

SURVEILLANCE OF TUBERCULOSIS IN EUROPE

EuroTB



Report on tuberculosis cases notified in 2004

Institut de Veille Sanitaire
WHO Collaborating Centre for the Surveillance of Tuberculosis in Europe



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1.1 Summary

In 2004, 414,163 cases of tuberculosis (TB) were notified in the WHO European Region. The overall notification rate was 47 cases per 100,000, with diverging rates and trends across the different parts of the Region.

European Union (EU) and West (32 countries)

In the 25 countries of the EU, and in Andorra, Iceland, Israel, Norway, San Marino and Switzerland (West, no data from Monaco), 60,266 TB cases were notified in 2004, an overall notification rate of 12.6 per 100,000, being highest in the Baltic States (44-73). Of all cases, 23% were over 64 years, 63% were men and at least 29% were of foreign origin. Seventy seven percent of the cases had pulmonary TB, of which 42% were sputum smear positive. Culture was positive in 55% of cases but results were not available in 22%. Notification rates were higher in the population of foreign origin (57; peaking at 25-34 years) than in nationals (5; peaking over 64 years). Between 1998 and 2004, rates decreased by 24%, but less in young adults (-3%) than in the older age-groups (-31%). Numbers of cases decreased less in persons of foreign origin (-2%) than in nationals (-38%). HIV prevalence among TB cases (20 countries) was below 0.4% in five countries, but increased progressively to 3-4% in Estonia and Latvia in 2004, and was highest in Portugal (16%). Among 9,924 AIDS cases reported in 2004, 2,311 (23%) had TB as initial AIDS-indicative disease, representing 3% of all notified TB cases that year. Multi-drug resistance (MDR) remained more frequent in the Baltic States (combined MDR: 19%) than in 17 other countries (2%; range: 0-5%), where MDR was common (16%) in cases from the former Soviet Union. In 23 countries with complete outcome data (2003), success was reported in 77% of new definite pulmonary cases, death in 7% while 11% were lost to follow up. Success ratio decreased with increasing age and was higher in extra-pulmonary cases. In the EU & West, TB morbidity concentrates in the population of foreign origin, the elderly and in HIV-infected individuals. Surveillance and control should target these risk groups.

Centre (8 countries)

In the Centre, 62,609 cases were notified in 2004. Rates (50.7 per 100,000 overall) were much higher in Romania (146) than in Albania, Bosnia & Herzegovina, Bulgaria, Croatia, F.Y.R. of Macedonia, Serbia & Montenegro and Turkey (19 to 61). Age-specific rates peaked in the age group 45-64 years in Romania (201) and Bulgaria (50), and in cases aged > 64 years in the other countries (no data for Turkey). Pulmonary cases represented 87% of notifications of which half were sputum smear positive. Culture confirmation was not available for Turkey and was reported in over 50% of cases in Bosnia & Herzegovina, Croatia and in Romania (2003). Since 2000, TB notification rates decreased only in Albania, Croatia and Serbia & Montenegro. AIDS incidence remained low in 2004 (N=370). AIDS indicative diseases were missing for 66% of AIDS cases, and 7% had TB, representing less than 0.1% of total TB cases. Drug resistance data from all countries (no data available for Turkey) indicated low levels of drug resistance except in Bulgaria and Romania (combined MDR: 5-6%). Success ratios among new cases (2003) were higher than 80% in four countries with complete cohorts. The lack of decrease in notification rates in countries with highest prevalence and the scarcity of data on culture and drug resistance call for strengthened TB control programmes.

East (12 countries)

In 2004, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Rep. of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan reported 291,288 TB cases (104.7 per 100,000), of which 52% from the Russian Federation. Age specific rates (5 countries) peaked in the age group 25-34 years (240), indicating high levels of recent transmission. Positive sputum smear was reported in 31% of pulmonary cases. Culture results were reported by five countries for a small proportion of cases (8% culture positive; country range 4-35%). Between 2000 and 2004, notification rates increased by 3.6% yearly, partly due to increased completeness of reporting. Of 2,902 AIDS cases notified in 2004 (88% from Ukraine; no data from Kyrgyzstan, the Russian Federation and Uzbekistan), 54% had TB as AIDS indicative disease, representing 3.6% of total TB cases in Ukraine and less than 0.8% in the other countries. Data on drug resistance in recent years suggest high levels of MDR in most countries. Six of the 10 countries reporting outcomes for 2003 notifications had complete data and reported 10% failures (range 3-14%) among new smear positive cases, probably reflecting high prevalence of primary MDR. While the high levels of TB morbidity and MDR in the East are a major public health concern for the whole European Region, surveillance data remain incomplete and of limited use to TB control programmes.

1.2 Резюме на русском языке

В 2004 г. были зарегистрированы 414 163 случая туберкулеза (ТБ) в Европейском регионе ВОЗ. Общий показатель зарегистрированных случаев составлял 47 случаев на 100 000 человек, с отличающимися показателями и тенденциями в различных частях региона.

Европейский Союз (ЕС) и Запад (32 страны)

В 25 странах ЕС и в Андорре, Исландии, Израиле, Норвегии, Сан Марино и Швейцарии (Запад), в 2004 г. было зарегистрировано 60 266 случаев ТБ с средним показателем 12.6 случаев на 100 000 человек, который был самым высоким в прибалтийских странах (44-73). 23% всех случаев наблюдалось в возрастной группе выше 64 лет, 63% были мужчины и по крайней мере 29% были жители иностранного происхождения. Легочный ТБ составлял 77% всех случаев, и положительный мазок мокроты наблюдался у 42% случаев. Культура была положительна у 55% случаев, но результаты были недоступны у 22% случаев. Показатели были выше у жителей иностранного происхождения (57; достигавшие наивысшей степени в возрастной группе 25-34 лет) по сравнению с коренными жителями (5; достигавшие наивысшей степени в возрастной группе старше 64 лет). На протяжении 1997-2004 гг. показатели снизились на 24%, но менее в группе молодых взрослых (-3%), по сравнению с старшими возрастными группами (-31%). Число случаев снизилось менее у жителей иностранного происхождения (-2%) по сравнению с коренными жителями (-38%). ВИЧ-превалентность у случаев ТБ (20 стран) была ниже 0,4% в 5 странах, но повысилась постепенно на 3-4% в Эстонии и Латвии в 2004 г. и была самой высокой в Португалии (16%). Среди 9 924 зарегистрированных случаев СПИДа в 2004 г., у 2 311 случаев (23%) ТБ был первичным индикаторным заболеванием СПИДа и составлял 3% всех сообщенных в том году случаев ТБ. Многолекарственная устойчивость (МЛУ) осталась выше в прибалтийских странах (комбинированная МЛУ: 19%) по сравнению с 17 другими странами (2%; величина разности: 0-5%), в которых МЛУ наблюдалась у 16% случаев из бывшего Советского Союза. В 23 странах предоставивших полные данные по исходам лечения (2003 г.), лечение завершилось успешно у 77% новых конкретных случаев легочного ТБ, летальный исход наблюдался у 7% случаев и прерванное лечение составило 11% случаев. Пропорция успеха лечения снижалась с повышением возраста и была более высокой у внелегочных случаев. В ЕС & на Западе, болезненность ТБ сосредоточивается в группах жителей иностранного происхождения, пожилых и лиц с ВИЧ-инфекцией. Необходимо направить эпиднадзор и контроль на эти группы риска.

Центр (8 страны)

В странах Центра в 2004 г. было зарегистрировано 62 609 случаев. Показатели (в общем 50.7 случаев на 100 000 человек) были гораздо выше в Румынии (146) по сравнению с Албанией, Болгарией, Боснией & Герцеговиной, Бывшей Югославской Республикой Македонией, Сербией & Черногорией, Турцией и Хорватией (19-61). Показатели достигли наивысшей степени в возрастной группе 45-64 лет в Румынии (201) и в Болгарии (50), и в возрастных группах выше 64 лет в остальных странах (данные из Турции отсутствуют). Легочный ТБ составлял 87% случаев и у половины случаев был положительный результат микроскопии мазка мокроты. Подтверждение культурального исследования было недоступно в Турции, но исследование проводилось у более чем 50% случаев в Боснии & Герцеговине, в Румынии и в Хорватии (2003). С 2000 г., показатели ТБ снизились только в Албании, Сербии & Черногории и в Хорватии. Число больных СПИДом оставалось низким в 2004 г. (N=370). Данные по патологиям, которые являются первичными индикаторами заболевания СПИДом, отсутствовали у 66% случаев СПИДа, 7% были больными ТБ, которые составляли меньше чем 0.1% из общего числа случаев ТБ. Данные по лекарственной устойчивости из всех стран – отсутствие данных из Турции – свидетельствуют о низком уровне лекарственной устойчивости, за исключением Болгарии и Румынии (комбинированная МЛУ: 5-6%). Пропорция успешного лечения среди новых случаев (2003 г.) превышала 80% в 4 странах с полными когортами. Отсутствие снижения показателей в странах с наивысшей превалентностью и редкость данных по культуральном исследованию и лекарственной устойчивости вынуждают усилить программы по контролю туберкулеза.

Восток (12 страны)

В 2004 г., Армения, Азербайджан, Беларусь, Грузия, Казахстан, Кыргызстан, Республика Молдова, Российская Федерация, Таджикистан, Туркменистан, Украина и Узбекистан сообщили о 291 288 случаях ТБ (104.7 на 100 000), из которых 52% зарегистрировано в Российской Федерации. Специфические показатели (5 стран) достигли наивысшей степени в возрастной группе 25-34 лет (240), и свидетельствуют о высоком уровне недавней передачи. 31% легочных случаев имеет положительный мазок мокроты. О результатах культурального исследования сообщалось в 5 странах у низкой пропорции случаев (8% случаев с положительной культурой; величина разности: 4-35%). На протяжении 2000-2004 гг., показатели повышались ежегодно на 3.6%, частично из за более полных сообщенных данных. Среди 2 902 случаев СПИДа, зарегистрированных в 2004 г. (88% из Украины; данные из Кыргызстана, Российской Федерации и Узбекистана отсутствуют), у 54% случаев ТБ был первичным индикатором заболевания СПИДом и представлял 3.6% из общего количества случаев ТБ на Украине и меньше 0.8% в остальных странах. Данные по лекарственной устойчивости в недавних годах свидетельствуют о высоком уровне МЛУ в большинстве стран. 6 из 10 стран, предоставившие полные данные по исходам лечения в 2003 г., располагали полными данными и сообщили о 10 % случаев с безуспешным лечением (величина разности 3-14 %) среди новых случаев с положительным мазком мокроты, что вероятно отражает высокую превалентность первичной МЛУ. Тогда как высокий уровень заболевания ТБ и МЛУ на Востоке является первоочередной проблемой в секторе здравоохранения во всем Европейском регионе, данные по эпиднадзору остаются неполными и их использование для программ по контролю туберкулеза ограничено.

2. Commentary

In 2004, 414,163 tuberculosis (TB) cases were notified by 51 countries of the WHO European Region (no data from Monaco), representing 8% of notifications made to WHO worldwide in the same year [1]. The overall notification rate was 47.0 per 100,000 population, with an incremental West-to-East gradient and an increasingly diverging trend over the recent years across the different areas (Map 1, Figure 3). In 2004, 70% of all TB notifications derived from the East (overall notification rate: 104.7/100,000), 15% from the Centre (50.7 per 100,000) and 15% from the EU & West (12.6 per 100,000). TB surveillance data for 2004 and recent trends are presented and commented below according to three geographic areas (see Technical Note).

2.1 European Union and West (EU & West)

Tuberculosis case notification

In 2004, 60,266 TB cases were notified in the EU & West, for an overall rate of 12.6 cases per 100,000 population. Monaco did not participate. Rates were lower than 10 per 100,000 in 16 countries and higher than 20 per 100,000 in the Baltic States - Lithuania (73), Latvia (69), Estonia (44) - Portugal (37), Poland (25) and Hungary (24) (Table 1, Map 1). Paediatric cases represented 4% of cases, while 46% of cases were aged 15-44 years, 27% were 45-64 years and 23% were over 64 years of age (Table 2). The overall male to female sex ratio was 1.7 and was 2.0 or more in countries with notification rate higher than 20 (Table 3). While 66% of cases were nationals (native or citizens) of the country of report, 29% were of foreign origin, reaching 40% or more in 16 countries (Table 4, Map 2). Of these, 30% were from Africa, 21% from Asia and 37% from countries in the Centre or East of the WHO European Region (Table 6, data from 24 countries).

In 13 countries providing population statistics by geographic origin, the notification rate in the population of foreign origin was twelve times that in nationals (57.0 versus 4.8 per 100,000), reflecting the greater predisposition of this sub-population to develop TB (data not shown). The ratio of notifications in nationals to non-nationals ranged from 2.1 to 53.1 across countries which may be due to different migration patterns, but may also be due to variations in the accuracy of denominator population estimates. Age-specific notification rates in nationals increased progressively with age and were highest in cases aged over 64 years (10.1 per 100,000), while in the population of foreign origin rates peaked in the age-group 25-34 years (85.0 per 100,000) and then increased again in the elderly (Figure 7).

The overall notification rate in 2004 was 26% lower than in 1997. In 28 countries with uninterrupted data since 1992 (excluding Andorra, Greece, Monaco and San Marino), the average annual decrease in rates between 2000 and 2004 (-4.8%) was larger than that observed between 1996 and 2000 (-3.4%), but greater than that between 1992 and 1996 (-1.6%). The faster decline in the latter years is partly explained by incomplete reporting in certain years following changes in the notification systems, particularly in Germany (2001) and Spain (2004). Average annual rates decreased between 2000 and 2004 in all countries except Greece, Ireland, Norway, and the United Kingdom (Figure 6). In Greece, rates increased in all age-groups most likely a result of improved reporting. In Norway and the United Kingdom, notification rates have been increasing progressively in cases aged 15-44 years, most of whom were of foreign origin in 2004 (Country Profiles). Otherwise, many countries experienced a decline in notification rates or stabilisation at low levels in the age group 0-14 years in recent years suggesting decreasing or low levels of transmission. Between 1998 and 2004, notification rates decreased by 3% between the ages 25 to 34 - where half the cases were of foreign origin in 2004 - but dropped much faster in the population over 34 years (-31%) (Figure 8). The median age of cases in 2004 was substantially higher in nationals than in cases of foreign origin (51 and 34 years respectively).

