>c</sup></b>														
Albania	25	21	(84.0)	1	(4.0)	2	(8.0)	1	(4.0)	-	-	0	(0.0)	
Andorra	1	1	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-	0	(0.0)	
Armenia	590	274	(46.4)	64	(10.8)	68	(11.5)	175	(29.7)	-	-	9	(1.5)	
Azerbaijan	1 081	479	(44.3)	55	(5.1)	69	(6.4)	166	(15.4)	-	-	312	(28.9)	
Belarus	862	537	(62.3)	79	(9.2)	157	(18.2)	41	(4.8)	-	-	48	(5.6)	
Bosnia and Herzegovina	156	144	(92.3)	4	(2.6)	3	(1.9)	3	(1.9)	-	-	2	(1.3)	
Croatia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	1 847	1 031	(55.8)	162	(8.8)	210	(11.4)	274	(14.8)	-	-	170	(9.2)	
Israel	13	8	(61.5)	0	(0.0)	0	(0.0)	1	(7.7)	-	-	4	(30.8)	
Kazakhstan	18 722	9 922	(53.0)	1 752	(9.4)	4 627	(24.7)	1 666	(8.9)	-	-	755	(4.0)	
Kyrgyzstan	1 035	696	(67.2)	83	(8.0)	83	(8.0)	134	(12.9)	-	-	39	(3.8)	
Macedonia, the former Yugoslav Republic of	71	46	(64.8)	12	(16.9)	3	(4.2)	5	(7.0)	-	-	5	(7.0)	
Moldova	2 164	781	(36.0)	306	(14.1)	637	(29.4)	426	(19.7)	-	-	17	(0.8)	
Monaco	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	23	13	(56.5)	3	(13.0)	0	(0.0)	0	(0.0)	-	-	7	(30.4)	
Russia	18 527	6 619	(35.7)	2 592	(14.0)	5 182	(28.0)	2 854	(15.4)	-	-	1 280	(6.9)	
San Marino	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Serbia	282	198	(70.2)	22	(7.8)	6	(2.1)	47	(16.7)	-	-	9	(3.2)	
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tajikistan	1 995	1 495	(74.9)	186	(9.3)	138	(6.9)	153	(7.7)	-	-	23	(1.2)	
Turkey	1 885	1 435	(76.1)	118	(6.3)	29	(1.5)	190	(10.1)	-	-	113	(6.0)	
Turkmenistan	116	48	(41.4)	20	(17.2)	18	(15.5)	27	(23.3)	-	-	3	(2.6)	
Ukraine	5 240	2 866	(54.7)	696	(13.3)	748	(14.3)	570	(10.9)	-	-	360	(6.9)	
Uzbekistan	4 617	3 468	(75.1)	380	(8.2)	195	(4.2)	430	(9.3)	-	-	144	(3.1)	
<b>Subtotal non-EU/EEA</b>	<b>59 255</b>	<b>30 082</b>	<b>(50.8)</b>	<b>6 535</b>	<b>(11.0)</b>	<b>12 175</b>	<b>(20.5)</b>	<b>7 163</b>	<b>(12.1)</b>	<b>-</b>	<b>-</b>	<b>3 300</b>	<b>(5.6)</b>	
<b>Total European Region</b>	<b>66 647</b>	<b>33 908</b>	<b>(50.9)</b>	<b>7 375</b>	<b>(11.1)</b>	<b>12 920</b>	<b>(19.4)</b>	<b>8 256</b>	<b>(12.4)</b>	<b>545</b>	<b>(0.8)</b>	<b>3 643</b>	<b>(5.5)</b>	
<b>Subtotal 18 HPC</b>	<b>64 419</b>	<b>32 422</b>	<b>(50.3)</b>	<b>7 148</b>	<b>(11.1)</b>	<b>12 872</b>	<b>(20.0)</b>	<b>8 015</b>	<b>(12.4)</b>	<b>465</b>	<b>(0.7)</b>	<b>3 497</b>	<b>(5.4)</b>	

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

<sup>b</sup> Retreatment pulmonary culture positive-positive for EU/EEA countries.

<sup>c</sup> Previously diagnosed cases.

<sup>d</sup> Retreatment pulmonary smear-positive (and/or culture-positive) have been reported for non-EU/EEA.

<sup>e</sup> Data considered to be complete if the total of 'defaulted, transferred and unknown' does not exceed 35% of cases notified in particular year.

**Table 23:** Treatment outcome of all culture-confirmed pulmonary cases by geographical origin, EU/EEA, 2007**A) National origin**

Country	Cases	Success		Died		Failed		Defaulted		Still on treatment		Transferred or unknown		Data completeness <sup>c</sup>
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	327	224	(68.5)	42	(12.8)	0	(0.0)	14	(4.3)	8	(2.4)	39	(11.9)	Y
<i>Bulgaria</i>	1379	1024	(74.2)	123	(8.9)	6	(0.4)	119	(8.6)	68	(4.9)	39	(2.8)	Y
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	407	306	(75.2)	84	(20.6)	3	(0.7)	9	(2.2)	5	(1.2)	0	(0.0)	Y
Denmark <sup>a</sup>	113	89	(78.8)	10	(8.8)	1	(0.9)	1	(0.9)	4	(3.5)	8	(7.1)	Y
<i>Estonia</i>	312	184	(59.0)	38	(12.2)	3	(1.0)	36	(11.5)	51	(16.3)	0	(0.0)	Y
Finland	146	99	(67.8)	35	(24.0)	1	(0.7)	1	(0.7)	5	(3.4)	5	(3.4)	Y
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	1680	1214	(72.3)	292	(17.4)	6	(0.4)	28	(1.7)	47	(2.8)	93	(5.5)	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	719	345	(48.0)	100	(13.9)	113	(15.7)	43	(6.0)	94	(13.1)	24	(3.3)	Y
Iceland	1	1	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	Y
Ireland	149	103	(69.1)	14	(9.4)	0	(0.0)	3	(2.0)	2	(1.3)	27	(18.1)	Y
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Latvia</i>	887	691	(77.9)	66	(7.4)	3	(0.3)	44	(5.0)	82	(9.2)	1	(0.1)	Y
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	1593	971	(61.0)	258	(16.2)	36	(2.3)	172	(10.8)	151	(9.5)	5	(0.3)	Y
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	5	4	(80.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(20.0)	Y
Netherlands	198	148	(74.7)	19	(9.6)	0	(0.0)	6	(3.0)	0	(0.0)	25	(12.6)	Y
Norway	26	21	(80.8)	3	(11.5)	0	(0.0)	0	(0.0)	0	(0.0)	2	(7.7)	Y
Poland	5178	3863	(74.6)	338	(6.5)	16	(0.3)	586	(11.3)	24	(0.5)	351	(6.8)	Y
Portugal	1622	1397	(86.1)	93	(5.7)	5	(0.3)	48	(3.0)	56	(3.5)	23	(1.4)	Y
<i>Romania</i>	16178	11970	(74.0)	932	(5.8)	1125	(7.0)	1300	(8.0)	420	(2.6)	431	(2.7)	Y
Slovakia	346	296	(85.5)	38	(11.0)	2	(0.6)	6	(1.7)	4	(1.2)	0	(0.0)	Y
Slovenia	128	106	(82.8)	17	(13.3)	0	(0.0)	4	(3.1)	0	(0.0)	1	(0.8)	Y
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	66	37	(56.1)	12	(18.2)	0	(0.0)	1	(1.5)	1	(1.5)	15	(22.7)	Y
United Kingdom	915	673	(73.6)	113	(12.3)	0	(0.0)	7	(0.8)	44	(4.8)	78	(8.5)	Y
<b>Total EU/EEA</b>	<b>32375</b>	<b>23766</b>	<b>(73.4)</b>	<b>2627</b>	<b>(8.1)</b>	<b>1320</b>	<b>(4.1)</b>	<b>2428</b>	<b>(7.5)</b>	<b>1066</b>	<b>(3.3)</b>	<b>1168</b>	<b>(3.6)</b>	

**B) Foreign origin**

Country	Cases	Success		Died		Failed		Defaulted		Still on treatment		Transferred or unknown		Data completeness <sup>c</sup>
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	288	190	(66.0)	17	(5.9)	0	(0.0)	39	(13.5)	13	(4.5)	29	(10.1)	Y
<i>Bulgaria</i>	1	1	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	Y
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	96	55	(57.3)	9	(9.4)	1	(1.0)	27	(28.1)	1	(1.0)	3	(3.1)	Y
Denmark <sup>b</sup>	118	88	(74.6)	4	(3.4)	1	(0.8)	3	(2.5)	8	(6.8)	14	(11.9)	Y
<i>Estonia</i>	56	32	(57.1)	8	(14.3)	2	(3.6)	6	(10.7)	8	(14.3)	0	(0.0)	Y
Finland	42	34	(81.0)	0	(0.0)	0	(0.0)	1	(2.4)	2	(4.8)	5	(11.9)	Y
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	1157	914	(79.0)	66	(5.7)	1	(0.1)	24	(2.1)	37	(3.2)	115	(9.9)	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	24	14	(58.3)	0	(0.0)	3	(12.5)	4	(16.7)	3	(12.5)	0	(0.0)	Y
Iceland	7	5	(71.4)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	2	(28.6)	Y
Ireland	95	62	(65.3)	3	(3.2)	0	(0.0)	0	(0.0)	9	(9.5)	21	(22.1)	Y
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Latvia</i>	52	39	(75.0)	2	(3.8)	0	(0.0)	5	(9.6)	5	(9.6)	1	(1.9)	Y
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lithuania</i>	43	21	(48.8)	7	(16.3)	3	(7.0)	6	(14.0)	6	(14.0)	0	(0.0)	Y
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	9	5	(55.6)	0	(0.0)	0	(0.0)	1	(11.1)	1	(11.1)	2	(22.2)	Y
Netherlands	285	216	(75.8)	10	(3.5)	0	(0.0)	4	(1.4)	0	(0.0)	55	(19.3)	Y
Norway	121	90	(74.4)	2	(1.7)	0	(0.0)	0	(0.0)	5	(4.1)	24	(19.8)	Y
Poland	22	10	(45.5)	0	(0.0)	0	(0.0)	3	(13.6)	0	(0.0)	9	(40.9)	Y
Portugal	249	208	(83.5)	8	(3.2)	0	(0.0)	15	(6.0)	12	(4.8)	6	(2.4)	Y
<i>Romania</i>	0	0	-	0	-	0	-	0	-	0	-	0	-	Y
Slovakia	4	2	(50.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(25.0)	1	(25.0)	Y
Slovenia	35	27	(77.1)	2	(5.7)	0	(0.0)	0	(0.0)	0	(0.0)	6	(17.1)	Y
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	184	127	(69.0)	7	(3.8)	0	(0.0)	2	(1.1)	8	(4.3)	40	(21.7)	Y
United Kingdom	1874	1467	(78.3)	82	(4.4)	0	(0.0)	11	(0.6)	106	(5.7)	208	(11.1)	Y
<b>Total EU/EEA</b>	<b>4762</b>	<b>3607</b>	<b>(75.7)</b>	<b>227</b>	<b>(4.8)</b>	<b>11</b>	<b>(0.2)</b>	<b>151</b>	<b>(3.2)</b>	<b>225</b>	<b>(4.7)</b>	<b>541</b>	<b>(11.4)</b>	

WHO European Region TB High Priority Countries presented in italics.

<sup>a</sup> Excluding native cases < 26 years old whose parents were born outside Denmark.<sup>b</sup> Including native cases < 26 years old whose parents were born outside Denmark.<sup>c</sup> Data considered to be complete if the total of 'defaulted, transferred and unknown' does not exceed 35% of cases notified in particular year.

**Table 24: Treatment outcome of all laboratory-confirmed pulmonary cases, European Region, 2007**

Country	Cases	Success		Died		Failed		Defaulted		Still on treatment		Transferred or unknown		Data completeness <sup>d</sup>
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
<b>EU/EEA<sup>a</sup></b>														
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	615	414	(67.3)	59	(9.6)	0	(0.0)	53	(8.6)	21	(3.4)	68	(11.1)	Y
Bulgaria	1379	1024	(74.3)	123	(8.9)	6	(0.4)	119	(8.6)	68	(4.9)	39	(2.8)	Y
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	503	361	(71.8)	93	(18.5)	4	(0.8)	36	(7.2)	6	(1.2)	3	(0.6)	Y
Denmark	231	177	(76.6)	14	(6.1)	2	(0.9)	4	(1.7)	12	(5.2)	22	(9.5)	Y
Estonia	368	216	(58.7)	46	(12.5)	5	(1.4)	42	(11.4)	59	(16.0)	0	(0.0)	Y
Finland	188	133	(70.7)	35	(18.6)	1	(0.5)	2	(1.1)	7	(3.7)	10	(5.3)	Y
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	2892	2157	(74.6)	368	(12.7)	7	(0.2)	52	(1.8)	87	(3.0)	221	(7.6)	Y
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	749	363	(48.5)	100	(13.4)	116	(15.5)	47	(6.3)	98	(13.1)	25	(3.3)	Y
Iceland	8	6	(75.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	2	(25.0)	Y
Ireland	246	166	(67.5)	18	(7.3)	0	(0.0)	3	(1.2)	11	(4.5)	48	(19.5)	Y
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	939	730	(77.7)	68	(7.2)	3	(0.3)	49	(5.2)	87	(9.3)	2	(0.2)	Y
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	1636	992	(60.6)	265	(16.2)	39	(2.4)	178	(10.9)	157	(9.6)	5	(0.3)	Y
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	14	9	(64.3)	0	(0.0)	0	(0.0)	1	(7.1)	1	(7.1)	3	(21.4)	Y
Netherlands	487	366	(75.2)	30	(6.2)	0	(0.0)	10	(2.1)	0	(0.0)	81	(16.6)	Y
Norway	147	111	(75.5)	5	(3.4)	0	(0.0)	0	(0.0)	5	(3.4)	26	(17.7)	Y
Poland	5200	3873	(74.5)	338	(6.5)	16	(0.3)	589	(11.3)	24	(0.5)	360	(6.9)	Y
Portugal	1876	1607	(85.7)	103	(5.5)	5	(0.3)	63	(3.4)	68	(3.6)	30	(1.6)	Y
Romania	16178	11970	(74.0)	932	(5.8)	1125	(7.0)	1300	(8.0)	420	(2.6)	431	(2.7)	Y
Slovakia	350	298	(85.1)	38	(10.9)	2	(0.6)	6	(1.7)	5	(1.4)	1	(0.3)	Y
Slovenia	163	133	(81.6)	19	(11.7)	0	(0.0)	4	(2.5)	0	(0.0)	7	(4.3)	Y
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	250	164	(65.6)	19	(7.6)	0	(0.0)	3	(1.2)	9	(3.6)	55	(22.0)	Y
United Kingdom	3056	2308	(75.5)	238	(7.8)	0	(0.0)	22	(0.7)	162	(5.3)	326	(10.7)	Y
<b>Subtotal EU/EEA</b>	<b>37475</b>	<b>27578</b>	<b>(73.6)</b>	<b>2911</b>	<b>(7.8)</b>	<b>1331</b>	<b>(3.6)</b>	<b>2583</b>	<b>(6.9)</b>	<b>1307</b>	<b>(3.5)</b>	<b>1765</b>	<b>(4.7)</b>	<b>Y</b>
<b>Non-EU/EEA<sup>b</sup></b>														
Albania	206	174	(84.5)	9	(4.4)	5	(2.4)	9	(4.4)	-	-	9	(4.4)	
Andorra	3	3	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-	0	(0.0)	
Armenia	1080	617	(57.1)	94	(8.7)	120	(11.1)	234	(21.7)	-	-	15	(1.4)	
Azerbaijan	2437	1261	(51.7)	90	(3.7)	100	(4.1)	367	(15.1)	-	-	619	(25.4)	
Belarus	2849	2003	(70.3)	252	(8.8)	357	(12.5)	75	(2.6)	-	-	162	(5.7)	
Bosnia and Herzegovina	1423	1371	(96.3)	16	(1.1)	12	(0.8)	12	(0.8)	-	-	12	(0.8)	
Croatia	637	389	(61.1)	83	(13.0)	0	(0.0)	153	(24.0)	-	-	12	(1.9)	
Georgia	3822	2554	(66.8)	208	(5.4)	332	(8.7)	599	(15.7)	-	-	129	(3.4)	
Israel	226	171	(75.7)	24	(10.6)	0	(0.0)	12	(5.3)	-	-	13	(5.8)	
Kazakhstan	24862	14128	(56.8)	1980	(8.0)	5861	(23.6)	2159	(8.7)	-	-	734	(3.0)	
Kyrgyzstan	2753	2151	(78.1)	140	(5.1)	150	(5.4)	236	(8.6)	-	-	76	(2.8)	
Macedonia, the former Yugoslav Republic of	268	218	(81.3)	32	(11.9)	6	(2.2)	12	(4.5)	-	-	0	(0.0)	
Moldova	3766	1772	(47.1)	471	(12.5)	897	(23.8)	607	(16.1)	-	-	19	(0.5)	
Monaco	-	-	-	-	-	-	-	-	-	-	-	-	-	
Montenegro	99	73	(73.7)	5	(5.1)	0	(0.0)	20	(20.2)	-	-	1	(1.0)	
Russia	50384	24997	(49.6)	6480	(12.9)	10267	(20.4)	5910	(11.7)	-	-	2730	(5.4)	
San Marino	-	-	-	-	-	-	-	-	-	-	-	-	-	
Serbia	1186	954	(80.4)	82	(6.9)	23	(1.9)	106	(8.9)	-	-	21	(1.8)	
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tajikistan	4068	3208	(78.9)	282	(6.9)	255	(6.3)	267	(6.6)	-	-	56	(1.4)	
Turkey	9395	8305	(88.4)	326	(3.5)	81	(0.9)	450	(4.8)	-	-	233	(2.5)	
Turkmenistan	1404	1125	(80.1)	85	(6.1)	91	(6.5)	87	(6.2)	-	-	16	(1.1)	
Ukraine	16308	9399	(57.6)	2201	(13.5)	2121	(13.0)	1744	(10.7)	-	-	843	(5.2)	
Uzbekistan	10943	8478	(77.5)	825	(7.5)	570	(5.2)	781	(7.1)	-	-	289	(2.6)	
<b>Subtotal non-EU/EEA</b>	<b>138119</b>	<b>83351</b>	<b>(60.3)</b>	<b>13685</b>	<b>(9.9)</b>	<b>21248</b>	<b>(15.4)</b>	<b>14072</b>	<b>(10.2)</b>	<b>-</b>	<b>-</b>	<b>5757</b>	<b>(4.2)</b>	
<b>Total European Region</b>	<b>175594</b>	<b>110929</b>	<b>(63.2)</b>	<b>16596</b>	<b>(9.5)</b>	<b>22579</b>	<b>(12.9)</b>	<b>16655</b>	<b>(9.5)</b>	<b>1307</b>	<b>(0.7)</b>	<b>7522</b>	<b>(4.3)</b>	
<b>Subtotal 18 HPC</b>	<b>150749</b>	<b>92376</b>	<b>(61.3)</b>	<b>14660</b>	<b>(9.7)</b>	<b>22048</b>	<b>(14.6)</b>	<b>14837</b>	<b>(9.8)</b>	<b>791</b>	<b>(0.5)</b>	<b>6037</b>	<b>(4.0)</b>	

<sup>a</sup>European Region<sup>c</sup> comprises the 53 countries of the WHO European Region and Liechtenstein. WHO European Region 18 TB High Priority Countries presented in *italics*.

<sup>b</sup>All pulmonary culture-positive for EU/EEA countries.

<sup>c</sup>All pulmonary smear-positive (and/or culture-positive) have been reported for non-EU/EEA.

<sup>d</sup>Data considered to be complete if the total of 'defaulted, transferred and unknown' does not exceed 35% of cases notified in particular year.

**Table 25: Treatment outcome after 24 months of all MDR TB cases, European Region, 2006**

Country	Total number of MDR cases	Success		Died		Failed		Defaulted		Still on treatment		Transferred or unknown		Data completeness <sup>a</sup>
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
<b>EU/EEA</b>														
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	18	10	(55.6)	1	(5.6)	0	(0.0)	0	(0.0)	3	(16.7)	4	(22.2)	Y
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	12	3	(25.0)	4	(33.3)	0	(0.0)	3	(25.0)	2	(16.7)	0	(0.0)	Y
Denmark	3	2	(66.7)	0	(0.0)	0	(0.0)	0	(0.0)	1	(33.3)	0	(0.0)	Y
Estonia	53	24	(45.3)	12	(22.6)	2	(3.8)	14	(26.4)	1	(1.9)	0	(0.0)	Y
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	83	42	(50.6)	4	(4.8)	1	(1.2)	10	(12.0)	14	(16.9)	12	(14.5)	Y
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	17	9	(52.9)	1	(5.9)	5	(29.4)	1	(5.9)	1	(5.9)	0	(0.0)	Y
Iceland	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	4	1	(25.0)	0	(0.0)	0	(0.0)	1	(25.0)	0	(0.0)	2	(50.0)	N
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	142	87	(61.3)	34	(23.9)	6	(4.2)	15	(10.6)	0	(0.0)	0	(0.0)	Y
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	2	2	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	Y
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	3	1	(33.3)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	2	(66.7)	N
Poland	32	11	(34.4)	4	(12.5)	3	(9.4)	4	(12.5)	0	(0.0)	10	(31.3)	N
Portugal	25	16	(64.0)	6	(24.0)	1	(4.0)	2	(8.0)	0	(0.0)	0	(0.0)	Y
Romania	788	156	(19.8)	130	(16.5)	184	(23.4)	107	(13.6)	178	(22.6)	33	(4.2)	N
Slovakia	7	3	(42.9)	2	(28.6)	0	(0.0)	0	(0.0)	2	(28.6)	0	(0.0)	Y
Slovenia	1	1	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	Y
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal EU/EEA</b>	<b>1190</b>	<b>368</b>	<b>(30.9)</b>	<b>198</b>	<b>(16.6)</b>	<b>202</b>	<b>(17.0)</b>	<b>157</b>	<b>(13.2)</b>	<b>202</b>	<b>(17.0)</b>	<b>63</b>	<b>(5.3)</b>	
<b>Non-EU/EEA</b>														
Albania	1	0	(0.0)	0	(0.0)	1	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	N
Andorra	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Armenia	27	11	(40.7)	3	(11.1)	5	(18.5)	8	(29.6)	0	(0.0)	0	(0.0)	N
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belarus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bosnia and Herzegovina	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Croatia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Israel	22	16	(72.7)	0	(0.0)	1	(4.5)	0	(0.0)	0	(0.0)	5	(22.7)	Y
Kazakhstan	930	752	(80.9)	40	(4.3)	37	(4.0)	51	(5.5)	35	(3.8)	15	(1.6)	N
Kyrgyzstan	66	32	(48.5)	5	(7.6)	9	(13.6)	18	(27.3)	2	(3.0)	0	(0.0)	N
Macedonia, the former Yugoslav Republic of	6	2	(33.3)	2	(33.3)	0	(0.0)	0	(0.0)	2	(33.3)	0	(0.0)	N
Moldova	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monaco	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Montenegro	3	2	(66.7)	0	(0.0)	1	(33.3)	0	(0.0)	0	(0.0)	0	(0.0)	Y
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
San Marino	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Serbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkey	249	177	(71.1)	23	(9.2)	2	(0.8)	20	(8.0)	24	(9.6)	3	(1.2)	N
Turkmenistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ukraine	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uzbekistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal non-EU/EEA</b>	<b>1304</b>	<b>992</b>	<b>(76.1)</b>	<b>73</b>	<b>(5.6)</b>	<b>56</b>	<b>(4.3)</b>	<b>97</b>	<b>(7.4)</b>	<b>63</b>	<b>(4.8)</b>	<b>23</b>	<b>(1.8)</b>	
<b>Total European Region</b>	<b>2494</b>	<b>1360</b>	<b>(54.5)</b>	<b>271</b>	<b>(10.9)</b>	<b>258</b>	<b>(10.3)</b>	<b>254</b>	<b>(10.2)</b>	<b>265</b>	<b>(10.6)</b>	<b>86</b>	<b>(3.4)</b>	
<b>Subtotal 18 HPC</b>	<b>2255</b>	<b>1239</b>	<b>(54.9)</b>	<b>247</b>	<b>(11.0)</b>	<b>245</b>	<b>(10.9)</b>	<b>233</b>	<b>(10.3)</b>	<b>240</b>	<b>(10.6)</b>	<b>51</b>	<b>(2.3)</b>	

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

DST: Drug susceptibility testing

<sup>a</sup> Data considered complete if country reported complete DST data for 2006 and outcome data for same cohort (see Chapter 1).

**Table 26: Tuberculosis deaths and mortality rates per 100 000 population<sup>a</sup>, European Region, 2005–2008**

Country	2005		2006		2007		2008	
	N	Rate	N	Rate	N	Rate	N	Rate
<b>EU/EEA</b>								
Austria	54	0.7	56	0.7	47	0.57	49	0.59
Belgium	-	-	-	-	-	-	-	-
Bulgaria	274	3.5	270	3.5	275	3.58	-	-
Cyprus	4	0.5	2	0.3	1	0.13	-	-
Czech Republic	69	0.7	61	0.6	70	0.68	-	-
Denmark	26	0.5	21	0.4	14	0.26	-	-
Estonia	51	3.8	-	-	43	3.20	-	-
Finland	77	1.5	60	1.1	56	1.06	-	-
France	850	1.4	727	1.2	667	1.05	-	-
Germany	450	0.5	433	0.5	139	0.17	-	-
Greece	90	0.8	81	0.7	96	0.86	-	-
Hungary	256	2.5	-	-	-	-	231	2.30
Iceland	2	0.7	2	0.7	5	1.63	-	-
Ireland	25	0.6	40	1.0	45	1.04	-	-
Italy	-	-	407	0.7	-	-	-	-
Latvia	183	7.9	182	7.9	144	6.31	-	-
Liechtenstein	-	-	-	-	-	-	-	-
Lithuania	367	10.7	369	10.8	352	10.40	284	8
Luxembourg	1	0.2	1	0.2	-	-	-	-
Malta	1	0.2	1	0.2	6	1.47	-	-
Netherlands	70	0.4	76	0.5	54	0.33	-	-
Norway	42	0.9	38	0.8	-	-	-	-
Poland	834	2.2	759	2.0	775	2.03	-	-
Portugal	-	-	-	-	-	-	-	-
Romania	1784	8.2	1704	7.9	1606	7.45	1639	8
Slovakia	47	0.9	-	-	-	-	-	-
Slovenia	18	0.9	18	0.9	29	1.44	-	-
Spain	475	1.1	-	-	-	-	-	-
Sweden	58	0.6	64	0.7	-	-	-	-
United Kingdom	452	0.8	476	0.8	386	0.63	435	0.71
<b>Subtotal EU/EEA</b>	<b>6560</b>	<b>1.7</b>	<b>5848</b>	<b>1.4</b>	<b>3627</b>	<b>0.8</b>	<b>3021</b>	<b>1.8</b>
<b>Non-EU/EEA</b>								
Albania	-	-	-	-	-	-	-	-
Andorra	-	-	-	-	-	-	-	-
Armenia	-	-	175	5.7	175	5.70	139	5
Azerbaijan	-	-	-	-	112	1.30	-	-
Belarus	1068	10.8	-	-	890	9.2	831	8.6
Bosnia and Herzegovina	-	-	-	-	-	-	45	1.2
Croatia	116	2.6	142	3.2	-	-	101	2.3
Georgia	-	-	-	-	-	-	185	4.3
Israel	46	0.7	34	0.5	-	-	28	0.4
Kazakhstan	3571	23.7	3107	20.4	2800	18.17	2644	17
Kyrgyzstan	797	15.4	840	16.1	451	8.44	484	9
Macedonia, the former Yugoslav Republic of	-	-	-	-	37	1.8	31	1.5
Moldova	662	17.3	629	16.7	635	17.31	568	16
Monaco	-	-	-	-	-	-	-	-
Montenegro	-	-	-	-	7	1.1	3	0.5
Russia	32220	22.4	28474	19.9	25900	18.25	25388	18
San Marino	0	0.0	-	-	-	-	-	-
Serbia	249	-	203	2.1	220	2.2	-	-
Switzerland	29	0.4	33	0.4	28	0.4	-	-
Tajikistan	622	9.6	-	-	-	-	404	6
Turkey	-	-	-	-	382	0.52	382	1
Turkmenistan	-	-	-	-	-	-	378	7
Ukraine	11896	25.2	10417	22.2	10506	22.70	10357	23
Uzbekistan	2784	10.7	-	-	2039	7.58	1878	7
<b>Subtotal non-EU/EEA</b>	<b>54060</b>	<b>18.9</b>	<b>44054</b>	<b>18.0</b>	<b>41154</b>	<b>11.5</b>	<b>38957</b>	<b>10.8</b>
<b>Total European Region</b>	<b>60620</b>	<b>9.0</b>	<b>49902</b>	<b>7.5</b>	<b>45448</b>	<b>5.02</b>	<b>41311</b>	<b>7.68</b>
<b>Subtotal 18 HPC</b>	<b>55211</b>	<b>18.8</b>	<b>46167</b>	<b>18.6</b>	<b>42118</b>	<b>11.7</b>	<b>40596</b>	<b>11.3</b>

<sup>a</sup> 'European Region' comprises the 53 countries of the WHO European Region and Liechtenstein.

WHO European Region 18 TB High Priority Countries presented in italics.

Figures presented in green: secondary data source for 2007 or 2008: CISID

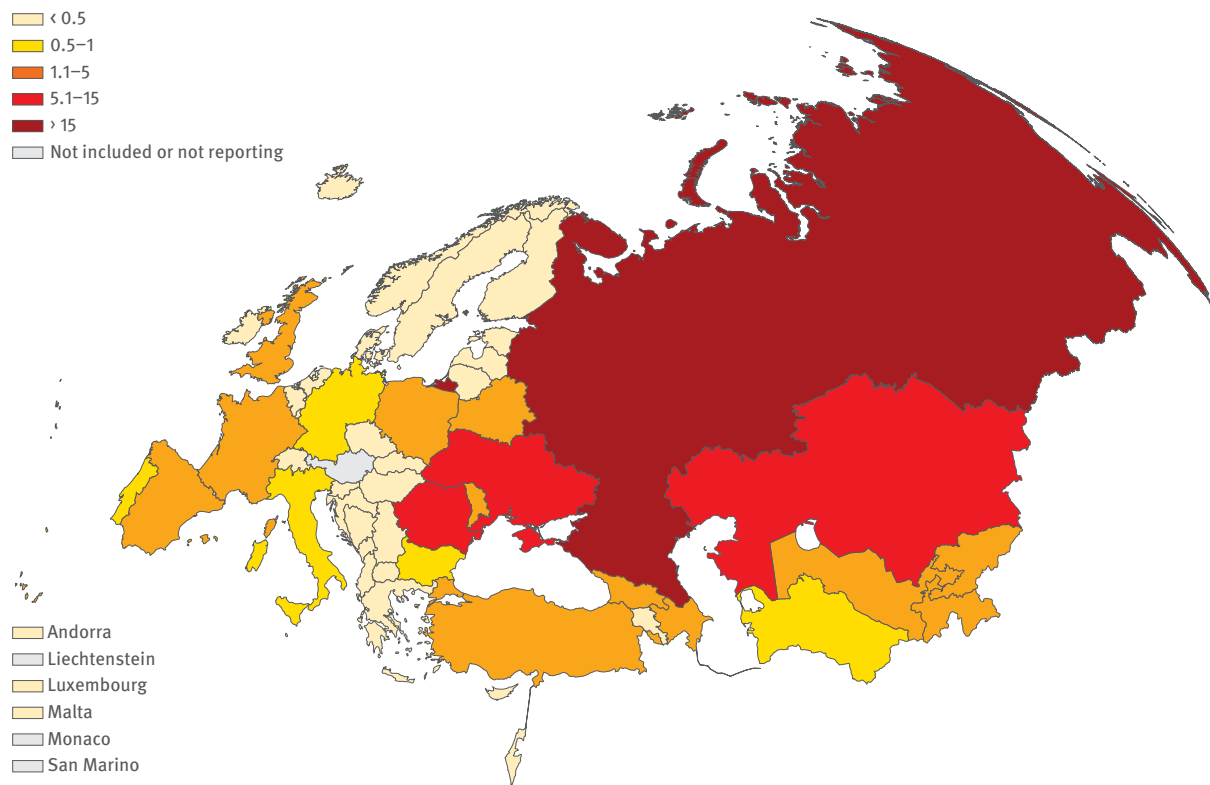
<sup>a</sup> Data source: European mortality database World Health Organization Regional Office for Europe (Updated: August 2009).