In most countries, trends in notifications over time differed markedly between nationals and non-nationals (Table 5). In 16 countries with consistent data, between 1998 and 2004 the average annual decrease in the numbers of cases was more marked in nationals (-7.6%) than in cases of foreign origin (-0.2%), resulting in an increase in the proportion of cases of foreign origin from 30% to 40% (Figure 4).

In 2004, 81% of the cases had no history of anti-TB treatment (new cases), 10% had a previous history of anti-TB treatment or a history of TB without information on treatment, and 9% were notified without information on previous TB history (Table 7). Seventy-seven percent of cases had pulmonary disease (range: 42 - 94%) (Table 8), and 42% of them were sputum smear positive (Table 13). Exclusive extra-pulmonary TB was more frequent in cases of foreign origin than in nationals (39% versus 30% respectively, individual data from 25 countries). In 20 countries reporting detailed site of disease, 2% of the cases had a meningeal localisation or disseminated disease (EU & West countries in Table 9). Culture confirmation varied widely across countries (mean:

55%; range: 27%-100%) and was more frequent among pulmonary cases (60%) than among extra-pulmonary cases (37%), among whom culture was more often not done or result was not available (38%, Tables 10, 11). Information on culture was missing in 22% of cases notified, while 7 countries had 30% or more of cases reported as culture negative. Species identification (24 countries) showed *M. tuberculosis* in 75.0% of culture positive cases, *M. bovis* in 0.5% and *M. africanum* in 0.2%, while in 24.2% species was unknown (Table 12). Most *M. bovis* cases originated from among nationals of the country of report, while more than half (23 cases) the *M. africanum* cases derived from African countries.

Tuberculosis and HIV infection

Aggregate data on HIV sero-status of notified TB cases in 2000 or later were available for 20 countries (Table 14). Completeness of information varied widely due to differences in testing policies and in data collection (only HIV-positive results being reported in some countries). The proportion of HIV-positive TB cases for the latest available year (2000-2004) was lower than 0.4% in Andorra, Czech Republic, Lithuania, Poland and Slovakia, and (excluding Iceland and Malta) higher than 5.0% in France (5.6%), Spain (5.1%, incomplete data) and Portugal (15.7%), each of which had several hundred cases and among the highest AIDS incidence rates in Europe (Table 15), with an adult HIV prevalence over 0.3% [2]. The proportion of HIV positive TB cases was relatively stable in recent years in most countries but increased in Estonia (from 0% in 1998 to 4.4% in 2004) and Latvia (from 0.5% in 1999 to 2.5% in 2004), where the spread of HIV is more recent than in Western Europe [3].

TB was reported as initial AIDS-indicative disease in 2,311 (23%) of 9,924 AIDS cases notified in 2004 (27 countries, Table 15). No data on AIDS-indicative TB were available from Malta and the Netherlands. AIDS cases with TB as initial AIDS-indicative disease represented 3% of all TB cases notified in 2004, with highest proportions in Portugal (11.6%), Iceland (8.3%, 1 case), Israel (6.0%), France (5.8%) and Belgium (5.7%). When adjusted for reporting delays, annual numbers of AIDS cases with TB as initial AIDS-indicative disease decreased from 2,696 in 1998 to 2,155 in 2001 and stabilised thereafter (Table 16).

It should be noted that data on HIV-associated TB obtained from both TB and AIDS notification are underestimated, as reporting of HIV sero-status of TB cases is incomplete and TB episodes occurring after initial AIDS diagnosis are not reported to AIDS notification systems.

Anti-tuberculosis drug resistance

Data on anti-TB drug resistance surveillance (DRS) in 2004 were made available by 29 countries and by Poland for 2001 (Table 17). Drug susceptibility testing (DST) was performed in one or two laboratories in 11 countries (4 of which using overseas laboratories), in 3-20 laboratories in 14 countries, 70 in Germany, 79 in Poland and over 100 in France and Italy (Table 18). In 22 countries, more than one DST method was used. Non-radiometric method on Lowenstein-Jensen media and radiometric proportion method were used in 18 and 16 countries respectively, resistance ratio in three countries and absolute concentration in four countries. Rapid methods, (Mycobacteria Growth Indicator Tube (MGIT®) and MB/BacT®) were used in 19 countries.

National external quality assurance (EQA) existed in 13 of the 22 countries with more than one laboratory performing DST, and included all or most laboratories participating in DRS. Concordance for isoniazid (INH) and rifampicin (RMP) was 90% or more in nearly all participating laboratories. Apart from Luxembourg and Greece, all national reference laboratories (NRL) had participated in international EQA for DST in the period 2003-2004. Concordance with the supranational laboratories was 100% for both INH and RMP in 16 countries, and lower for one drug (80-95%) in seven countries.

DST data from 9 countries were classified in group B. In all countries (except France and Spain), DST results were matched to TB notifications but use of culture and/or DST was not routine and the proportion of culture positive cases was lower than 50% and/or DST results were available for less than 80% of these cases (Table 19). In France DST data from a well-established network of teaching hospital laboratories [4] showed a low prevalence of primary MDR (1%), albeit exhaustive surveys of laboratories showed an increase in combined MDR after 2001 [5]. In Greece, diagnostic DST data from the NRL were reported for selected new cases. In Italy, data were collected from a network of laboratories in 9 Regions [6]. In Spain DST data for a nationwide sample of isolates tested at the NRL showed levels of resistance comparable to recent regional surveys (Table 17).

In 20 countries submitting DRS data for 2004, culture confirmation was reported in more than 50% of TB cases (median: 74%; range: 51-100%) and DST results were available for over 80% (median: 99%; range: 83-100%) of them (group A countries, Table 19). Drug resistance was much higher in the ex-Soviet Baltic States than in the other 17 countries. Mean combined INH

resistance and combined multi-drug resistance (MDR) were 32% (country range: 30-32%) and 19% (18-20%) respectively in the Baltic States, and 8% (0-25%) and 2% (0-5%) in the other countries (Table 20). Resistance was commonly higher in previously treated cases than in new cases (Tables 21-22), and in cases of foreign origin than in nationals (Tables 23-24). In the Baltic States, most foreign-born cases were from other countries of the former Soviet Union (FSU) and levels of drug resistance did not differ markedly according to birthplace. In the rest of the EU & West, cases originating from the FSU had the highest levels of drug resistance (15.5% had MDR) and they represented half of all the MDR-TB cases reported in 2004 (Table 25). MDR was less frequent in Asians (1.6%) and Africans (1.5%), and lowest in cases originating from the EU & West itself (0.6%).

Between 2000 and 2004, prevalence of primary MDR was stable in both the Baltic States and in most of the other EU & West countries (Table 26). Austria had a statistically significant increase in prevalence of combined INH resistance and combined MDRs, and a concomitant increase in resistance among cases of foreign origin. Germany and the United Kingdom had an increase in combined INH resistance, the latter associated with an outbreak in the area of London [7, 8]. In Israel, both INH resistance and MDR decreased, after a peak in 2000 associated with large immigration flows from Eastern Europe [9, 10].

Treatment outcome

Treatment outcome monitoring (TOM) data for culture positive pulmonary TB cases notified in 2003 were provided by 23 countries (smear positive in San Marino, Table 27), and by the United Kingdom for 2002 cohorts. Apart from Italy, where data derived from a small group of clinical centres [11], TOM data consisted of complete cohorts, reported in individual format by 21 countries. Among new cases (Table 28), 76% were reported as success, 7% died during treatment, 4% failed or continued treatment at 12 months and 13% were lost to follow up (defaulted, transferred or unknown). Among countries reporting over 20 new cases, success ratios ranged very widely from 54% in Hungary to 88% in Slovakia. Low success ratios (<76%) were generally associated with a loss to follow-up in excess of 10%. Success ratios decreased markedly with age as risk of dying increased (Table 30). This, along with differences in co-morbidity - including HIV - and in the completeness of *post-mortem* reporting of TB, explains the wide range in death ratios observed (0-13%, 20% - 1 case - in Andorra). As in previous years, and largely the result of

definitional inconsistencies, failures and still on treatment were numerous in Hungary (25%), a country with low prevalence of drug resistance. In contrast, in the Baltic States, the frequent still on treatment (5-12% among new cases) and failures (1-2%), reflected the high MDR caseload. In the remaining countries, where the prevalence of MDR is low, failure was 0% except in Ireland, Israel and Poland (1%), while still on treatment was reported in 0-5% of new cases. In non-Baltic countries, a high proportion of cases with treatment lasting longer than 12 months may reflect non-standard care practices, as in Portugal or use of this category due to lack of follow-up bacteriology information needed to define failure.

Among retreated cases (Table 29), the overall success ratio was lower than among new cases (58%; range: 30-100%). Death (11%), failure (3%) and still on treatment (11%) were more frequently reported than among new cases, due to the higher prevalence of drug resistance in this group and to the longer duration of re-treatment regimens. High proportions of loss to follow up (18%) also contributed to lower success ratios.

Nineteen countries had individual outcome data for extra-pulmonary cases (Table 31). In nearly all countries success ratio was higher in extra-pulmonary cases compared to pulmonary cases (80% vs. 72% respectively), while deaths were more frequent in pulmonary disease (6% vs. 10%). Most extra-pulmonary disease reported in the EU & West is of a less serious type than pulmonary (Table 9). Multivariable analysis using data pooled from 9 EU & West countries showed however that presence of a pulmonary site did not significantly diminish the chances of success when other risk factors like drug-resistance and age were adjusted for [12].

2.2 Centre

TB case notification

The eight Balkan countries in the Centre reported 62,609 TB cases in 2004, of which 51% were from Romania alone and 32% from Turkey (Table 1). An additional 1,009 cases were reported from Kosovo. The overall TB notification rate was 50.7 per 100,000 population, being much higher in Romania (146 per 100,000) than in the other countries (from 19 in Albania to 61 in Bosnia & Herzegovina). The proportion of paediatric TB cases (0-14 years) was 4% overall but 13% in the F.Y.R. of Macedonia, suggesting over-notification of paediatric TB in this country (Table 2). Age-specific notification rates were highest at 45-64 years in Romania (201 per 100,000) and in Bulgaria (50) and peaked after age 64 in the other countries (Country Profiles, Figure 5). The peak of age-specific rates at younger age indicates a

higher level of TB transmission in Bulgaria and Romania, with lower rates in Bulgaria possibly resulting from incomplete reporting.

Between 2000 and 2004, notification rates decreased by 2% yearly or more in Albania and Croatia, but increased by a mean of 4% annually in Romania where rates peaked in 2002. In the other countries there were shifts of 1% or less (Figure 6). In countries with decreasing total notification rates in recent years, rates decreased in cases aged 15-44 years (Country Profiles, no data for Turkey).

In 2004, the proportion of retreated patients was much higher in Romania (21%) than in the other countries (6-11%) (Table 7). In the six countries reporting cases using the pulmonary classification, pulmonary cases represented 87% of notifications (range: 61-92%), of which 54% were sputum smear positive (Tables 8, 13). The proportion of extra-pulmonary cases was high in Albania (39%) and Macedonia, F.Y.R. of (25%), suggesting over-diagnosis of extra-pulmonary TB. In countries reporting culture results, the proportion of culture positive cases ranged widely from 21% in Macedonia F.Y.R. of, to 70% in Bosnia & Herzegovina (Table 10). The proportion of cases reported as culture negative was high in Albania (42%, Table 11). Culture confirmation in Romania in 2004 (42%) was lower than in 2003 (55%) due to incomplete information at the time of reporting to EuroTB.

Tuberculosis and HIV infection

HIV sero-status for TB cases was available for Albania (0.2% HIV positive in 2004), Bulgaria (0.3%) and Romania (0.5%) (Table 14). This finding is in keeping with the low HIV prevalence and AIDS incidence in the general population in the Centre [2, 3]. AIDS notification data were available for all countries except Bulgaria in 2004, with AIDS rates ranging from 0.1 to 1.1 per 100,000. Among the 370 AIDS cases notified, information on initial AIDS-indicative diseases was missing in all 238 cases from Romania (64%), while TB was reported in 27 cases (7%) (Table 15). This represented less than 1% of all TB notifications made by these countries in 2004. Absolute numbers of AIDS cases with initial TB showed no clear trends between 1998 and 2004 (Table 16).

Anti-tuberculosis drug resistance

Seven countries reported DRS data for 2004 (Table 17). Of these, five participated in international EQA for DST (Table 18) and three were classified in group A, including Romania which reported results of a nationwide drug resistance survey conducted in 2003-4. Data on cases notified in the Federation of Bosnia and

Croatia showed low, stable drug resistance levels between 2000 and 2004 (Table 26). In Romania, resistance was much higher, with primary MDR being 2.9% and secondary MDR 10.7% (Tables 21-22). Serbia & Montenegro reported low resistance in the region of Belgrade, while national non-representative data from Albania and Macedonia FYR also showed low levels of resistance (combined MDR 0-1.2%), and higher levels in Bulgaria (MDR 5.7%) (Table 20).

Treatment outcome

Outcome of definite TB cases notified in 2003 were reported by all countries, with four sending data on complete cohorts (group A, Table 27). In these four countries, success ratios for new cases ranged between 82% and 91%, deaths between 2% and 4%, loss to follow up between 4% and 15%, while failures were high in Bulgaria and Romania (2% and 5% respectively) (Table 28). Success among retreated cases was much lower (Table 29). For incomplete cohorts (group B), success ratios among new cases were 98% in the Republika Srpska of Bosnia & Herzegovina and 91% in Serbia & Montenegro (region of Belgrade) but very low in Croatia (38%), as a result of incomplete reporting of outcome (53% of original cohort with unknown outcome).

2.3 East

TB case notification

In 2004, 291,288 cases were reported from the East, of which 52% from the Russian Federation (Table 1), which is the only European country featuring in the WHO list of 22 high TB-burden countries in the world [1]. The overall TB notification rate in the East continued to increase, reaching 105 per 100,000 in 2004, with rates higher than average in Kazakhstan (217), Rep. of Moldova (142), Georgia (132), Kyrgyzstan (128) and the Russian Federation (106) (Table 1).

Paediatric TB cases represented 6% of the cases overall but 15% or more in Kyrgyzstan and Uzbekistan, suggesting over-notification of paediatric TB (Table 2). Higher overall rates in older children than in younger ones also suggested relative over-reporting in the age group 5-14 years (Figure 5). The age group 15-44 years accounted for 63% of the cases notified, while only 7% of the cases were aged over 64 years. Overall, rates were highest in the age group 25-34 years in both sexes (overall 240 per 100,000), indicating high, increasing levels of transmission in recent years, and remained very high in older age groups in men until old age but decreased more steadily in women. Sex ratios ranged very widely from 1.3 to 1.6 in the five central Asian republics and Azerbaijan to 2.5 and more in the other countries, suggesting sex-related differences in TB

transmission, care or reporting between countries in the East (Table 3).

Notification rates increased by 41% between 1997 and 2004. This increase has contributed to the lack of decline in TB notifications in recent years in the whole world [13]. The mean annual increase in rates was twice larger between 1996 and 2000 (7.2%) than between 2000 and 2004 (3.6%) (Figure 6), and in the latter years annual increases in excess of 10% were only reported in countries where DOTS implementation has been expanded during the period - Moldova Rep. of, Tajikistan and Uzbekistan. Between 2000 and 2004 overall notification rates decreased in Georgia and Kyrgyzstan.

In 2004, the proportion of retreated or previously diagnosed cases ranged widely from 8% to 35% (mean: 23%), reflecting differences in the definition of a notifiable case (Table 7). Only new cases were reported by Ukraine. In Azerbaijan (34% retreated) a large number of retreated cases were included as a result of the expansion of the treatment programme in recent years. In 2004, 92% of TB cases in the East had pulmonary localisation (range: 71-97%), but only 31% of them were sputum smear positive (22-55%) (Tables 8, 13). Culture results were uncommon as TB reporting systems in this area rely more on direct microscopy results, or do not collect this information or else combine positive results of direct microscopy and culture, reported together as 'BK+'. In the Russian Federation, only 6,538 cases (17%) out of 37,578 notified in DOTS areas were reported as culture positive for the whole country. The low proportion of smear confirmation and the unavailability of information on culture results attest to the delayed uptake of international recommendations for diagnosis, still heavily reliant on radiology in some countries.

TB surveillance data and trends in the East have to be interpreted with caution, as in several countries TB notification has been variably affected by global changes in health and in TB control systems since the early 1990s. TB cases diagnosed in specific population groups (e.g. prisoners in the Russian Federation since 1998), and retreated cases other than relapses (e.g. Uzbekistan since 2002) were increasingly included in TB statistics.

Tuberculosis and HIV infection

In the four countries reporting HIV sero-status of notified TB cases, HIV prevalence was below 1% in Azerbaijan, Belarus and Uzbekistan since 2001, but was reportedly 3% in Armenia among TB patients in 2004 tested "at random" (Table 14). Kyrgyzstan, the Russian Federation and Uzbekistan did not report AIDS data in 2004, while

the other 9 countries together reported 2,902 cases, of which 2,543 (88%) from Ukraine (Table 15). Among AIDS cases, 1,563 (54%) had TB as initial AIDS indicative disease representing 3.6% of total TB cases in Ukraine but less than 0.8% in the other countries. In all countries which reported AIDS cases with initial TB diagnosis (except Tajikistan), an increase in AIDS-TB cases was observed in 2002-4 compared to the late 1990s (Table 16).

The high TB morbidity among AIDS cases may reflect a high prevalence of TB infection in the HIV-infected population, an earlier appearance of TB over other AIDS-defining diseases in countries with recent HIV epidemics or easier diagnosis compared with other AIDS-indicative diseases. On the other hand, low absolute numbers of AIDS cases reported with TB may also be due to AIDS underreporting. Surveillance data currently available in the East are insufficient to monitor the overlap between the HIV and TB epidemics, which are expected to increase both the TB and the MDR-TB case load in the coming years [14].

Anti-tuberculosis drug resistance

In the East, four countries provided DRS data for 2004, of which only Azerbaijan had not participated in international EQA activities since 2002 (Table 18). The levels of combined INH resistance and combined MDR were similar in Armenia, Kazakhstan and Kyrgyzstan (mean: 48.3% and 27.9% respectively), but were much lower in Azerbaijan (11.2% and 3.4%) (Table 20). The national representativeness of these data is unknown. In spite of the variable quality of DRS data, evidence in recent years indicates that drug resistance is highly prevalent in most countries of the former Soviet Union (Table 17) [15-18]. Better documentation of the frequency of drug resistance remains a high priority and a prerequisite for proper control of MDR-TB.

Treatment outcome

Eleven countries reported TOM data on 2003 cohorts of smear positive cases, six having complete nationwide cohorts (group A). TOM from Tajikistan and Uzbekistan were nationwide but data completeness was unknown or below 90%, while three other countries only reported outcome for DOTS areas alone (group B, Table 27).

In group A countries, the success ratio among new cases was below 70% in Azerbaijan, Georgia and Moldova Rep. of, where the proportion of cases lost to follow up was very high (27-36%) (Table 28). Failures were high in Kazakhstan (14%), Moldova Rep. of (10%) and Turkmenistan (12%). In Azerbaijan, where drug resistance was relatively low (see above), failures were lowest (3%). High failures indicate low effectiveness of

initial regimens due to primary MDR and also poor treatment adherence, as corroborated by frequent default and transfer.

In group B countries, the success ratio among new cases was lowest in Tajikistan (46%; 37% lost to follow up) and in the Russian Federation (61%; 12% failed, 16% lost to follow up) while it was higher (73-85%) in the remaining three countries.

Among retreated cases in groups A and B (Table 29), success was lower than 60% in all countries except Kyrgyzstan, Turkmenistan and Uzbekistan (63%-74%), while failures ranged between 8% and 29%.

2.4. Conclusions and recommendations

Surveillance data for tuberculosis continue to describe a very diverse epidemiological situation in Europe. Countries of the former Soviet Union are a clear priority for TB control in Europe, as the TB notification rates continue to increase in most countries and are highest in young adults indicating high and probably increasing levels of transmission in recent years. While available information on drug resistance is still patchy in these countries and does not allow the study of time-trends, it does indicate a high prevalence of resistant disease (Figure 9). Outcome data suggest low effectiveness of treatment programmes, particularly for retreated patients, even in areas using recommended, standardised chemotherapy programmes, like DOTS (Figure 10). Success ratios often fall short of the 85% recommended for new definite cases. There is much loss to follow-up and failure is a frequent outcome, probably associated with inadequate medication in the face of MDR.

In contrast, most countries of the EU and West have experienced a steady decrease in overall TB incidence for a number of decades, even if it briefly reversed in some countries in the early 1990s [19]. This decline has been more marked in persons originating from the EU & West than from elsewhere. Migrants from countries with high prevalence of TB represent an ever increasing proportion of cases and have a greater likelihood of having drug resistant TB. Nonetheless, drug resistance on a large scale has been avoided, with the exception of the Baltic States which share a common historical legacy with other FSU countries. HIV prevalence in TB patients is a sensitive indicator of the spread of HIV into the general population [20]. Levels remain low except in the Iberian peninsula while there is an increasing trend in Estonia and Latvia, where the spread of HIV is more recent. The contribution of AIDS to overall TB incidence is perceptible and the estimate of 3% TB due to AIDS is a

conservative figure. Treatment success remains below global targets in most countries, as a result of high mortality in the elderly, incomplete follow-up and, in the Baltic States, high proportions of MDR. TB prevention and control in the EU need to be targeted to high risk population groups, including migrants from high incidence areas, HIV infected individuals, the elderly and the population of metropolitan areas where incidence is higher than national average and risk factors for TB tend to aggregate [21].

The number of countries reporting valid information has increased steadily over the years and European recommendations [22-24] have been instrumental in spearheading the harmonisation of TB surveillance at European level. The definitions for surveillance will be revised in 2006 by the European Centre for Disease Prevention and Control (ECDC) in order to simplify their application and their utility in surveillance. Molecular surveillance of MDR-TB was started by EuroTB in 2005 and will complement the current analysis of drug resistance surveillance data.

More efforts are required to improve the uptake of European surveillance recommendations to ensure greater comparability of data between countries and over time, particularly in the East and in the Balkans. This can be achieved by:

- applying the European definitions for TB surveillance;
- maintaining a computerised individual TB case reporting data set, containing the recommended variables, and sharing individual data at the European level;
- establishing independent, laboratory-based reporting of TB cases, and promoting quality assurance of laboratories at national and international level;
- implementing drug resistance surveillance, using either ongoing collection of initial DST results for all cases or through periodic prevalence surveys [25];
- implementing treatment outcome monitoring and developing additional targets for treatment results, including cases with extra-pulmonary disease;
- implementing surveillance of HIV prevalence among TB patients, by using information available at national level through TB and HIV/AIDS case reporting and by conducting HIV prevalence surveys in areas with high or increasing HIV prevalence [20];
- developing indicators to monitor TB control interventions in risk groups, such as screening for TB disease and infection, contact investigation and outbreak management, all crucial in low incidence countries [26].

Improved tuberculosis surveillance would be expected to contribute to public health action by:

- describing the tuberculosis situation in a more complete, accurate and timely manner as a means to advocate for appropriate resources to control the problem across the different areas of the European Region;
- locating zones (eg metropolitan areas) and vulnerable groups (eg, recent immigrants, prisoners) at increased risk of disease in order to prioritise preventive measures;
- promoting the role of laboratories in public-health activities by giving more importance to confirmatory testing and detection of cases with directly transmissible disease;
- detecting linked cases and clusters to help mitigate outbreaks, particularly in low incidence countries;
- advocating for the joint case management of HIV/TB patients;
- preventing the emergence of drug-resistant disease by ensuring better case holding and management;
- identifying factors associated with treatment default or other unfavourable outcome, to permit early pre-emptive action on an individual level.

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3. TABLES

Summary table. Tuberculosis surveillance data by geographic area, WHO European Region, 2004 *

	Table showing data by country	Geographic area							Total	
		European Union & West		Centre		East				
		N [†]		N [†]		N [†]		N [†]		
Total population (millions)	-	32	479.0	8	123.5	12	278.3	52	880.8	
TB case notification, 2004										
Total number of cases	1	31	60 266	8	62 609	12	291 288	51	414 163	
Notification rate per 100 000 population	1	31	12.6	8	50.7	12	104.7	51	47.0	
Mean annual change in notification rate (2000-2004)	1	31	-4.7%	7	+1.7%	12	+3.6%	50	+1.6%	
Median age group (years)	2	31	45-54	7	35-44	10	35-44	48	35-44	
Age 0-14 years	2	31	4%	7	4%	10	6%	48	5%	
Age over 64 years	2	31	23%	7	15%	10	7%	48	13%	
Sex ratio (male to female)	3	31	1.7	7	2.0	11	2.1	49	2.0	
Foreign origin	4	31	29%	7	0%	6	0%	44	6%	
Previous history of anti-TB treatment or TB	7	31	10%	8	16%	11	23%	50	20%	
Pulmonary disease ‡	8	29	77%	7	87%	10	92%	46	89%	
Sputum smear positive among pulmonary	13	29	42%	6	54%	10	31%	45	35%	
Culture positive	10	31	55%	7	44%	5	8%	43	22%	
HIV co-infection §	14	20	3.6%	3	0.4%	4	0.5%	27	1.9%	
AIDS cases with AIDS-defining TB / total TB cases	15	27	2.9%	7	0.0%	9	0.5%	43	0.8%	
Anti-TB drug resistance, 2004										
Isoniazid resistance, new cases (median)	21	20	6.8%	3	0.9%	0	-	23	6.7%	
Multi-drug resistance, new cases (median)	21	20	0.9%	3	0.4%	0	-	23	0.6%	
Isoniazid resistance, retreated cases (median)	22	20	6.8%	3	14.3%	0	-	23	8.0%	
Multi-drug resistance, retreated cases (median)	22	20	1.7%	3	7.8%	0	-	23	2.6%	
Outcome, new definite pulmonary cases, 2003 ¶										
Success (cure or treatment completion)	28	23	77%	4	83%	6	71%	33	77%	
Death	28	23	7%	4	4%	6	5%	33	6%	
Failure	28	23	1%	4	4%	6	10%	33	5%	
Still on treatment	28	23	3%	4	1%	6	0%	33	1%	
Other (default, transfer, unknown)	28	23	11%	4	8%	6	14%	33	11%	

* Mean value except where otherwise indicated; for definition of geographic areas see Technical Note

† Number of countries with available data and included in the statistics

‡ Excluding countries using respiratory classification of disease (see Technical Note)

§ Latest available data point (1999-2004)

|| Median values for countries with representative nationwide data (see Technical Note)

¶ Countries with nationwide complete cohorts (see Technical Note); EU & West and Centre: culture positive (Macedonia, F.Y.R., smear positive); East: smear positive

Table 1. Tuberculosis cases and rates per 100 000 population, WHO European Region, 1997-2004