## 4. Maps & figures

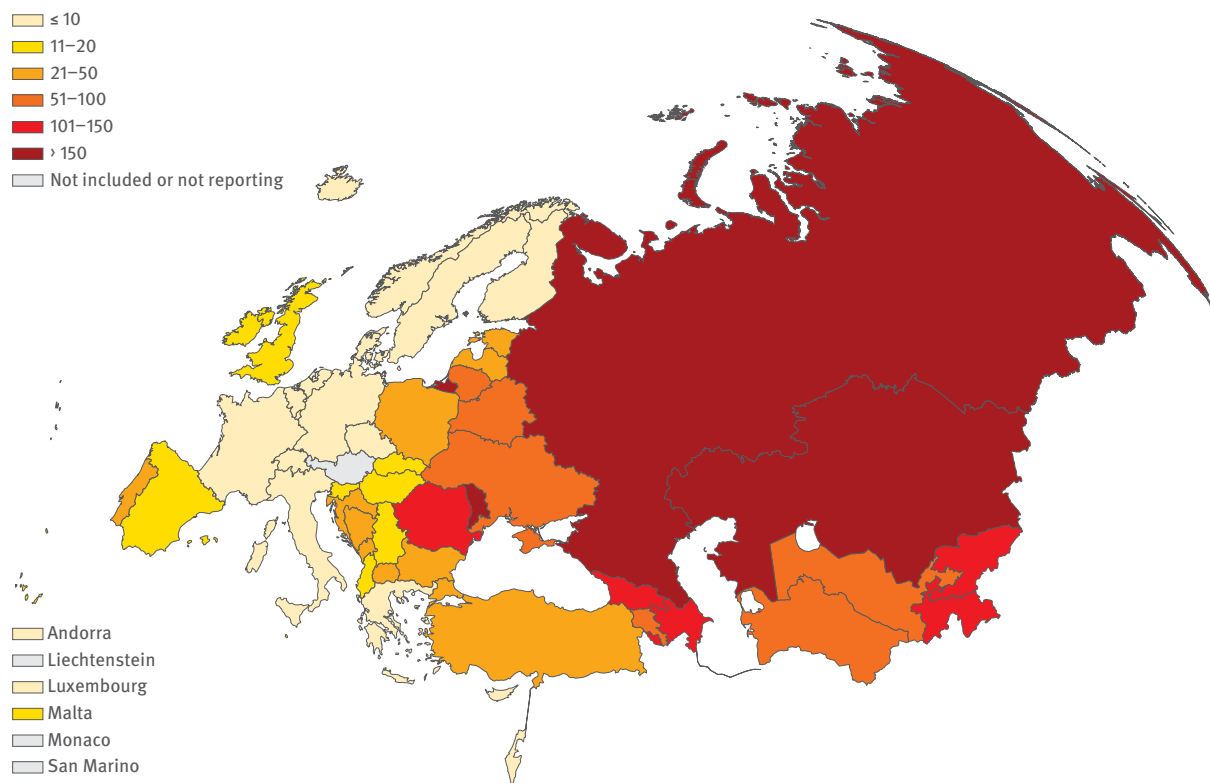


**Map 1: Total TB notifications, percentage of European burden, 2008<sup>a</sup>**



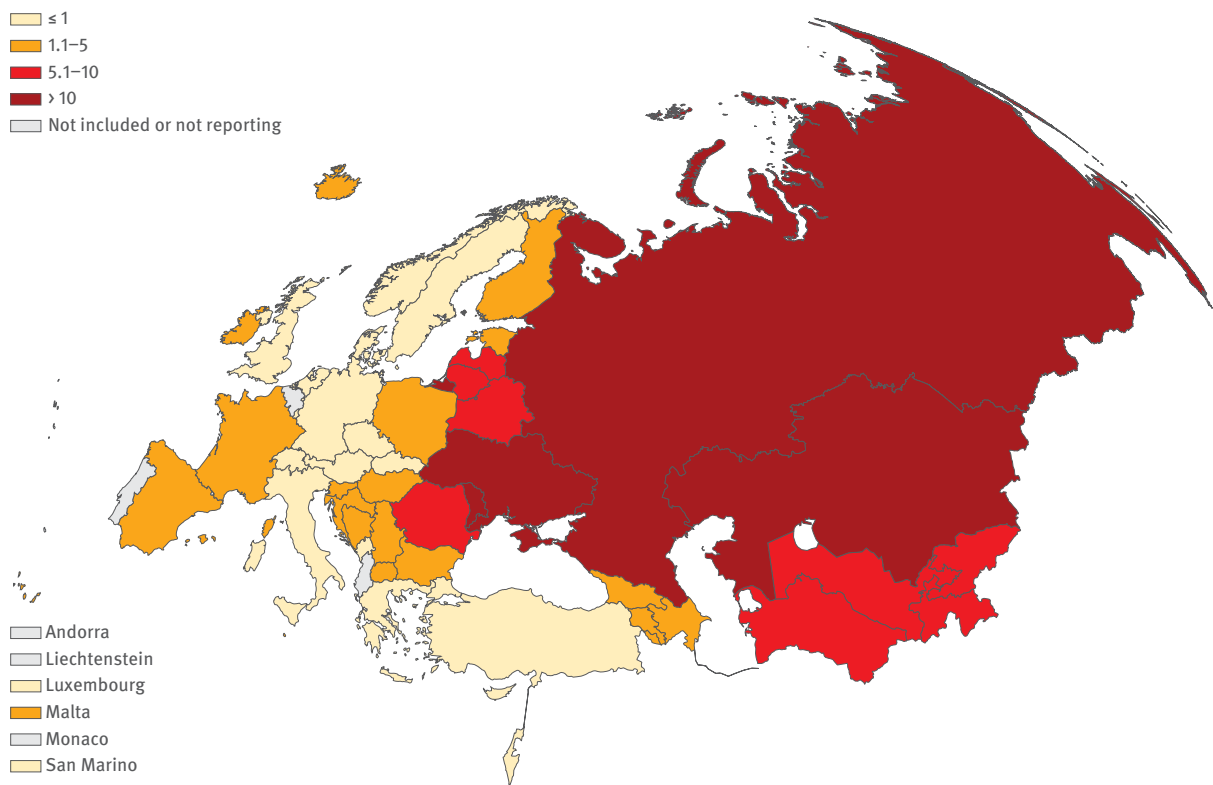
<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

**Map 2: Total TB notification rates per 100 000 population, Europe, 2008<sup>a</sup>**



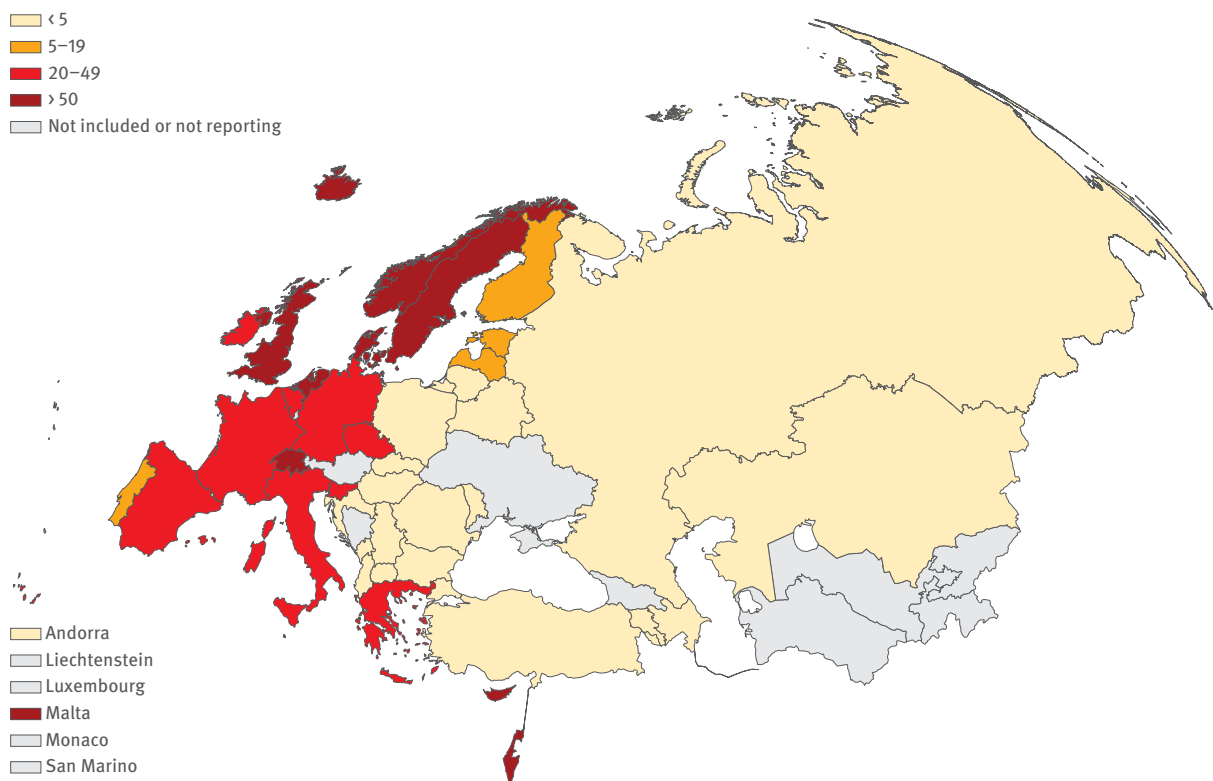
<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

**Map 3: TB mortality rates per 100 000 population, Europe, 2002–2007<sup>a</sup>**



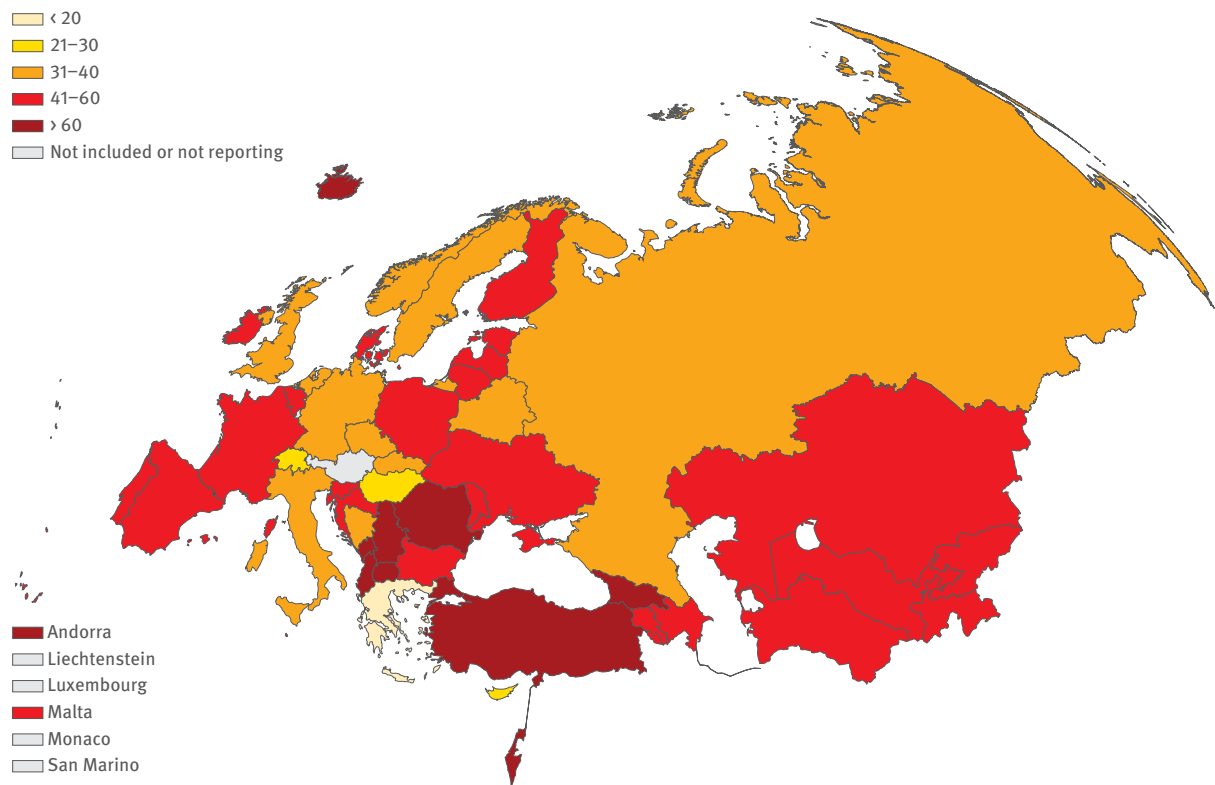
<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

**Map 4: Percentage of notified TB cases of foreign origin, Europe, 2008<sup>a</sup>**



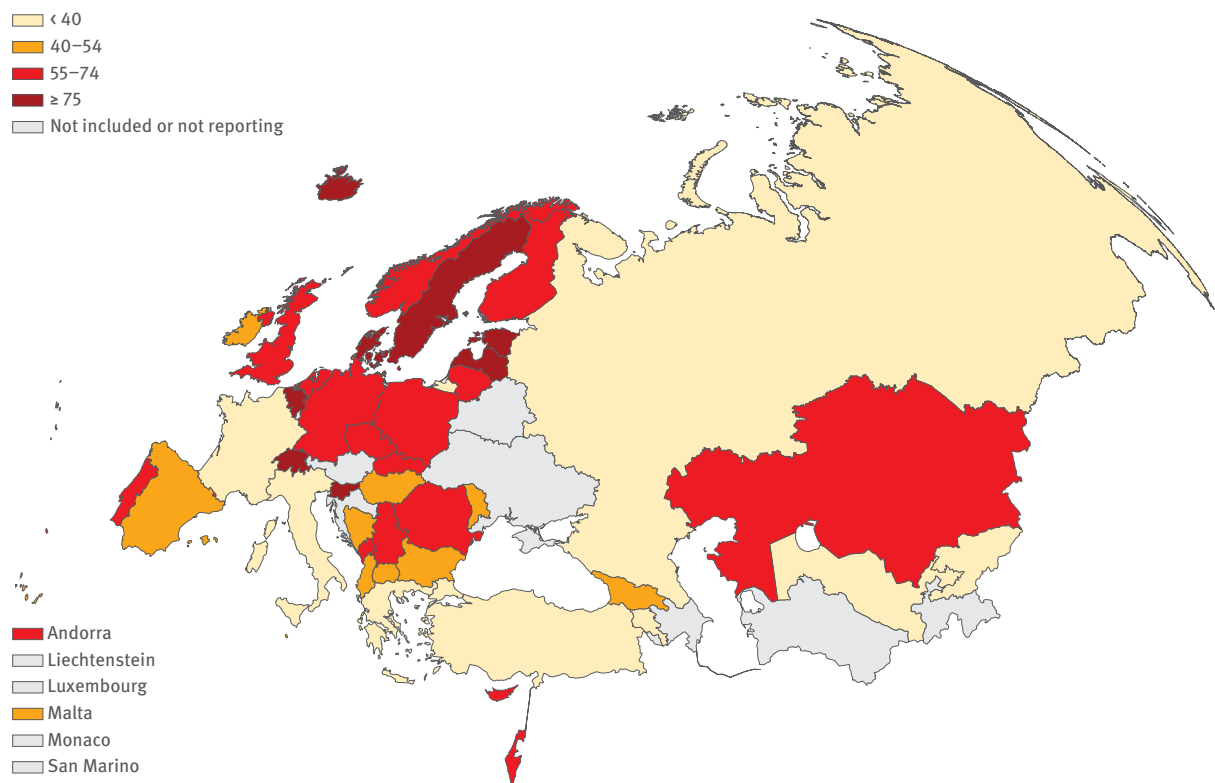
<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

**Map 5: Percentage of smear-positive cases among pulmonary TB cases, Europe, 2008<sup>a</sup>**



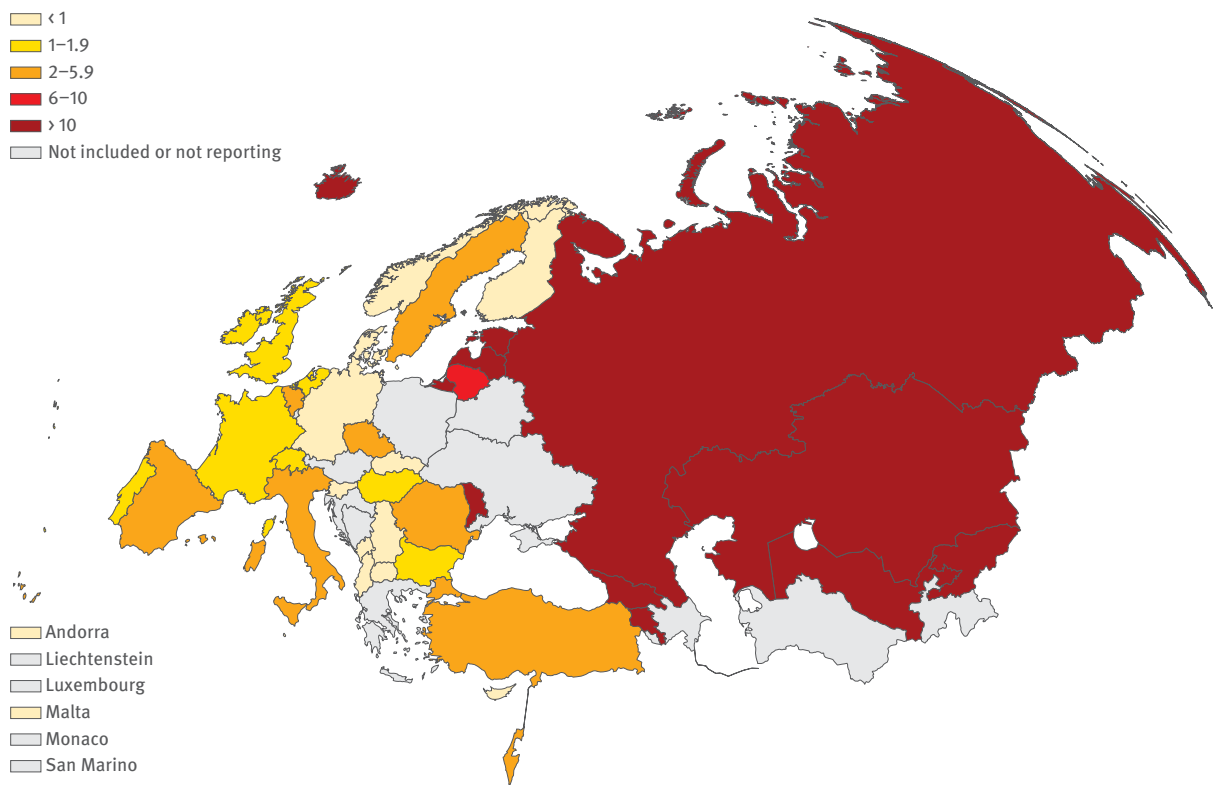
<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

**Map 6: Percentage of TB cases confirmed by culture, Europe, 2008<sup>a</sup>**



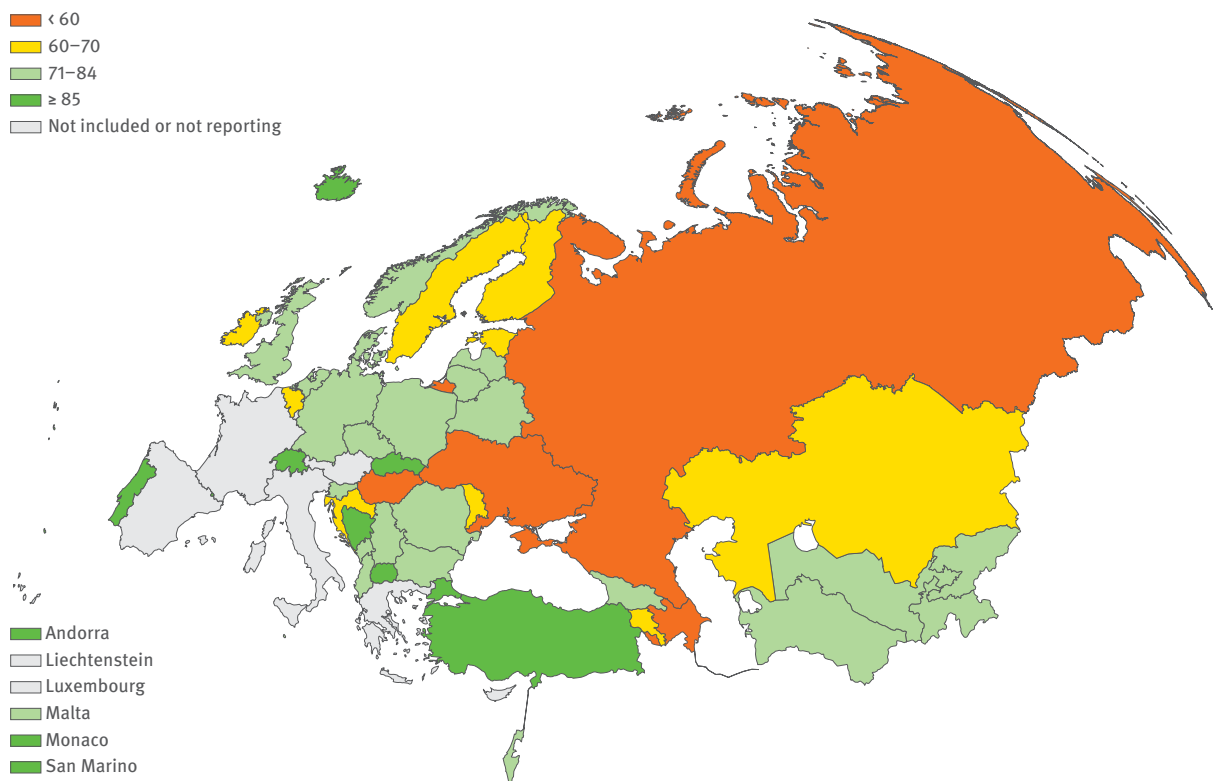
<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

**Map 7: Percentage of notified TB cases with primary multidrug resistance, Europe, 2008<sup>a</sup>**



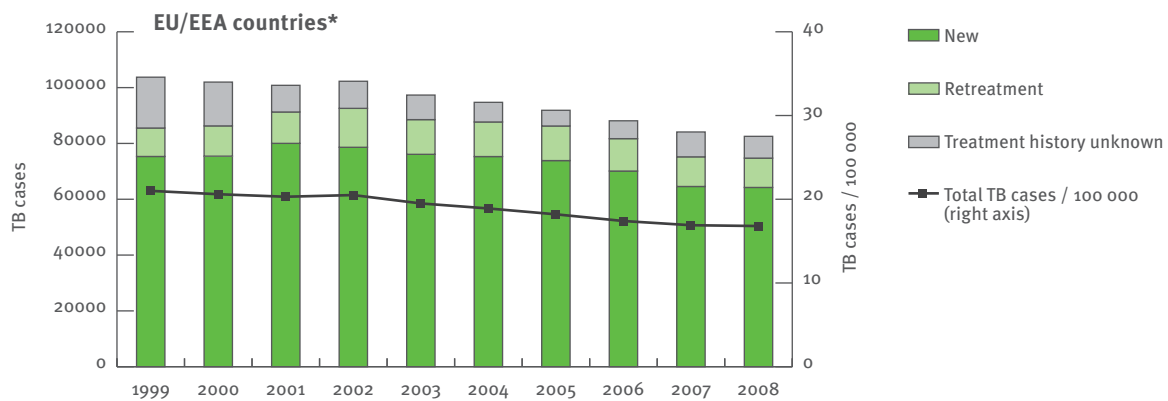
<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

**Map 8: Percentage success rate among laboratory-confirmed new pulmonary TB cases, Europe, 2008<sup>a</sup>**

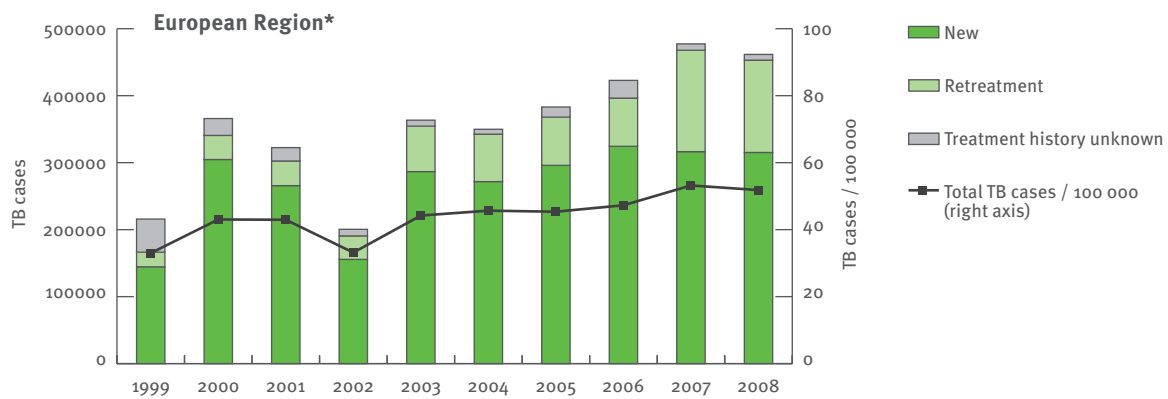


<sup>a</sup> Data from Kosovo (in accordance with Security Council Resolution 1244 (1999)) is not included in the figures reported for Serbia

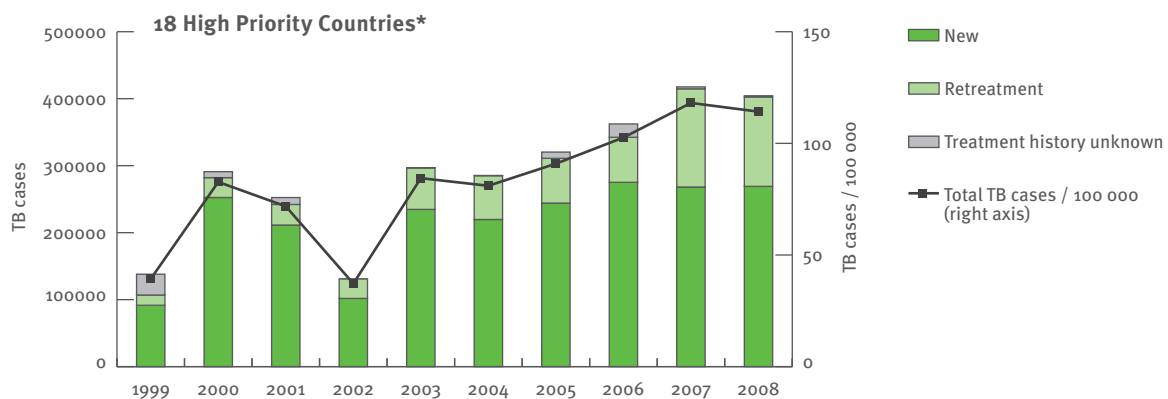
**Figure 1: Total TB notifications by previous treatment history and total TB case rates, Europe, 1999–2008**



\* Excluded: 1999: Cyprus, Liechtenstein; 2000: Cyprus, Liechtenstein; 2001: Cyprus, Liechtenstein; 2002: Liechtenstein; 2003: Liechtenstein; 2004: Liechtenstein; 2005: Liechtenstein; 2006: Liechtenstein; 2008: Austria, Liechtenstein



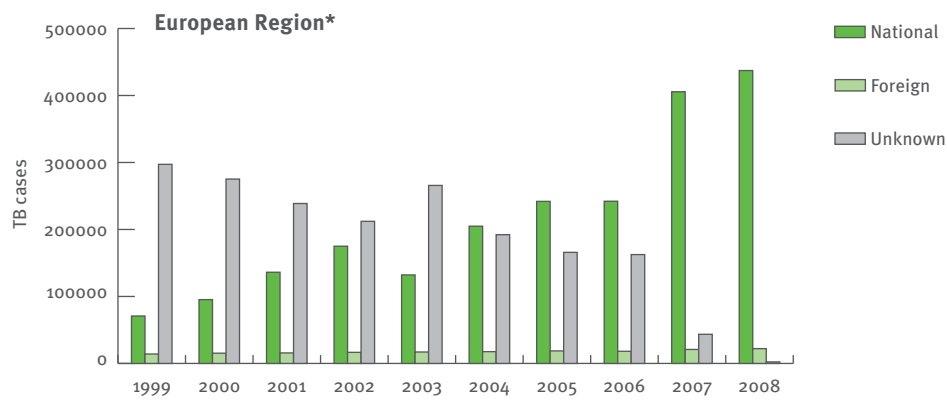
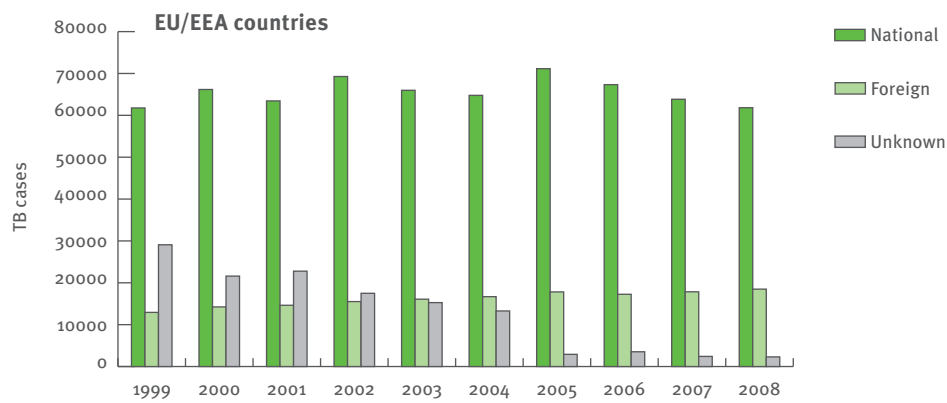
\* Excluded: 1999: Cyprus, Kyrgyzstan, Liechtenstein, Montenegro, Russian Federation, Tajikistan, Turkey; 2000: Cyprus, Liechtenstein, Montenegro, Turkmenistan, Uzbekistan; 2001: Belarus, Cyprus, Kyrgyzstan, Liechtenstein, Montenegro, Turkey, Ukraine; 2002: Belarus, Liechtenstein, Montenegro, Russian Federation, Tajikistan, Turkey, Ukraine; 2003: Belarus, Liechtenstein, Monaco, Montenegro, Tajikistan, Ukraine; 2004: Kyrgyzstan, Liechtenstein, Monaco, Montenegro, Turkey, Ukraine; 2005: Liechtenstein, Monaco, San Marino, Ukraine; 2006: Liechtenstein, Monaco, San Marino; 2007: San Marino; 2008: Austria, San Marino, Liechtenstein, Monaco



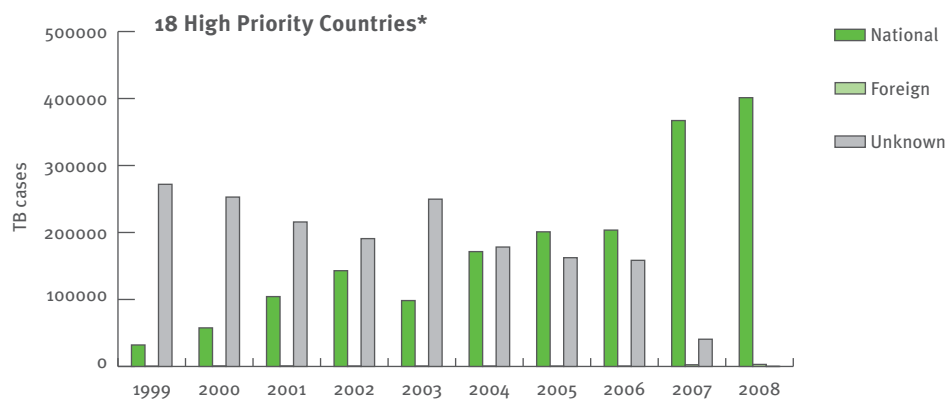
\* Excluded: 1999: Kyrgyzstan, Russian Federation, Tajikistan, Turkey; 2000: Turkmenistan, Uzbekistan; 2001: Belarus, Kyrgyzstan, Turkey, Ukraine; 2002: Belarus, Russian Federation, Tajikistan, Turkey, Ukraine; 2003: Belarus, Tajikistan, Ukraine; 2004: Kyrgyzstan, Turkey, Ukraine; 2005: Ukraine

Data sources: TESSy, CISID, EuroTB historical database: Sitebac.

**Figure 2: Tuberculosis cases by geographical origin, 1999–2008**



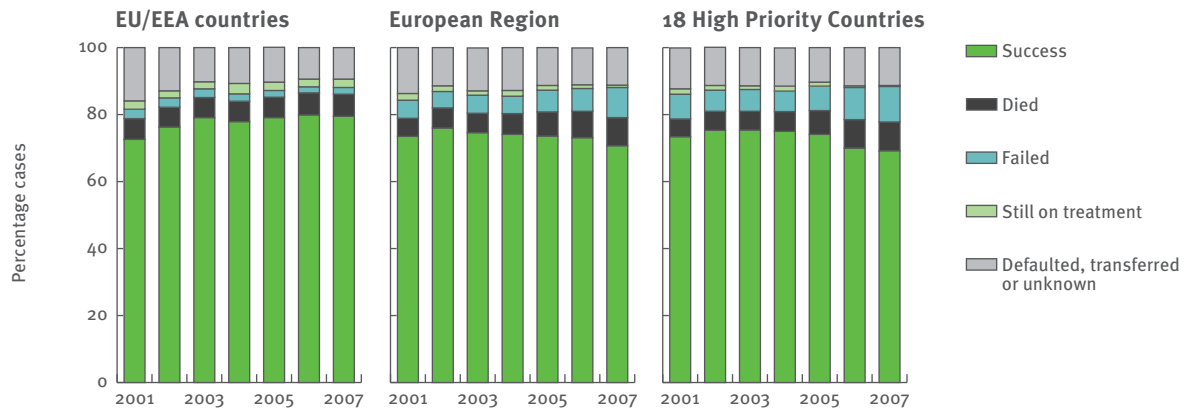
\* Unknown origin is included as Nationals in CISID from 2008



\* Unknown origin is included as Nationals in CISID from 2008



**Figure 3: Treatment outcome by area, new laboratory-confirmed pulmonary TB cases, European Region, 2001–2007\***



\* Excluded: Finland, France, Greece, Liechtenstein, Luxembourg, Monaco, San Marino, Spain, Switzerland, Turkmenistan, Ukraine.



## 5. Country profiles





AD	Andorra	GE	Georgia	MT	Malta
AL	Albania	GR	Greece	NE	Netherlands
AM	Armenia	HR	Croatia	NO	Norway
AT	Austria	HU	Hungary	PL	Poland
AZ	Azerbaijan	IE	Ireland	PT	Portugal
BA	Bosnia and Herzegovina	IL	Israel	RO	Romania
BE	Belgium	IS	Iceland	RS	Serbia
BG	Bulgaria	IT	Italy	RU	Russia
BY	Belarus	KG	Kyrgyzstan	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CY	Cyprus	LI	Liechtenstein	SK	Slovakia
CZ	Czech Republic	LT	Lithuania	SM	San Marino
DE	Germany	LU	Luxembourg	TJ	Tajikistan
DK	Denmark	LV	Latvia	TM	Turkmenistan
EE	Estonia	MDA	Moldova	TR	Turkey
ES	Spain	MC	Monaco	UA	Ukraine
FI	Finland	ME	Montenegro	UZ	Uzbekistan
FR	France	MK	The former Yugoslav Republic of Macedonia		
GB	United Kingdom				



# Albania

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 3143291

## Tuberculosis case notifications, 2008

Total number of cases	434
Cases per 100 000	13.8
Sex ratio among new TB cases (M:F)	1.4
Median age group among new TB cases	45–54 years
Median age group, non-nationals	-
Foreign citizens	1 (0.2%)
New (never-treated)	402 (92.6%)
Culture positive	214 (49.3%)
Pulmonary	282 (65.0%)
of which smear-positive	195 (44.9%)
HIV-positive TB cases	4 (0.9%)
TB deaths per 100 000	-

## Drug resistance surveillance, 2008

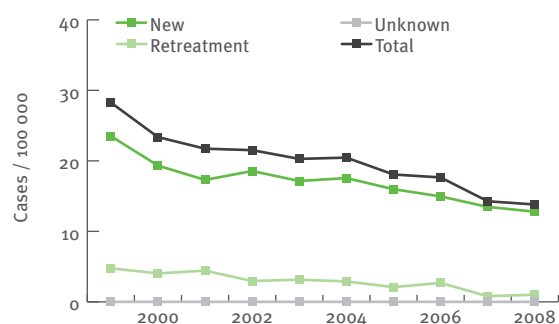
Geographical coverage	Partial*
International proficiency testing	-
Case-linked data reporting	No
Cases with DST results	214
Cases resistant to isoniazid	4 (1.9%)
Cases resistant to rifampicin	5 (2.3%)
MDR cases	2 (0.9%)
of which XDR cases	-
Cases resistant to ethambutol	3 (1.4%)
Cases resistant to streptomycin	17 (7.9%)

\* Data representativeness unknown

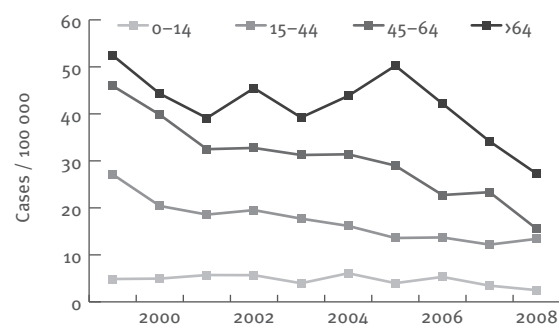
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	206
Success	174 (84.5%)
Died	9 (4.4%)
Failed	5 (2.4%)
Still on treatment	-
Lost to follow-up	18 (8.7%)

## Tuberculosis notification rates by treatment history, 1999–2008

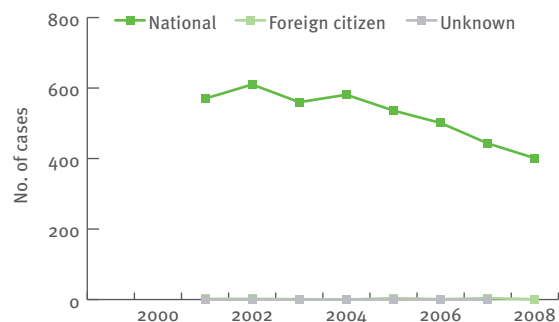


## Tuberculosis notification rates by age group, 1999–2008\*

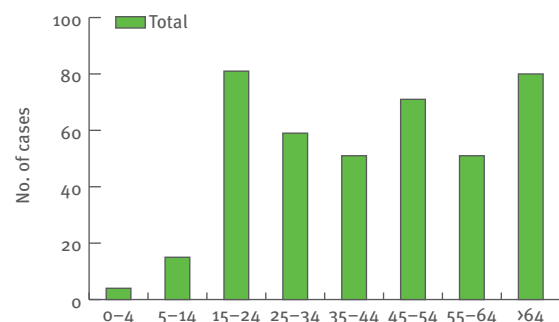


\* New cases only

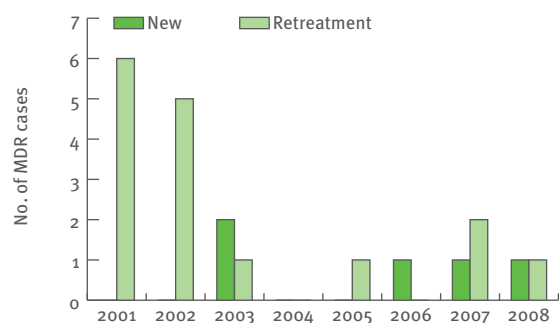
## Tuberculosis cases by geographical origin, 1999–2008



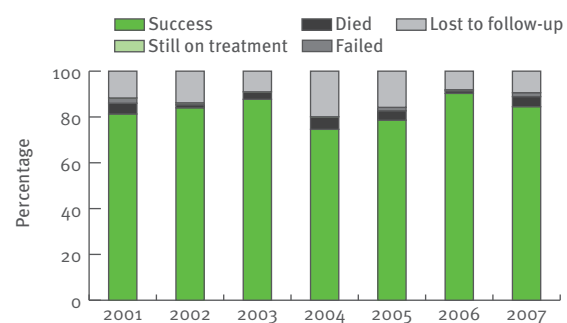
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001–2008



## Treatment outcome, new pulmonary smear-positive cases, 2001–2007



# Andorra

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 84 412

## Tuberculosis case notifications, 2008

Total number of cases	4
Notification rate per 100 000	4.7
Sex ratio among new TB cases (M:F)	1.0
Median age group among new TB cases	45–54 years
Median age group, non-nationals	-
Foreign born	0 (16.7%)
New (never-treated)	4 (83.3%)
Culture positive	3
Pulmonary	4
of which sputum smear-positive	3
HIV-positive TB cases	0 (0.0%)
TB deaths per 100 000	-

## Drug resistance surveillance, 2008

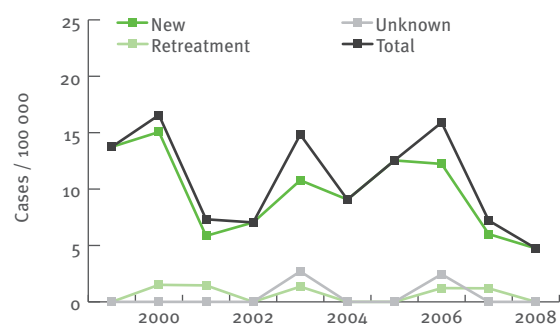
Geographical coverage	National
International proficiency testing	No*
Case-linked data reporting	No
Cases with DST results	3
Cases resistant to isoniazid	0 (0.0%)
Cases resistant to rifampicin	0 (0.0%)
MDR cases	0 (0.0%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	0 (0.0%)
Cases resistant to streptomycin	0 (0.0%)

\* DST done in Spain

## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	No
Notified in 2007	3
Success	3 (100.0%)
Died	0 (0.0%)
Failed	0 (0.0%)
Still on treatment	0 (0.0%)
Lost to follow-up	0 (0.0%)

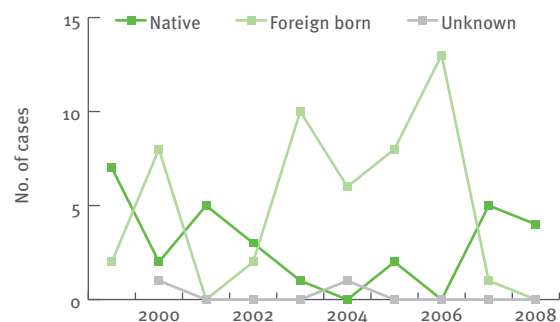
## Tuberculosis notification rates by treatment history, 1999–2008



## Tuberculosis notification rates by age group, 1999–2008

Insufficient number of cases for graphic presentation

## Tuberculosis cases by geographical origin, 1999–2008



## Tuberculosis cases by age group, 2008

Insufficient number of cases for graphic presentation

## MDR TB cases by previous treatment history, 2001–2008

No MDR cases reported

## Treatment outcome, new pulmonary culture-positive cases, 2001–2007





# Armenia

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 3 077 087

## Tuberculosis case notifications, 2008

Total number of cases	2125
Notification rate per 100 000	69.1
Sex ratio among new TB cases (M:F)	2.7
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign citizens	17 (0.8%)
New (never-treated)	1507 (70.9%)
Culture positive	607 (28.6%)
Pulmonary	1454 (68.4%)
of which sputum smear-positive	730 (50.2%)
HIV-positive TB cases*	12 (0.6%)
TB deaths per 100 000	4.5

\* Representativeness unknown

## Drug resistance surveillance, 2008

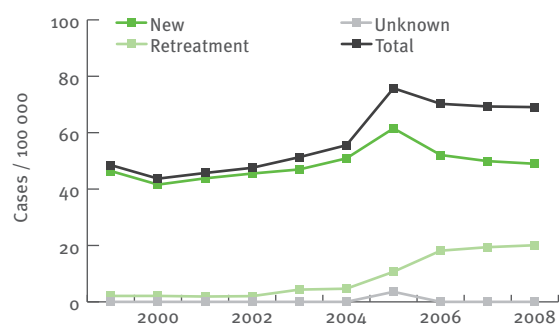
Geographical coverage	partial
International proficiency testing	Yes
Case-linked data reporting	No*
Cases with DST results	607
Cases resistant to isoniazid	251 (41.4%)
Cases resistant to rifampicin	135 (22.2%)
MDR cases	128 (21.1%)
of which XDR cases	-
Cases resistant to ethambutol	176 (29.0%)
Cases resistant to streptomycin	186 (30.6%)

\* Data from NRL (representativeness unknown)  
Culture and DST not routinely performed

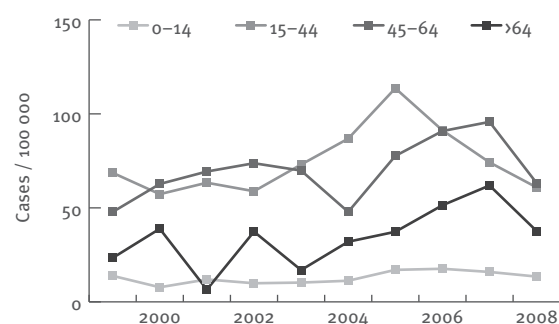
## Treatment outcome monitoring, 2007

Geographical coverage	partial
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	1080
Success	617 (57.1%)
Died	94 (8.7%)
Failed	119 (11.0%)
Still on treatment	-
Lost to follow-up	250 (23.1%)

## Tuberculosis notification rates by treatment history, 1999-2008

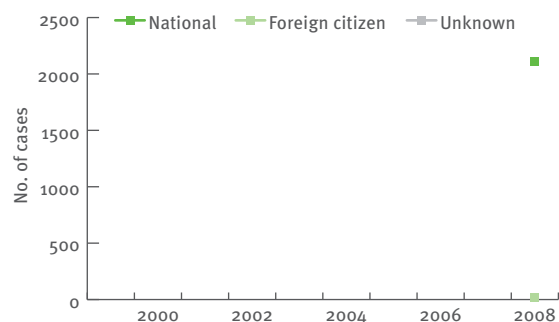


## Tuberculosis notification rates by age group, 1999-2008\*



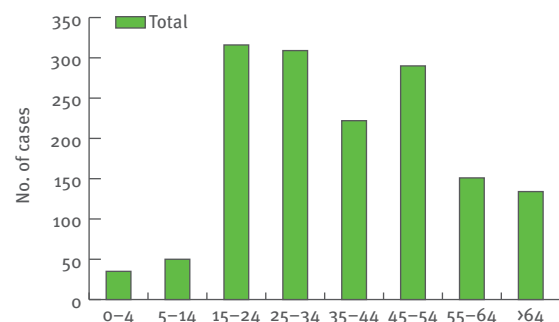
\* New cases only in 2008

## Tuberculosis cases by geographical origin, 1999-2008\*



\* National cases also includes cases with unknown origin in 2008

## Tuberculosis cases by age group, 2008\*



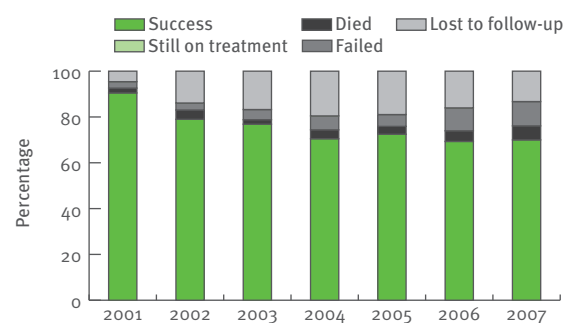
\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008\*



\* Data representativeness unknown

## Treatment outcome, new pulmonary smear-positive cases, 2001-2007\*



\* Data representativeness unknown (2002-2004)

# Austria

Total population at 1 January 2008 by EUROSTAT: 8 331 930

## Tuberculosis case notifications, 2008

Not available

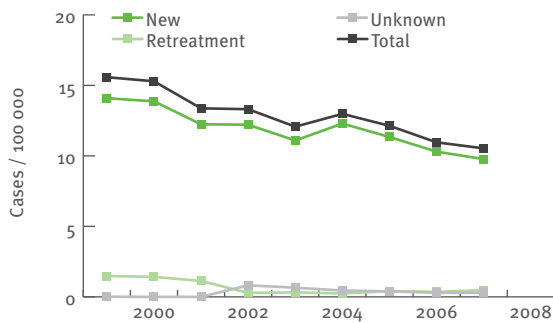
## Drug resistance surveillance, 2008

Not available

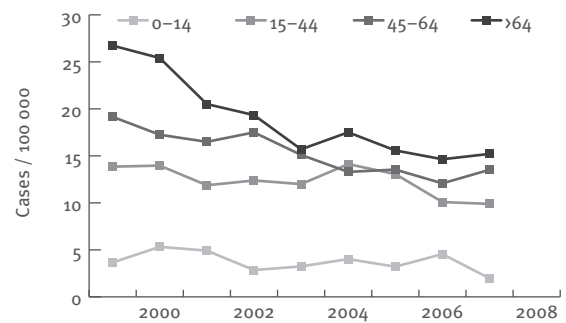
## Treatment outcome monitoring, 2007

Not available

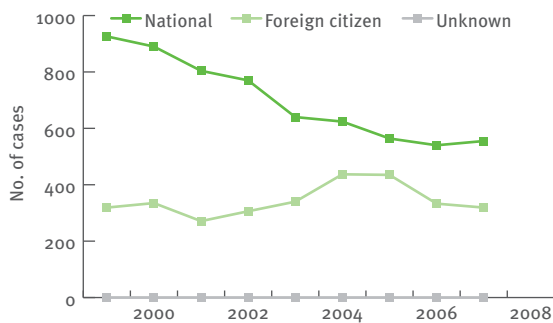
Tuberculosis notification rates by treatment history, 1999–2008



Tuberculosis notification rates by age group, 1999–2008



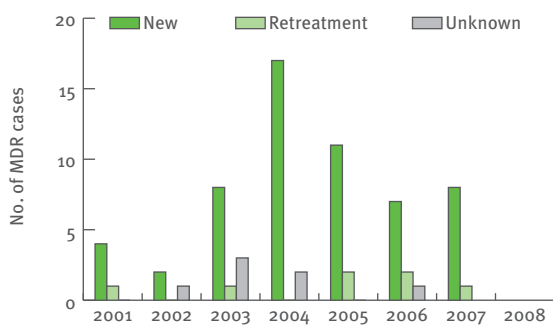
Tuberculosis cases by geographical origin, 1999–2008



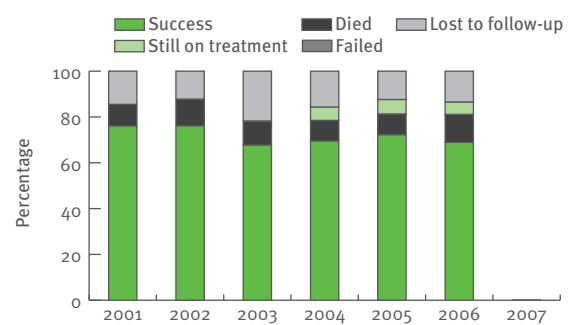
Tuberculosis cases by age group, 2008

Not available

MDR TB cases by previous treatment history, 2001–2008



Treatment outcome, new pulmonary culture-positive cases, 2001–2007



# Azerbaijan

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 8730533

## Tuberculosis case notifications, 2008

Total number of cases	10 078
Notification rate per 100 000	115.4
Sex ratio among new TB cases (M:F)	-
Median age group among new TB cases	-
Median age group, non-nationals	-
Foreign born	-
New (never-treated)	5 130 (50.9%)
Culture positive	-
Pulmonary	6 417 (63.7%)
of which sputum smear-positive	5 424 (53.8%)
HIV-positive TB cases	-
TB deaths per 100 000 (2007)	1.3

## Drug resistance surveillance, 2008

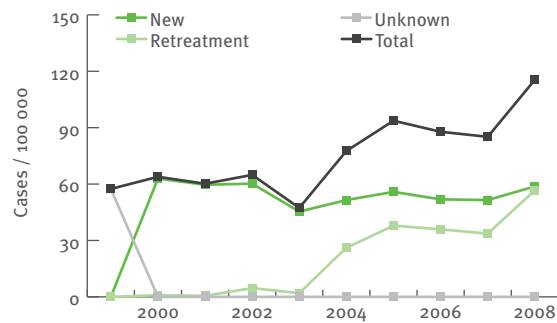
Not available

## Treatment outcome monitoring, 2007

Geographical coverage	National*	
Outcome cohort	New & relapse pulm smear-positive	
Case-linked data reporting	No	
Notified in 2007	2 437	
Success	1 261	(52%)
Died	90	(4%)
Failed	100	(4%)
Still on treatment	0	(0%)
Lost to follow-up	986	(40%)

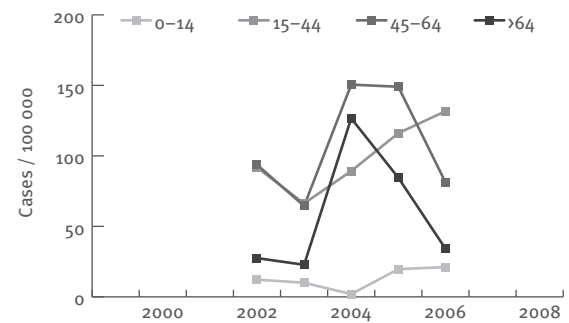
\* Data representativeness unknown

## Tuberculosis notification rates by treatment history, 1999–2008\*



\* Expansion of treatment programme in 2004

## Tuberculosis notification rates by age group, 1999–2008\*



\* Expansion of treatment programme in 2004

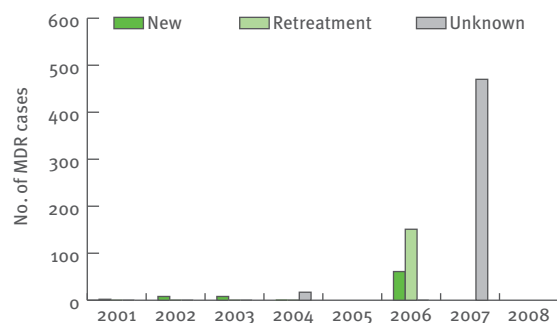
## Tuberculosis cases by geographical origin, 1999–2008

Foreign-born cases not reported

## Tuberculosis cases by age group, 2008

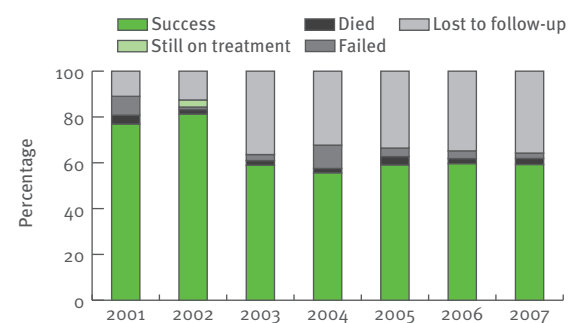
Not available

## MDR TB cases by previous treatment history, 2001–2008\*



\* Data representativeness unknown; no data in 2005 and 2008

## Treatment outcome, new pulmonary smear-positive cases, 2001–2007\*



\* Data representativeness unknown in 2002 and 2005

# Belarus

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 9 678 846

## Tuberculosis case notifications, 2008

Total number of cases	5 483
Notification rate per 100 000	56.6
Sex ratio among new TB cases (M:F)	2.4
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign citizens	-
New (never-treated)	4 634 (84.5%)
Culture positive	-
Respiratory	4 626 (84.4%)
of which sputum smear-positive	1 552 (33.5%)
HIV-positive new TB cases (2007)	156 (2.8%)
TB deaths per 100 000	8.6

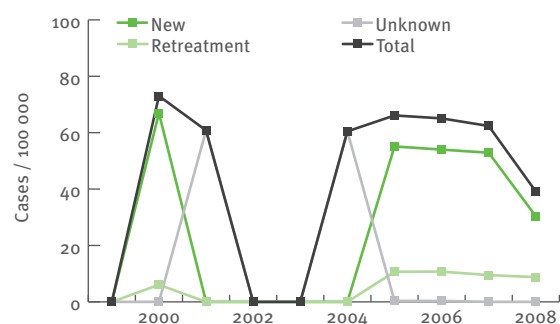
## Drug resistance surveillance, 2008

Not available

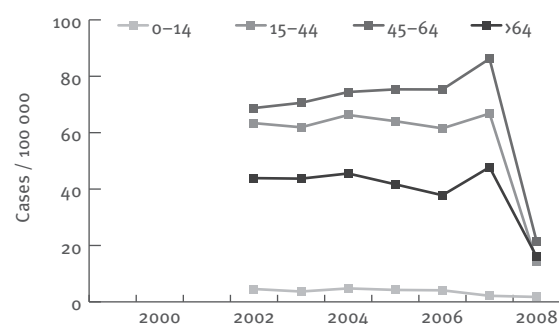
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	Total pulm smear &/ or culture positive
Case-linked data reporting	No
Notified in 2007	2 849
Success	2 003 (70%)
Died	252 (9%)
Failed	357 (13%)
Still on treatment	-
Lost to follow-up	237 (8%)

## Tuberculosis notification rates by treatment history, 1999-2008



## Tuberculosis notification rates by age group, 1999-2008\*

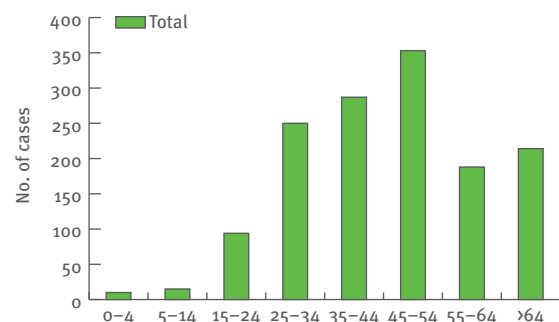


\* Re-treated cases not included 2003-2005

## Tuberculosis cases by geographical origin, 1999-2008

Not available

## Tuberculosis cases by age group, 2008\*

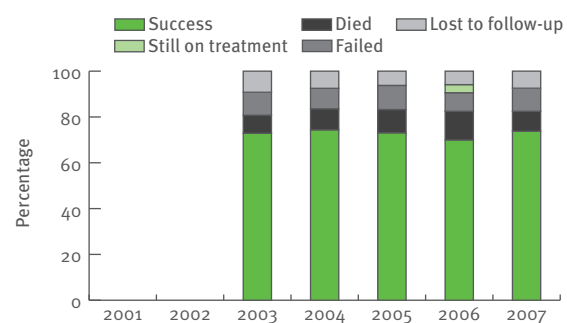


\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008

Not available

## Treatment outcome, new pulmonary definite cases, 2001-2007\*



\* Data representativeness unknown (2003-2004)

# Belgium

Total population at 1 January 2008 by EUROSTAT: 10 666 866

## Tuberculosis case notifications, 2008

Total number of cases	1006
Notification rate per 100 000	9.4
Sex ratio (M:F)	1.9
Median age group, nationals	45-54 years
Median age group, non-nationals	35-44 years
Foreign citizens	476 (47.3%)
New (not previously diagnosed)	799 (79.4%)
Culture positive	812 (80.7%)
Pulmonary	730 (72.6%)
of which smear-positive	373 (51.1%)
HIV-positive TB cases	56 (5.6%)
TB deaths per 100 000	-

## Drug resistance surveillance, 2008

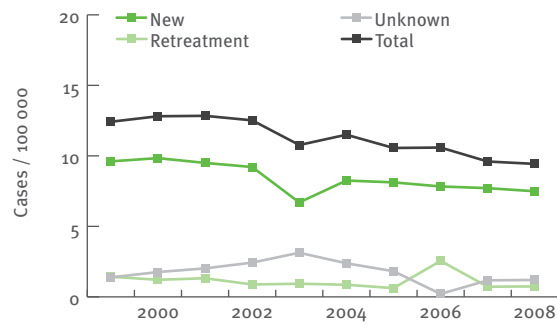
Geographical coverage	National
International proficiency testing	-
Case-linked data reporting	Yes
Cases with DST results	773
Cases resistant to isoniazid	56 (7.2%)
Cases resistant to rifampicin	24 (3.1%)
MDR cases	22 (2.8%)
of which smear-positive	2 (9.1%)
Cases resistant to ethambutol	22 (2.8%)
Cases resistant to streptomycin*	2 (9.1%)

\* DST to streptomycin is not performed routinely

## Treatment outcome monitoring, 2007

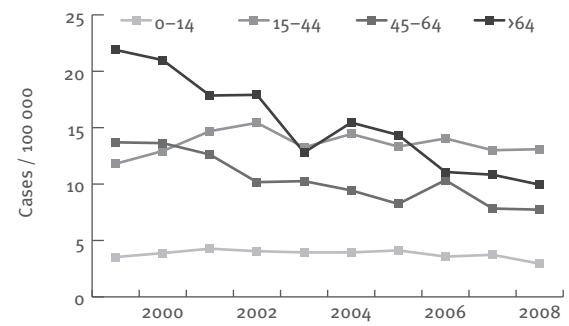
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	615
Success	414 (67.3%)
Died	59 (9.6%)
Failed	0 (0.0%)
Still on treatment	21 (3.4%)
Lost to follow-up	121 (19.7%)

## Tuberculosis notification rates by treatment history, 1999-2008\*

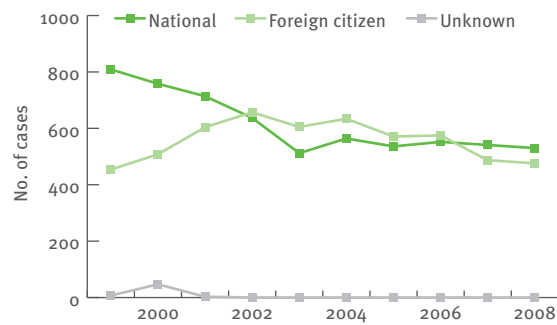


\* Distribution of cases by previous diagnosis

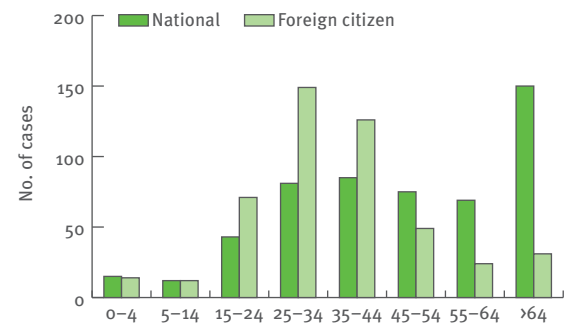
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

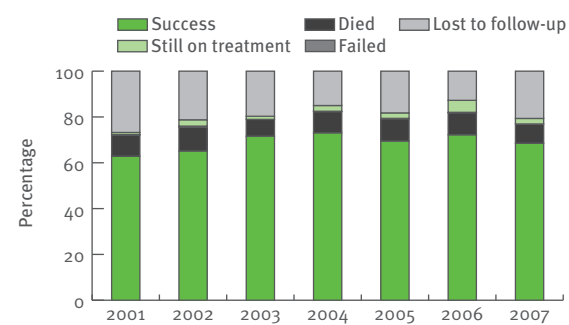


## MDR TB cases by previous treatment history, 2001-2008\*



\* Distribution of cases by previous diagnosis

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Bosnia and Herzegovina

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 3773100

## Tuberculosis case notifications, 2008

Total number of cases	1736
Notification rate per 100 000	46.0
Sex ratio among new TB cases (M:F)	1.3
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign citizens	0 (0.0%)
New (never-treated)	1663 (95.8%)
Culture positive	834 (48.0%)
Pulmonary	1495 (86.1%)
of which sputum smear-positive	576 (33.2%)
HIV-positive TB cases	1 (0.1%)
TB deaths per 100 000	1.2

## Drug resistance surveillance, 2008

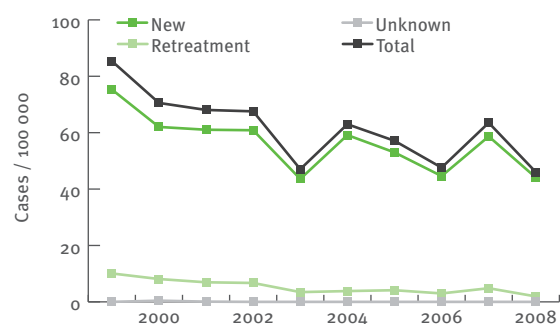
Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting*	No
Cases with DST results	834
Cases resistant to isoniazid	33 (4.0%)
Cases resistant to rifampicin	21 (2.5%)
MDR cases	20 (2.4%)
of which sputum smear-positive	-
Cases resistant to ethambutol	10 (1.2%)
Cases resistant to streptomycin	24 (2.9%)

\* Representativeness unknown

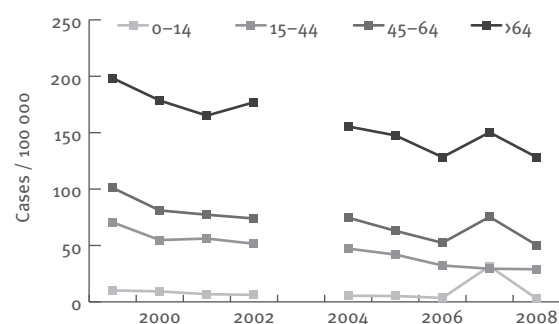
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary smear & culture positive
Case-linked data reporting	No
Notified in 2007	1423
Success	1371 (96%)
Died	16 (1%)
Failed	12 (1%)
Still on treatment	-
Lost to follow-up	24 (2%)

## Tuberculosis notification rates by treatment history, 1999-2008

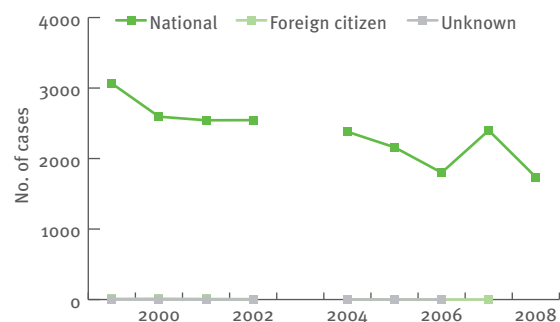


## Tuberculosis notification rates by age group, 1999-2008\*

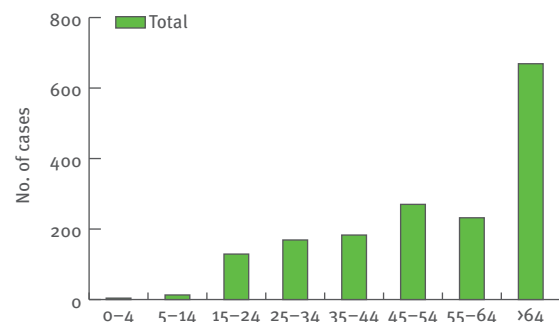


\* Data for 2008 only new cases

## Tuberculosis cases by geographical origin, 1999-2008

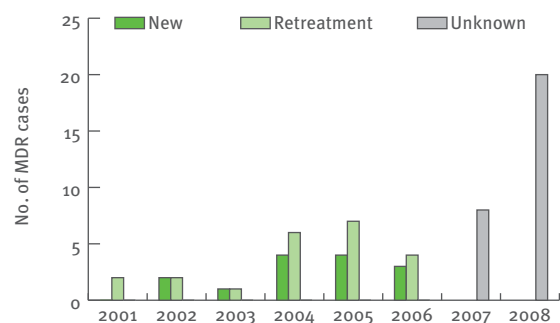


## Tuberculosis cases by age group, 2008\*



\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008\*



\* Federation of Bosnia only in 2002-2004

## Treatment outcome, new pulmonary smear/culture-positive cases, 2001-2007\*



\* Data representativeness unknown; nationwide representative data in 2001 & 2005

# Bulgaria

Total population at 1 January 2008 by EUROSTAT: 7 640 238

## Tuberculosis case notifications, 2008

Total number of cases	3151
Cases per 100 000	41.2
Sex ratio (M:F)	2.0
Median age group, nationals	45-54 years
Median age group, non-nationals	25-34 years
Foreign citizens	6 (0.2%)
New (never-treated)	2838 (90.1%)
Culture positive	1361 (43.2%)
Respiratory	2408 (76.4%)
of which sputum smear-positive	1164 (48.3%)
HIV-positive TB cases*	0 (0.0%)
TB deaths per 100 000 (2007)	3.6

\* Representativeness unknown

## Drug resistance surveillance, 2008

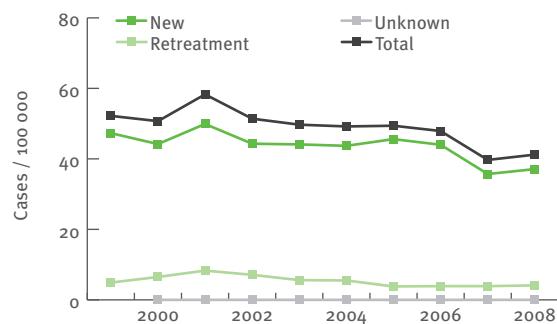
Geographical coverage	Partial*
International proficiency testing	Yes (2007)
Case-linked data reporting	Yes
Cases with DST results	938
Cases resistant to isoniazid	121 (12.9%)
Cases resistant to rifampicin	43 (4.6%)
MDR cases	32 (3.4%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	84 (9.0%)
Cases resistant to streptomycin	55 (5.9%)

\* All labs doing DST (representativeness unknown)

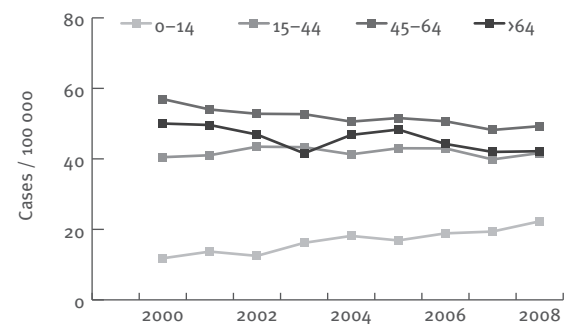
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	1379
Success	1024 (74.3%)
Died	123 (8.9%)
Failed	6 (0.4%)
Still on treatment	68 (13.6%)
Lost to follow-up	158 (11.5%)

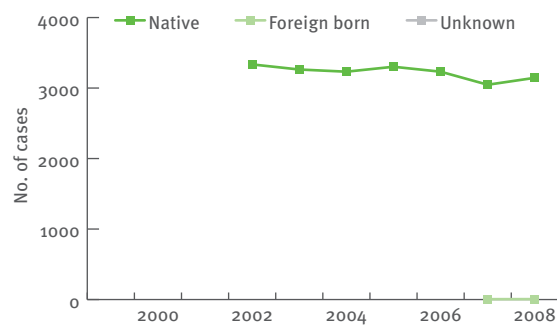
## Tuberculosis notification rates by treatment history, 1999-2008



## Tuberculosis notification rates by age group, 1999-2008

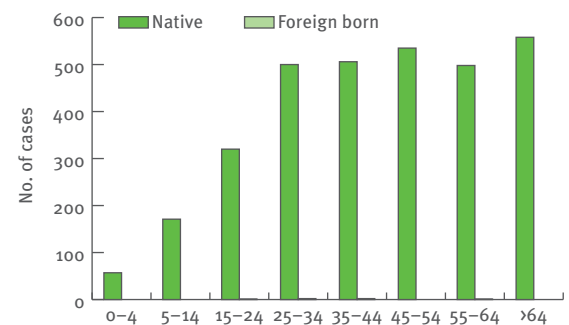


## Tuberculosis cases by geographical origin, 1999-2008\*

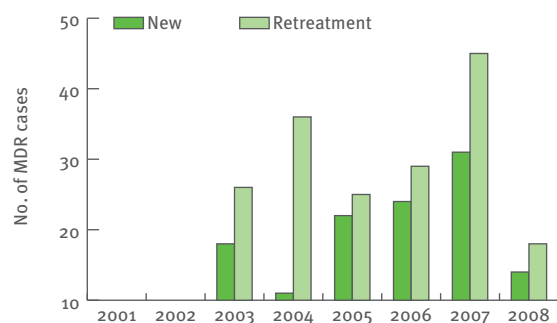


\* Nationality was used until 2006

## Tuberculosis cases by age group, 2008

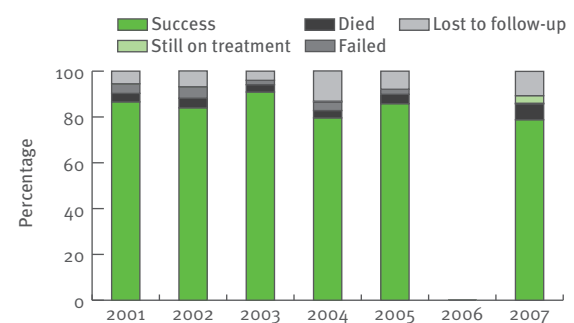


## MDR TB cases by previous treatment history, 2001-2008\*



\* Data representativeness unknown; no data by geographical origin 2001-2002

## Treatment outcome, new pulmonary definite cases, 2001-2007\*



\* No data on treatment outcome for 2006

# Croatia

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 4 422 508

## Tuberculosis case notifications, 2008

Total number of cases	980
Notification rate per 100 000	22.2
Sex ratio among new TB cases (M:F)	1.5
Median age group among new TB cases	45-54 years
Median age group, non-nationals	-
Foreign born	45 (14.1%)
New (never-treated)	944 (90.0%)
Culture positive	604 (70.1%)
Pulmonary	879 (88.9%)
of which sputum smear-positive	400 (49.4%)
HIV-positive TB cases	-
TB deaths per 100 000	2.3

## Drug resistance surveillance, 2008

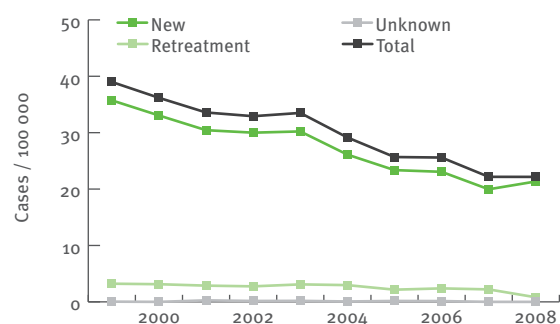
Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	No
Cases with DST results	-
Cases resistant to isoniazid	31 -
Cases resistant to rifampicin	8 -
MDR cases	4 -
of which XDR cases	-
Cases resistant to ethambutol	5 -
Cases resistant to streptomycin	22 -

## Treatment outcome monitoring, 2007

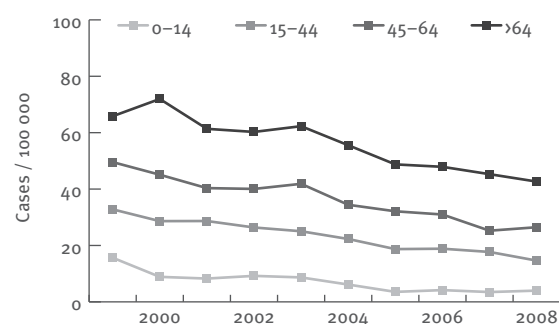
Geographical coverage	National*
Outcome cohort	New pulmonary smear or culture positive
Case-linked data reporting	No
Notified in 2007	637
Success	389 (61.1%)
Died	83 (13.0%)
Failed	0 (0.0%)
Still on treatment	-
Lost to follow-up	165 (25.9%)

\* Data representativeness unknown

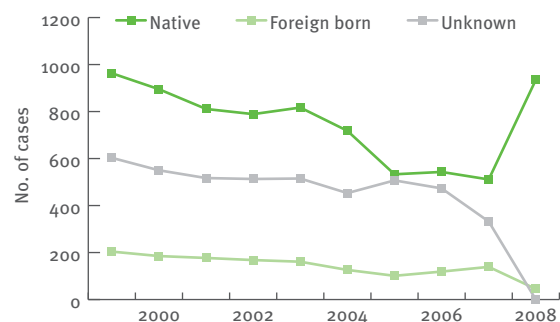
## Tuberculosis notification rates by treatment history, 1999-2008



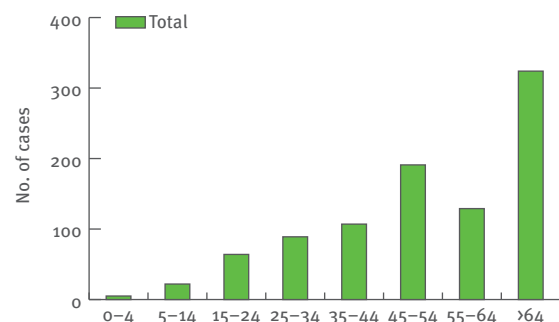
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008\*