Geographic area Country	1997		1998		1999		2000	
	N	Rate	N	Rate	N	Rate	N	Rate
EU & West								
Austria	1 398	17.3	1 306	16.1	1 245	15.4	1 225	15.1
Belgium	1 263	12.4	1 203	11.7	1 270	12.4	1 313	12.7
Cyprus	47	6.2	45	5.9	39	5.0	33	4.2
Czech Republic	1 834	17.8	1 805	17.5	1 631	15.9	1 442	14.0
Denmark	554	10.5	529	10.0	536	10.1	548	10.3
Estonia	744	53.0	818	58.8	754	54.7	791	57.9
Finland	573	11.1	629	12.2	566	11.0	537	10.4
France	6 832	11.3	6 651	11.0	6 674	11.0	6 714	11.0
Germany	11 163	13.6	10 440	12.7	9 974	12.1	9 064	11.0
Greece	767 *	7.1	1 152	10.6	952	8.7	703	6.4
Hungary	4 240	41.2	3 999	38.9	3 914	38.2	3 598	35.2
Ireland	416	11.3	424	11.4	469	12.5	403	10.6
Italy	5 176	9.0	4 795	8.3	4 429	7.7	4 759	8.2
Latvia	2 003	82.4	2 182	90.5	1 968	82.3	2 063	86.9
Lithuania	2 926	81.8	3 016	85.0	2 903	82.4	2 981	85.2
Luxembourg	38	9.1	44	10.4	42	9.8	44	10.1
Malta	11	2.9	16	4.1	22	5.7	18	4.6
Netherlands	1 486	9.5	1 341	8.5	1 535	9.7	1 404	8.8
Poland	13 967	36.1	13 302	34.4	12 179	31.5	11 477	29.7
Portugal	5 112	50.7	5 260	51.9	5 160	50.7	4 494	44.0
Slovakia	1 298	24.1	1 282	23.8	1 218	22.6	1 111	20.6
Slovenia	481	24.4	449	22.8	438	22.3	380	19.3
Spain	9 347 †	23.3	9 111 †	22.6	8 393 †	20.8	8 395 †	20.6
Sweden	456	5.1	446	5.0	493	5.6	458	5.2
United Kingdom	6 355	10.9	6 176	10.6	6 287	10.7	6 792	11.5
Subtotal EU	78 487	17.4	76 421	16.9	73 091	16.1	70 747	15.6
Andorra	19	28.8	8	12.1	9	13.7	11	16.7
Iceland	10	3.7	17	6.2	12	4.3	13	4.6
Israel	422	7.4	656	11.3	520	8.7	591	9.7
Monaco	0	0.0	0	0.0	3	9.1	0	0.0
Norway	205	4.6	244	5.5	273	6.1	237	5.3
San Marino	1	3.8	0	0.0	0	0.0	1	3.7
Switzerland	747	10.6	749	10.5	772	10.8	629	8.8
Total EU & West	79 891	17.0	78 095	16.6	74 680	15.8	72 229	15.3
Centre								
Albania	655	21.2	694	22.6	765	25.0	631	20.6
Bosnia & Herzegovina	2 869	82.2	3 071	84.9	3 075	82.0	2 606	67.7
Bulgaria	3 437 ‡	42.1	4 117	50.8	3 530	43.8	3 349	41.9
Croatia	2 054	44.5	2 118	46.3	1 770	39.1	1 630	36.2
Macedonia, F.Y.R.	693	34.9	620	31.1	576	28.8	668	33.2
Romania	23 903	106.5	25 758	115.4	26 870	120.9	27 667	125.1
Serbia & Montenegro	4 062 §	38.4	3 028	36.1	2 646	31.6	2 922	35.0
Turkey	25 685	39.6	25 501	38.6	22 088	32.9	18 038	26.4
Total Centre	63 358	53.1	64 907	55.0	61 320	51.5	57 511	47.9
East								
Armenia	1 026	32.6	1 455	46.6	1 499	48.4	1 344	43.6
Azerbaijan	4 635 ‡	58.3	4 350	54.2	4 629	57.3	5 187	63.7
Belarus	5 985	58.8	5 595	55.2	7 339	72.8	6 084 ‡	60.7
Georgia	8 446	172.8	6 302	130.5	6 546	137.1	6 436	136.4
Kazakhstan	16 109	104.0	20 623	134.6	25 060	165.3	28 265	188.0
Kyrgyzstan	5 189	109.9	5 935	123.7	6 501	133.3	6 383	128.9
Moldova, Republic of	2 908	67.4	2 891	67.2	2 947	68.7	2 935	68.7
Russian Federation	119 123	80.7	121 917	82.7	135 054	91.9	143 801	98.1
Tajikistan	2 143	36.1	2 503	41.6	2 553	41.9	2 779 ‡	45.1
Turkmenistan	3 438	79.3	3 712 *	84.6	4 092	92.1	3 967	88.1
Ukraine	28 344	55.9	31 318	62.4	32 879	66.2	32 963	67.1
Uzbekistan	13 352	56.4	13 958	58.1	16 959	69.6	15 912	64.4
Total East	210 698	74.4	220 559	78.1	246 058	87.3	256 056	91.0
Total WHO European Region	353 947	40.6	363 561	41.7	382 058	43.8	385 796	44.1

* New cases only

† New and recurrent respiratory and meningeal cases

‡ Source: World Health Organization. Global Tuberculosis Control. WHO Report 2005, WHO/HTM/TB/2005.349

§ Including cases from Kosovo as part of former Yugoslavia

|| Excluding cases from Abkhazia and Southern Ossetia

Table 1 (cont.). Tuberculosis cases and rates per 100 000 population, WHO European Region, 1997-2004

2001		2002		2003		2004		Geographic area Country
N	Rate	N	Rate	N	Rate	N	Rate	
EU & West								
1 075	13.3	1 076	13.2	980	12.0	915	11.2	Austria
1 321	12.8	1 294	12.5	1 117	10.8	1 226	11.8	Belgium
40	5.0	20	2.5	35	4.3	30	3.6	Cyprus
1 350	13.2	1 185	11.6	1 162	11.4	1 057	10.3	Czech Republic
511	9.5	419	7.8	393	7.3	385 *	7.1	Denmark
812	59.8	713	52.9	623	46.5	594	44.5	Estonia
494	9.5	473	9.1	412	7.9	333	6.4	Finland
6 465	10.6	6 322	10.3	6 098	9.9	5 514	8.9	France
7 539	9.1 †	7 701	9.3	7 166	8.7	6 583	8.0	Germany
617	5.6	582	5.3	620	5.6	774	7.0	Greece
3 150	30.9	2 838	27.9	2 582	25.4	2 476	24.5	Hungary
406	10.5	408	10.4	407	10.2	437	10.7	Ireland
4 505	7.8	4 212	7.3	4 518	7.8	4 220	7.3	Italy
2 082	88.3	1 855	79.2	1 726	74.1	1 610	69.4	Latvia
2 989	85.9	2 844	82.0	2 821	81.7	2 514	73.0	Lithuania
32	7.3	32	7.2	54	11.9	31	6.8	Luxembourg
16	4.1	24	6.1	7	1.8	19	4.8	Malta
1 436	9.0	1 401	8.7	1 321	8.2	1 344	8.3	Netherlands
10 672	27.6	10 475	27.1	10 124	26.2	9 493	24.6	Poland
4 399	42.8	4 501	43.6	4 148	39.9	3 873	37.1	Portugal
1 076	19.9	1 053	19.5	983	18.2	705	13.1	Slovakia
371	18.9	350	17.8	293	14.9	263	13.4	Slovenia
7 453 ‡	18.1	7 626 ‡	18.3	7 467 ‡	17.7	6 392 §	15.0	Spain
428	4.8	407	4.6	408	4.5	461	5.1	Sweden
7 017	11.9	7 263	12.3	7 278	12.2	7 584 §	12.7	United Kingdom
66 256	14.5	65 074	14.2	62 743	13.7	58 833	12.8	Subtotal EU
5	7.6	5	7.5	11	16.5	7	10.5	Andorra
13	4.6	8	2.8	5	1.7	12	4.1	Iceland
564	9.1	511	8.1	529	8.2	519	7.9	Israel
0	0.0	0	0.0	1	2.9	-	-	Monaco
288	6.4	251	5.5	337	7.4	302	6.6	Norway
0	0.0	1	3.6	1	3.6	0	0.0	San Marino
611	8.5	658	9.1	623	8.6	593	8.2	Switzerland
67 737	14.3	66 508	14.0	64 250	13.5	60 266	12.6	Total EU & West
Centre								
572	18.7	612	19.9	561	18.1	581	18.7	Albania
2 551	65.4	2 551	65.1	1 780	-	2 382	60.9	Bosnia & Herzegovina
3 862	48.6	3 335	42.3	3 263	41.7	3 232	41.5	Bulgaria
1 505	33.5	1 470	32.6	1 493	33.0	1 297	28.6	Croatia
697	34.6	730	36.1	697	34.4	680	33.5	Macedonia, F.Y.R.
30 440	138.2	33 595	153.1	31 039	142.0	31 814	146.0	Romania
2 888	34.7	3 033	37.4	2 949	36.2	2 824 ¶	34.7	Serbia & Montenegro
18 890	27.3	19 028	27.1	18 590	26.1	19 799	27.4	Turkey
61 405	50.7	64 354	52.9	60 372	49.2	62 609	50.7	Total Centre
East								
1 401	45.7	1 455	47.7	1 570	51.7	1 701	56.2	Armenia
4 923	60.0	5 348	64.8	3 931	47.4	6 501	77.8	Azerbaijan
5 505 ††	55.2	5 139	51.8	5 963	60.4	6 490	66.2	Belarus
5 876	125.9	6 345	137.5	5 993	131.3	5 967	132.1	Georgia ††
31 254	209.2	32 936	221.3	32 169	216.5	32 131	216.5	Kazakhstan
6 901	137.5	6 794	133.6	7 025	136.6	6 641	127.6	Kyrgyzstan
3 820	89.7	4 149	97.7	5 027	118.8	6 008	142.4	Moldova, Republic of
138 432	94.8	134 812	92.8	152 244	105.3	152 438	105.9	Russian Federation
3 508	56.3	4 052	64.4	4 883	76.8	5 122	79.7	Tajikistan
4 922	107.8	4 635	100.1	4 759	101.3	4 172	87.5	Turkmenistan
36 784	75.7	40 175	83.6	40 659	85.6	38 403 **	81.7	Ukraine
18 106	72.2	27 009	106.1	26 172	101.3	25 714	98.1	Uzbekistan
261 432	93.2	272 849	97.5	290 395	104.1	291 288	104.7	Total East
Total WHO European Region								
390 574	44.6	403 711	46.0	415 017	47.2	414 163	47.0	

* 67 cases from Greenland not included (see Technical Note)

† Incomplete notification following change in notification system

‡ New and recurrent respiratory and meningial cases

§ Provisional data

|| Excluding Republika Srpska

¶ 1 009 cases from Kosovo not included (see Technical Note)

** New cases only

†† Excluding cases from Abkhazia and Southern Ossetia

Table 2. Tuberculosis cases by age group, WHO European Region, 2004

Geographic area	Age-groups (years)									
	0-4		5-14		15-24		25-34		35-44	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
EU & West										
Austria	17	(2)	28	(3)	114	(12)	175	(19)	147	(16)
Belgium	40	(3)	30	(2)	168	(14)	274	(22)	177	(14)
Cyprus	0	(0)	0	(0)	9	(30)	7	(23)	5	(17)
Czech Republic	2	(0)	5	(0)	49	(5)	98	(9)	129	(12)
Denmark	7	(2)	21	(5)	51	(13)	77	(20)	69	(18)
Estonia	1	(0)	1	(0)	27	(5)	94	(16)	141	(24)
Finland	5	(2)	0	(0)	11	(3)	16	(5)	26	(8)
France	131	(2)	196	(4)	640	(12)	1 104	(20)	881	(16)
Germany	149	(2)	120	(2)	569	(9)	1 013	(15)	1 065	(16)
Greece	24	(3)	34	(4)	54	(7)	101	(13)	96	(12)
Hungary	2	(0)	7	(0)	60	(2)	232	(9)	424	(17)
Ireland	0	(0)	9	(2)	60	(14)	117	(27)	54	(12)
Italy	118	(3)	79	(2)	402	(10)	878	(21)	699	(17)
Latvia	55	(3)	55	(3)	168	(10)	307	(19)	344	(21)
Lithuania	31	(1)	88	(4)	162	(6)	347	(14)	541	(22)
Luxembourg	0	(0)	0	(0)	2	(6)	7	(23)	13	(42)
Malta	0	(0)	0	(0)	3	(16)	7	(37)	2	(11)
Netherlands	17	(1)	59	(4)	237	(18)	308	(23)	230	(17)
Poland	21	(0)	99	(1)	500	(5)	961	(10)	1 504	(16)
Portugal	22	(1)	54	(1)	396	(10)	879	(23)	920	(24)
Slovakia	8	(1)	11	(2)	30	(4)	62	(9)	110	(16)
Slovenia	2	(1)	3	(1)	16	(6)	29	(11)	37	(14)
Spain *	202	(3)	154	(2)	775	(12)	1 434	(22)	1 318	(21)
Sweden	6	(1)	14	(3)	74	(16)	102	(22)	79	(17)
United Kingdom *	168	(2)	273	(4)	1 154	(15)	2 083	(27)	1 270	(17)
Subtotal EU	1 028	(2)	1 340	(2)	5 731	(10)	10 712	(18)	10 281	(17)
Andorra	0	(0)	0	(0)	0	(0)	3	(43)	1	(14)
Iceland	0	(0)	0	(0)	2	(17)	2	(17)	0	(0)
Israel	23	(4)	14	(3)	36	(7)	86	(17)	87	(17)
Monaco	-	-	-	-	-	-	-	-	-	-
Norway	7	(2)	16	(5)	55	(18)	92	(30)	50	(17)
San Marino	0	-	0	-	0	-	0	-	0	-
Switzerland	8	(1)	7	(1)	88	(15)	136	(23)	100	(17)
Total EU & West	1 066	(2)	1 377	(2)	5 912	(10)	11 031	(18)	10 519	(17)
Centre										
Albania	15	(3)	37	(6)	76	(13)	77	(13)	79	(14)
Bosnia & Herzegovina	6	(0)	31	(1)	214	(9)	284	(12)	323	(14)
Bulgaria	64	(2)	135	(4)	369	(11)	514	(16)	469	(15)
Croatia	7	(1)	37	(3)	88	(7)	126	(10)	202	(16)
Macedonia, F.Y.R.	41	(6)	45	(7)	86	(13)	102	(15)	108	(16)
Romania	528	(2)	915	(3)	4 073	(13)	6 020	(19)	6 083	(19)
Serbia & Montenegro	10	(0)	17	(1)	203	(7)	296	(10)	378	(13)
Turkey	-	-	-	-	-	-	-	-	-	-
Total Centre	671	(2)	1 217	(3)	5 109	(12)	7 419	(17)	7 642	(18)
East										
Armenia	23	(1)	51	(3)	632	(37)	319	(19)	276	(16)
Azerbaijan	17	(0)	25	(0)	875	(13)	1 352	(21)	1 568	(24)
Belarus †	13	(0)	63	(1)	629	(12)	1 106	(20)	1 261	(23)
Georgia	63	(1)	292	(5)	969	(16)	1 319	(22)	1 246	(21)
Kazakhstan	350	(1)	1 478	(5)	8 011	(25)	8 464	(26)	6 233	(19)
Kyrgyzstan †	231	(4) ‡	636	(11) ‡	1 345	(23)	1 260	(22)	943	(16)
Moldova, Republic of	-	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-	-
Tajikistan †	62	(1)	317	(7)	1 542	(35)	990	(22)	710	(16)
Turkmenistan	22	(1)	241	(6)	988	(24)	1 275	(31)	843	(20)
Ukraine †	190	(0)	484	(1)	5 216	(14)	8 908	(23)	8 837	(23)
Uzbekistan †	287	(1)	2 778	(14)	3 522	(18)	4 431	(23)	3 116	(16)
Total East	1 258	(1)	6 365	(5)	23 729	(19)	29 424	(24)	25 033	(20)
Total WHO European Region	2 995	(1)	8 959	(4)	34 750	(15)	47 874	(21)	43 194	(19)

* Provisional data

† Age groups only for new cases (including also cases with unknown treatment history in Belarus)

‡ Paediatric age-groups are 0-6 and 7-14 years

Table 2 (cont.). Tuberculosis cases by age group, WHO European Region, 2004

Age-groups (years)									
45-54		55-64		>64		Unknown		Total	Geographic area
N	(%)	N	(%)	N	(%)	N	(%)		Country
EU & West									
124	(14)	107	(12)	203	(22)	0	(0)	915	Austria
146	(12)	108	(9)	283	(23)	0	(0)	1 226	Belgium
4	(13)	1	(3)	4	(13)	0	(0)	30	Cyprus
233	(22)	174	(16)	367	(35)	0	(0)	1 057	Czech Republic
65	(17)	53	(14)	42	(11)	0	(0)	385	Denmark
159	(27)	81	(14)	90	(15)	0	(0)	594	Estonia
49	(15)	50	(15)	175	(53)	1	(0)	333	Finland
733	(13)	494	(9)	1 332	(24)	3	(0)	5 514	France
946	(14)	841	(13)	1 878	(29)	2	(0)	6 583	Germany
83	(11)	76	(10)	215	(28)	91	(12)	774	Greece
702	(28)	425	(17)	624	(25)	0	(0)	2 476	Hungary
42	(10)	45	(10)	101	(23)	9	(2)	437	Ireland
434	(10)	340	(8)	1 112	(26)	158	(4)	4 220	Italy
328	(20)	180	(11)	173	(11)	0	(0)	1 610	Latvia
593	(24)	372	(15)	380	(15)	0	(0)	2 514	Lithuania
3	(10)	2	(6)	4	(13)	0	(0)	31	Luxembourg
3	(16)	1	(5)	3	(16)	0	(0)	19	Malta
153	(11)	117	(9)	222	(17)	1	(0)	1 344	Netherlands
2 425	(26)	1 410	(15)	2 573	(27)	0	(0)	9 493	Poland
581	(15)	354	(9)	619	(16)	48	(1)	3 873	Portugal
140	(20)	88	(12)	256	(36)	0	(0)	705	Slovakia
39	(15)	32	(12)	105	(40)	0	(0)	263	Slovenia
716	(11)	508	(8)	1 237	(19)	48	(1)	6 392	Spain *
54	(12)	37	(8)	95	(21)	0	(0)	461	Sweden
858	(11)	609	(8)	1 156	(15)	13	(0)	7 584	United Kingdom *
9 613	(16)	6 505	(11)	13 249	(23)	374	(1)	58 833	Subtotal EU
1	(14)	1	(14)	1	(14)	0	(0)	7	Andorra
1	(8)	3	(25)	4	(33)	0	(0)	12	Iceland
80	(15)	49	(9)	144	(28)	0	(0)	519	Israel
-	-	-	-	-	-	-	-	-	Monaco
17	(6)	13	(4)	51	(17)	1	(0)	302	Norway
0	-	0	-	0	-	0	-	0	San Marino
67	(11)	44	(7)	143	(24)	0	(0)	593	Switzerland
9 779	(16)	6 615	(11)	13 592	(23)	375	(1)	60 266	Total EU & West
Centre									
97	(17)	88	(15)	112	(19)	0	(0)	581	Albania
354	(15)	355	(15)	815	(34)	0	(0)	2 382	Bosnia & Herzegovina
583	(18)	474	(15)	624	(19)	0	(0)	3 232	Bulgaria
245	(19)	163	(13)	429	(33)	0	(0)	1 297	Croatia
94	(14)	85	(13)	119	(18)	0	(0)	680	Macedonia, F.Y.R.
7 034	(22)	3 557	(11)	3 575	(11)	29	(0)	31 814	Romania
572	(20)	454	(16)	819	(29)	75	(3)	2 824	Serbia & Montenegro
-	-	-	-	-	-	-	-	-	Turkey
8 979	(21)	5 176	(12)	6 493	(15)	104	(0)	42 810	Total Centre
East									
184	(11)	101	(6)	115	(7)	0	(0)	1 701	Armenia
1 297	(20)	632	(10)	735	(11)	0	(0)	6 501	Azerbaijan
1 151	(21)	578	(11)	642	(12)	0	(0)	5 443	Belarus †
955	(16)	566	(9)	557	(9)	0	(0)	5 967	Georgia
4 345	(14)	1 926	(6)	1 324	(4)	0	(0)	32 131	Kazakhstan
647	(11)	292	(5)	402	(7)	0	(0)	5 756	Kyrgyzstan †
-	-	-	-	-	-	-	-	-	Moldova, Republic of
-	-	-	-	-	-	-	-	-	Russian Federation
436	(10)	227	(5)	184	(4)	0	(0)	4 468	Tajikistan †
491	(12)	202	(5)	110	(3)	0	(0)	4 172	Turkmenistan
7 794	(20)	3 613	(9)	3 361	(9)	0	(0)	38 403	Ukraine †
2 218	(11)	1 571	(8)	1 584	(8)	0	(0)	19 507	Uzbekistan †
19 518	(16)	9 708	(8)	9 014	(7)	0	(0)	124 049	Total East
38 276	(17)	21 499	(9)	29 099	(13)	479	(0)	227 125	Total WHO European Region

* Provisional data

† Age groups only for new cases (including also cases with unknown treatment history in Belarus)

Table 3. Tuberculosis cases by sex, WHO European Region, 2004

Geographic area Country	Male		Female		Unknown		Total	Sex ratio M:F
	N	(%)	N	(%)	N	(%)		
EU & West								
Austria	580	(63)	335	(37)	0	(0)	915	1.7
Belgium	790	(64)	436	(36)	0	(0)	1 226	1.8
Cyprus	24	(80)	6	(20)	0	(0)	30	4.0
Czech Republic	663	(63)	394	(37)	0	(0)	1 057	1.7
Denmark	213	(55)	172	(45)	0	(0)	385	1.2
Estonia	420	(71)	174	(29)	0	(0)	594	2.4
Finland	194	(58)	139	(42)	0	(0)	333	1.4
France	3 420	(62)	2 090	(38)	4	(0)	5 514	1.6
Germany	3 918	(60)	2 661	(40)	4	(0)	6 583	1.5
Greece	516	(67)	254	(33)	4	(1)	774	2.0
Hungary	1 681	(68)	795	(32)	0	(0)	2 476	2.1
Ireland	258	(59)	175	(40)	4	(1)	437	1.5
Italy	2 569	(61)	1 633	(39)	18	(0)	4 220	1.6
Latvia	1 088	(68)	522	(32)	0	(0)	1 610	2.1
Lithuania	1 758	(70)	756	(30)	0	(0)	2 514	2.3
Luxembourg	20	(65)	11	(35)	0	(0)	31	1.8
Malta	14	(74)	5	(26)	0	(0)	19	2.8
Netherlands	788	(59)	551	(41)	5	(0)	1 344	1.4
Poland	6 300	(66)	3 193	(34)	0	(0)	9 493	2.0
Portugal	2 624	(68)	1 249	(32)	0	(0)	3 873	2.1
Slovakia	413	(59)	292	(41)	0	(0)	705	1.4
Slovenia	150	(57)	113	(43)	0	(0)	263	1.3
Spain *	4 233	(66)	2 144	(34)	15	(0)	6 392	2.0
Sweden	238	(52)	223	(48)	0	(0)	461	1.1
United Kingdom *	4 185	(55)	3 378	(45)	21	(0)	7 584	1.2
Subtotal EU	37 057	(63)	21 701	(37)	75	(0)	58 833	1.7
Andorra	4	(57)	3	(43)	0	(0)	7	1.3
Iceland	8	(67)	4	(33)	0	(0)	12	2.0
Israel	281	(54)	238	(46)	0	(0)	519	1.2
Monaco	-	-	-	-	-	-	-	-
Norway	147	(49)	155	(51)	0	(0)	302	0.9
San Marino	0	-	0	-	0	-	0	-
Switzerland	338	(57)	255	(43)	0	(0)	593	1.3
Total EU & West	37 835	(63)	22 356	(37)	75	(0)	60 266	1.7
Centre								
Albania	344	(59)	237	(41)	0	(0)	581	1.5
Bosnia & Herzegovina	1 337	(56)	1 045	(44)	0	(0)	2 382	1.3
Bulgaria	2 154	(67)	1 078	(33)	0	(0)	3 232	2.0
Croatia	842	(65)	455	(35)	0	(0)	1 297	1.9
Macedonia, F.Y.R.	393	(58)	287	(42)	0	(0)	680	1.4
Romania	21 841	(69)	9 973	(31)	0	(0)	31 814	2.2
Serbia & Montenegro	1 677	(59)	1 081	(38)	66	(2)	2 824	1.6
Turkey	-	-	-	-	-	-	-	-
Total Centre	28 588	(67)	14 156	(33)	66	(0)	42 810	2.0
East								
Armenia	1 364	(80)	337	(20)	0	(0)	1 701	4.0
Azerbaijan	3 945	(61)	2 556	(39)	0	(0)	6 501	1.5
Belarus †	3 866	(71)	1 577	(29)	0	(0)	5 443	2.5
Georgia	4 273	(72)	1 693	(28)	1	(0)	5 967	2.5
Kazakhstan	18 481	(58)	13 650	(42)	0	(0)	32 131	1.4
Kyrgyzstan †	3 282	(57)	2 474	(43)	0	(0)	5 756	1.3
Moldova, Republic of	-	-	-	-	-	-	-	-
Russian Federation †	84 522	(71)	34 402	(29)	0	(0)	118 924	2.5
Tajikistan †	2 745	(61)	1 723	(39)	0	(0)	4 468	1.6
Turkmenistan	2 550	(61)	1 622	(39)	0	(0)	4 172	1.6
Ukraine †	27 732	(72)	10 671	(28)	0	(0)	38 403	2.6
Uzbekistan †	11 422	(59)	8 085	(41)	0	(0)	19 507	1.4
Total East	164 182	(68)	78 790	(32)	1	(0)	242 973	2.1
Total WHO European Region	230 605	(67)	115 302	(33)	142	(0)	346 049	2.0