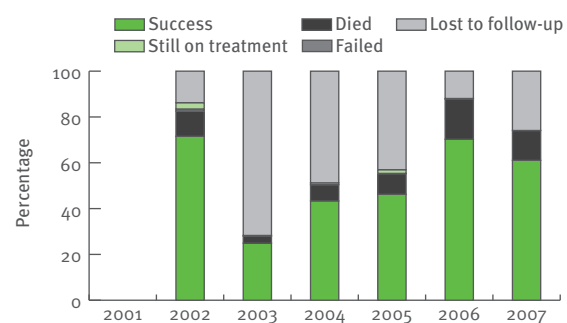


\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007\*



\* Data representativeness unknown



# Cyprus

Total population at 1 January 2008 by EUROSTAT: 789 258

## Tuberculosis case notifications, 2008

Total number of cases	50
Notification rate per 100 000	6.3
Sex ratio (M:F)	1.0
Median age group, nationals	15-24 years
Median age group, non-nationals	25-34 years
Foreign born	44 (88.0%)
New (never-treated)*	40 (80.0%)
Culture positive	36 (84.0%)
Pulmonary	42 (72.0%)
of which sputum smear-positive	11 (26.2%)
HIV-positive TB cases	2 (4.0%)
TB deaths per 100 000 (2007)	0.13

\* Previous treatment unknown in 62% of cases, used previously diagnosed

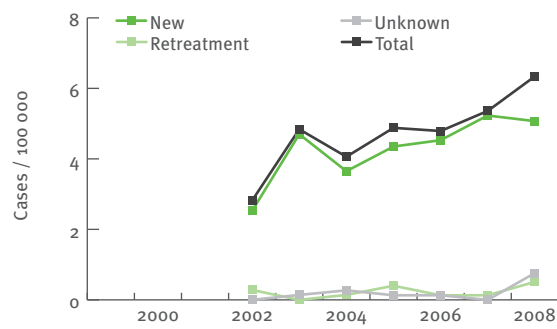
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	36
Cases resistant to isoniazid	1 (2.8%)
Cases resistant to rifampicin	1 (2.8%)
MDR cases	1 (2.8%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	0 (0.0%)
Cases resistant to streptomycin	3 (8.3%)

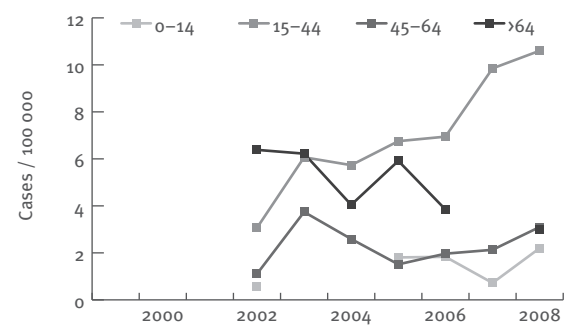
## Treatment outcome monitoring, 2007

Not available

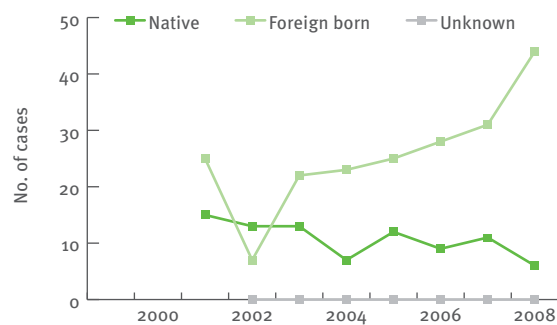
## Tuberculosis notification rates by treatment history, 1999-2008



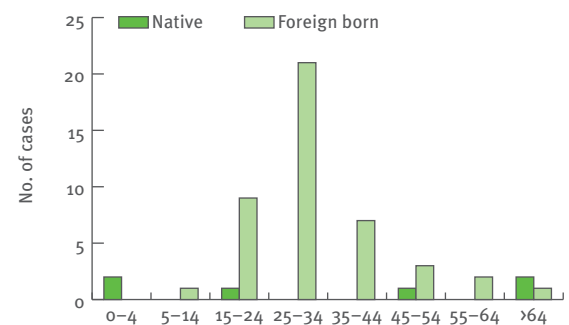
## Tuberculosis notification rates by age group, 1999-2008



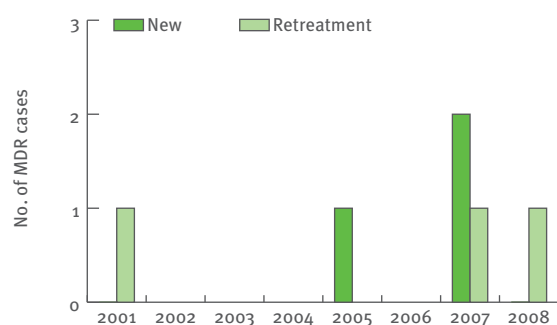
## Tuberculosis cases by geographical origin, 1999-2008



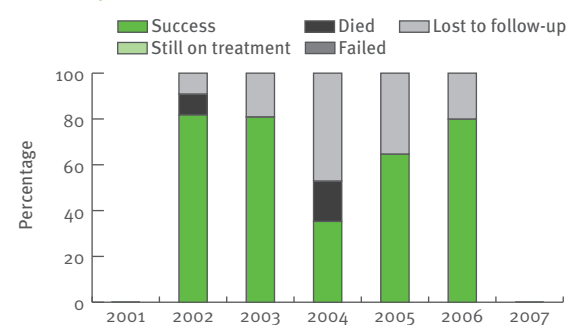
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary smear-positive cases, 2001-2007\*



\* Data representativeness unknown (2002-2004); no outcome reported on 2009

# Czech Republic

Total population at 1 January 2008 by EUROSTAT: 10 381 130

## Tuberculosis case notifications, 2008

Total number of cases	868
Notification rate per 100 000	8.4
Sex ratio (M:F)	1.8
Median age group, nationals	55-64 years
Median age group, non-nationals	25-34 years
Foreign born	185 (21.3%)
New (never-treated)	807 (93.0%)
Culture positive	561 (64.6%)
Pulmonary	737 (84.9%)
of which sputum smear-positive	271 (36.8%)
HIV-positive TB cases*	7 (0.8%)
TB deaths per 100 000 (2007)	0.7

\* Representativeness unknown

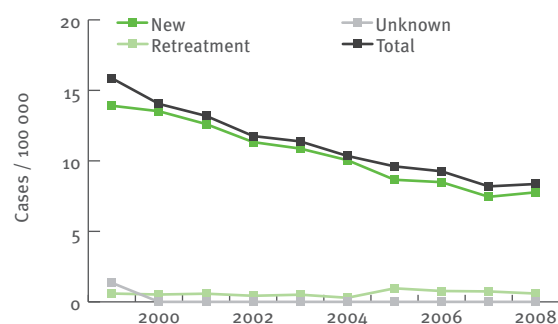
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	520
Cases resistant to isoniazid	26 (5.0%)
Cases resistant to rifampicin	14 (2.7%)
MDR cases	11 (2.1%)
of which XDR cases	1 (9.1%)
Cases resistant to ethambutol	7 (1.3%)
Cases resistant to streptomycin	29 (5.6%)

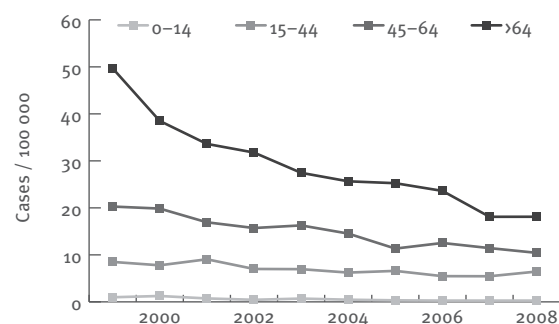
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	503
Success	361 (71.8%)
Died	93 (18.3%)
Failed	4 (1.0%)
Still on treatment	6 (1.2%)
Lost to follow-up	39 (7.7%)

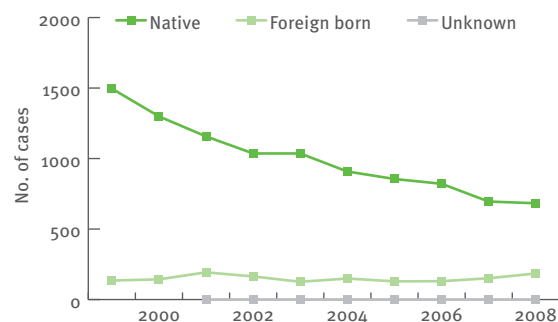
## Tuberculosis notification rates by treatment history, 1999-2008



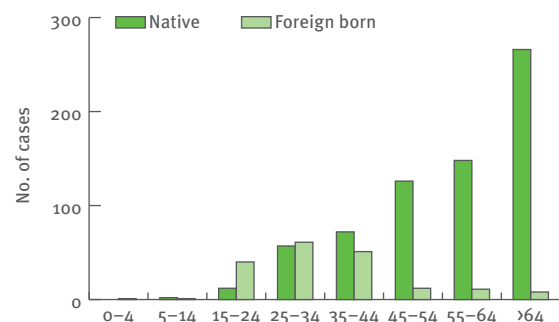
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

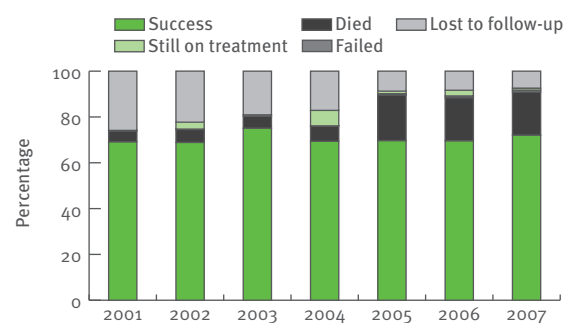


## MDR TB cases by previous treatment history, 2001-2008\*



\* Data representativeness unknown in 2004

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Denmark

Total population at 1 January 2008 by EUROSTAT: 5 475 060

## Tuberculosis case notifications, 2008

Total number of cases	367
Notification rate per 100 000	6.7
Sex ratio (M:F)	1.6
Median age group, nationals	45-54 years
Median age group, non-nationals	35-44 years
Foreign born	221 (60.2%)
New (not previously diagnosed)	330 (89.9%)
Culture positive	283 (77.1%)
Pulmonary	275 (74.9%)
of which sputum smear-positive	120 (43.6%)
HIV-positive TB cases (2007)*	13 (1.5%)
TB deaths per 100 000 (2007)	0.3

\*Representativeness unknown

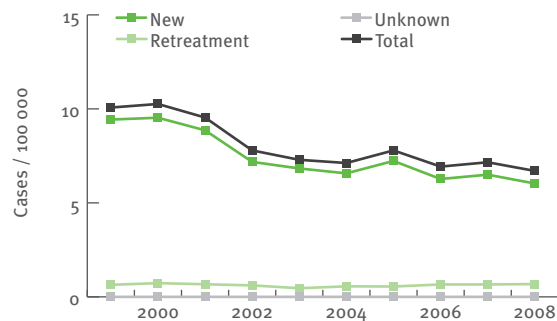
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	281
Cases resistant to isoniazid	11 (3.9%)
Cases resistant to rifampicin	0 (0.0%)
MDR cases	0 (0.0%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	1 (0.4%)
Cases resistant to streptomycin	0 (0.0%)

## Treatment outcome monitoring, 2007

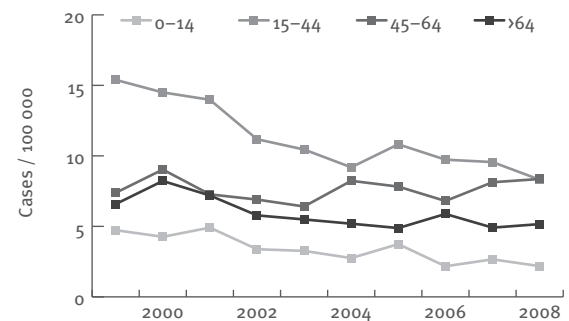
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	231
Success	177 (76.6%)
Died	14 (6.1%)
Failed	2 (0.9%)
Still on treatment	12 (5.2%)
Lost to follow-up	26 (11.3%)

## Tuberculosis notification rates by treatment history, 1999-2008\*

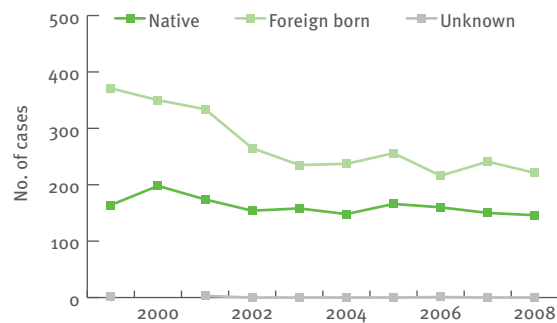


\* Distribution of cases by previous diagnosis

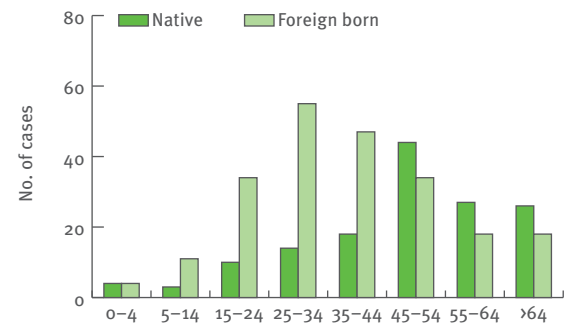
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

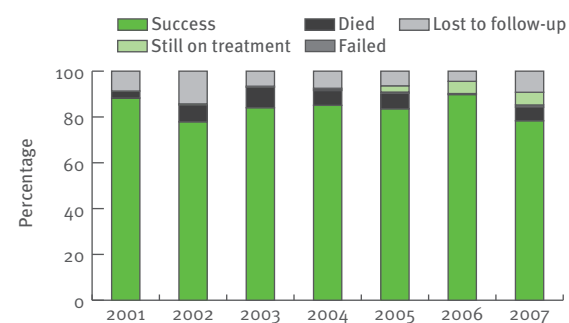


## MDR TB cases by previous treatment history, 2001-2008\*



\* In 2008 no MDR cases were reported

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Estonia

Total population at 1 January 2008 by EUROSTAT: 1340 415

## Tuberculosis case notifications, 2008

Total number of cases	444
Notification rate per 100 000	33.1
Sex ratio (M:F)	2.7
Median age group, nationals	45-54 years
Median age group, non-nationals	45-54 years
Foreign born	81 (18.2%)
New (never-treated)	354 (79.7%)
Culture positive	347 (78.2%)
Pulmonary	410 (92.3%)
of which sputum smear-positive	187 (45.6%)
HIV-positive TB cases	44 (9.9%)
TB deaths per 100 000 (2007)	3.2

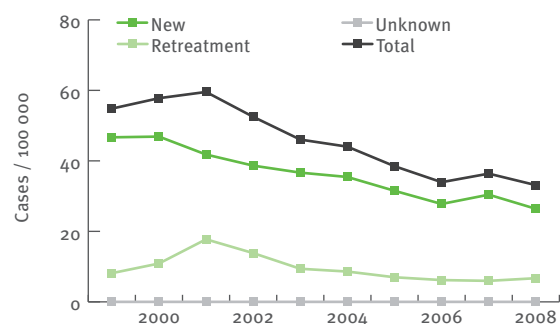
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	347
Cases resistant to isoniazid	103 (29.7%)
Cases resistant to rifampicin	74 (21.3%)
MDR cases	74 (21.3%)
of which XDR cases	9 (12.2%)
Cases resistant to ethambutol	78 (22.5%)
Cases resistant to streptomycin	122 (35.2%)

## Treatment outcome monitoring, 2007

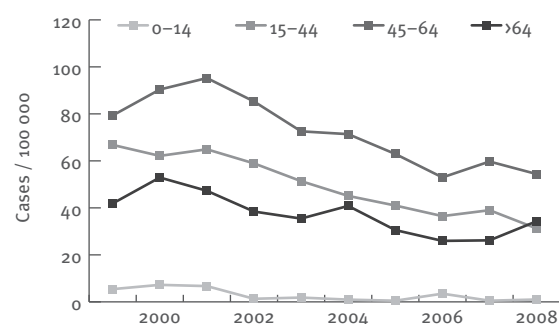
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	368
Success	216 (58.7%)
Died	46 (12.5%)
Failed	5 (1.4%)
Still on treatment	59 (16.0%)
Lost to follow-up	42 (11.4%)

## Tuberculosis notification rates by treatment history, 1999-2008\*

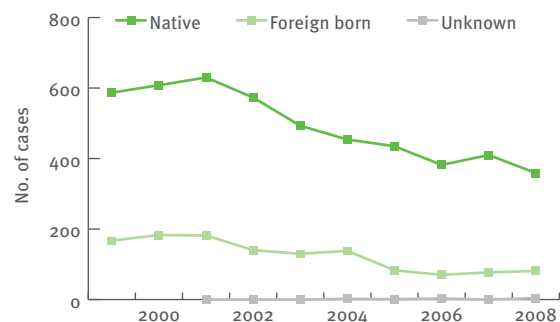


\* Retreated cases other than relapses included since 2001

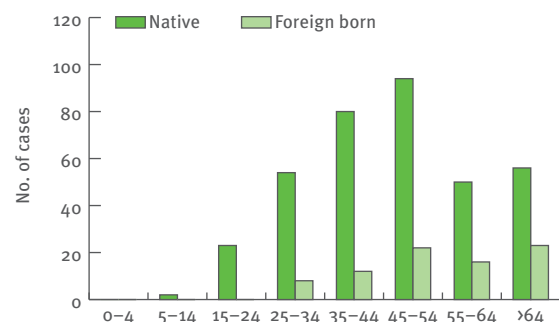
## Tuberculosis notification rates by age group, 1999-2008



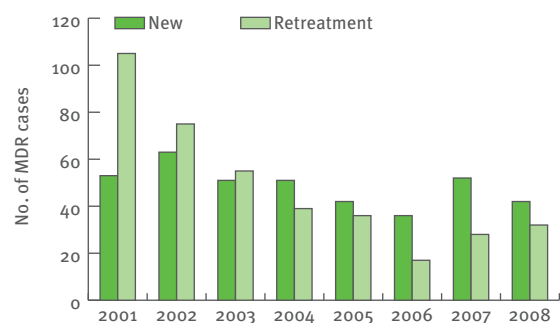
## Tuberculosis cases by geographical origin, 1999-2008



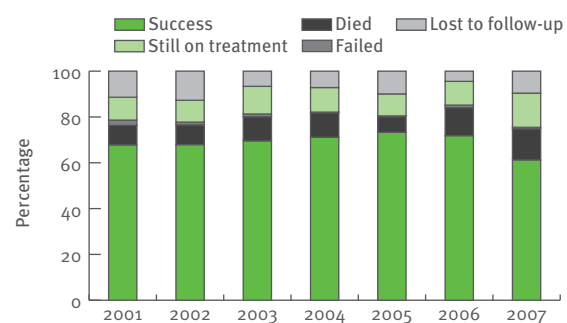
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Finland

Total population at 1 January 2008 by EUROSTAT: 5300484

## Tuberculosis case notifications, 2008

Total number of cases	350
Notification rate per 100 000	6.6
Sex ratio (M:F)	1.6
Median age group, nationals	>64 years
Median age group, non-nationals	25-34 years
Foreign born	54 (15.4%)
New (never treated)	331 (94.6%)
Culture positive	248 (70.9%)
Pulmonary	225 (64.3%)
of which sputum smear-positive	112 (49.8%)
HIV-positive TB cases* (2006)	6 (2.0%)
TB deaths per 100 000 (2007)	1.1

\*Representativeness unknown

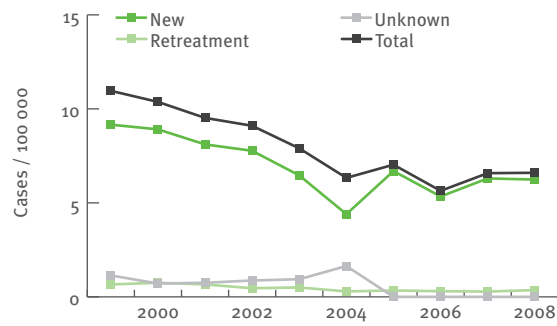
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	247
Cases resistant to isoniazid	12 (4.9%)
Cases resistant to rifampicin	2 (0.8%)
MDR cases	1 (0.4%)
of which XDR cases	-
Cases resistant to ethambutol	0 (0.0%)
Cases resistant to streptomycin	6 (2.4%)

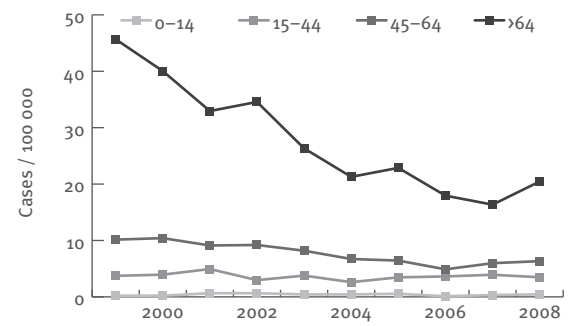
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	188
Success	133 (70.7%)
Died	35 (18.6%)
Failed	1 (0.5%)
Still on treatment	7 (3.7%)
Lost to follow-up	12 (6.4%)

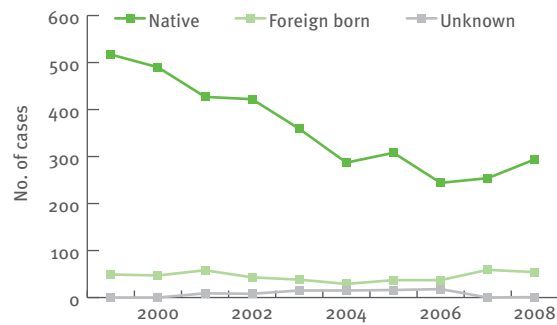
## Tuberculosis notification rates by treatment history, 1999-2008



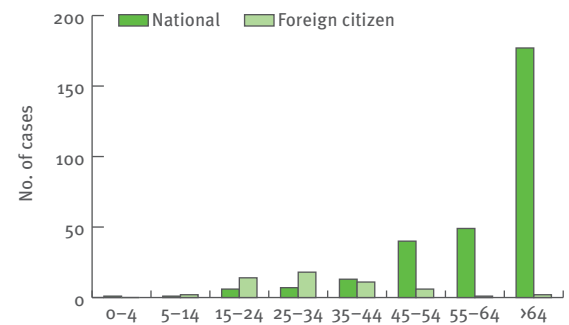
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



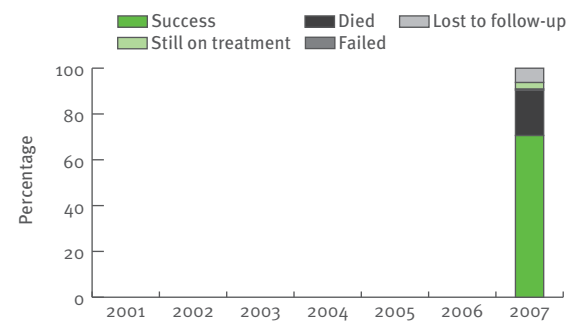
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# France

Total population at 1 January 2008 by EUROSTAT: 63936746

## Tuberculosis case notifications, 2008

Total number of cases	5812
Notification rate per 100 000	9.1
Sex ratio (M:F)	1.4
Median age group, nationals	45-54 years
Median age group, non-nationals	35-44 years
Foreign born	2665 (45.9%)
New (never-treated)*	3355 (57.7%)
Culture positive	2296 (39.5%)
Pulmonary	4021 (69.2%)
of which sputum smear-positive	2072 (51.5%)
HIV-positive TB cases	-
TB deaths per 100 000 (2007)	1.0

\* 36% previous treatment unknown

## Drug resistance surveillance, 2008

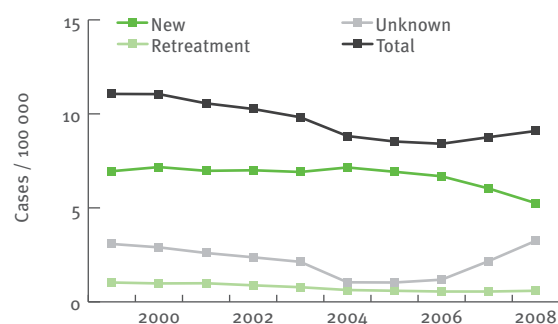
Geographical coverage	National*
International proficiency testing	Yes
Case-linked data reporting	No
Cases with DST results	1556
Cases resistant to isoniazid	103 (6.6%)
Cases resistant to rifampicin	32 (2.1%)
MDR cases	27 (1.7%)
of which XDR cases	-
Cases resistant to ethambutol	18 (1.2%)
Cases resistant to streptomycin	112 (7.2%)

\* Data from sentinel network of laboratories

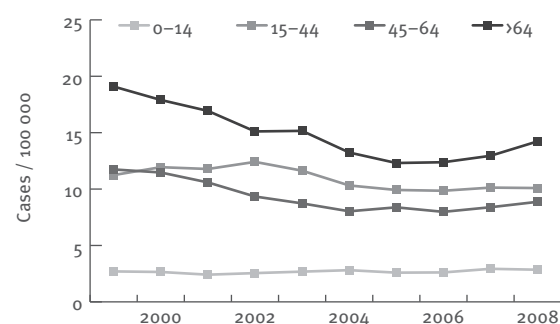
## Treatment outcome monitoring, 2007

Not available

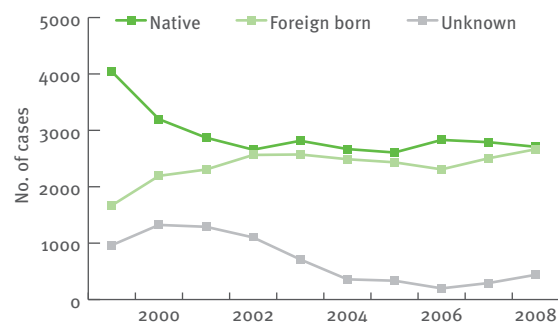
## Tuberculosis notification rates by treatment history, 1999-2008



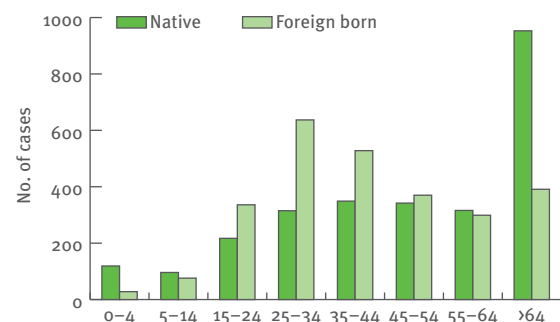
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008\*



\* Data from sentinel laboratory network

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007

Not available

# Georgia

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 4 307 011

## Tuberculosis case notifications, 2008

Total number of cases*	5836
Notification rate per 100 000	135.5
Sex ratio among new TB cases (M:F)	2.3
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign citizens	0 (0.0%)
New (never-treated)	4148 (71.1%)
Culture positive	2409 (41.3%)
Pulmonary	3497 (59.9%)
of which sputum smear-positive	1217 (34.8%)
HIV-positive TB cases	20 (0.3%)
TB deaths per 100 000 (2006)	4.3

\* Excluding Abkhazia and Southern Ossetia

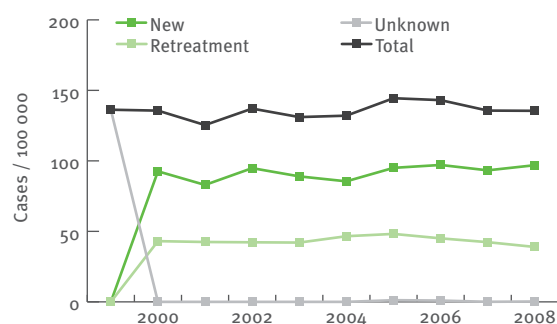
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes (2008)
Case-linked data reporting	No
Cases with DST results	2409
Cases resistant to isoniazid	847 (35.2%)
Cases resistant to rifampicin	510 (21.2%)
MDR cases	481 (20.0%)
of which XDR cases	99 (4.1%)
Cases resistant to ethambutol	965 (40.1%)
Cases resistant to streptomycin	-

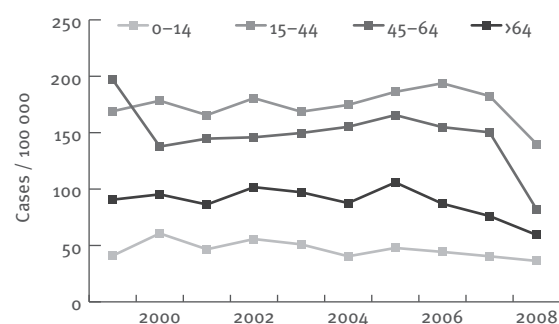
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary smear & culture positive
Case-linked data reporting	No
Notified in 2007	3822
Success	2554 (66.8%)
Died	208 (5.4%)
Failed	332 (8.7%)
Still on treatment	-
Lost to follow-up	788 (20.6%)

## Tuberculosis notification rates by treatment history, 1999-2008



## Tuberculosis notification rates by age group, 1999-2008\*

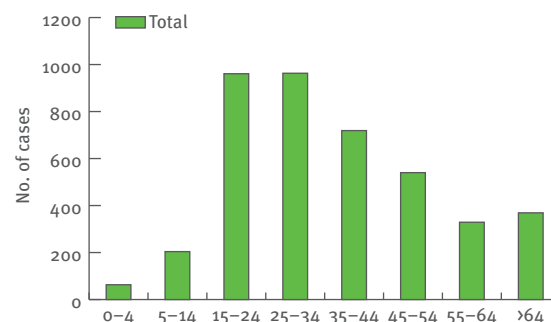


\* New cases only for 2008

## Tuberculosis cases by geographical origin, 1999-2008

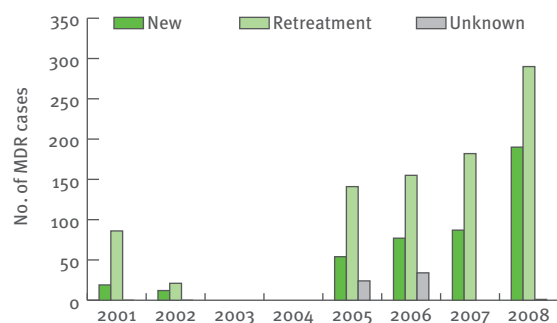
Not available

## Tuberculosis cases by age group, 2008\*



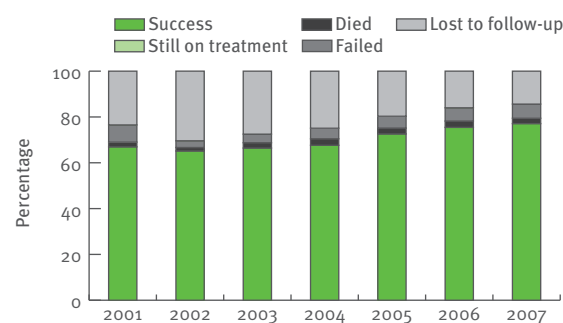
\* New cases only

## MDR TB cases by previous treatment history, 2001-2008\*



\* No data in 2001-2004; nationwide representative survey in 2005

## Treatment outcome, new pulmonary smear-positive cases, 2001-2007\*



\* Data representativeness unknown in 2002

# Germany

Total population at 1 January 2008 by EUROSTAT: 82 041 199

## Tuberculosis case notifications, 2008

Total number of cases	4543
Notification rate per 100 000	5.5
Sex ratio (M:F)	1.6
Median age group, nationals	55-64 years
Median age group, non-nationals	35-44 years
Foreign born	1918 (42.2%)
New (never-treated)	3623 (79.7%)
Culture positive	3112 (68.5%)
Pulmonary	3504 (77.1%)
of which sputum smear-positive	1184 (33.8%)
HIV-positive TB cases	-
TB deaths per 100 000 (2007)	0.2

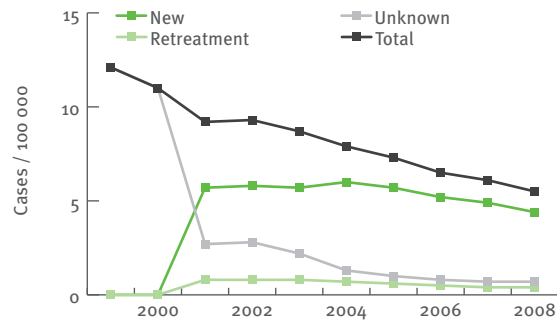
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	2963
Cases resistant to isoniazid	197 (6.6%)
Cases resistant to rifampicin	55 (1.9%)
MDR cases	45 (1.5%)
of which XDR cases	-
Cases resistant to ethambutol	45 (1.5%)
Cases resistant to streptomycin	194 (6.5%)

## Treatment outcome monitoring, 2007

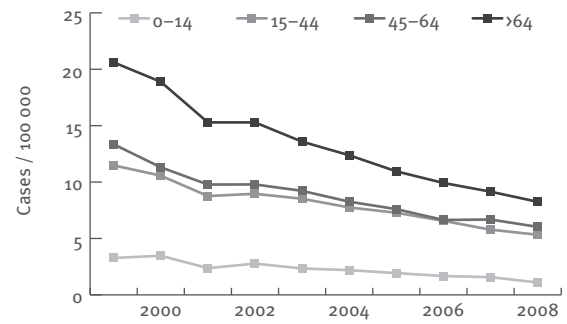
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	2892
Success	2157 (74.6%)
Died	368 (12.7%)
Failed	7 (0.2%)
Still on treatment	87 (3.0%)
Lost to follow-up	273 (9.4%)

## Tuberculosis notification rates by treatment history, 1999-2008\*



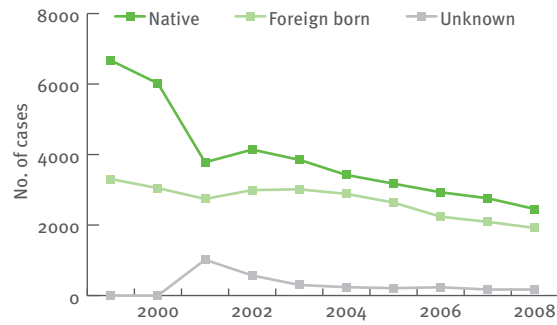
\* Notification system reorganised in 2001

## Tuberculosis notification rates by age group, 1999-2008\*



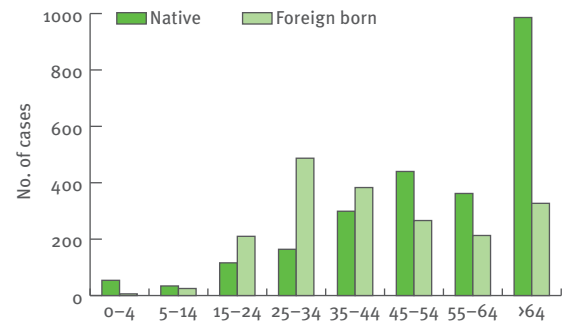
\* Notification system reorganised in 2001

## Tuberculosis cases by geographical origin, 1999-2008\*



\* Notification system reorganised in 2001

## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007





# Greece

Total population at 1 January 2008 by EUROSTAT: 11213785

## Tuberculosis case notifications, 2008

Total number of cases	669
Notification rate per 100 000	6.0
Sex ratio (M:F)	2.1
Median age group, nationals	55-64 years
Median age group, non-nationals	25-34 years
Foreign born	250 (37.4%)
New (never-treated)	538 (80.4%)
Culture positive	252 (37.7%)
Pulmonary	579 (86.5%)
of which sputum smear-positive	103 (17.8%)
HIV-positive TB cases	-
TB deaths per 100 000 (2007)	0.9

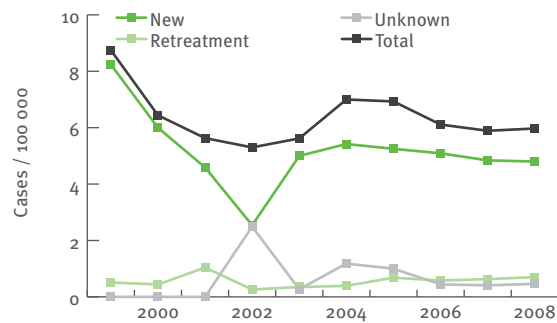
## Drug resistance surveillance, 2008

Not available

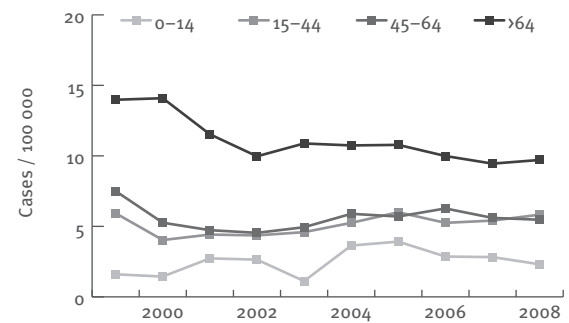
## Treatment outcome monitoring, 2007

Not available

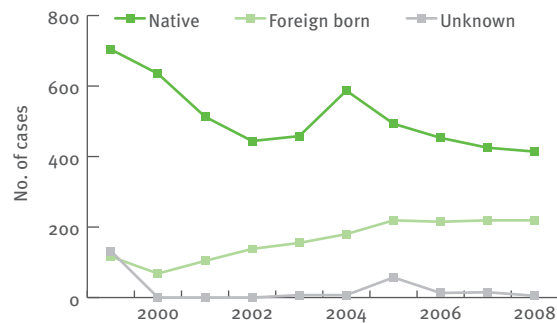
### Tuberculosis notification rates by treatment history, 1999-2008