* Provisional data

† New cases only

Table 4. Tuberculosis cases by geographic origin, WHO European Region, 2004

Geographic area Country	Classification	Native / national citizens		Foreign-born / foreign citizens		Unknown		Total
		N	(%)	N	(%)	N	(%)	
EU & West								
Austria	citizenship	532	(58)	383	(42)	0	(0)	915
Belgium	citizenship	577	(47)	649	(53)	0	(0)	1 226
Cyprus	birthplace	7	(23)	23	(77)	0	(0)	30
Czech Republic	birthplace	908	(86)	149	(14)	0	(0)	1 057
Denmark	birthplace *	148	(38)	237	(62)	0	(0)	385
Estonia	birthplace	454	(76)	138	(23)	2	(0)	594
Finland	birthplace	289	(87)	33	(10)	11	(3)	333
France	birthplace	2 668	(48)	2 488	(45)	358	(6)	5 514
Germany	birthplace	3 429	(52)	2 879	(44)	275	(4)	6 583
Greece	birthplace	587	(76)	180	(23)	7	(1)	774
Hungary	birthplace	2 401	(97)	44	(2)	31	(1)	2 476
Ireland	birthplace	282	(65)	122	(28)	33	(8)	437
Italy	birthplace	2 520	(60)	1 664	(39)	36	(1)	4 220
Latvia	birthplace	1 465	(91)	119	(7)	26	(2)	1 610
Lithuania	birthplace	2 427	(97)	87	(3)	0	(0)	2 514
Luxembourg	birthplace	6	(19)	25	(81)	0	(0)	31
Malta	citizenship	7	(37)	12	(63)	0	(0)	19
Netherlands	citizenship	614	(46)	721	(54)	9	(1)	1 344
Poland	citizenship	9 477	(100)	16	(0)	0	(0)	9 493
Portugal	birthplace	3 412	(88)	455	(12)	6	(0)	3 873
Slovakia	birthplace	690	(98)	15	(2)	0	(0)	705
Slovenia	birthplace	209	(79)	54	(21)	0	(0)	263
Spain †	birthplace	4 217	(66)	717	(11)	1 458	(23)	6 392
Sweden	birthplace	115	(25)	343	(74)	3	(1)	461
United Kingdom †	birthplace	2 128	(28)	4 631	(61)	825	(11)	7 584
Subtotal EU		39 569	(67)	16 184	(28)	3 080	(5)	58 833
Andorra	birthplace	0	(0)	6	(86)	1	(14)	7
Iceland	birthplace	4	(33)	8	(67)	0	(0)	12
Israel	birthplace	99	(19)	420	(81)	0	(0)	519
Monaco	-	-	-	-	-	-	-	-
Norway	birthplace	63	(21)	239	(79)	0	(0)	302
San Marino	citizenship	0	-	0	-	0	-	0
Switzerland	birthplace	153	(26)	338	(57)	102	(17)	593
Total EU & West		39 888	(66)	17 195	(29)	3 183	(5)	60 266
Centre								
Albania	birthplace	581	(100)	0	(0)	0	(0)	581
Bosnia & Herzegovina	citizenship	2 380	(100)	2	(0)	0	(0)	2 382
Bulgaria	citizenship	3 232	(100)	0	(0)	0	(0)	3 232
Croatia	birthplace	717	(55)	126	(10)	454	(35)	1 297
Macedonia, F.Y.R.	birthplace	520	(76)	3	(0)	157	(23)	680
Romania	birthplace	31 806	(100)	8	(0)	0	(0)	31 814
Serbia & Montenegro	citizenship	2 823	(100)	1	(0)	0	(0)	2 824
Turkey	-	-	-	-	-	-	-	-
Total Centre		42 059	(98)	140	(0)	611	(1)	42 810
East								
Armenia	citizenship	1 701	(100)	0	(0)	0	(0)	1 701
Azerbaijan	citizenship	6 501	(100)	0	(0)	0	(0)	6 501
Belarus	-	-	-	-	-	-	-	-
Georgia	birthplace	5 967	(100)	0	(0)	0	(0)	5 967
Kazakhstan	citizenship	32 131	(100)	0	(0)	0	(0)	32 131
Kyrgyzstan	-	-	-	-	-	-	-	-
Moldova, Republic of	-	-	-	-	-	-	-	-
Russian Federation	birthplace	151 600	(99)	838	(1)	0	(0)	152 438
Tajikistan	-	-	-	-	-	-	-	-
Turkmenistan	birthplace	4 172	(100)	0	(0)	0	(0)	4 172
Ukraine	-	-	-	-	-	-	-	-
Uzbekistan	-	-	-	-	-	-	-	-
Total East		202 072	(100)	838	(0)	0	(0)	202 910
Total WHO European Region		284 019	(93)	18 173	(6)	3 794	(1)	305 986

* By birthplace of parents for Danish-born cases under 26 years of age

† Provisional data

Table 5. Tuberculosis cases by geographic origin, EU & West*, 1997-2004

Country	Classification	1997	1998	1999	2000	2001	2002	2003	2004
A. Native / national citizens									
Austria	citizenship	1 052	1 014	926	890	804	770	640	532
Belgium	citizenship	849	776	809	758	714	637	512	577
Cyprus	birthplace	-	-	-	-	15	13	13	7
Czech Republic	birthplace	1 726	1 695	1 496	1 299	1 157	1 022	1 036	908
Denmark	birthplace †	174	184	164	198	174	154	158	148
Estonia	birthplace	716	704	587	608	630	573	493	454
Finland	birthplace	524	568	517	490	427	422	359	289
France	birthplace	-	-	-	3 198	2 870	2 657	2 815	2 668
Germany	birthplace	-	-	-	-	3 781	4 140	3 851	3 429
Hungary	birthplace	4 196	-	3 832	3 521	3 077	2 781	2 509	2 401
Ireland	birthplace	-	389	404	354	328	270	300	282
Italy	birthplace	-	-	3 346	3 511	3 063	2 890	2 846	2 520
Latvia	birthplace	1 889	2 087	1 614	1 893	1 931	1 713	1 605	1 465
Lithuania	birthplace	2 769	2 784	2 699	2 821	2 815	2 711	2 693	2 427
Malta	citizenship	-	-	-	13	13	15	3	7
Netherlands	citizenship	647	536	603	516	545	539	570	614
Portugal	birthplace	-	-	4 406	4 047	3 903	3 928	3 641	3 412
Slovakia	birthplace	1 298	1 281	1 214	1 103	1 063	1 041	967	690
Slovenia	birthplace	377	368	335	286	287	273	250	209
Sweden	birthplace	156	177	174	151	142	114	103	115
United Kingdom ‡	birthplace	-	2 353	2 087	1 957	2 106	1 999	1 868	2 128
Subtotal EU		-	-	-	-	29 845	28 662	27 232	25 282
Andorra	citizenship	-	-	-	-	5	5	8	5
Iceland	birthplace	8	9	4	8	6	5	2	4
Israel	birthplace	52	96	71	91	87	79	94	99
Norway	birthplace	95	115	93	70	82	60	70	63
San Marino	citizenship	1	0	0	1	0	-	1	0
Switzerland	birthplace	239	211	269	228	192	189	167	153
Total EU & West		-	-	-	-	30 217	29 000	27 574	25 606
B. Foreign-born / foreign citizens									
Austria	citizenship	346	292	319	335	271	306	340	383
Belgium	citizenship	414	427	454	508	604	657	605	649
Cyprus	birthplace	-	-	-	-	25	7	22	23
Czech Republic	birthplace	108	110	135	143	193	163	126	149
Denmark	birthplace †	380	344	371	350	334	265	235	237
Estonia	birthplace	28	114	167	183	182	140	130	138
Finland	birthplace	41	49	49	47	58	43	38	33
France	birthplace	-	-	-	2 193	2 305	2 564	2 572	2 488
Germany	birthplace	-	-	-	-	2 741	2 991	3 014	2 879
Hungary	birthplace	44	-	64	56	57	47	51	44
Ireland	birthplace	-	35	65	49	65	123	89	122
Italy	birthplace	-	-	961	1 201	1 391	1 293	1 459	1 664
Latvia	birthplace	85	61	39	147	122	115	93	119
Lithuania	birthplace	157	231	146	160	174	133	128	87
Malta	citizenship	-	-	-	5	3	9	4	12
Netherlands	citizenship	817	805	898	879	881	854	749	721
Portugal	birthplace	-	-	325	434	491	567	503	455
Slovakia	birthplace	0	1	4	8	13	12	16	15
Slovenia	birthplace	101	81	103	94	84	77	43	54
Sweden	birthplace	300	269	319	305	286	293	305	343
United Kingdom ‡	birthplace	-	2 987	2 967	3 327	3 551	4 084	4 328	4 631
Subtotal EU		-	-	-	-	13 831	14 743	14 850	15 246
Andorra	citizenship	-	-	-	-	0	0	3	2
Iceland	birthplace	2	8	8	5	7	3	3	8
Israel	birthplace	370	560	449	500	477	432	435	420
Norway	birthplace	110	129	180	167	206	191	267	239
San Marino	citizenship	0	0	0	0	0	-	0	0
Switzerland	birthplace	403	411	469	341	338	399	373	338
Total EU & West		-	-	-	-	14 859	15 768	15 931	16 253

* Countries with data for at least four consecutive years using the same classification of origin and with at least 80% of cases with information on origin in all years

† By birthplace of parents for Danish-born cases under 26 years of age

‡ 1998-2003 excluding Scotland; 2004 - provisional data

Table 6. Tuberculosis cases of foreign origin by area of origin, WHO European Region*, 2004

Geographic area Country	Classification	Area of origin								Total		
		WHO European Region						Other / unknown †				
		EU & West		Centre & East		Rest of Asia		Africa				
N	(%)	N	(%)	N	(%)	N	(%)	N	(%)			
EU & West												
Austria	citizenship	8	(2)	267	(70)	59	(15)	46	(12)	3	(1)	383
Belgium	citizenship	44	(7)	108	(17)	125	(19)	347	(53)	25	(4)	649
Cyprus	birthplace	4	(17)	5	(22)	13	(57)	0	(0)	1	(4)	23
Czech Republic	birthplace	27	(18)	77	(52)	41	(28)	3	(2)	1	(1)	149
Denmark	birthplace ‡	4	(2)	17	(7)	93	(39)	97	(41)	26	(11)	237
Estonia	birthplace	9	(7)	127	(92)	2	(1)	0	(0)	0	(0)	138
Finland	birthplace	1	(3)	6	(18)	11	(33)	14	(42)	1	(3)	33
Germany	birthplace	256	(9)	1 517	(53)	639	(22)	419	(15)	48	(2)	2 879
Greece	birthplace	5	(3)	73	(41)	59	(33)	17	(9)	26	(14)	180
Hungary	birthplace	3	(7)	36	(82)	2	(5)	3	(7)	0	(0)	44
Ireland	birthplace	12	(10)	8	(7)	49	(40)	45	(37)	8	(7)	122
Italy	birthplace	35	(2)	463	(28)	317	(19)	566	(34)	283	(17)	1 664
Latvia	birthplace	11	(9)	107	(90)	1	(1)	0	(0)	0	(0)	119
Lithuania	birthplace	9	(10)	76	(87)	2	(2)	0	(0)	0	(0)	87
Luxembourg	birthplace	17	(68)	5	(20)	1	(4)	1	(4)	1	(4)	25
Malta	citizenship	0	(0)	0	(0)	1	(8)	11	(92)	0	(0)	12
Netherlands	citizenship	30	(4)	88	(12)	188	(26)	373	(52)	42	(6)	721
Portugal	birthplace	22	(5)	35	(8)	20	(4)	344	(76)	34	(7)	455
Slovakia	birthplace	0	(0)	8	(53)	7	(47)	0	(0)	0	(0)	15
Slovenia	birthplace	0	(0)	53	(98)	0	(0)	1	(2)	0	(0)	54
Sweden	birthplace	18	(5)	53	(15)	87	(25)	169	(49)	16	(5)	343
Subtotal EU		515	(6)	3 129	(38)	1 717	(21)	2 456	(29)	515	(6)	8 332
Andorra	birthplace	6	(100)	0	(0)	0	(0)	0	(0)	0	(0)	6
Iceland	birthplace	1	(13)	0	(0)	7	(88)	0	(0)	0	(0)	8
Switzerland	birthplace	38	(11)	82	(24)	80	(24)	124	(37)	14	(4)	338
Total EU & West		560	(6)	3 211	(37)	1 804	(21)	2 580	(30)	529	(6)	8 684
Centre												
Albania	birthplace	0	-	0	-	0	-	0	-	0	-	0
Bosnia & Herzegovina §	citizenship	0	(0)	0	(0)	0	(0)	0	(0)	2	(100)	2
Croatia	birthplace	4	(3)	120	(95)	1	(1)	0	(0)	1	(1)	126
Romania	birthplace	1	(13)	3	(38)	4	(50)	0	(0)	0	(0)	8

* Countries with individual data on country of origin

† 384 cases from America and Oceania

‡ By birthplace of parents for Danish-born cases under 26 years of age

§ Excluding Republika Srpska

Table 7. Tuberculosis cases by previous history of anti-TB treatment or TB diagnosis*, WHO European Region, 2004

Geographic area Country	Never treated		Previously treated for TB		Unknown TB treatment history				Total
	N	(%)	N	(%)	Previous diagnosis of TB		Unknown TB history		
					N	(%)	N	(%)	
EU & West									
Austria	865	(95)	20	(2)	30	(3)	0	(0)	915
Belgium	875	(71)	-	-	98	(8)	253	(21)	1 226
Cyprus	27	(90)	1	(3)	2	(7)	0	(0)	30
Czech Republic	1 027	(97)	30	(3)	0	(0)	0	(0)	1 057
Denmark	356	(92)	-	-	29	(8)	0	(0)	385
Estonia	478	(80)	116	(20)	0	(0)	0	(0)	594
Finland	230	(69)	-	-	14	(4)	89	(27)	333
France	4 472	(81)	391	(7)	0	(0)	651	(12)	5 514
Germany	4 929	(75)	553	(8)	237	(4)	864	(13)	6 583
Greece	600	(78)	43	(6)	0	(0)	131	(17)	774
Hungary	2 072	(84)	393	(16)	11	(0)	0	(0)	2 476
Ireland	283	(65)	12	(3)	17	(4)	125	(29)	437
Italy	3 130	(74)	252	(6)	183	(4)	655	(16)	4 220
Latvia	1 373	(85)	237	(15)	0	(0)	0	(0)	1 610
Lithuania	2 026	(81)	478	(19)	10	(0)	0	(0)	2 514
Luxembourg	31	(100)	0	(0)	0	(0)	0	(0)	31
Malta	18	(95)	1	(5)	0	(0)	0	(0)	19
Netherlands	1 120	(83)	36	(3)	0	(0)	188	(14)	1 344
Poland	8 337	(88)	1 140	(12)	16	(0)	0	(0)	9 493
Portugal	3 473	(90)	400	(10)	0	(0)	0	(0)	3 873
Slovakia	604	(86)	85	(12)	16	(2)	0	(0)	705
Slovenia	229	(87)	34	(13)	0	(0)	0	(0)	263
Spain †	5 415	(85)	377	(6)	0	(0)	600	(9)	6 392
Sweden	428	(93)	33	(7)	0	(0)	0	(0)	461
United Kingdom †	5 246	(69)	-	-	545	(7)	1 793	(24)	7 584
Subtotal EU	47 644	(81)	4 632	(8)	1 208	(2)	5 349	(9)	58 833
Andorra	7	(100)	0	(0)	0	(0)	0	(0)	7
Iceland	11	(92)	1	(8)	0	(0)	0	(0)	12
Israel	489	(94)	30	(6)	0	(0)	0	(0)	519
Monaco	-	-	-	-	-	-	-	-	-
Norway	260	(86)	18	(6)	0	(0)	24	(8)	302
San Marino	0	-	0	-	0	-	0	-	0
Switzerland	414	(70)	48	(8)	17	(3)	114	(19)	593
Total EU & West	48 825	(81)	4 729	(8)	1 225	(2)	5 487	(9)	60 266
Centre									
Albania	544	(94)	37	(6)	0	(0)	0	(0)	581
Bosnia & Herzegovina	2 237	(94)	145	(6)	0	(0)	0	(0)	2 382
Bulgaria	2 923	(90)	309	(10)	0	(0)	0	(0)	3 232
Croatia	1 167	(90)	127	(10)	3	(0)	0	(0)	1 297
Macedonia, FYR	607	(89)	73	(11)	0	(0)	0	(0)	680
Romania	25 026	(79)	6 788	(21)	0	(0)	0	(0)	31 814
Serbia & Montenegro	2 412	(85)	316	(11)	0	(0)	96	(3)	2 824
Turkey	17 510	(88)	1 253	(6)	1 036	(5)	0	(0)	19 799
Total Centre	52 426	(84)	9 048	(14)	1 039	(2)	96	(0)	62 609
East									
Armenia	1 558	(92)	143	(8)	0	(0)	0	(0)	1 701
Azerbaijan	4 313	(66)	2 188	(34)	0	(0)	0	(0)	6 501
Belarus	5 410	(83)	1 047	(16)	0	(0)	33	(1)	6 490
Georgia	3 863	(65)	860	(14)	1 244	(21)	0	(0)	5 967
Kazakhstan	23 163	(72)	8 968	(28)	0	(0)	0	(0)	32 131
Kyrgyzstan	5 756	(87)	885	(13)	0	(0)	0	(0)	6 641
Moldova, Republic of	4 035	(67)	1 973	(33)	0	(0)	0	(0)	6 008
Russian Federation	118 924	(78)	11 714	(8)	21 800	(14)	0	(0)	152 438
Tajikistan	4 468	(87)	654	(13)	0	(0)	0	(0)	5 122
Turkmenistan	3 328	(80)	54	(1)	790	(19)	0	(0)	4 172
Ukraine	-	-	-	-	-	-	-	-	-
Uzbekistan	19 507	(76)	1 443	(6)	4 764	(19)	0	(0)	25 714
Total East	194 325	(77)	29 929	(12)	28 598	(11)	33	(0)	252 885
Total WHO European Region	295 576	(79)	43 706	(12)	30 862	(8)	5 616	(1)	375 760

* See Technical Note

† Provisional data

Table 8. Tuberculosis cases by site of disease, WHO European Region, 2004

Geographic area Country	Classification	Pulmonary / Respiratory		Extra-pulmonary / Extra-respiratory		Unknown		Total
		N	(%)	N	(%)	N	(%)	
EU & West								
Austria	pulmonary	767	(84)	148	(16)	0	(0)	915
Belgium	pulmonary	907	(74)	319	(26)	0	(0)	1 226
Cyprus	pulmonary	27	(90)	3	(10)	0	(0)	30
Czech Republic	pulmonary	817	(77)	240	(23)	0	(0)	1 057
Denmark	pulmonary	289	(75)	96	(25)	0	(0)	385
Estonia	pulmonary	532	(90)	62	(10)	0	(0)	594
Finland	pulmonary	231	(69)	102	(31)	0	(0)	333
France	pulmonary	3 939	(71)	1 452	(26)	123	(2)	5 514
Germany	pulmonary	5 092	(77)	1 305	(20)	186	(3)	6 583
Greece	respiratory	622	(80)	86	(11)	66	(9)	774
Hungary	pulmonary	2 327	(94)	149	(6)	0	(0)	2 476
Ireland	pulmonary	300	(69)	109	(25)	28	(6)	437
Italy	pulmonary	3 026	(72)	1 193	(28)	1	(0)	4 220
Latvia	pulmonary	1 405	(87)	205	(13)	0	(0)	1 610
Lithuania	pulmonary	2 125	(85)	389	(15)	0	(0)	2 514
Luxembourg	pulmonary	29	(94)	2	(6)	0	(0)	31
Malta	pulmonary	14	(74)	5	(26)	0	(0)	19
Netherlands	pulmonary	797	(59)	547	(41)	0	(0)	1 344
Poland	pulmonary	8 691	(92)	802	(8)	0	(0)	9 493
Portugal	pulmonary	2 871	(74)	988	(26)	14	(0)	3 873
Slovakia	pulmonary	564	(80)	141	(20)	0	(0)	705
Slovenia	pulmonary	212	(81)	51	(19)	0	(0)	263
Spain *	pulmonary	5 499	(86)	893	(14)	0	(0)	6 392
Sweden	pulmonary	299	(65)	149	(32)	13	(3)	461
United Kingdom *	pulmonary	4 238	(56)	3 346	(44)	0	(0)	7 584
Subtotal EU		45 620	(78)	12 782	(22)	431	(1)	58 833
Andorra	pulmonary	5	(71)	2	(29)	0	(0)	7
Iceland	pulmonary	5	(42)	7	(58)	0	(0)	12
Israel	pulmonary	394	(76)	125	(24)	0	(0)	519
Monaco	pulmonary	-	-	-	-	-	-	-
Norway	pulmonary	194	(64)	102	(34)	6	(2)	302
San Marino	respiratory	0	-	0	-	0	-	0
Switzerland	pulmonary	437	(74)	156	(26)	0	(0)	593
Total EU & West		46 655	(77)	13 174	(22)	437	(1)	60 266
Centre								
Albania	pulmonary	357	(61)	224	(39)	0	(0)	581
Bosnia & Herzegovina	pulmonary	2 185	(92)	197	(8)	0	(0)	2 382
Bulgaria	respiratory	2 887	(89)	345	(11)	0	(0)	3 232
Croatia	pulmonary	1 140	(88)	157	(12)	0	(0)	1 297
Macedonia, F.Y.R.	pulmonary	509	(75)	171	(25)	0	(0)	680
Romania	pulmonary	27 677	(87)	4 137	(13)	0	(0)	31 814
Serbia & Montenegro	pulmonary	2 490	(88)	273	(10)	61	(2)	2 824
Turkey	pulmonary	-	-	-	-	-	-	-
Total Centre		37 245	(87)	5 504	(13)	61	(0)	42 810
East								
Armenia	pulmonary	1 404	(83)	297	(17)	0	(0)	1 701
Azerbaijan	pulmonary	5 861	(90)	640	(10)	0	(0)	6 501
Belarus †	respiratory	5 045	(93)	365	(7)	0	(0)	5 410
Georgia	pulmonary	4 813	(81)	1 154	(19)	0	(0)	5 967
Kazakhstan	pulmonary	30 992	(96)	1 139	(4)	0	(0)	32 131
Kyrgyzstan	pulmonary	4 715	(71)	1 876	(28)	50	(1)	6 641
Moldova, Republic of	pulmonary	5 281	(88)	727	(12)	0	(0)	6 008
Russian Federation	pulmonary	147 478	(97)	4 960	(3)	0	(0)	152 438
Tajikistan	pulmonary	3 634	(71)	1 488	(29)	0	(0)	5 122
Turkmenistan	pulmonary	3 398	(81)	774	(19)	0	(0)	4 172
Ukraine	respiratory	-	-	-	-	-	-	-
Uzbekistan	pulmonary	19 019	(74)	6 695	(26)	0	(0)	25 714
Total East		231 640	(92)	20 115	(8)	50	(0)	251 805
Total WHO European Region		315 540	(89)	38 793	(11)	548	(0)	354 881

* Provisional data

† New cases only

Table 9. Tuberculosis cases by detailed site of disease and age group, WHO European Region, 2004 *

Site of disease	Age group (years)							
	0-14 (Cases=1 095)		15-44 (Cases=13 306)		45 and over (Cases=16 274)		Total † (Cases=30 895)	
	Sites †	(%)§	Sites †	(%)§	Sites †	(%)§	Sites †	(%)§
Pulmonary	606	(55.3)	10 682	(80.3)	13 118	(80.6)	24 578	(79.6)
Extrapulmonary								
Pleura	96	(8.8)	1 365	(10.3)	1 370	(8.4)	2 853	(9.2)
Intrathoracic lymphnodes	275	(25.1)	266	(2.0)	193	(1.2)	735	(2.4)
Extrathoracic lymphnodes	67	(6.1)	750	(5.6)	659	(4.0)	1 480	(4.8)
Spine	5	(0.5)	82	(0.6)	179	(1.1)	266	(0.9)
Bone / joint other than spine	12	(1.1)	103	(0.8)	238	(1.5)	353	(1.1)
Meninges	14	(1.3)	58	(0.4)	77	(0.5)	149	(0.5)
CNS other than meninges	3	(0.3)	17	(0.1)	18	(0.1)	38	(0.1)
Genito-urinary	6	(0.5)	183	(1.4)	500	(3.1)	695	(2.2)
Peritoneal / digestive	6	(0.5)	136	(1.0)	99	(0.6)	241	(0.8)
Disseminated ¶	15	(1.4)	199	(1.5)	195	(1.2)	409	(1.3)
Other	38	(3.5)	180	(1.4)	270	(1.7)	498	(1.6)
Unknown	24	(2.2)	85	(0.6)	120	(0.7)	235	(0.8)

* Countries with individual data: Albania, Andorra, Austria, Belgium, Bosnian Federation, Croatia, Cyprus, Czech Republic, Estonia, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Norway, Portugal, Slovakia, Slovenia and Switzerland. Data for Romania not included (distribution of sites not comparable).

† Number of sites; may include up to two sites for the same case (see Technical Note)

‡ Includes 220 cases with unknown age

§ Percentage of cases in which the site was reported; total exceeds 100%

|| CNS = Central Nervous System

¶ Includes military TB, TB of more than two organ systems or isolate of *M. tuberculosis* complex from blood

Table 10. Tuberculosis cases by culture result, WHO European Region, 2004*

Geographic area Country	Routine use of culture †	Laboratories which report TB cases	Positive		Negative / not done / unknown		Total
			N	(%)	N	(%)	
EU & West							
Austria	yes	some	586	(64)	329	(36)	915
Belgium	yes	all	948	(77)	278	(23)	1 226
Cyprus	yes	none	19	(63)	11	(37)	30
Czech Republic	yes	all	666	(63)	391	(37)	1 057
Denmark	yes	all	291	(76)	94	(24)	385
Estonia	yes	all	452	(76)	142	(24)	594
Finland	yes	all	287	(86)	46	(14)	333
France	yes	all	2 007	(36)	3 507	(64)	5 514
Germany	yes	all	4 338	(66)	2 245	(34)	6 583
Greece	-	all	206	(27)	568	(73)	774
Hungary	yes	all	1 014	(41)	1 462	(59)	2 476
Ireland	yes	all	209	(48)	228	(52)	437
Italy	no	none	1 954	(46)	2 266	(54)	4 220
Latvia	yes	some	1 156	(72)	454	(28)	1 610
Lithuania	yes	all	1 592	(63)	922	(37)	2 514
Luxembourg	yes	all	31	(100)	0	(0)	31
Malta	yes	all	8	(42)	11	(58)	19
Netherlands ‡	yes	none	759	(56)	585	(44)	1 344
Poland	no	all	5 049	(53)	4 444	(47)	9 493
Portugal	yes	some	2 092	(54)	1 781	(46)	3 873
Slovakia	yes	all	357	(51)	348	(49)	705
Slovenia	yes	all	231	(88)	32	(12)	263
Spain ‡	yes	none	3 261	(51)	3 131	(49)	6 392
Sweden	yes	all	370	(80)	91	(20)	461
United Kingdom ‡	yes	some	4 514	(60)	3 070	(40)	7 584
Subtotal EU			32 397	(55)	26 436	(45)	58 833
Andorra	yes	some	6	(86)	1	(14)	7
Iceland	yes	all	8	(67)	4	(33)	12
Israel	yes	all	265	(51)	254	(49)	519
Monaco	-	-	-	-	-	-	-
Norway	yes	all	246	(81)	56	(19)	302
San Marino	yes	none	0	-	0	-	0
Switzerland	yes	all	478	(81)	115	(19)	593
Total EU & West			33 400	(55)	26 866	(45)	60 266
Centre							
Albania	no	all	201	(35)	380	(65)	581
Bosnia & Herzegovina	yes	some	1 676	(70)	706	(30)	2 382
Bulgaria	yes	all	1 283	(40)	1 949	(60)	3 232
Croatia	yes	all	758	(58)	539	(42)	1 297
Macedonia, F.Y.R.	no	some	143	(21)	537	(79)	680
Romania	no	all	13 324	(42)	18 490	(58)	31 814
Serbia & Montenegro	no	some	1 258	(45)	1 566	(55)	2 824
Turkey	no	some	-	-	-	-	-
Total Centre			18 643	(44)	24 167	(56)	42 810
East							
Armenia	no	none	-	-	-	-	-
Azerbaijan	no	some	1 115	(17)	5 386	(83)	6 501
Belarus	yes	none	2 287	(35)	4 203	(65)	6 490
Georgia	no	none	-	-	-	-	-
Kazakhstan	yes	all	4 835	(15)	27 296	(85)	32 131
Kyrgyzstan	no	all	1 098	(17)	5 543	(83)	6 641
Moldova, Republic of	no	none	-	-	-	-	-
Russian Federation	no	none	6 538	(4)	145 900	(96)	152 438
Tajikistan	no	some	-	-	-	-	-
Turkmenistan	no	all	-	-	-	-	-
Ukraine	-	none	-	-	-	-	-
Uzbekistan	no	all	-	-	-	-	-
Total East			15 873	(8)	188 328	(92)	204 201
Total WHO European Region			67 916	(22)	239 361	(78)	307 277