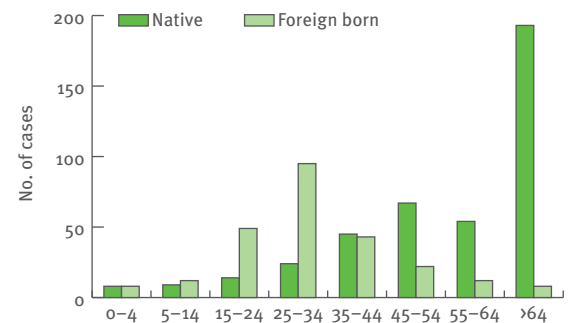
### Tuberculosis notification rates by age group, 1999-2008



### Tuberculosis cases by geographical origin, 1999-2008



### Tuberculosis cases by age group, 2008



### MDR TB cases by previous treatment history, 2001-2008



### Treatment outcome, new pulmonary culture-positive cases, 2001-2007

Not available

# Hungary

Total population at 1 January 2008 by EUROSTAT: 10 045 401

## Tuberculosis case notifications, 2008

Total number of cases	1606
Notification rate per 100 000	16.0
Sex ratio (M:F)	2.0
Median age group, nationals	45-54 years
Median age group, non-nationals	35-44 years
Foreign born	47 (2.9%)
New (never-treated)	1321 (82.3%)
Culture positive	766 (47.7%)
Pulmonary	1519 (94.6%)
of which sputum smear-positive	425 (28.0%)
HIV-positive TB cases	-
TB deaths per 100 000 (2005)	2.3

## Drug resistance surveillance, 2008

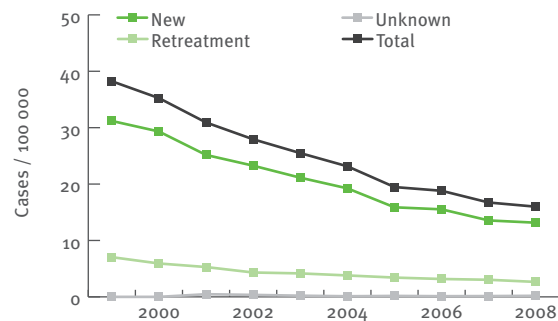
Geographical coverage	National*
International proficiency testing	Yes (2007)
Case-linked data reporting	Yes
Cases with DST results	611
Cases resistant to isoniazid	48 (8.1%)
Cases resistant to rifampicin	18 (3.0%)
MDR cases	16 (2.7%)
of which XDR cases	-
Cases resistant to ethambutol	19 (3.2%)
Cases resistant to streptomycin	37 (6.3%)

\* Data representativeness unknown

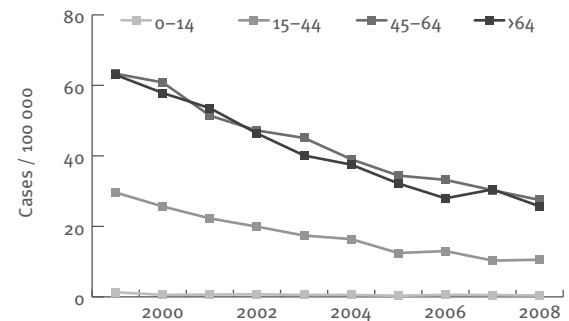
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	749
Success	363 (48.5%)
Died	100 (13.4%)
Failed	116 (15.5%)
Still on treatment	98 (13.1%)
Lost to follow-up	72 (9.6%)

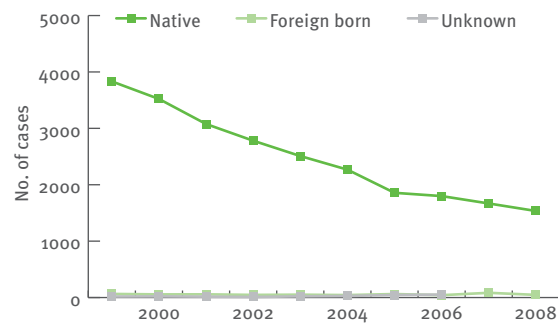
## Tuberculosis notification rates by treatment history, 1999-2008



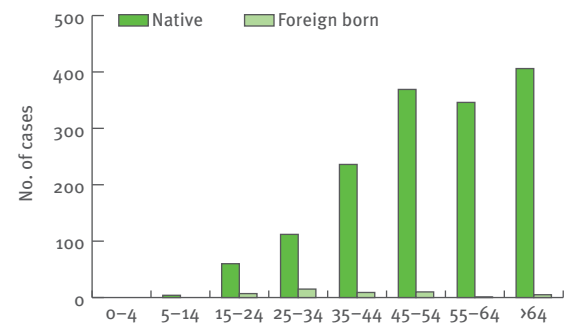
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



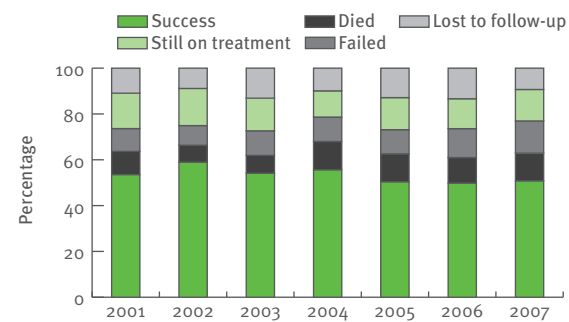
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Iceland

Total population at 1 January 2008 by EUROSTAT: 315 459

## Tuberculosis case notifications, 2008

Total number of cases	6
Notification rate per 100 000	1.9
Sex ratio (M:F)	2.0
Median age group, nationals	15–24 years
Median age group, non-nationals	25–34 years
Foreign born	4 (66.7%)
New (never-treated)	5 (83.3%)
Culture positive	5 (83.3%)
Pulmonary	3 (50.0%)
of which sputum smear-positive	2 (66.7%)
HIV-positive TB cases (2006)	2 (15.4%)
TB deaths per 100 000 (2007)	1.6

## Drug resistance surveillance, 2008

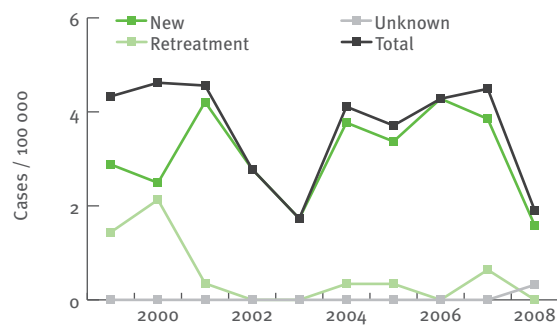
Geographical coverage	National
International proficiency testing	.*
Case-linked data reporting	Yes
Cases with DST results	5
Cases resistant to isoniazid	2 (40.0%)
Cases resistant to rifampicin	1 (20.0%)
MDR cases	1 (20.0%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	0 (0.0%)
Cases resistant to streptomycin	1 (20.0%)

\* DST done abroad

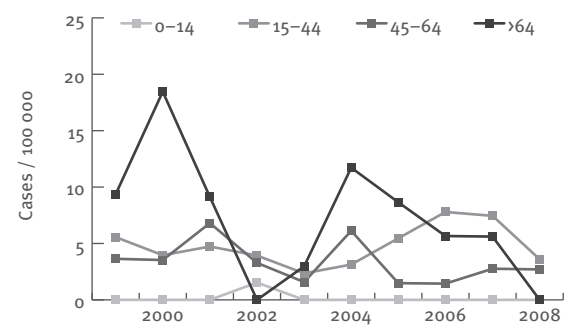
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	8
Success	6 (75.0%)
Died	0 (0.0%)
Failed	0 (0.0%)
Still on treatment	0 (0.0%)
Lost to follow-up	2 (25.0%)

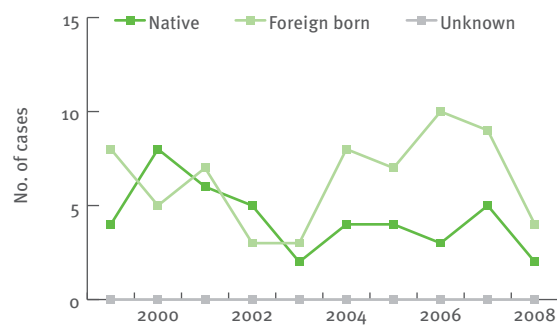
## Tuberculosis notification rates by treatment history, 1999–2008



## Tuberculosis notification rates by age group, 1999–2008



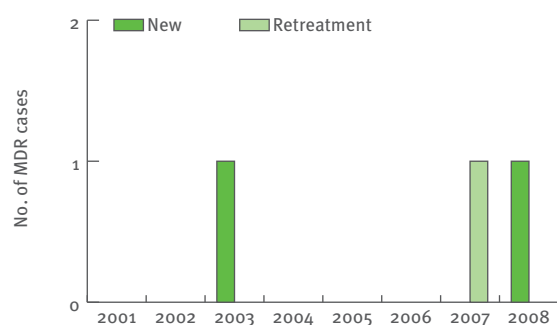
## Tuberculosis cases by geographical origin, 1999–2008



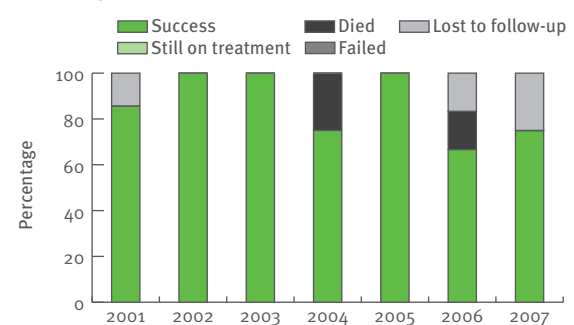
## Tuberculosis cases by age group, 2008

Insufficient number of cases for graphic presentation

## MDR TB cases by previous treatment history, 2001–2008



## Treatment outcome, new pulmonary culture-positive cases, 2001–2007



# Ireland

Total population at 1 January 2008 by EUROSTAT: 4 401 335

## Tuberculosis case notifications, 2008

Total number of cases	470
Notification rate per 100 000	10.7
Sex ratio (M:F)	1.6
Median age group, nationals	45-54 years
Median age group, non-nationals	25-34 years
Foreign born	186 (39.6%)
New (not previously diagnosed)	335 (71.3%)
Culture positive	209 (44.5%)
Pulmonary	329 (70.0%)
of which sputum smear-positive	159 (48.3%)
HIV-positive TB cases*	15 (3.2%)
TB deaths per 100 000 (2007)	1.0

\* Representativeness unknown

## Drug resistance surveillance, 2008

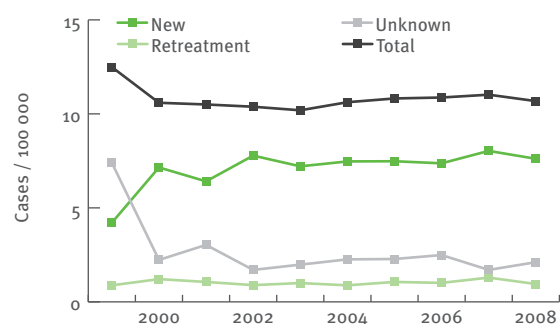
Geographical coverage	National*
International proficiency testing	Yes (2007)
Case-linked data reporting	Yes
Cases with DST results	146
Cases resistant to isoniazid	9 (6.2%)
Cases resistant to rifampicin	4 (2.7%)
MDR cases	3 (2.1%)
of which XDR cases	-
Cases resistant to ethambutol	2 (1.4%)
Cases resistant to streptomycin	5 (3.4%)

\* Data representativeness unknown

## Treatment outcome monitoring, 2007

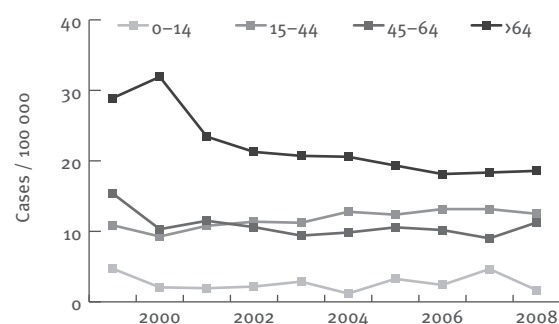
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	246
Success	166 (67.5%)
Died	18 (7.3%)
Failed	0 (0.0%)
Still on treatment	11 (4.5%)
Lost to follow-up	51 (20.7%)

## Tuberculosis notification rates by treatment history, 1999-2008\*

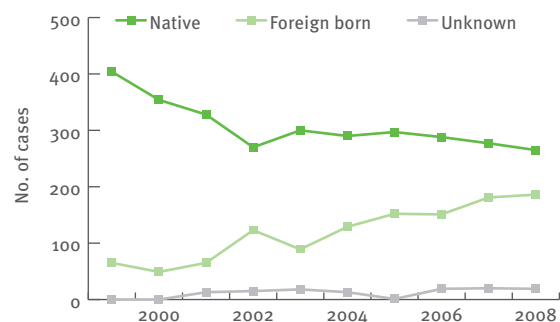


\* Distribution of cases by previous diagnosis

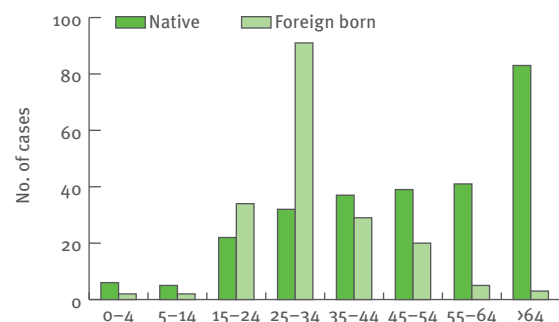
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

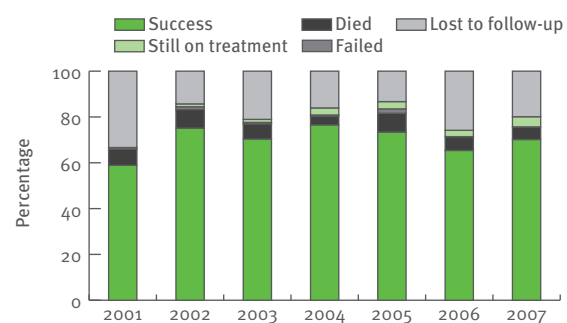


## MDR TB cases by previous treatment history, 2001-2008\*



\* Distribution of cases by previous diagnosis

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Israel

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 7051381

## Tuberculosis case notifications, 2008

Total number of cases	369
Notification rate per 100 000	5.2
Sex ratio among new TB cases (M:F)	1.6
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign born	313 (84.8%)
New (never-treated)	364 (98.6%)
Culture positive	225 (61.0%)
Pulmonary	275 (74.5%)
of which sputum smear-positive	221 (80.4%)
HIV-positive TB cases	25 (6.8%)
TB deaths per 100 000	0.4

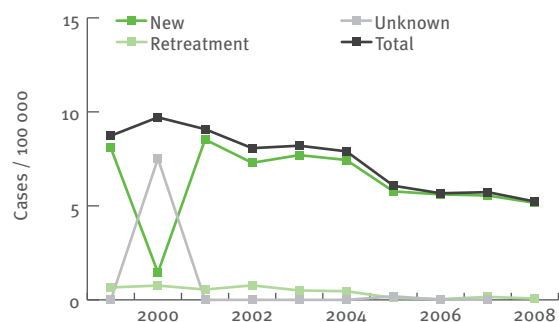
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	No
Cases with DST results	225
Cases resistant to isoniazid	24 (10.7%)
Cases resistant to rifampicin	13 (5.8%)
MDR cases	9 (4.0%)
of which XDR cases	1 (0.4%)
Cases resistant to ethambutol	5 (2.2%)
Cases resistant to streptomycin	18 (8.0%)

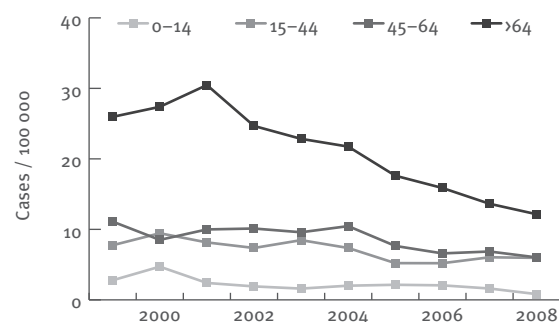
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	No
Notified in 2007	226
Success	171 (75.7%)
Died	24 (14.0%)
Failed	0 (0.0%)
Still on treatment	-
Lost to follow-up	25 (11.1%)

## Tuberculosis notification rates by treatment history, 1999-2008

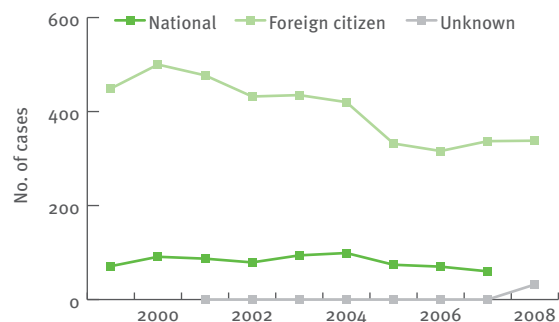


## Tuberculosis notification rates by age group, 1999-2008\*

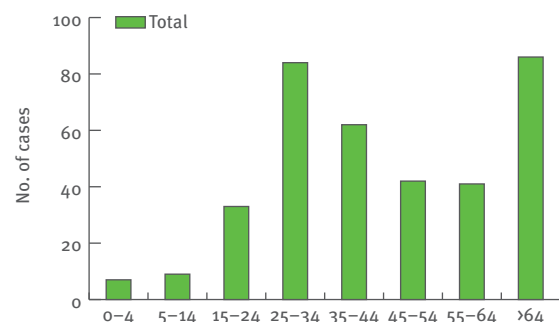


\* 2008 age group distribution available only for new cases

## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008\*

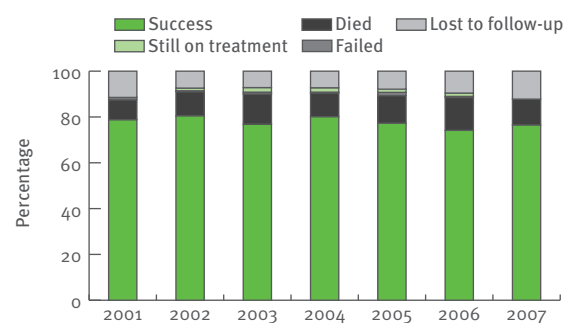


\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Italy

Total population at 1 January 2008 by EUROSTAT: 59 619 290

## Tuberculosis case notifications, 2008

Total number of cases	4 418
Notification rate per 100 000	7.4
Sex ratio (M:F)	1.5
Median age group, nationals	55-64 years
Median age group, non-nationals	25-34 years
Foreign born	2 026 (45.9%)
New (never-treated)*	3 409 (77.2%)
Culture positive	1 529 (34.6%)
Pulmonary	3 287 (74.4%)
of which sputum smear-positive	1 234 (37.5%)
HIV-positive TB cases	-
TB deaths per 100 000 (2006)	1.0

\* 18% of cases with missing data on previous history

## Drug resistance surveillance, 2008

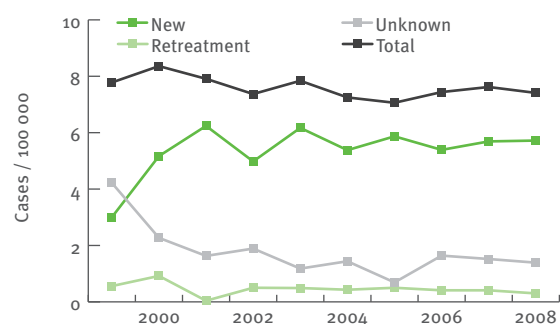
Geographical coverage	Partial*
International proficiency testing	Yes
Case-linked data reporting	No
Cases with DST results	1 932
Cases resistant to isoniazid	244 (12.6%)
Cases resistant to rifampicin	89 (4.6%)
MDR cases	71 (3.7%)
of which XDR cases	-
Cases resistant to ethambutol	71 (3.7%)
Cases resistant to streptomycin	238 (12.3%)

\* Data from National Reference Laboratories and regional labs (representativeness unknown)

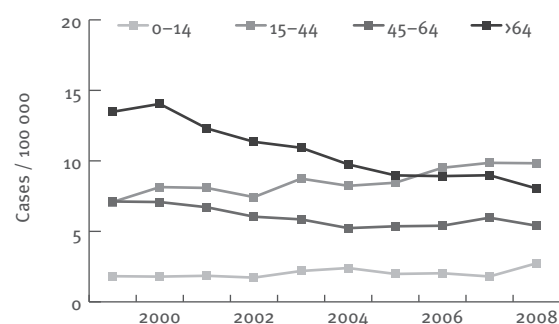
## Treatment outcome monitoring, 2007

Not available

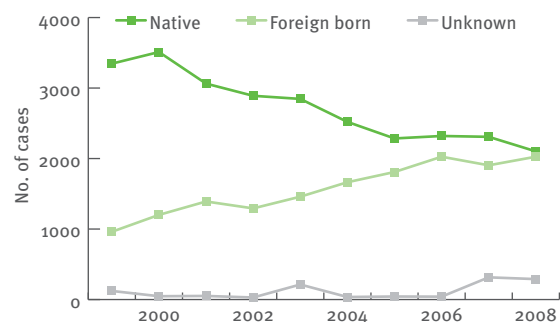
## Tuberculosis notification rates by treatment history, 1999-2008



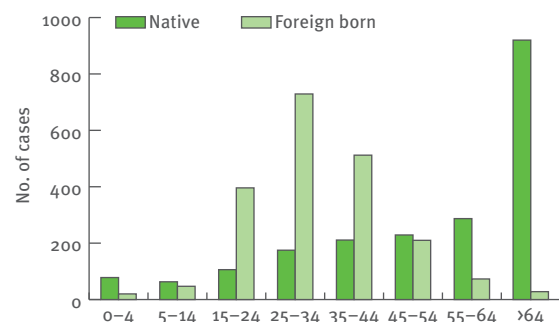
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

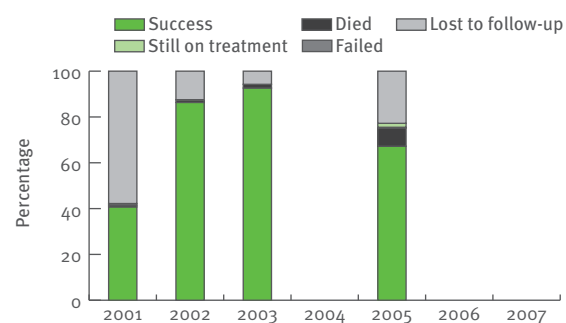


## MDR TB cases by previous treatment history, 2001-2008\*



\* No data by treatment history in 2006

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007\*



\* Data representativeness unknown ; no data in 2004, 2006 and 2007

# Kazakhstan

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 15521493

## Tuberculosis case notifications, 2008

Total number of cases	31809
Notification rate per 100 000	204.9
Sex ratio among new TB cases (M:F)	1.3
Median age group among new TB cases	25–34 years
Median age group, non-nationals	-
Foreign citizens	89 (0.3%)
New (never-treated)	19684 (61.9%)
Culture positive	20139 (63.3%)
Pulmonary	22464 (70.6%)
of which sputum smear-positive	20139 (63.3%)
HIV-positive TB cases	238 (0.7%)
TB deaths per 100 000	17.0

## Drug resistance surveillance, 2008

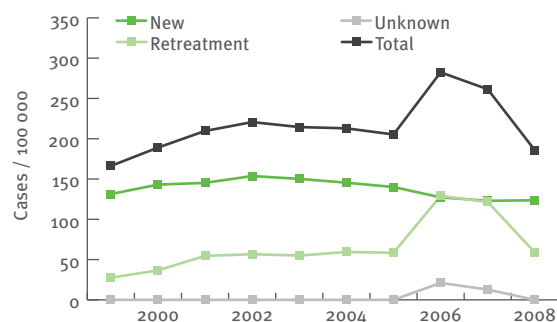
Geographical coverage	National*
International proficiency testing	Yes
Case-linked data reporting	No
Cases with DST results	15369
Cases resistant to isoniazid	8709 (56.7%)
Cases resistant to rifampicin	7420 (48.3%)
MDR cases	7100 (46.2%)
of which XDR cases	22 (0.1%)
Cases resistant to ethambutol	6863 (44.7%)
Cases resistant to streptomycin	9345 (60.8%)

\* All DST labs (representativeness unknown)

## Treatment outcome monitoring, 2007

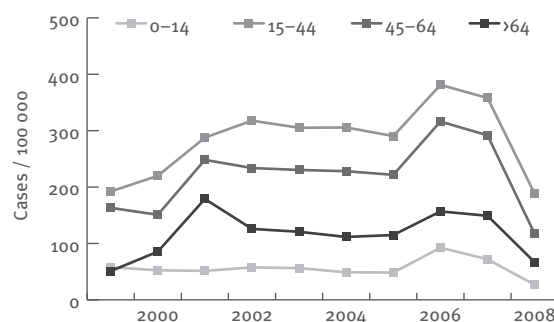
Geographical coverage	National
Outcome cohort	New & relapse pulm smear-positive
Case-linked data reporting	No
Notified in 2007	24 862
Success	14 128 (56.8%)
Died	1980 (8.0%)
Failed	5 861 (23.6%)
Still on treatment	-
Lost to follow-up	2 893 (11.6%)

## Tuberculosis notification rates by treatment history, 1999–2008\*



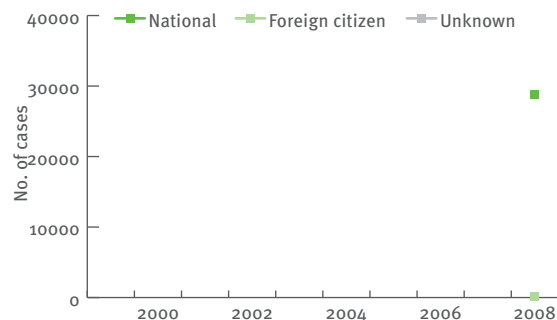
\* Sharp increase in cases previously treated & with unknown history in 2006

## Tuberculosis notification rates by age group, 1999–2008\*



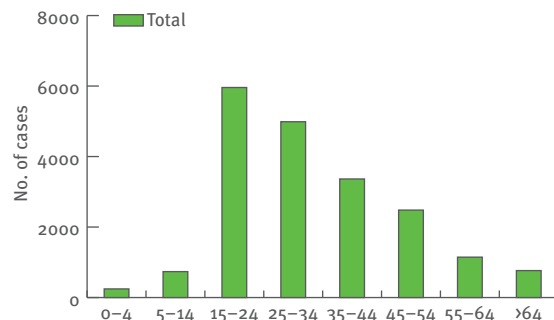
\* Sharp increase in cases previously treated & with unknown history in 2006. Only new cases included in 2006.

## Tuberculosis cases by geographical origin, 1999–2008\*



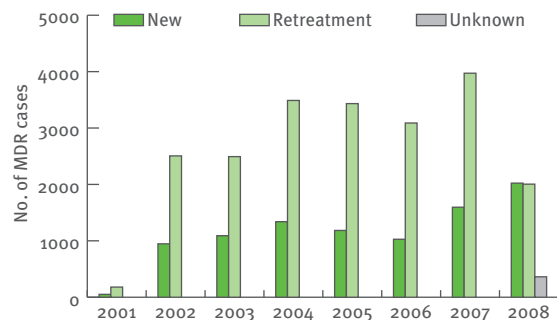
\* In 2008, first time 89 foreigners were reported

## Tuberculosis cases by age group, 2008\*



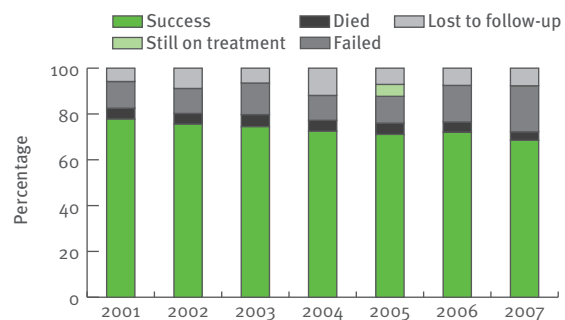
\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001–2008\*



\* Data representativeness unknown

## Treatment outcome, new pulmonary smear-positive cases, 2001–2007



# Kyrgyzstan

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 5 413 645

## Tuberculosis case notifications, 2008

Total number of cases	7127
Notification rate per 100 000	133.3
Sex ratio among new TB cases (M:F)	1.3
Median age group among new TB cases	25–34 years
Median age group, non-nationals	-
Foreign citizens	0 (0.0%)
New (never-treated)	6 230 (87.4%)
Culture positive	2 062 (28.9%)
Pulmonary	4 146 (58.2%)
of which sputum smear-positive	2 110 (50.9%)
HIV-positive TB cases	-
TB deaths per 100 000	8.94

\* For new cases only

## Drug resistance surveillance, 2008

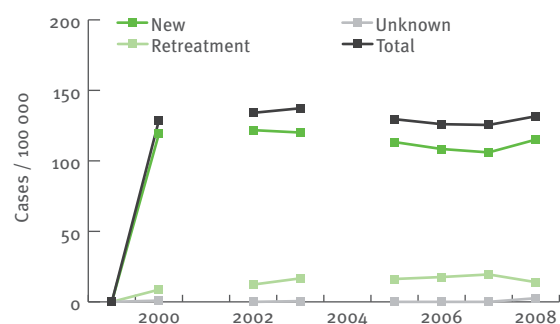
Geographical coverage	Partial*
International proficiency testing	No
Case-linked data reporting	No
Cases with DST results	809
Cases resistant to isoniazid	456 (56.4%)
Cases resistant to rifampicin	310 (38.3%)
MDR cases	269 (33.3%)
of which XDR cases	-
Cases resistant to ethambutol	175 (21.6%)
Cases resistant to streptomycin	387 (47.8%)

\* Data from NRL (representativeness unknown)

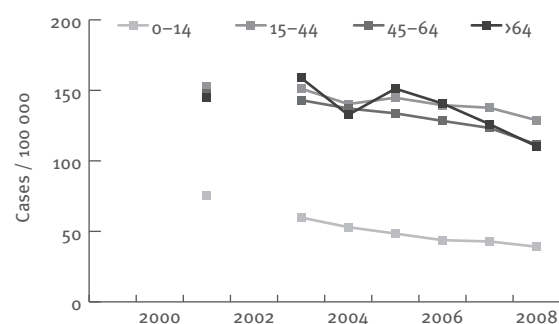
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	New & relapse pulm smear-positive
Case-linked data reporting	No
Notified in 2007	2 753
Success	2 151 (78.1%)
Died	140 (5.1%)
Failed	150 (5.4%)
Still on treatment	-
Lost to follow-up	312 (11.3%)

## Tuberculosis notification rates, 1995–2007



## Tuberculosis notification rates by age group, 1999–2008\*

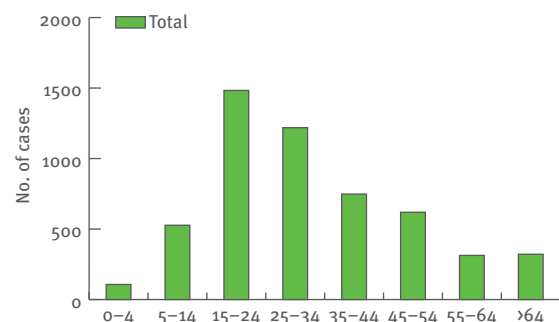


\* New cases only

## Tuberculosis cases by geographical origin, 1999–2008

Not available

## Tuberculosis cases by age group, 2008\*



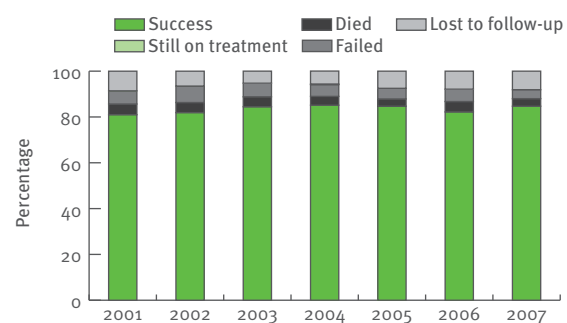
\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001–2008\*



\* Data representativeness unknown; one out of two cases of foreign origin with DST results in 2001 had MDR

## Treatment outcome, new pulmonary culture-positive cases, 2001–2007





# Latvia

Total population at 1 January 2008 by EUROSTAT: 2 270 894

## Tuberculosis case notifications, 2008

Total number of cases	1070
Notification rate per 100 000	47.1
Sex ratio (M:F)	2.6
Median age group, nationals	35-44 years
Median age group, non-nationals	45-54 years
Foreign born	56 (5.2%)
New (never-treated)	918 (85.8%)
Culture positive	838 (78.3%)
Pulmonary	950 (88.8%)
of which sputum smear-positive	494 (52.0%)
HIV-positive TB cases	72 (6.7%)
TB deaths per 100 000 (2006)	6.31

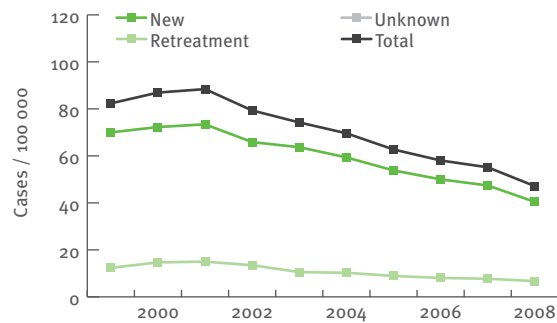
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	828
Cases resistant to isoniazid	257 (30.4%)
Cases resistant to rifampicin	132 (15.9%)
MDR cases	129 (15.6%)
of which XDR cases	19 (14.7%)
Cases resistant to ethambutol	115 (13.9%)
Cases resistant to streptomycin	242 (29.2%)

## Treatment outcome monitoring, 2007

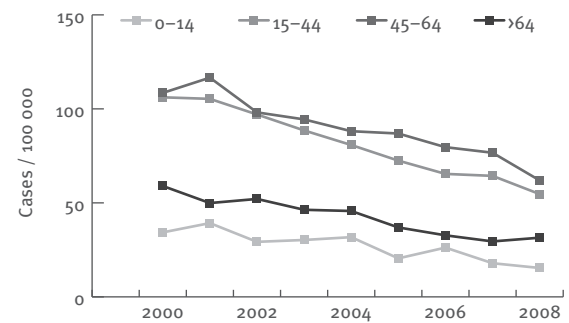
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	939
Success	730 (77.7%)
Died	68 (7.2%)
Failed	3 (0.3%)
Still on treatment	87 (9.3%)
Lost to follow-up	51 (5.4%)

## Tuberculosis notification rates by treatment history, 1999-2008\*



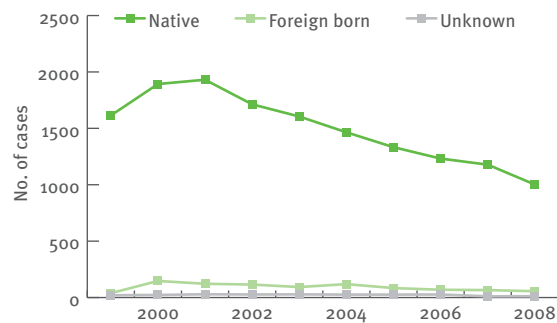
\* Re-treated cases other than relapses included since 2001

## Tuberculosis notification rates by age group, 1999-2008\*



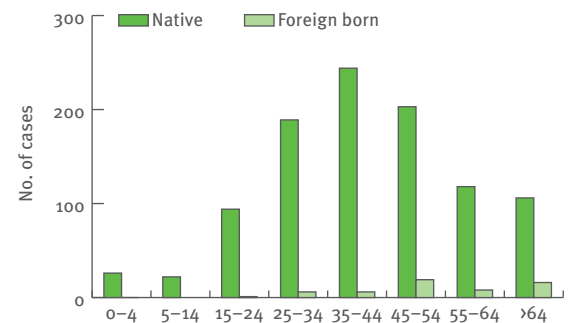
\* Re-treated cases other than relapses included since 2001

## Tuberculosis cases by geographical origin, 1999-2008\*



\* Re-treated cases other than relapses included since 2001

## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Liechtenstein

Total population at 1 January 2008 by EUROSTAT: 35 356

## Tuberculosis case notifications, 2008

Not available

## Drug resistance surveillance, 2008

Not available

## Treatment outcome monitoring, 2007

Not available

## Tuberculosis notification rates by treatment history, 1999–2008

Insufficient number of cases for graphic presentation

## Tuberculosis notification rates by age group, 1999–2008

Insufficient number of cases for graphic presentation

## Tuberculosis cases by geographical origin, 1999–2008

Insufficient number of cases for graphic presentation

## Tuberculosis cases by age group, 2008

Not available

## MDR TB cases by previous treatment history, 2001–2008

Not available

## Treatment outcome, new pulmonary culture-positive cases, 2001–2007

Not available

# Lithuania

Total population at 1 January 2008 by EUROSTAT: 2270 894

## Tuberculosis case notifications, 2008

Total number of cases	2250
Notification rate per 100 000	66.8
Sex ratio (M:F)	2.6
Median age group, nationals	45-54 years
Median age group, non-nationals	45-54 years
Foreign born	49 (2.2%)
New (never-treated)	1892 (84.1%)
Culture positive	1616 (71.8%)
Pulmonary	1984 (88.2%)
of which sputum smear-positive	1167 (58.8%)
HIV-positive TB cases* (2006)	21 (0.9%)
TB deaths per 100 000 (2006)	8.44

\* Representativeness unknown

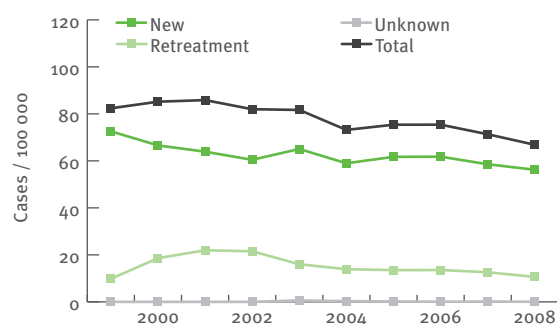
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	-
Case-linked data reporting	Yes
Cases with DST results	1616
Cases resistant to isoniazid	469 (29.0%)
Cases resistant to rifampicin	287 (17.8%)
MDR cases	276 (17.1%)
of which XDR cases	-
Cases resistant to ethambutol	167 (10.3%)
Cases resistant to streptomycin	412 (25.5%)

## Treatment outcome monitoring, 2007

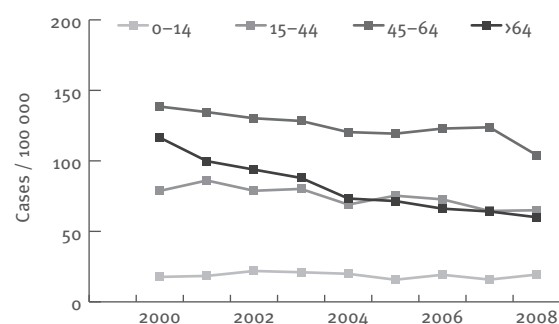
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	1636
Success	992 (60.6%)
Died	265 (16.2%)
Failed	39 (2.4%)
Still on treatment	157 (9.6%)
Lost to follow-up	183 (11.2%)

## Tuberculosis notification rates by treatment history, 1999-2008\*



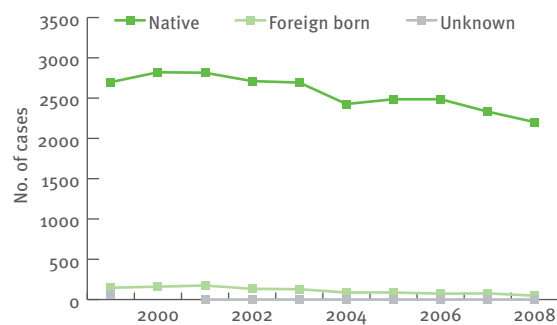
\* Re-treated cases other than relapses included since 2001

## Tuberculosis notification rates by age group, 1999-2008\*



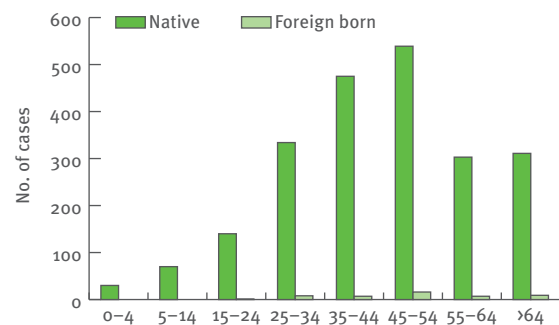
\* Re-treated cases other than relapses included since 2001

## Tuberculosis cases by geographical origin, 1999-2008\*



\* Re-treated cases other than relapses included since 2001

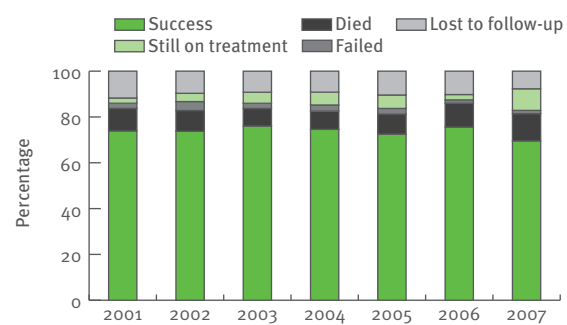
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Luxembourg

Total population at 1 January 2008 by EUROSTAT: 483799

## Tuberculosis case notifications, 2008

Total number of cases	28
Notification rate per 100 000	5.8
Sex ratio (M:F)	1.7
Median age group, all	35-44 years
Median age group, non-nationals	-
Foreign born	-
New (never-treated)*	-
Culture positive	-
Pulmonary	-
of which sputum smear-positive	-
HIV-positive TB cases	-
TB deaths per 100 000 (2006)	0.22

\*Treatment history information not provided

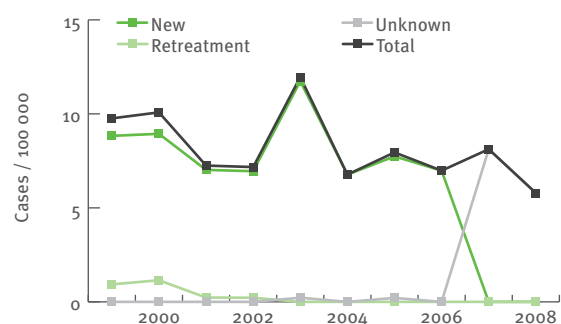
## Drug resistance surveillance, 2008

Not available

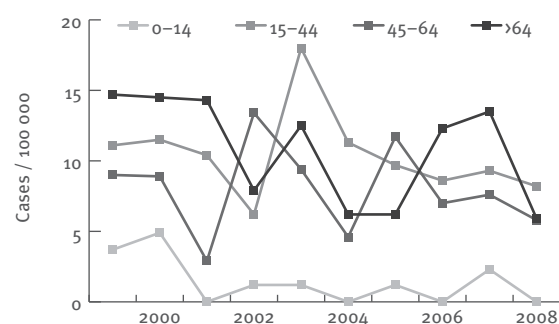
## Treatment outcome monitoring, 2007

Not available

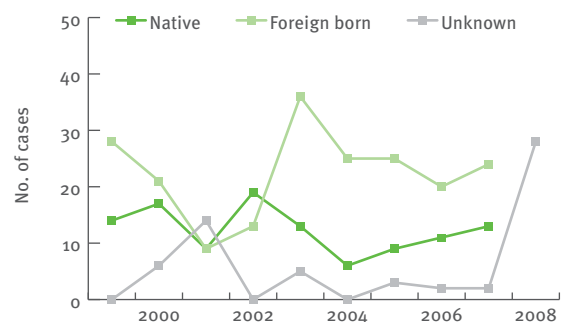
## Tuberculosis notification rates by treatment history, 1999-2008



## Tuberculosis notification rates by age group, 1999-2008



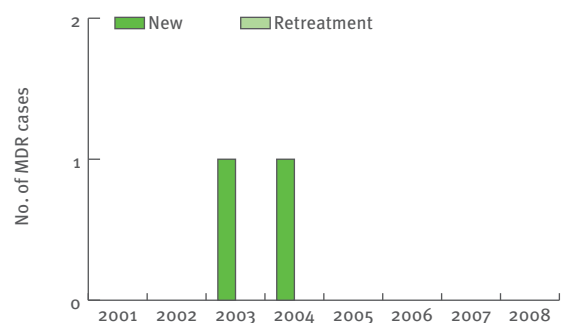
## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

Not available

## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007

Not available

# The former Yugoslav Republic of Macedonia

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 2041342

## Tuberculosis case notifications, 2008

Total number of cases	457
Notification rate per 100 000	22.4
Sex ratio among new TB cases (M:F)	1.3
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign born	22 (4.8%)
New (never-treated)	427 (93.4%)
Culture positive	205 (44.9%)
Pulmonary	350 (76.6%)
of which sputum smear-positive	217 (62.0%)
HIV-positive TB cases	2 (0.4%)
TB deaths per 100 000	1.52

## Drug resistance surveillance, 2008

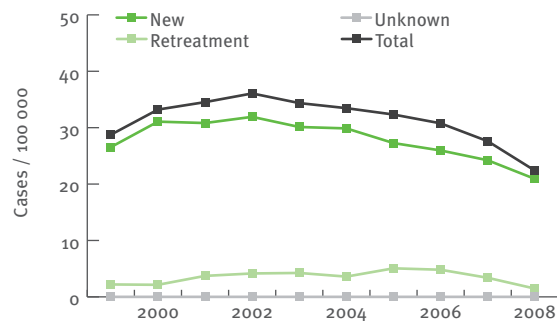
Geographical coverage	National*
International proficiency testing	No
Case-linked data reporting	No
Cases with DST results	147
Cases resistant to isoniazid	10 (6.8%)
Cases resistant to rifampicin	8 (5.4%)
MDR cases	2 (1.4%)
of which XDR cases	-
Cases resistant to ethambutol	12 (8.2%)
Cases resistant to streptomycin	11 (7.5%)

\* Data representativeness unknown

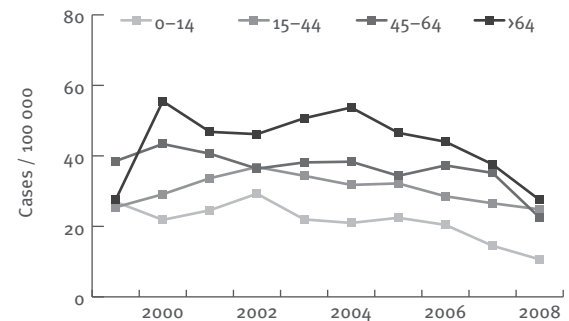
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	268
Success	218 (81%)
Died	32 (12%)
Failed	6 (2%)
Still on treatment	-
Lost to follow-up	12 (4%)

## Tuberculosis notification rates by treatment history, 1999-2008

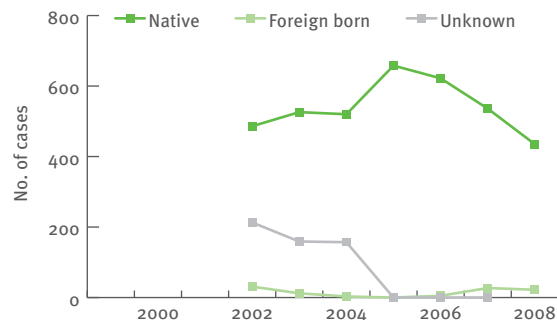


## Tuberculosis notification rates by age group, 1999-2008\*

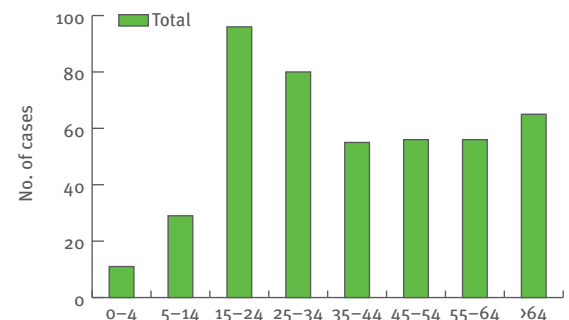


\* New cases only for 2008

## Tuberculosis cases by geographical origin, 1999-2008

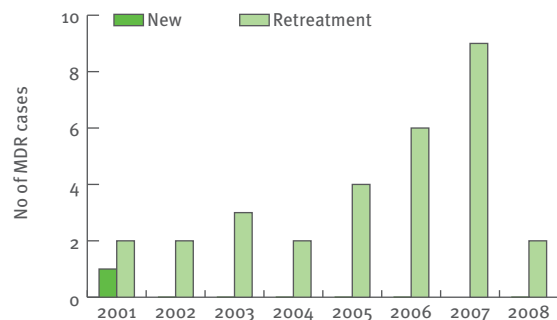


## Tuberculosis cases by age group, 2008\*



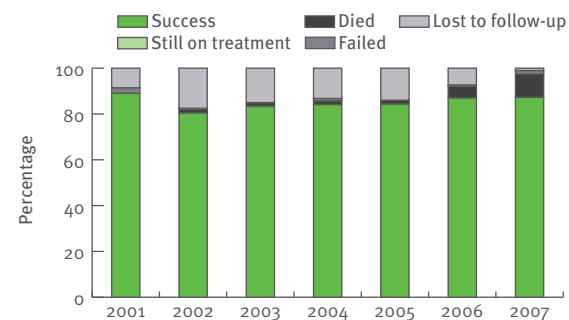
\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008\*



\* Data representativeness unknown

## Treatment outcome, new pulmonary smear-positive cases, 2001-2007



# Malta

Total population at 1 January 2008 by EUROSTAT: 408934

## Tuberculosis case notifications, 2008

Total number of cases	53
Notification rate per 100 000	13.0
Sex ratio (M:F)	4.3
Median age group, nationals	>64 years
Median age group, non-nationals	25-34 years
Foreign citizens	42 (79.2%)
New (never-treated)	46 (86.8%)
Culture positive	25 (47.2%)
Pulmonary	40 (75.5%)
of which sputum smear-positive	18 (45.0%)
HIV-positive TB cases	5 (9.4%)
TB deaths per 100 000 (2007)	1.47

## Drug resistance surveillance, 2008

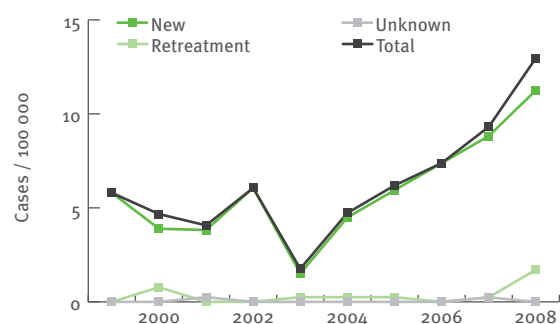
Geographical coverage	National
International proficiency testing	.*
Case-linked data reporting	Yes
Cases with DST results	25
Cases resistant to isoniazid	2 (8.0%)
Cases resistant to rifampicin	0 (0.0%)
MDR cases	0 (0.0%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	0 (0.0%)
Cases resistant to streptomycin	5 (20.0%)

\* DST done abroad. Data representativeness unknown.

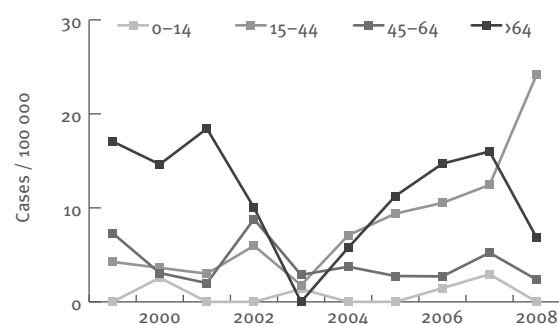
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	14
Success	9 (64.3%)
Died	0 (0.0%)
Failed	0 (0.0%)
Still on treatment	1 (7.1%)
Lost to follow-up	4 (28.6%)

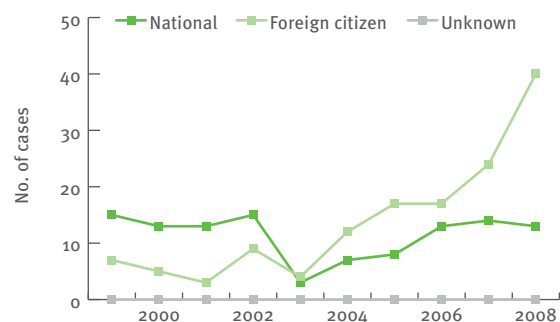
## Tuberculosis notification rates by treatment history, 1999-2008



## Tuberculosis notification rates by age group, 1999-2008

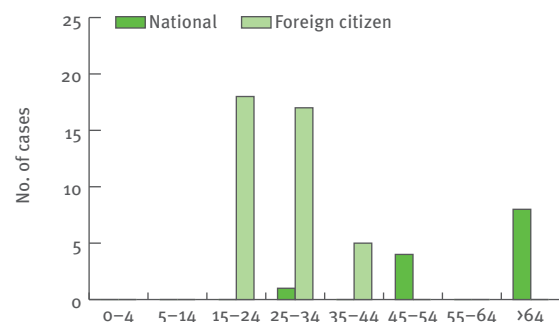


## Tuberculosis cases by geographical origin, 1999-2008

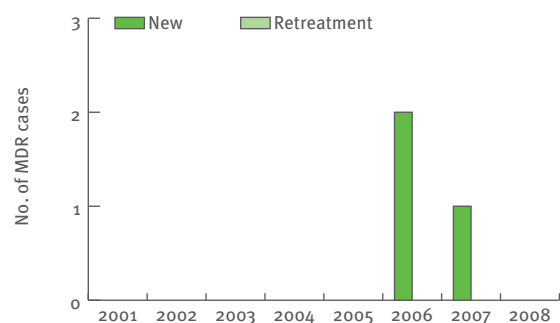


\* Since 2000 used citizenship

## Tuberculosis cases by age group, 2008

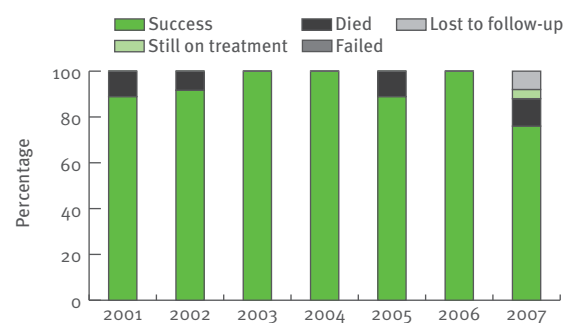


## MDR TB cases by previous treatment history, 2001-2008\*



\* Data representativeness unknown in 2003-2005; one out of 14 cases in foreign citizens with DST results in 2006 had MDR

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Moldova

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 3633369

## Tuberculosis case notifications, 2008

Total number of cases	5838
Notification rate per 100 000	160.7
Sex ratio among new TB cases (M:F)	2.4
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign citizens	19 (0.3%)
New (never-treated)	3951 (67.7%)
Culture positive	2547 (43.6%)
Pulmonary	4547 (77.9%)
of which sputum smear-positive	2605 (57.3%)
HIV-positive TB cases	258 (4.4%)
TB deaths per 100 000	15.6

## Drug resistance surveillance, 2008

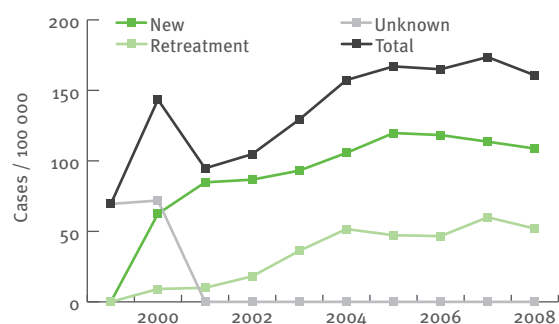
Geographical coverage	National*
International proficiency testing	Yes
Case-linked data reporting	No
Cases with DST results	2439
Cases resistant to isoniazid	1269 (52.0%)
Cases resistant to rifampicin	1083 (44.4%)
MDR cases	1048 (43.0%)
of which XDR cases	-
Cases resistant to ethambutol	829 (34.0%)
Cases resistant to streptomycin	1294 (53.1%)

\* All DST labs (representativeness unknown)

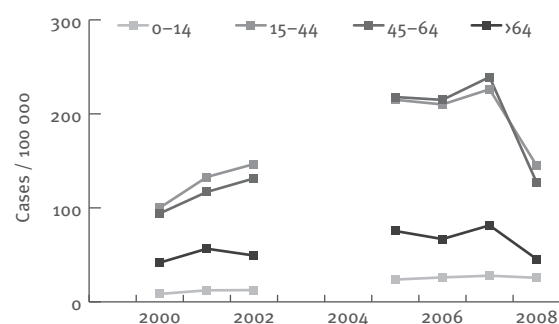
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	3766
Success	1772 (47.1%)
Died	471 (12.5%)
Failed	897 (23.8%)
Still on treatment	-
Lost to follow-up	626 (16.6%)

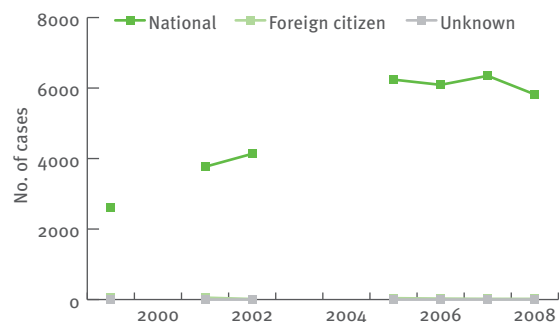
## Tuberculosis notification rates by treatment history, 1999-2008



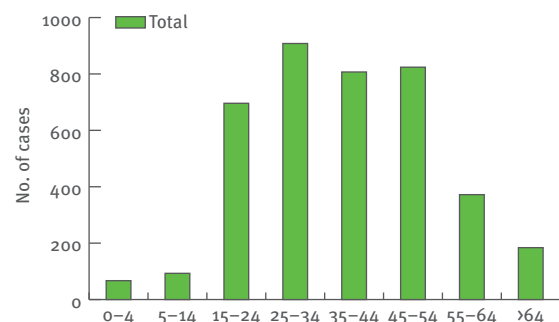
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008

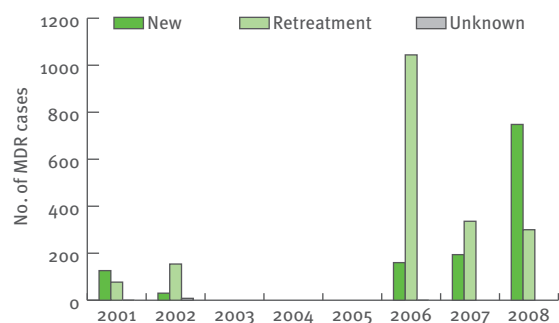


## Tuberculosis cases by age group, 2008\*



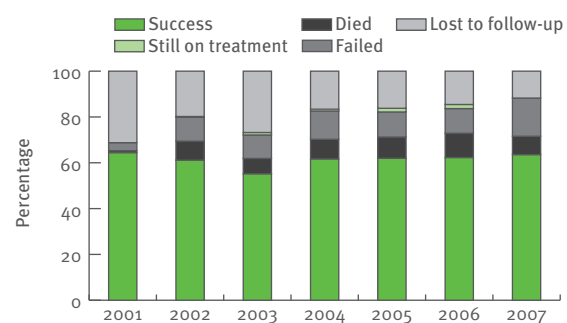
\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008\*



\* No data in 2003-2005

## Treatment outcome, new pulmonary smear-positive cases, 2001-2007\*



\* Data representativeness unknown 2001-2002

# Monaco

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 32715

## Tuberculosis case notifications, 2008

Not available

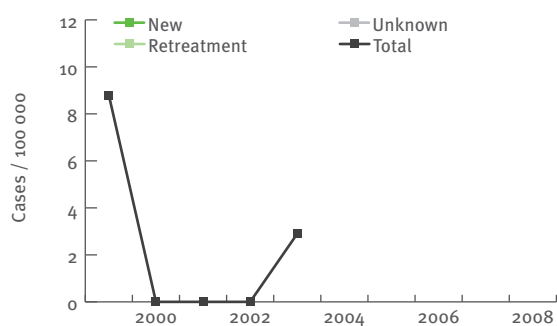
## Drug resistance surveillance, 2008

Not available

## Treatment outcome monitoring, 2007

Not available

## Tuberculosis notification rates by treatment history, 1999–2008\*



\* No data reported in 2004–2008

## Tuberculosis notification rates by age group, 1999–2008

Not available

## Tuberculosis cases by geographical origin, 1999–2008

Not available

## Tuberculosis cases by age group, 2008

Not available

## MDR TB cases by previous treatment history, 2001–2008

Not available

## Treatment outcome, new pulmonary culture-positive cases, 2001–2007

Not available



# Montenegro

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 622 344

## Tuberculosis case notifications, 2008

Total number of cases	133
Notification rate per 100 000	21.4
Sex ratio among new TB cases (M:F)*	0.8
Median age group among new TB cases	45-54 years
Median age group, non-nationals	-
Foreign citizens	3 (2.3%)
New (never-treated)	123 (92.5%)
Culture positive	83 (62.4%)
Pulmonary	111 (83.5%)
of which sputum smear-positive	73 (65.8%)
HIV-positive TB cases	0 (0.0%)
TB deaths per 100 000	0.48

\* New cases only

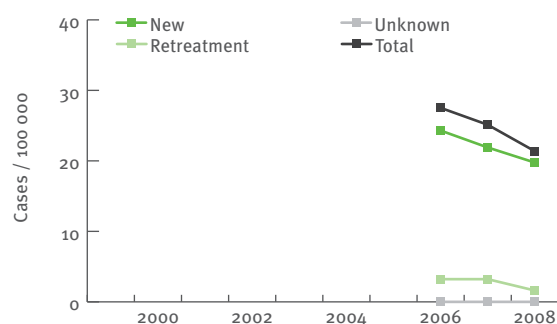
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	No
Case-linked data reporting	No
Cases with DST results	84
Cases resistant to isoniazid	0 (2.3%)
Cases resistant to rifampicin	1 (1.2%)
MDR cases	0 (0.0%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	1 (1.2%)
Cases resistant to streptomycin	5 (6.0%)

## Treatment outcome monitoring, 2007

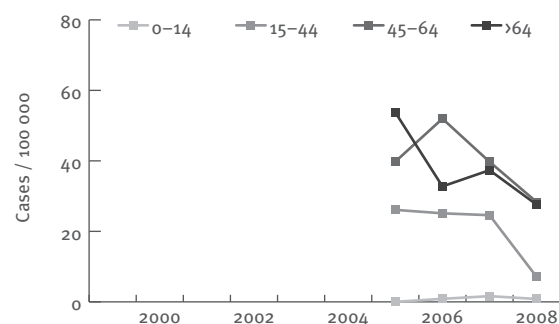
Geographical coverage	
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	99
Success	73 (73.7%)
Died	5 (5.1%)
Failed	0 (0.0%)
Still on treatment	-
Lost to follow-up	21 (21.2%)

## Tuberculosis notification rates by treatment history, 1999-2008\*



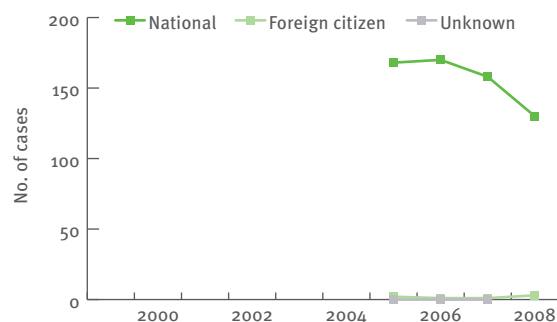
\* Established in 2006 following the split of Serbia & Montenegro; data starting from 2005

## Tuberculosis notification rates by age group, 1999-2008\*



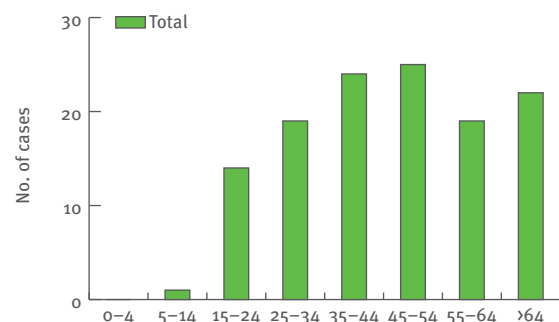
\* Established in 2006 following the split of Serbia & Montenegro; data starting from 2005; new cases only for 2008

## Tuberculosis cases by geographical origin, 1999-2008\*



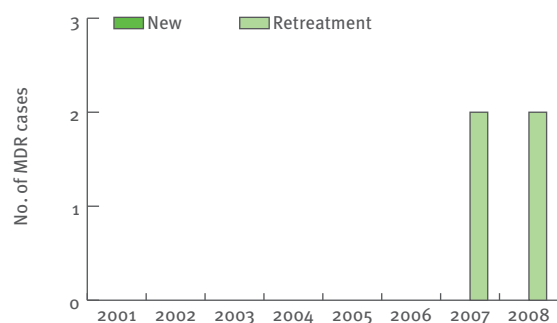
\* Established in 2006 following the split of Serbia & Montenegro; data starting from 2005

## Tuberculosis cases by age group, 2008\*



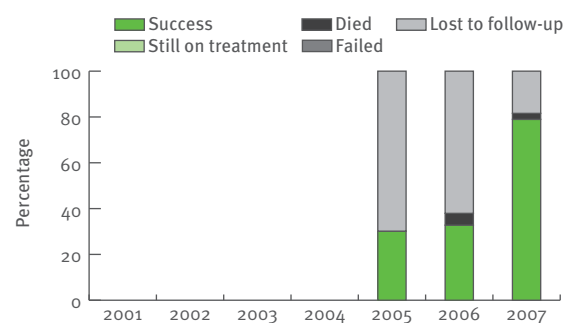
\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008\*



\* Established in 2006 following the split of Serbia & Montenegro; data starting from 2005

## Treatment outcome, new pulmonary smear and/or culture-positive cases, 2001-2007\*



\* Pilot project, results incomplete

# Netherlands

Total population at 1 January 2008 by EUROSTAT: 16 405 399

## Tuberculosis case notifications, 2008

Total number of cases	997
Notification rate per 100 000	6.1
Sex ratio (M:F)	1.3
Median age group, nationals	45-54 years
Median age group, non-nationals	35-44 years
Foreign born	688 (69.0%)
New (never-treated)	948 (95.1%)
Culture positive	728 (73.0%)
Pulmonary	596 (59.8%)
of which sputum smear-positive	202 (33.9%)
HIV-positive TB cases*	37 (3.7%)
TB deaths per 100 000 (2007)	0.33

\* Representativeness unknown

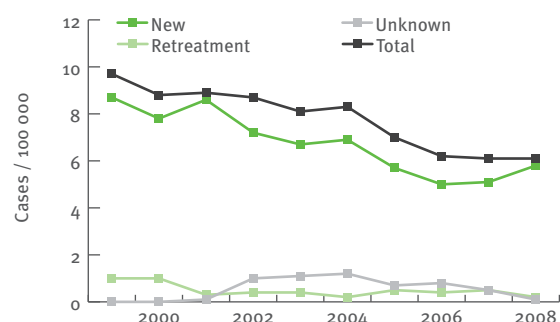
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	728
Cases resistant to isoniazid	55 (7.6%)
Cases resistant to rifampicin	14 (1.9%)
MDR cases	13 (1.8%)
of which XDR cases	-
Cases resistant to ethambutol	3 (0.4%)
Cases resistant to streptomycin	-

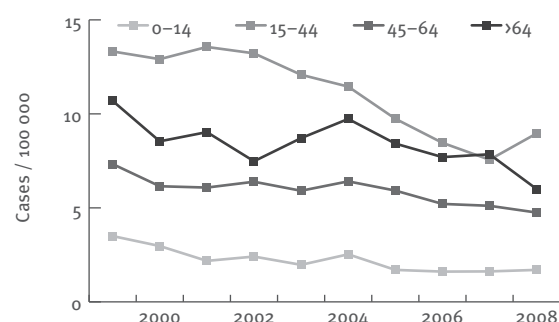
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	487
Success	366 (75.2%)
Died	30 (6.2%)
Failed	0 (0.0%)
Still on treatment	0 (0.0%)
Lost to follow-up	91 (18.7%)

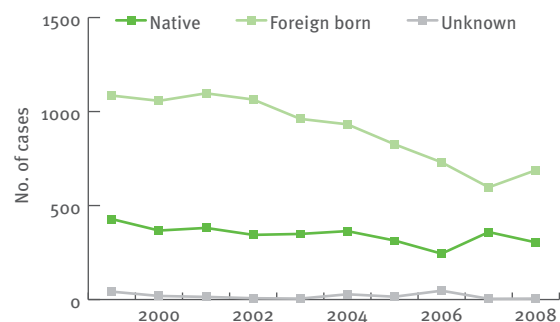
## Tuberculosis notification rates by treatment history, 1999-2008



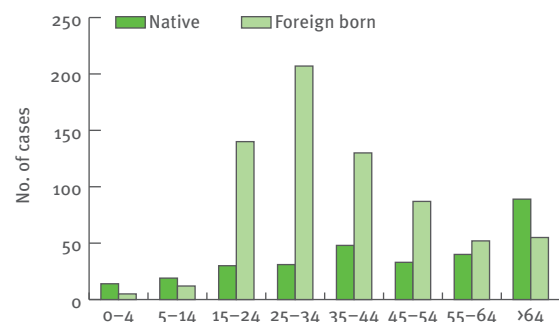
## Tuberculosis notification rates by age group, 1999-2008



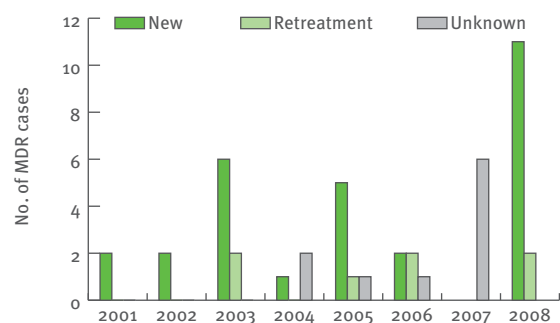
## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

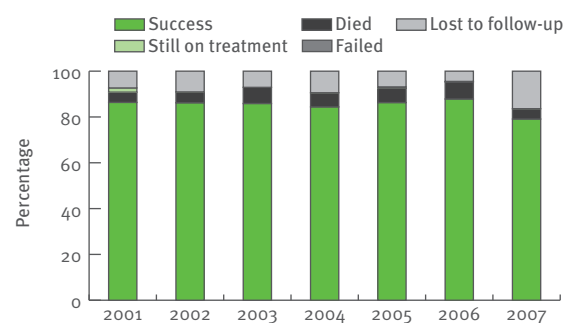


## MDR TB cases by previous treatment history, 2001-2008\*



\* Distribution of cases by previous diagnosis

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Norway

Total population at 1 January 2008 by EUROSTAT: 4 737 171

## Tuberculosis case notifications, 2008

Total number of cases	324
Notification rate per 100 000	6.8
Sex ratio (M:F)	1.0
Median age group, nationals	>65 years
Median age group, non-nationals	25-34 years
Foreign born	267 (82.4%)
New (never-treated)	237 (73.1%)
Culture positive	227 (70.1%)
Pulmonary	194 (59.9%)
of which sputum smear-positive	68 (35.1%)
HIV-positive TB cases	-
TB deaths per 100 000 (2006)	0.82

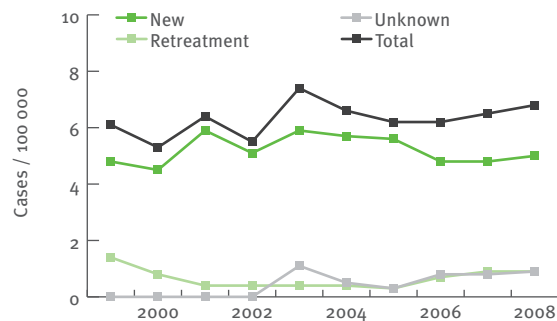
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	227
Cases resistant to isoniazid	36 (15.9%)
Cases resistant to rifampicin	6 (1.8%)
MDR cases	4 (1.8%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	6 (2.6%)
Cases resistant to streptomycin	29 (12.8%)

## Treatment outcome monitoring, 2007

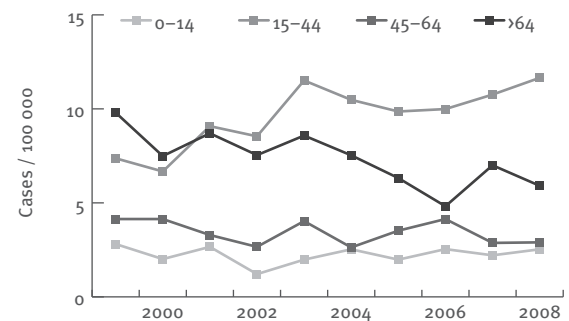
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	147
Success	111 (75.5%)
Died	5 (3.4%)
Failed	0 (0.0%)
Still on treatment	5 (3.4%)
Lost to follow-up	26 (17.7%)

## Tuberculosis notification rates by treatment history, 1999-2008\*

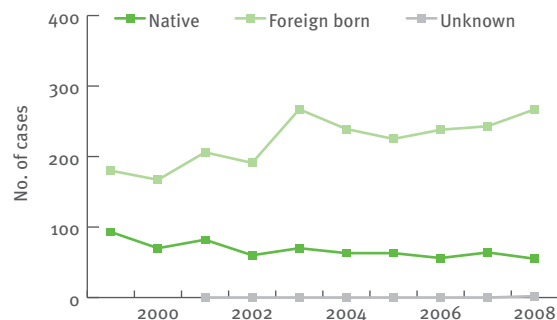


\* Distribution of cases by previous diagnosis

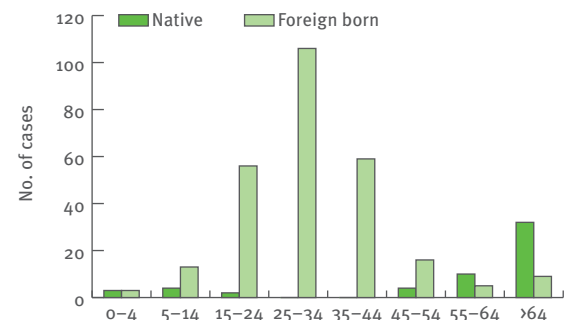
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

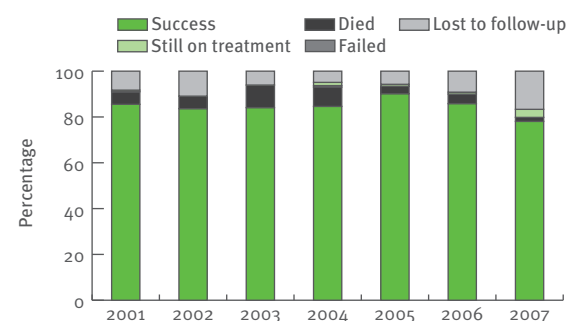


## MDR TB cases by previous treatment history, 2001-2008\*



\* Distribution of cases by previous diagnosis

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Poland

Total population at 1 January 2008 by EUROSTAT: 38 115 641

## Tuberculosis case notifications, 2008

Total number of cases	8081
Notification rate per 100 000	21.2
Sex ratio (M:F)	2.1
Median age group, all cases	45-54 years
Median age group, non-nationals	25-34 years
Foreign citizens	52 (0.6%)
New (not previously diagnosed)	7061 (93.7%)
Culture positive	5094 (87.4%)
Pulmonary	7484 (92.6%)
of which sputum smear-positive	3084 (41.2%)
HIV-positive TB cases	-
TB deaths per 100 000 (2007)	2.03

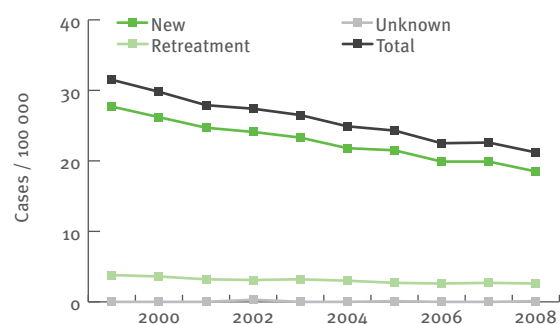
## Drug resistance surveillance, 2008

Not available

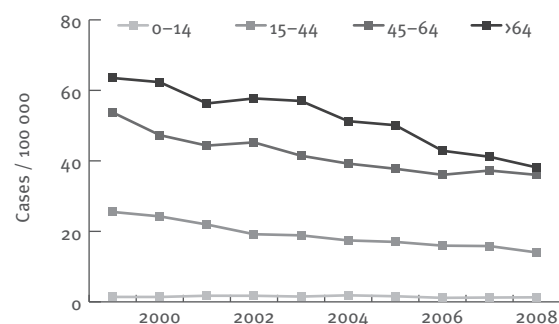
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	5200
Success	3873 (74.5%)
Died	338 (6.5%)
Failed	16 (0.3%)
Still on treatment	24 (0.5%)
Lost to follow-up	949 (18.3%)

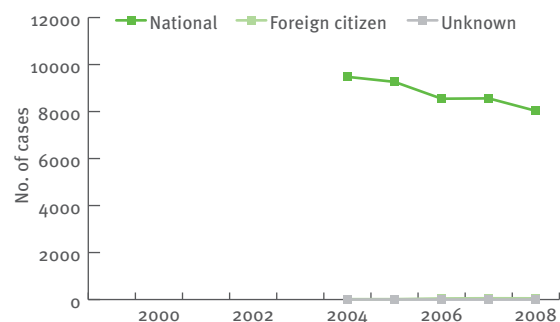
## Tuberculosis notification rates by treatment history, 1999-2008



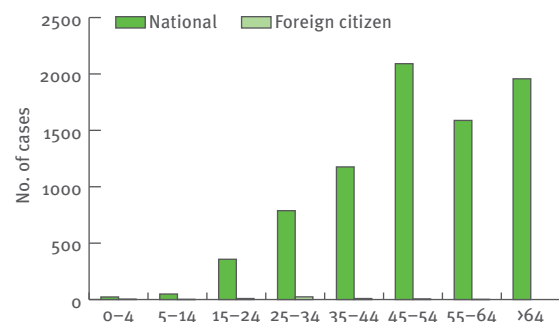
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



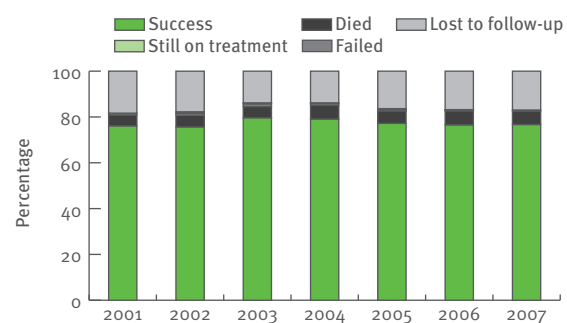
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Portugal

Total population at 1 January 2008 by EUROSTAT: 10 438 914

## Tuberculosis case notifications, 2008

Total number of cases	2995
Notification rate per 100 000	28.7
Sex ratio (M:F)	2.0
Median age group, nationals	35-44 years
Median age group, non-nationals	35-44 years
Foreign born	411 (13.7%)
New (never treated)	2703 (90.3%)
Culture positive	2007 (67.0%)
Pulmonary	2238 (74.7%)
of which sputum smear-positive	1179 (52.7%)
HIV-positive TB cases	438 (14.6%)
TB deaths per 100 000	-

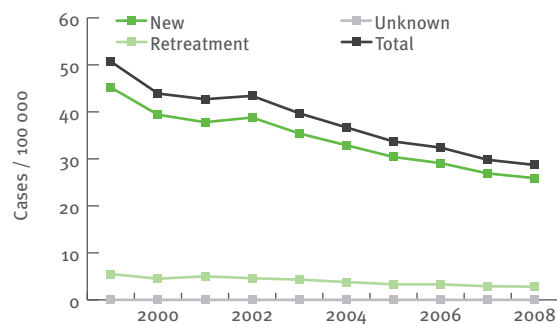
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	1641
Cases resistant to isoniazid	121 (7.4%)
Cases resistant to rifampicin	29 (1.8%)
MDR cases	28 (1.7%)
of which XDR cases	-
Cases resistant to ethambutol	17 (1.0%)
Cases resistant to streptomycin	156 (9.5%)

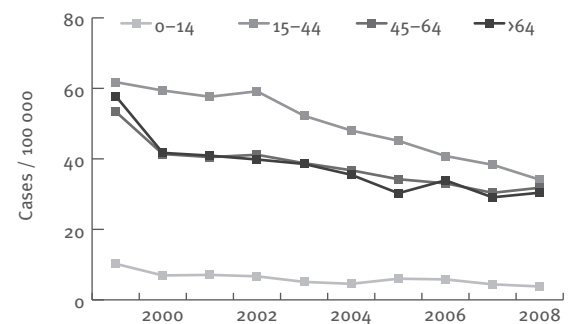
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	1876
Success	1607 (85.7%)
Died	103 (5.5%)
Failed	5 (0.3%)
Still on treatment	68 (3.6%)
Lost to follow-up	93 (5.0%)

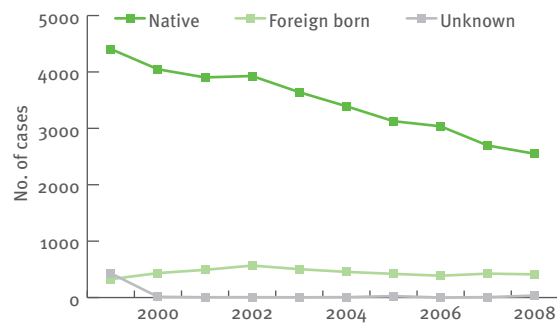
## Tuberculosis notification rates by treatment history, 1999-2008



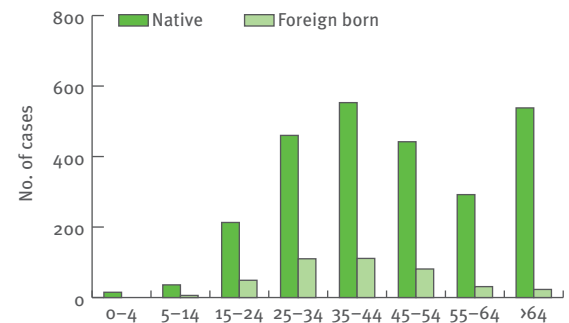
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



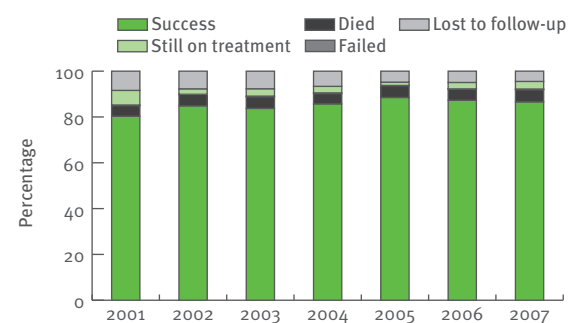
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008\*



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



\* Data representativeness unknown

# Romania

Total population at 1 January 2008 by EUROSTAT: 21528627

## Tuberculosis case notifications, 2008

Total number of cases	24 786
Notification rate per 100 000	115.1
Sex ratio (M:F)	2.3
Median age group, nationals	35-44 years
Median age group, non-nationals	-
Foreign-born	0 (0.0%)
New (never-treated)	18 774 (75.7%)
Culture positive	14 762 (59.6%)
Pulmonary	21 453 (86.6%)
of which sputum smear-positive	14 245 (66.4%)
HIV-positive TB cases*	202 (0.8%)
TB deaths per 100 000 (2006)	7.61

\* Representativeness unknown

## Drug resistance surveillance, 2008\*

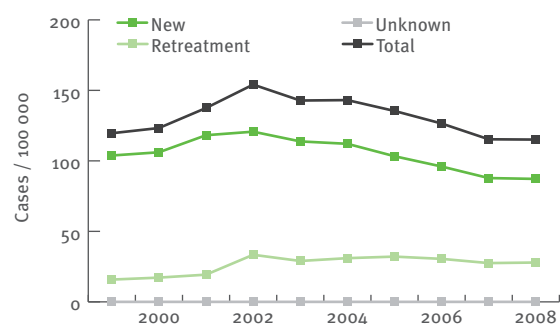
Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Yes
Cases with DST results	5547
Cases resistant to isoniazid	1126 (20.3%)
Cases resistant to rifampicin	873 (15.7%)
MDR cases	816 (14.7%)
of which XDR cases	54 (6.6%)
Cases resistant to ethambutol	297 (5.4%)
Cases resistant to streptomycin	229 (4.1%)

\* Representativeness unknown

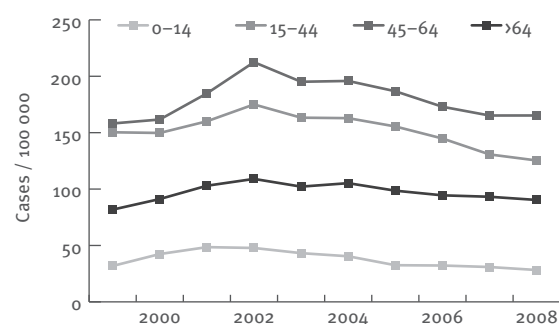
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	16 178
Success	11 970 (74.0%)
Died	932 (5.8%)
Failed	1 125 (7.0%)
Still on treatment	420 (2.6%)
Lost to follow-up	1 731 (10.7%)

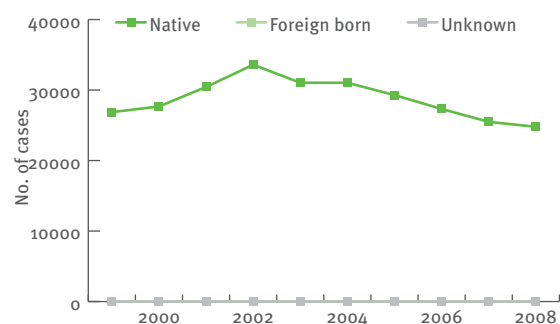
## Tuberculosis notification rates by treatment history, 1999-2008



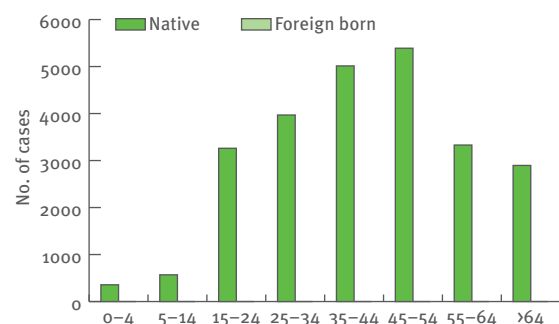
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

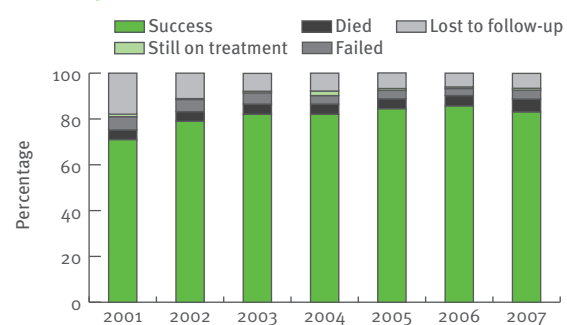


## MDR TB cases by previous treatment history, 2001-2008\*



\* Data representativeness unknown (data for 2004 from representative survey in 2003-2004)

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Russia

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 141394304

## Tuberculosis case notifications, 2008

Total number of cases	214 905	
Notification rate per 100 000	152.0	
Sex ratio among new TB cases (M:F)	2.4	
Median age group	35-44 years	
Median age group, non-nationals		
Foreign citizens	2500	(1.2%)
New (never-treated)	120 835	(56.2%)
Culture positive	-	-
Pulmonary	117 152	(54.5%)
of which sputum smear-positive	41 377	(35.3%)
HIV-positive new TB cases	6 083	(2.8%)
TB deaths per 100 000 (2006)	17.96	

## Drug resistance surveillance, 2008\*

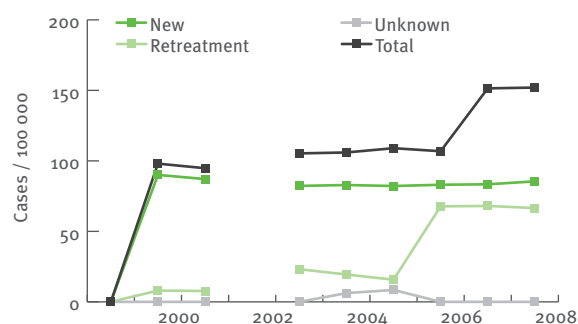
Geographical coverage	National	
International proficiency testing	Yes	
Case-linked data reporting	Yes	
Cases with DST results	42 653	
Cases resistant to isoniazid	-	
Cases resistant to rifampicin	-	
MDR cases	6 960	(16.3%)
of which XDR cases	-	
Cases resistant to ethambutol	-	
Cases resistant to streptomycin	-	

\* Representativeness unknown

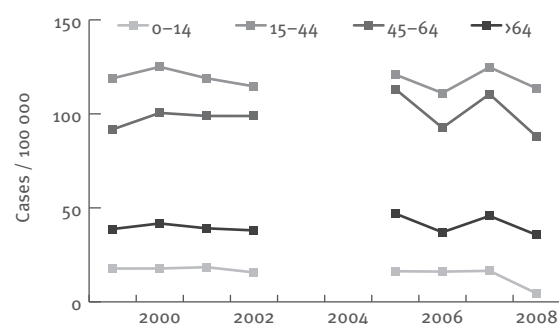
## Treatment outcome monitoring, 2007

Geographical coverage	National	
Outcome cohort	All pulmonary smear-positive	
Case-linked data reporting	No	
Notified in 2007	50 384	
Success	24 997	(49.6%)
Died	6 480	(12.9%)
Failed	10 267	(20.4%)
Still on treatment	-	
Lost to follow-up	8 640	(17.1%)

## Tuberculosis notification rates, 1995-2007

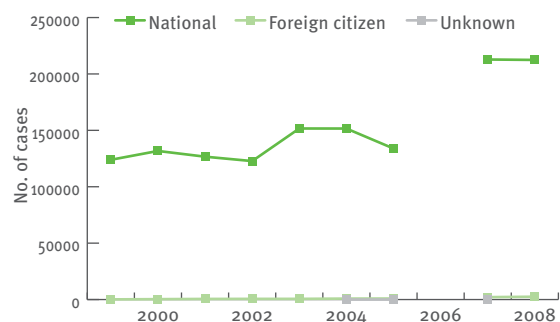


## Tuberculosis notification rates by age group, 1999-2008\*



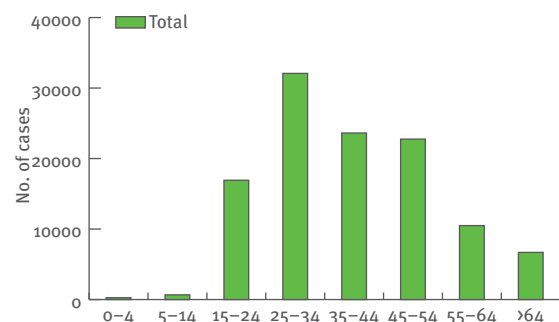
\* New cases only (including also relapses in 2005)

## Tuberculosis cases by geographical origin, 1999-2008\*



\* National cases including also cases with unknown origin in 2008

## Tuberculosis cases by age group, 2008\*

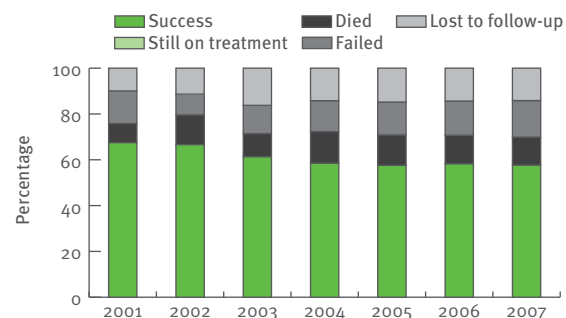


\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008

Not available

## Treatment outcome, new pulmonary smear-positive cases, 2001-2007\*



\* DOTS areas, data representativeness unknown

# San Marino

### Tuberculosis case notifications, 2008

Not available

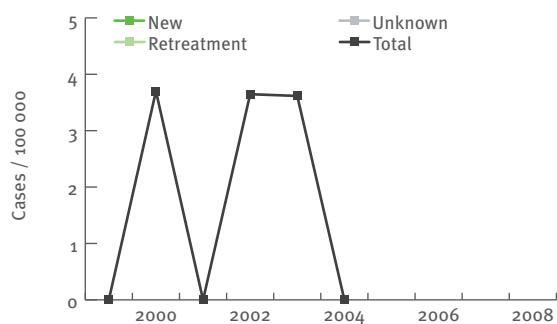
### Drug resistance surveillance, 2008

Not available

### Treatment outcome monitoring, 2007

Not available

### Tuberculosis notification rates by treatment history, 1999–2008\*



\* No data reported in 2005-2006

### Tuberculosis notification rates by age group, 1999–2008

Insufficient number of cases for graphic presentation

### Tuberculosis cases by geographical origin, 1999–2008

Not available

### Tuberculosis cases by age group, 2008

Not available

### MDR TB cases by previous treatment history, 2001–2008

No MDR cases reported

### Treatment outcome, new pulmonary culture-positive cases, 2001–2007

Insufficient number of cases for graphic presentation



# Serbia

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 9839497

## Tuberculosis case notifications, 2008

Total number of cases	1821
Notification rate per 100 000	18.5
Sex ratio among new TB cases (M:F)	1.4
Median age group among new TB cases	45-54 years
Median age group, non-nationals	-
Foreign citizens	7 (0.4%)
New (not previously diagnosed)	1578 (86.7%)
Culture positive	1316 (72.3%)
Pulmonary	1539 (84.5%)
of which sputum smear-positive	1020 (66.3%)
HIV-positive TB cases	5 (0.3%)
TB deaths per 100 000 (2006)	2.24

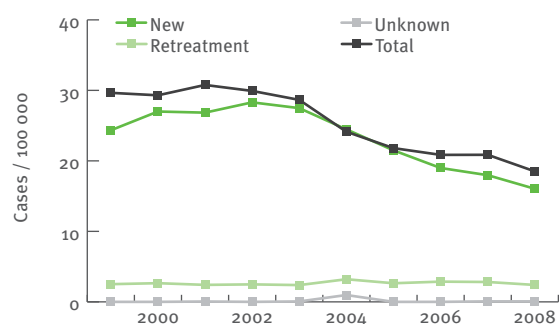
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Case-linked
Cases with DST results	1058
Cases resistant to isoniazid	34 (3.2%)
Cases resistant to rifampicin	19 (1.8%)
MDR cases	16 (1.5%)
of which XDR cases	-
Cases resistant to ethambutol	13 (1.2%)
Cases resistant to streptomycin	40 (3.8%)

## Treatment outcome monitoring, 2007

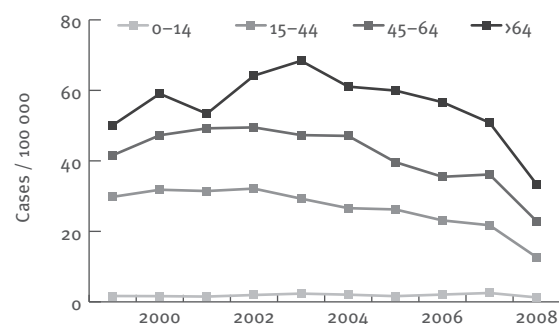
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	No
Notified in 2007	1186
Success	954 (80%)
Died	82 (7%)
Failed	23 (2%)
Still on treatment	-
Lost to follow-up	127 (10%)

## Tuberculosis notification rates by treatment history, 1999-2008\*



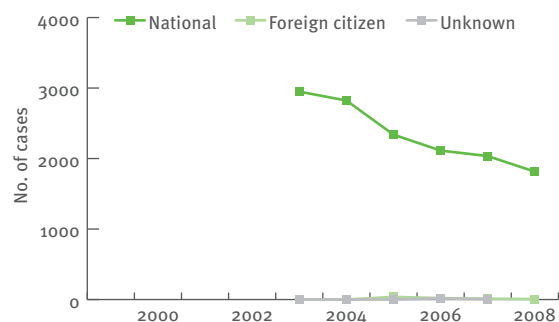
\* Established in 2006 following the split of Serbia & Montenegro; notifications for Kosovo (in accordance with Security Council Resolution 1244 (1999)) included until 1997 and for Montenegro until 2004

## Tuberculosis notification rates by age group, 1999-2008\*



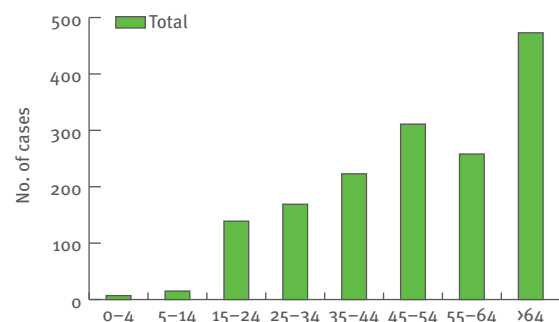
\* Established in 2006 following the split of Serbia & Montenegro; notifications for Kosovo (in accordance with Security Council Resolution 1244 (1999)) included until 1997 and for Montenegro until 2004; new cases only for 2008

## Tuberculosis cases by geographical origin, 1999-2008\*



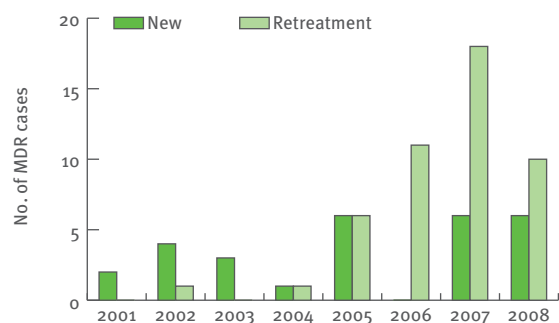
\* Established in 2006 following the split of Serbia & Montenegro; notifications for Kosovo (in accordance with Security Council Resolution 1244 (1999)) included until 1997 and for Montenegro until 2004

## Tuberculosis cases by age group, 2008\*

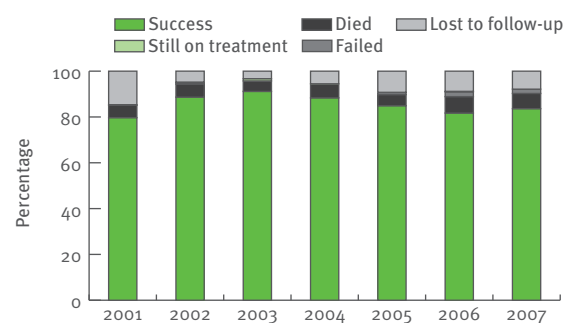


\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary definite cases, 2001-2007\*



\* Belgrade region 2001-2004; nationwide pulmonary culture-positive cases from 2005

# Slovakia

Total population at 1 January 2008 by EUROSTAT: 5400998

## Tuberculosis case notifications, 2008

Total number of cases	633
Notification rate per 100 000	11.7
Sex ratio (M:F)	1.6
Median age group, nationals	55-64 years
Median age group, non-nationals	35-44 years
Foreign born	9 (1.4%)
New (never-treated)	510 (80.6%)
Culture positive	383 (60.5%)
Pulmonary	522 (82.5%)
of which sputum smear-positive	164 (31.4%)
HIV-positive TB cases	0 (0.0%)
TB deaths per 100 000 (2005)	0.87

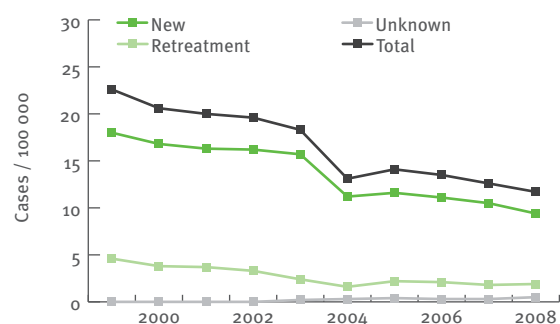
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes (2007)
Case-linked data reporting	Case-linked
Cases with DST results	383
Cases resistant to isoniazid	10 (1.0%)
Cases resistant to rifampicin	4 (2.6%)
MDR cases	4 (1.0%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	2 (0.5%)
Cases resistant to streptomycin	3 (0.8%)

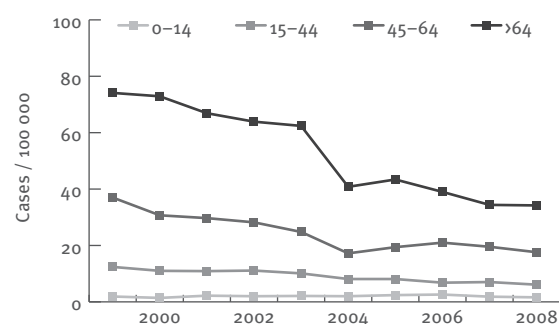
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	350
Success	298 (85.1%)
Died	38 (10.9%)
Failed	2 (0.6%)
Still on treatment	5 (1.4%)
Lost to follow-up	7 (2.0%)

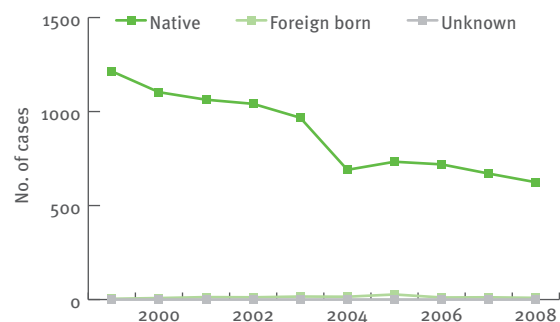
## Tuberculosis notification rates by treatment history, 1999-2008



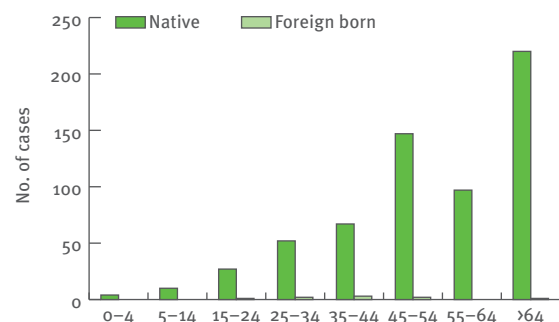
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

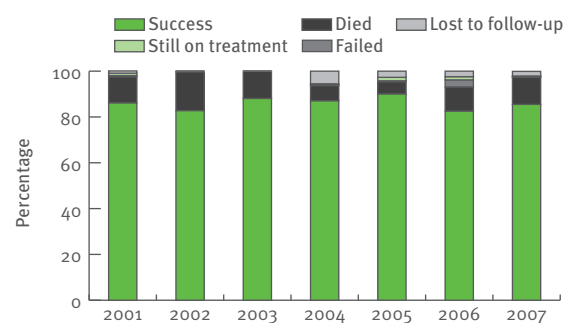


## MDR TB cases by previous treatment history, 2001-2008\*



\* Data representativeness unknown in 2003 & 2005

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007\*



\* Data representativeness unknown in 2002

# Slovenia

Total population at 1 January 2008 by EUROSTAT: 2 010 259

## Tuberculosis case notifications, 2008

Total number of cases	213
Notification rate per 100 000	10.6
Sex ratio (M:F)	1.7
Median age group, nationals	55-64 years
Median age group, non-nationals	35-44 years
Foreign born	56 (26.3%)
New (never-treated)	198 (93.0%)
Culture positive	201 (94.4%)
Pulmonary	180 (84.5%)
of which sputum smear-positive	90 (50.0%)
HIV-positive TB cases	0 (0.0%)
TB deaths per 100 000 (2006)	1.44

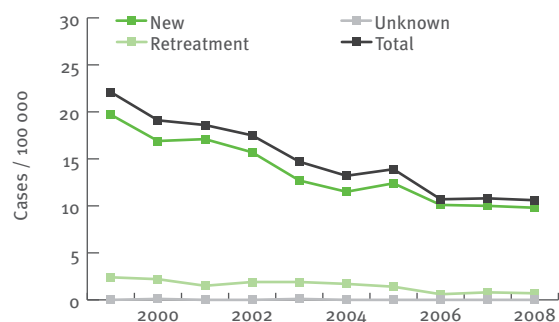
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	-
Case-linked data reporting	Case-linked
Cases with DST results	195
Cases resistant to isoniazid	3 (1.5%)
Cases resistant to rifampicin	2 (1.0%)
MDR cases	2 (1.0%)
of which XDR cases	-
Cases resistant to ethambutol	1 (0.5%)
Cases resistant to streptomycin	5 (2.6%)

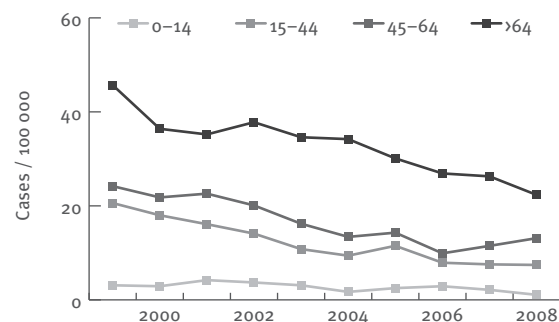
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	163
Success	133 (81.6%)
Died	19 (11.7%)
Failed	0 (0.0%)
Still on treatment	0 (0.0%)
Lost to follow-up	11 (6.7%)

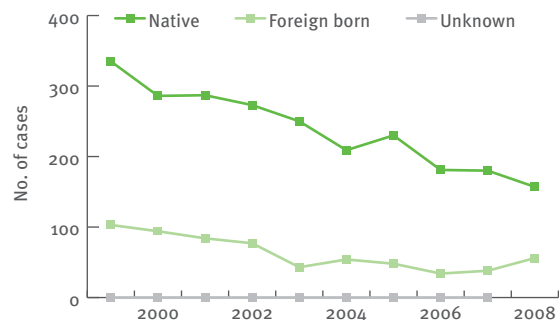
## Tuberculosis notification rates by treatment history, 1999-2008



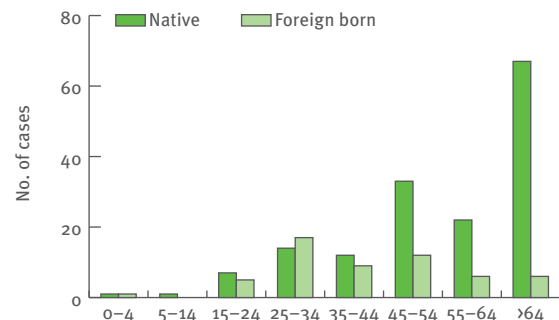
## Tuberculosis notification rates by age group, 1999-2008



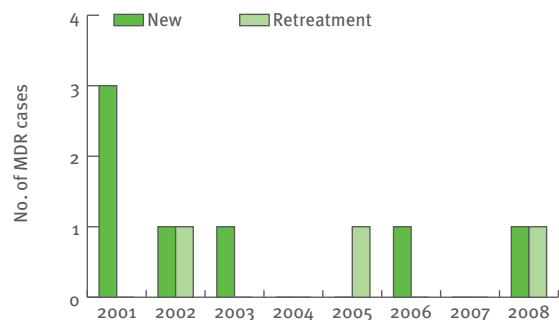
## Tuberculosis cases by geographical origin, 1999-2008



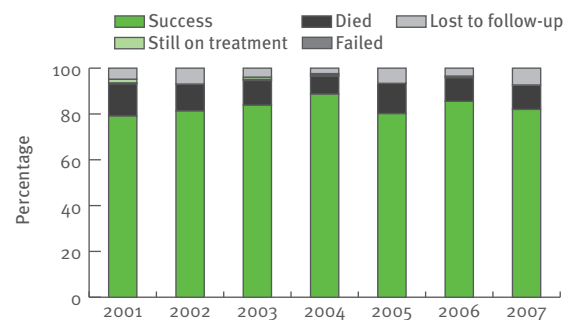
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Spain

Total population at 1 January 2008 by EUROSTAT: 45 283 259

## Tuberculosis case notifications, 2008

Total number of cases	8214	
Notification rate per 100 000	18.1	
Sex ratio (M:F)	1.8	
Median age group, nationals	35-44 years	
Median age group, non-nationals	25-34 years	
Foreign born	2495	(30.4%)
New (never-treated)	6769	(82.4%)
Culture positive	4493	(54.7%)
Pulmonary	6313	(76.9%)
of which sputum smear-positive	2746	(43.5%)
HIV-positive TB cases*	507	(6.2%)
TB deaths per 100 000 (2005)	1.11	(2005)

\* Representativeness unknown

## Drug resistance surveillance, 2008

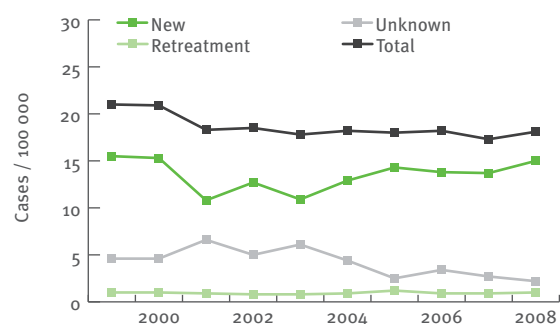
Geographical coverage	Partial*	
International proficiency testing	Yes	
Case-linked data reporting	No	
Cases with DST results	1628	
Cases resistant to isoniazid	161	(9.9%)
Cases resistant to rifampicin	88	(5.4%)
MDR cases	76	(4.7%)
of which XDR cases	3	(3.9%)
Cases resistant to ethambutol	32	(2.0%)
Cases resistant to streptomycin	77	(4.7%)

\* Data from NRL (representativeness unknown)

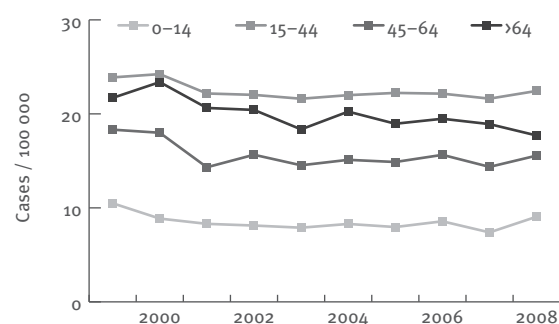
## Treatment outcome monitoring, 2007

Not available

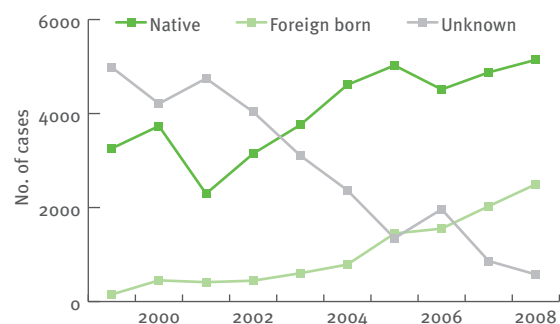
## Tuberculosis notification rates by treatment history, 1999-2008



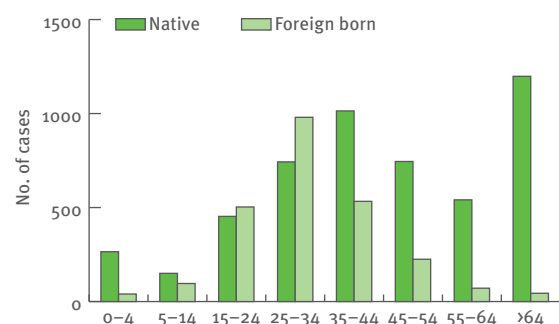
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007

Not available

# Sweden

Total population at 1 January 2008 by EUROSTAT: 9 182 927

## Tuberculosis case notifications, 2008

Total number of cases	552
Notification rate per 100 000	6.0
Sex ratio (M:F)	1.0
Median age group, nationals	55-64 years
Median age group, non-nationals	25-34 years
Foreign born	448 (81.2%)
New (never-treated)	456 (82.6%)
Culture positive	436 (79.0%)
Pulmonary	311 (56.3%)
of which sputum smear-positive	113 (36.3%)
HIV-positive TB cases	-
TB deaths per 100 000 (2006)	0.71

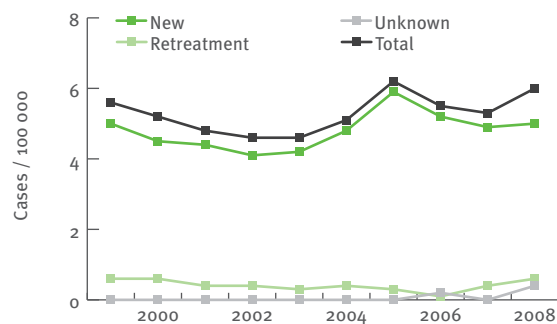
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Case-linked
Cases with DST results	423
Cases resistant to isoniazid	49 (11.6%)
Cases resistant to rifampicin	13 (3.1%)
MDR cases	12 (2.8%)
of which XDR cases	1 (8.3%)
Cases resistant to ethambutol	15 (3.5%)
Cases resistant to streptomycin	9 (2.1%)

## Treatment outcome monitoring, 2007

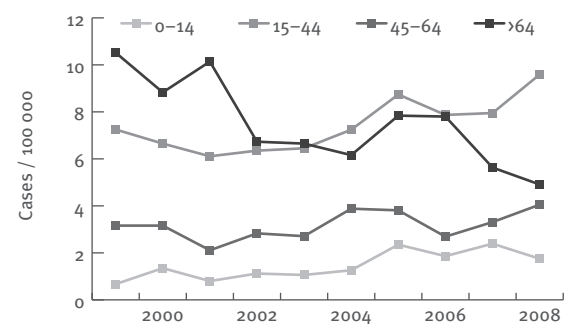
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	250
Success	164 (65.6%)
Died	19 (7.6%)
Failed	0 (0.0%)
Still on treatment	9 (3.6%)
Lost to follow-up	58 (23.2%)

## Tuberculosis notification rates by treatment history, 1999-2008\*

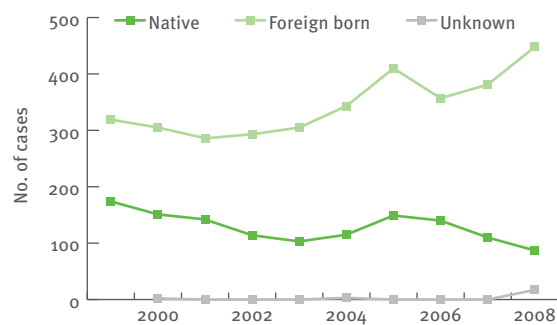


\* 2007 previously diagnosed

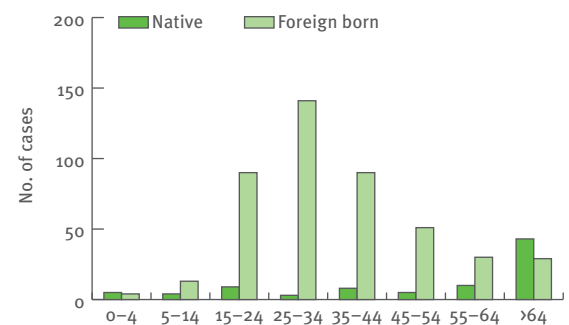
## Tuberculosis notification rates by age group, 1999-2008



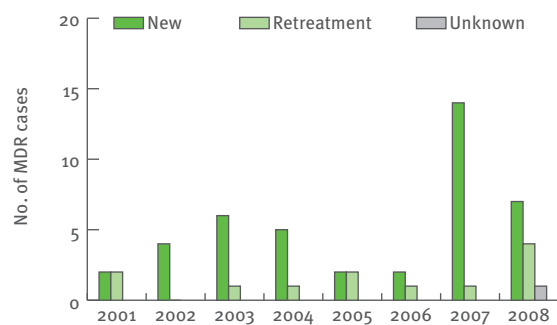
## Tuberculosis cases by geographical origin, 1999-2008



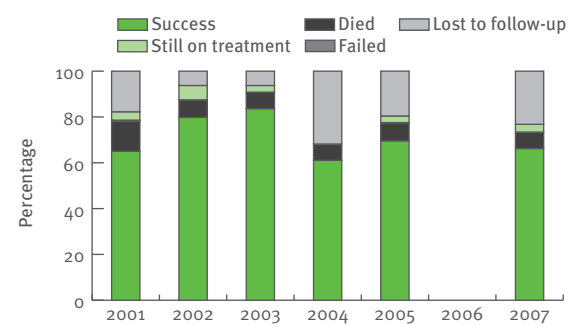
## Tuberculosis cases by age group, 2008



## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary culture-positive cases, 2001-2007



# Switzerland

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 7541301

## Tuberculosis case notifications, 2008

Total number of cases	516
Notification rate per 100 000	6.8
Sex ratio among new TB cases (M:F)	1.1
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign born	385 (74.6%)
New (never-treated)	319 (61.8%)
Culture positive	419 (81.2%)
Pulmonary	220 (42.6%)
of which sputum smear-positive	64 (29.1%)
HIV-positive TB cases	-
TB deaths per 100 000 (2007)	0.37

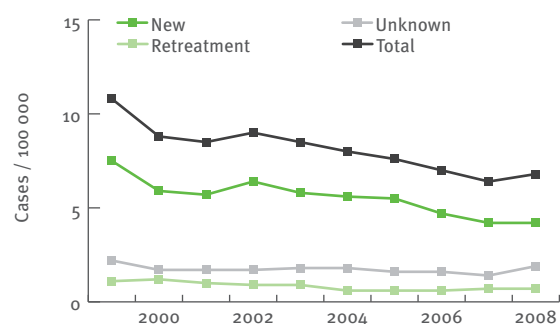
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	No
Cases with DST results	415
Cases resistant to isoniazid	17 (4.1%)
Cases resistant to rifampicin	5 (1.2%)
MDR cases	5 (1.2%)
of which XDR cases	0 (0.0%)
Cases resistant to ethambutol	4 (1.0%)
Cases resistant to streptomycin	7 (1.7%)

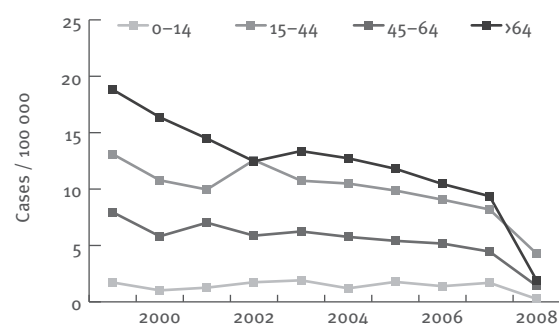
## Treatment outcome monitoring, 2007

Not available

## Tuberculosis notification rates by treatment history, 1999-2008

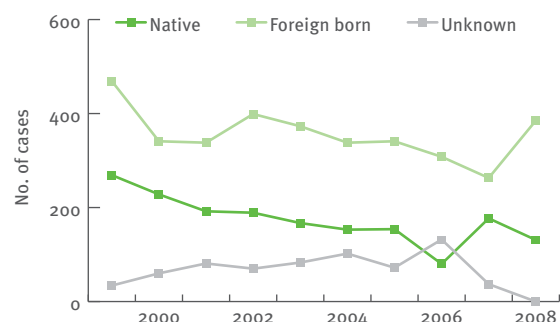


## Tuberculosis notification rates by age group, 1999-2008\*

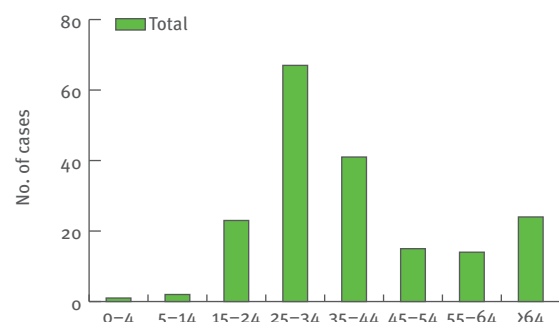


\* New cases only for 2008

## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008\*



\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008



## Treatment outcome, new pulmonary smear-positive cases, 2001-2007

Not available

# Tajikistan

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 6836 083

## Tuberculosis case notifications, 2008

Total number of cases	7996
Notification rate per 100 000	117.0
Sex ratio among new TB cases (M:F)	1.3
Median age group among new TB cases	25-34 years
Median age group, non-nationals	-
Foreign citizens	-
New (never-treated)	6150 (76.9%)
Culture positive	-
Pulmonary	4793 (59.9%)
of which sputum smear-positive	2509 (52.3%)
HIV-positive TB cases	48 (0.6%)
TB deaths per 100 000	5.9

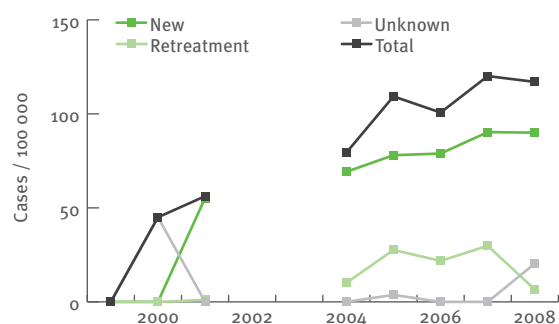
## Drug resistance surveillance, 2008

Not available

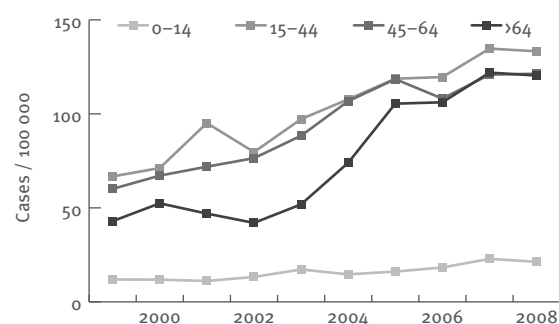
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	4 068
Success	3 208 (78.9%)
Died	282 (6.9%)
Failed	255 (6.3%)
Still on treatment	-
Lost to follow-up	323 (7.9%)

## Tuberculosis notification rates by treatment history, 1999-2008



## Tuberculosis notification rates by age group, 1999-2008\*

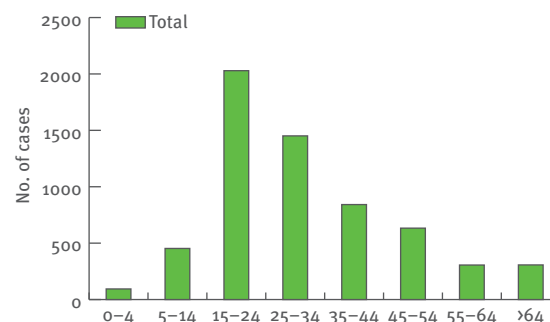


\* New cases only

## Tuberculosis cases by geographical origin, 1999-2008

Not available

## Tuberculosis cases by age group, 2008\*

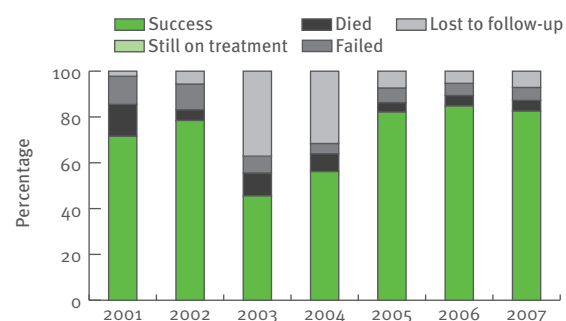


\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008

Not available

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007\*



\* Data representativeness unknown in 2002-2003

# Turkey

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 73 914 256

## Tuberculosis case notifications, 2008

Total number of cases	18 452
Notification rate per 100 000	25.0
Sex ratio among new TB cases (M:F)	1.6
Median age group among new TB cases	35-44 years
Median age group, non-nationals	25-34 years
Foreign citizens	175 (0.9%)
New (never-treated)	16 760 (90.8%)
Culture positive	6 730 (36.5%)
Pulmonary	12 382 (67.1%)
of which sputum smear-positive	8 057 (65.1%)
HIV-positive TB cases	-
TB deaths per 100 000	0.52

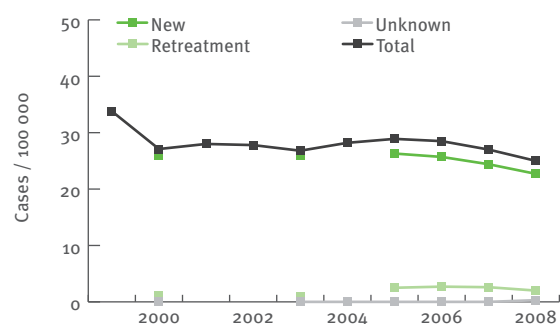
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Aggregated
Cases with DST results	4 952
Cases resistant to isoniazid	685 (13.8%)
Cases resistant to rifampicin	328 (6.6%)
MDR cases	263 (5.3%)
of which XDR cases	-
Cases resistant to ethambutol	213 (4.3%)
Cases resistant to streptomycin	371 (7.5%)

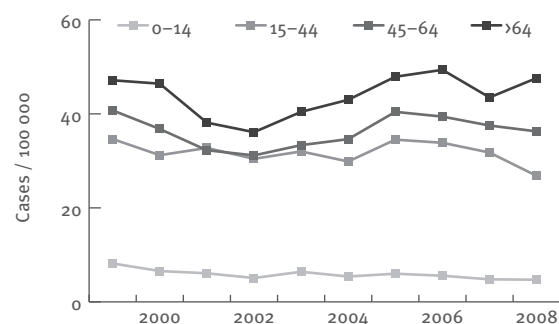
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	yes
Notified in 2007	9 395
Success	8 305 (88.4%)
Died	326 (3.5%)
Failed	81 (0.9%)
Still on treatment	-
Lost to follow-up	683 (7.3%)

## Tuberculosis notification rates by treatment history, 1999-2008

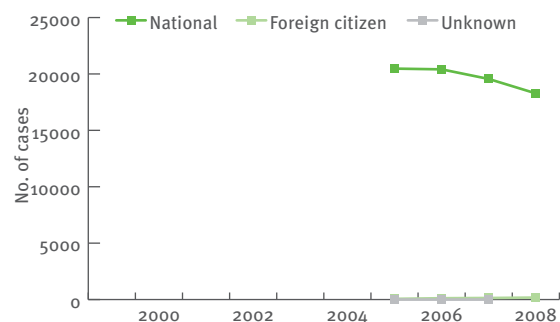


## Tuberculosis notification rates by age group, 1999-2008\*

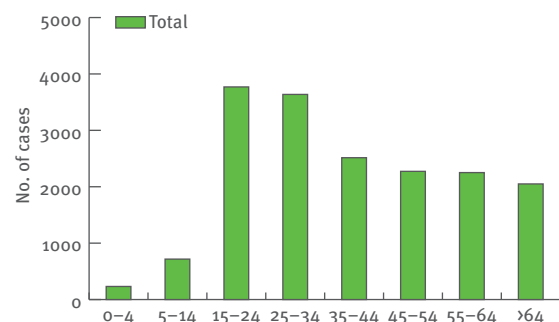


\* New cases only

## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008\*



\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008\*



\* Data representativeness unknown; no data for 2001-2004

## Treatment outcome, new pulmonary smear-positive cases, 2001-2007\*



\* Data representativeness unknown in 2002



# Turkmenistan

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 5 043 618

## Tuberculosis case notifications, 2008

Total number of cases	3909
Notification rate per 100 000	77.5
Sex ratio among new TB cases (M:F)	1.6
Median age group among new TB cases	25-34 years
Median age group, non-nationals	-
Foreign born	0 (0.0%)
New (never-treated)	3628 (92.8%)
Culture positive	-
Pulmonary	2753 (81.5%)
of which sputum smear-positive	1460 (53.0%)
HIV-positive TB cases	-
TB deaths per 100 000	7.49

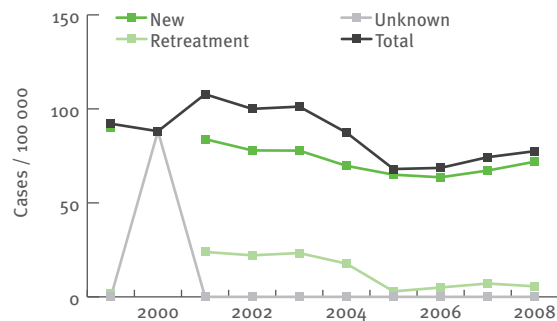
## Drug resistance surveillance, 2008

Not available

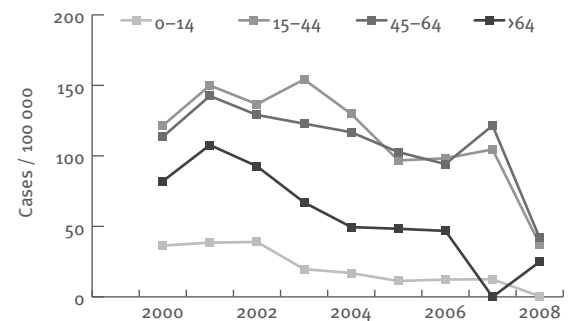
## Treatment outcome monitoring, 2007

Geographical coverage	National
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	1404
Success	1125 (80.1%)
Died	85 (6.1%)
Failed	91 (6.5%)
Still on treatment	-
Lost to follow-up	103 (7.3%)

## Tuberculosis notification rates by treatment history, 1999-2008



## Tuberculosis notification rates by age group, 1999-2008\*

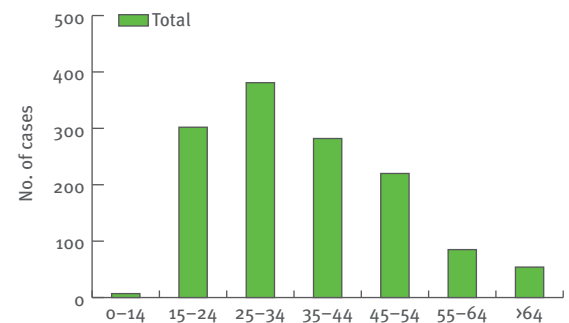


\* Only smear-positive cases for 2008

## Tuberculosis cases by geographical origin, 1999-2008

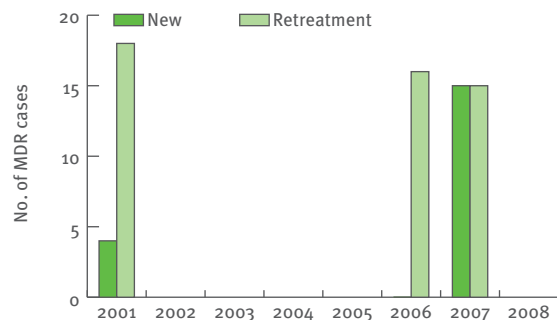
Not available

## Tuberculosis cases by age group, 2008\*



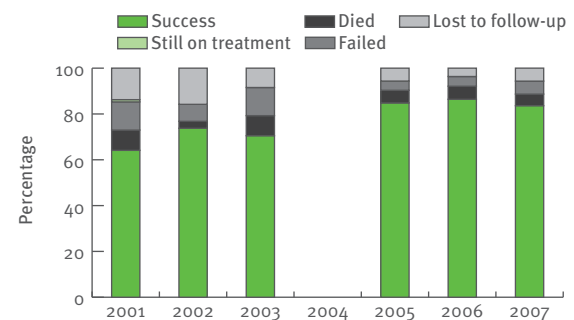
\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008



\* Data representativeness unknown (retreated cases in Ashgabat city; no data by geographical origin before 2006)

## Treatment outcome, new pulmonary smear-positive cases, 2001-2007\*



\* No data in 2004

# Ukraine

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 45992372

## Tuberculosis case notifications, 2008

Total number of cases	37 832
Notification rate per 100 000	82.3
Sex ratio among new TB cases (M:F)	2.4
Median age group among new TB cases	35-44 years
Median age group, non-nationals	-
Foreign citizens	-
New (never-treated)	35 739 (94.5%)
Culture positive	-
Pulmonary	34 172 (90.3%)
of which sputum smear-positive	16 667 (48.8%)
HIV-positive TB cases	2 902 (7.7%)
TB deaths per 100 000	22.52

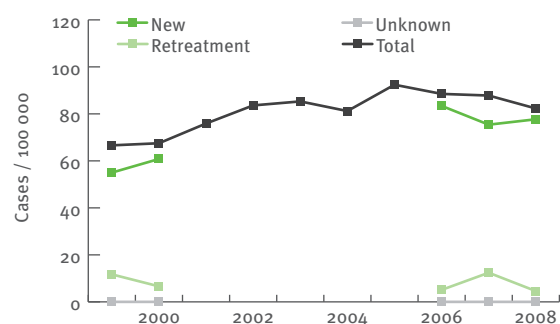
## Drug resistance surveillance, 2008

Not available

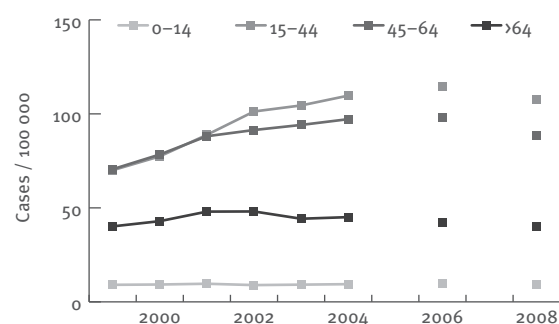
## Treatment outcome monitoring, 2007

Geographical coverage	
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	16 308
Success	9 399 (57.6%)
Died	2 201 (13.5%)
Failed	2 121 (13.0%)
Still on treatment	-
Lost to follow-up	2 587 (15.9%)

## Tuberculosis notification rates by treatment history, 1999-2008



## Tuberculosis notification rates by age group, 1999-2008\*

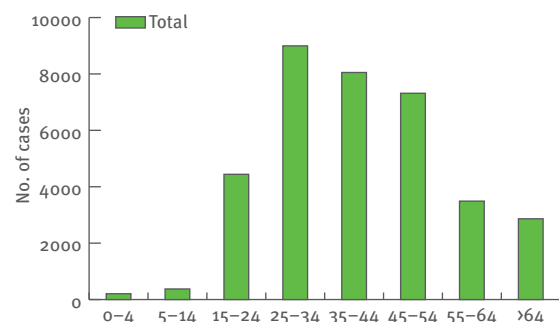


\* New cases only

## Tuberculosis cases by geographical origin, 1999-2008

Not available

## Tuberculosis cases by age group, 2008\*

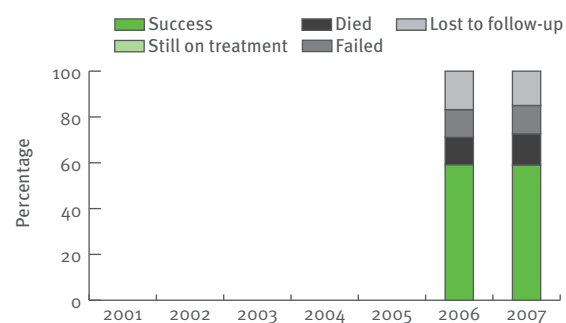


\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001-2008

Not available

## Treatment outcome, new pulmonary smear or culture-positive cases, 2001-2007



# United Kingdom

Total population at 1 January 2008 by EUROSTAT: 61175586

## Tuberculosis case notifications, 2008

Total number of cases	8 655
Notification rate per 100 000	14.1
Sex ratio (M:F)	1.2
Median age group, all cases	35-44 years
Median age group, non-nationals	25-34 years
Foreign born	5751 (66.4%)
New (not previously diagnosed)	6520 (75.3%)
Culture positive	4670 (53.9%)
Pulmonary	4668 (53.9%)
of which sputum smear-positive	1652 (35.4%)
HIV-positive TB cases	-
TB deaths per 100 000	0.71

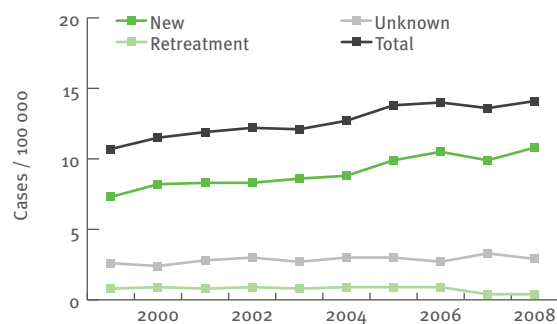
## Drug resistance surveillance, 2008

Geographical coverage	National
International proficiency testing	Yes
Case-linked data reporting	Case-linked
Cases with DST results	4 808
Cases resistant to isoniazid	288 (6.0%)
Cases resistant to rifampicin	71 (1.5%)
MDR cases	53 (1.1%)
of which XDR cases	1 (1.9%)
Cases resistant to ethambutol	35 (0.7%)
Cases resistant to streptomycin	186 (3.9%)

## Treatment outcome monitoring, 2007

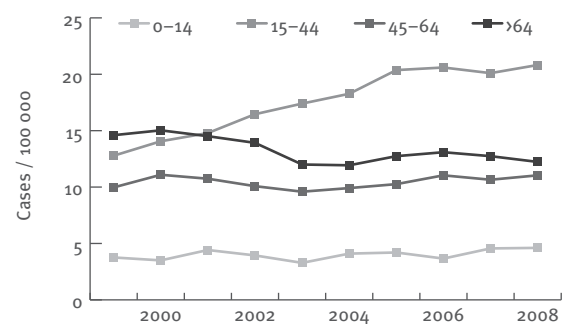
Geographical coverage	National
Outcome cohort	All pulmonary culture positive
Case-linked data reporting	Yes
Notified in 2007	3056
Success	2308 (75.5%)
Died	238 (7.8%)
Failed	0 (0.0%)
Still on treatment	162 (5.3%)
Lost to follow-up	348 (11.4%)

## Tuberculosis notification rates by treatment history, 1999-2008\*

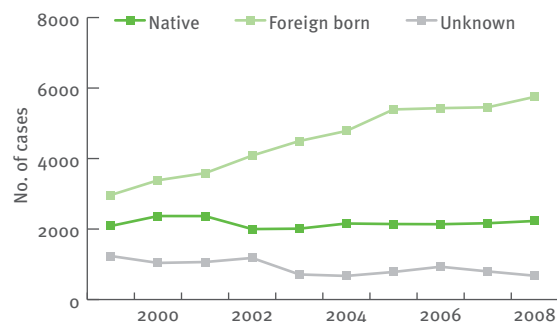


\* Distribution of cases by previous diagnosis

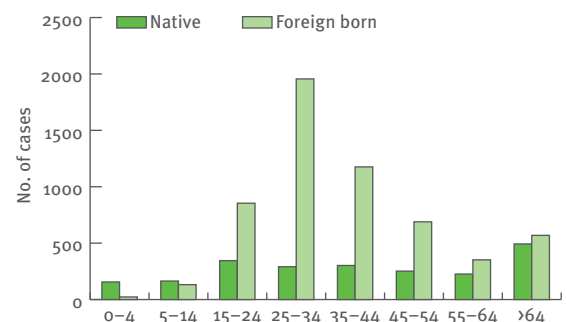
## Tuberculosis notification rates by age group, 1999-2008



## Tuberculosis cases by geographical origin, 1999-2008



## Tuberculosis cases by age group, 2008

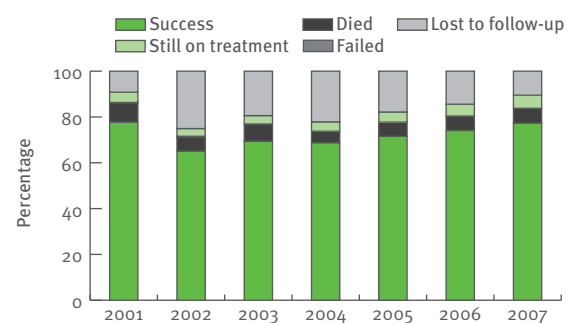


## MDR TB cases by previous treatment history, 2001-2008\*



\* Excluding Scotland in 2001-2002; distribution of cases by previous diagnosis

## Treatment outcome, new pulmonary culture-positive cases, 2001-2007\*



\* Excluding Scotland in 2001-2002; 2001 includes only cases with outcome data reported

# Uzbekistan

Population by UN Population Division, World Population Prospects: The 2008 Revision, medium variant (2009): 27191288

## Tuberculosis case notifications, 2008

Total number of cases	21194
Notification rate per 100 000	77.9
Sex ratio among new TB cases (M:F)	1.5
Median age group among new TB cases	25–34 years
Median age group, non-nationals	-
Foreign citizens	30 (0.1%)
New (never-treated)	15971 (75.4%)
Culture positive	923 (4.4%)
Pulmonary	13262 (62.6%)
of which sputum smear-positive	6622 (49.9%)
HIV-positive TB cases	256 (1.2%)
TB deaths per 100 000	6.91

## Drug resistance surveillance, 2008

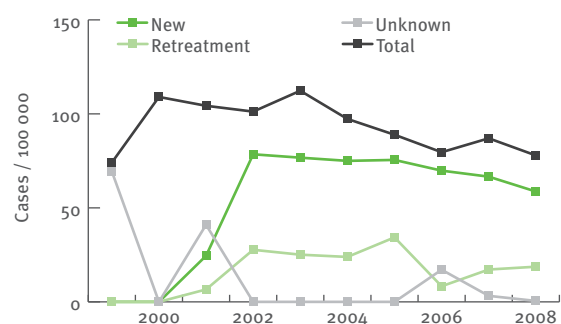
Geographical coverage	Partial
International proficiency testing	Yes
Case-linked data reporting	Aggregated
Cases with DST results	744
Cases resistant to isoniazid	525 (70.6%)
Cases resistant to rifampicin	412 (55.4%)
MDR cases	342 (46.0%)
of which XDR cases	8 (2.3%)
Cases resistant to ethambutol	382 (51.3%)
Cases resistant to streptomycin	690 (92.7%)

## Treatment outcome monitoring, 2007

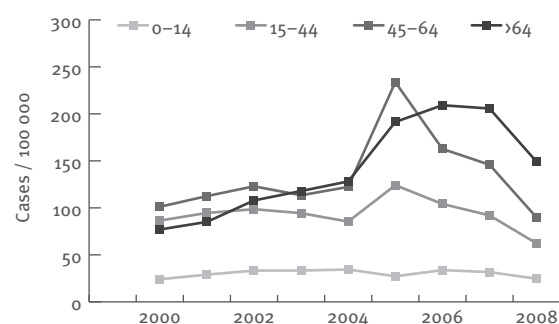
Geographical coverage	DOTS areas*
Outcome cohort	All pulmonary smear-positive
Case-linked data reporting	No
Notified in 2007	10 943
Success	8478 (77.5%)
Died	825 (7.5%)
Failed	570 (5.2%)
Still on treatment	0 (0.0%)
Lost to follow-up	1070 (9.8%)

\* Data representativeness unknown

## Tuberculosis notification rates by treatment history, 1999–2008



## Tuberculosis notification rates by age group, 1999–2008\*

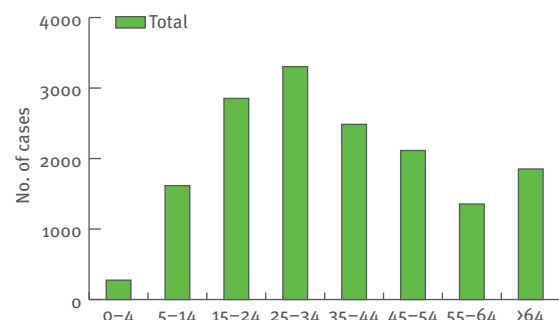


\* New cases only in 2008

## Tuberculosis cases by geographical origin, 1999–2008

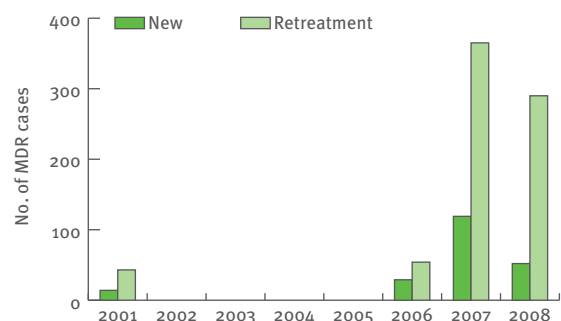
Not available

## Tuberculosis cases by age group, 2008\*



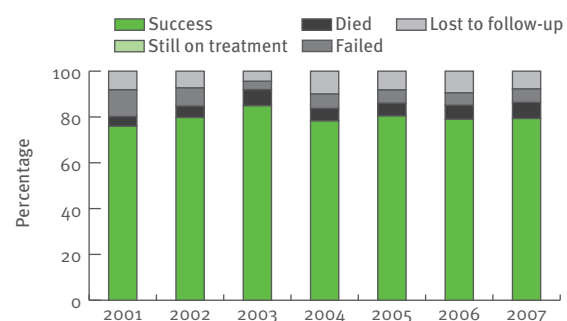
\* 2008 age group distribution available only for new cases

## MDR TB cases by previous treatment history, 2001–2008\*



\* Data representativeness unknown

## Treatment outcome, new pulmonary smear-positive cases, 2001–2007\*



\* Data representativeness unknown





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**European Centre for Disease  
Prevention and Control (ECDC)**

Postal address:  
ECDC, 171 83 Stockholm, Sweden

Visiting address:  
Tomtebodavägen 11A, Solna, Sweden

Phone +46 (0)8 58 60 1000  
Fax +46 (0)8 58 60 1001  
[www.ecdc.europa.eu](http://www.ecdc.europa.eu)

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