* Culture results may be incomplete at time of data collection

† Routine use of culture nationwide for pulmonary cases

‡ Provisional data

Table 11. Tuberculosis cases by culture result and site of disease, WHO European Region, 2004 *

Geographic area Country	Culture done						Culture				Total †
	Positive		Negative		Unknown		not done		No information		
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
a) Pulmonary cases											
EU & West											
Austria	510	(66)	123	(16)	0	(0)	134	(17)	0	(0)	767
Belgium	729	(80)	134	(15)	11	(1)	5	(1)	28	(3)	907
Cyprus	19	(70)	7	(26)	1	(4)	0	(0)	0	(0)	27
Czech Republic	556	(68)	261	(32)	0	(0)	0	(0)	0	(0)	817
Denmark	219	(76)	65	(22)	0	(0)	5	(2)	0	(0)	289
Estonia	426	(80)	100	(19)	0	(0)	6	(1)	0	(0)	532
Finland	210	(91)	-	-	-	-	-	-	21	(9)	231
France	1 897	(48)	304	(8)	1 142	(29)	0	(0)	596	(15)	3 939
Germany	3 495	(69)	1 059	(21)	174	(3)	159	(3)	205	(4)	5 092
Greece ‡	165	(27)	13	(2)	212	(34)	6	(1)	226	(36)	622
Hungary	976	(42)	845	(36)	152	(7)	302	(13)	52	(2)	2 327
Ireland	165	(55)	26	(9)	0	(0)	9	(3)	100	(33)	300
Italy	1 406	(46)	192	(6)	0	(0)	706	(23)	722	(24)	3 026
Latvia	1 085	(77)	295	(21)	0	(0)	25	(2)	0	(0)	1 405
Lithuania	1 539	(72)	554	(26)	0	(0)	32	(2)	0	(0)	2 125
Luxembourg	29	(100)	0	(0)	0	(0)	0	(0)	0	(0)	29
Malta	5	(36)	5	(36)	0	(0)	4	(29)	0	(0)	14
Netherlands §	510	(64)	53	(7)	11	(1)	16	(2)	207	(26)	797
Poland	4 860	(56)	3 358	(39)	211	(2)	160	(2)	102	(1)	8 691
Portugal	1 908	(66)	245	(9)	57	(2)	0	(0)	661	(23)	2 871
Slovakia	323	(57)	240	(43)	0	(0)	0	(0)	1	(0)	564
Slovenia	194	(92)	11	(5)	0	(0)	7	(3)	0	(0)	212
Sweden	253	(85)	27	(9)	0	(0)	2	(1)	17	(6)	299
Subtotal EU	21 479	(60)	7 917	(22)	1 971	(5)	1 578	(4)	2 938	(8)	35 883
Andorra	4	(80)	1	(20)	0	(0)	0	(0)	0	(0)	5
Iceland	4	(80)	1	(20)	0	(0)	0	(0)	0	(0)	5
Norway	159	(82)	14	(7)	0	(0)	0	(0)	21	(11)	194
Switzerland	347	(79)	-	-	-	-	82	(19)	8	(2)	437
Total EU & West	21 993	(60)	7 933	(22)	1 971	(5)	1 660	(5)	2 967	(8)	36 524
Centre											
Albania	191	(54)	137	(38)	0	(0)	29	(8)	0	(0)	357
Bosnia-Herzegovina	1 124	(79)	301	(21)	0	(0)	0	(0)	0	(0)	1 425
Croatia	717	(63)	216	(19)	0	(0)	3	(0)	204	(18)	1 140
Romania	13 324	(48)	4 229	(15)	8 282	(30)	323	(1)	1 519	(5)	27 677
b) Extra-pulmonary cases											
EU & West											
Austria	76	(51)	29	(20)	0	(0)	43	(29)	0	(0)	148
Belgium	219	(69)	64	(20)	6	(2)	9	(3)	21	(7)	319
Cyprus	0	(0)	2	(67)	0	(0)	1	(33)	0	(0)	3
Czech Republic	110	(46)	130	(54)	0	(0)	0	(0)	0	(0)	240
Denmark	72	(75)	20	(21)	0	(0)	4	(4)	0	(0)	96
Estonia	26	(42)	18	(29)	0	(0)	18	(29)	0	(0)	62
Finland	77	(75)	-	-	-	-	-	-	25	(25)	102
France	99	(7)	386	(27)	446	(31)	0	(0)	521	(36)	1 452
Germany	768	(59)	292	(22)	38	(3)	130	(10)	77	(6)	1 305
Greece ‡	11	(13)	7	(8)	23	(27)	3	(3)	42	(49)	86
Hungary	38	(26)	39	(26)	9	(6)	60	(40)	3	(2)	149
Ireland	36	(33)	20	(18)	0	(0)	6	(6)	47	(43)	109
Italy	547	(46)	77	(6)	0	(0)	337	(28)	232	(19)	1 193
Latvia	71	(35)	132	(64)	0	(0)	2	(1)	0	(0)	205
Lithuania	53	(14)	241	(62)	0	(0)	95	(24)	0	(0)	389
Luxembourg	2	(100)	0	(0)	0	(0)	0	(0)	0	(0)	2
Malta	3	(60)	1	(20)	0	(0)	1	(20)	0	(0)	5
Netherlands §	249	(46)	78	(14)	14	(3)	67	(12)	139	(25)	547
Poland	189	(24)	456	(57)	28	(3)	100	(12)	29	(4)	802
Portugal	179	(18)	88	(9)	28	(3)	0	(0)	693	(70)	988
Slovakia	34	(24)	104	(74)	0	(0)	0	(0)	3	(2)	141
Slovenia	37	(73)	11	(22)	0	(0)	3	(6)	0	(0)	51
Sweden	106	(71)	19	(13)	0	(0)	6	(4)	18	(12)	149
Subtotal EU	3 002	(35)	2 214	(26)	592	(7)	885	(10)	1 850	(22)	8 543
Andorra	2	(100)	0	(0)	0	(0)	0	(0)	0	(0)	2
Iceland	4	(57)	2	(29)	0	(0)	0	(0)	1	(14)	7
Norway	82	(80)	7	(7)	0	(0)	0	(0)	13	(13)	102
Switzerland	131	(84)	-	-	-	-	23	(15)	2	(1)	156
Total EU & West	3 221	(37)	2 223	(25)	592	(7)	908	(10)	1 866	(21)	8 810
Centre											
Albania	10	(4)	105	(47)	0	(0)	109	(49)	0	(0)	224
Bosnia & Herzegovina	1	(1)	124	(99)	0	(0)	0	(0)	0	(0)	125
Croatia	41	(26)	82	(52)	0	(0)	1	(1)	33	(21)	157
Romania	-	-	-	-	-	-	-	-	-	-	-

* Countries submitting individual data; culture results may be incomplete at time of data collection

† Excluding 438 cases with site unknown

‡ Respiratory classification

§ Provisional data

|| Excluding Republika Srpska

Table 12. Tuberculosis cases by *M. tuberculosis* complex species, WHO European Region, 2004*

Geographic area Country	<i>M. tuberculosis</i>		<i>M. bovis</i>		<i>M. africanum</i>		Unknown / not done		Total culture positive
	N	(%)	N	(%)	N	(%)	N	(%)	
EU & West									
Austria	165	(28.2)	4	(0.7)	0	(0.0)	417	(71.2)	586
Belgium	945	(99.7)	3	(0.3)	0	(0.0)	0	(0.0)	948
Cyprus	17	(89.5)	1	(5.3)	0	(0.0)	1	(5.3)	19
Czech Republic	644	(96.7)	2	(0.3)	0	(0.0)	20	(3.0)	666
Denmark	289	(99.3)	2	(0.7)	0	(0.0)	0	(0.0)	291
Estonia	187	(41.4)	0	(0.0)	0	(0.0)	265	(58.6)	452
Finland	285	(99.3)	0	(0.0)	0	(0.0)	2	(0.7)	287
Germany	3 411	(78.6)	54	(1.2)	13	(0.3)	860	(19.8)	4 338
Hungary	1 014	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	1 014
Ireland	185	(88.5)	4	(1.9)	0	(0.0)	20	(9.6)	209
Italy	1 289	(66.0)	6	(0.3)	11	(0.6)	648	(33.2)	1 954
Latvia	1 156	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	1 156
Lithuania	1 592	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	1 592
Luxembourg	31	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	31
Malta	8	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	8
Netherlands	724	(95.4)	13	(1.7)	8	(1.1)	14	(1.8)	759
Portugal	13	(0.6)	1	(0.0)	0	(0.0)	2 078	(99.3)	2 092
Slovakia	347	(97.2)	0	(0.0)	0	(0.0)	10	(2.8)	357
Slovenia	231	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	231
Sweden	365	(98.6)	4	(1.1)	1	(0.3)	0	(0.0)	370
Subtotal EU	12 898	(74.3)	94	(0.5)	33	(0.2)	4 335	(25.0)	17 360
Andorra	6	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	6
Iceland	8	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	8
Norway	246	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	246
Switzerland	422	(88.3)	5	(1.0)	7	(1.5)	44	(9.2)	478
Total EU & West	13 580	(75.0)	99	(0.5)	40	(0.2)	4 379	(24.2)	18 098
Centre									
Albania	201	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	201
Bosnia & Herzegovina †	1 123	(99.8)	0	(0.0)	0	(0.0)	2	(0.2)	1 125
Romania	13 324	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	13 324

* Among culture positive cases reported in individual format

† Excluding Republika Srpska

Table 13. Pulmonary tuberculosis cases by sputum smear result, WHO European Region, 2004

Geographic area Country	Classification of site	Routine use of sputum smear nationwide	Positive		Negative / Unknown		Total N
			N	(%)	N	(%)	
EU & West							
Austria	pulmonary	yes	223	(29)	544	(71)	767
Belgium	pulmonary	yes	433	(48) *	474	(52)	907
Cyprus	pulmonary	yes	10	(37)	17	(63)	27
Czech Republic	pulmonary	yes	311	(38)	506	(62)	817
Denmark	pulmonary	yes	162	(56)	127	(44)	289
Estonia	pulmonary	yes	254	(48)	278	(52)	532
Finland	pulmonary	yes	128	(55)	103	(45)	231
France	pulmonary	yes	2 089	(53)	1 850	(47)	3 939
Germany	pulmonary	yes	1 720	(34)	3 372	(66)	5 092
Greece	respiratory	-	195	(31)	427	(69)	622
Hungary	pulmonary	yes	665	(29)	1 662	(71)	2 327
Ireland	pulmonary	yes	135	(45)	165	(55)	300
Italy	pulmonary	no	1 136	(38)	1 890	(62)	3 026
Latvia	pulmonary	yes	742	(53)	663	(47)	1 405
Lithuania	pulmonary	yes	1 249	(59)	876	(41)	2 125
Luxembourg	pulmonary	yes	20	(69)	9	(31)	29
Malta	pulmonary	yes	2	(14)	12	(86)	14
Netherlands	pulmonary	yes	369	(46)	428	(54)	797
Poland	pulmonary	no	3 219	(37)	5 472	(63)	8 691
Portugal	pulmonary	yes	1 716	(60)	1 155	(40)	2 871
Slovakia	pulmonary	yes	180	(32)	384	(68)	564
Slovenia	pulmonary	yes	106	(50)	106	(50)	212
Spain †	pulmonary	yes	2 233	(41)	3 266	(59)	5 499
Sweden	pulmonary	yes	126	(42)	173	(58)	299
United Kingdom †	pulmonary	yes	1 843	(43)	2 395	(57)	4 238
Subtotal EU			19 266	(42)	28 306	(62)	45 620
Andorra	pulmonary	yes	3	(60)	2	(40)	5
Iceland	pulmonary	yes	2	(40)	3	(60)	5
Israel	pulmonary	yes	102	(26)	292	(74)	394
Monaco	pulmonary	-	-	-	-	-	-
Norway	pulmonary	no	52	(27)	142	(73)	194
San Marino	respiratory	yes	0	-	0	-	0
Switzerland	pulmonary	no	128	(29)	309	(71)	437
Total EU & West			19 553	(42)	29 071	(62)	46 655
Centre							
Albania	pulmonary	no	220	(62)	137	(38)	357
Bosnia & Herzegovina	pulmonary	yes	939	(43)	1 246	(57)	2 185
Bulgaria	respiratory	yes	1 417	(49)	1 470	(51)	2 887
Croatia	pulmonary	yes	471	(41)	669	(59)	1 140
Macedonia, F.Y.R.	pulmonary	yes	248	(49)	261	(51)	509
Romania	pulmonary	yes	15 717	(57)	11 960	(43)	27 677
Serbia & Montenegro	pulmonary	yes	1 125	(45)	1 365	(55)	2 490
Turkey	pulmonary	yes	-	-	-	-	-
Total Centre			20 137	(54)	23 436	(63)	37 245
East							
Armenia	pulmonary	no	745	(53)	659	(47)	1 404
Azerbaijan	pulmonary	yes	2 563	(44)	3 298	(56)	5 861
Belarus	respiratory	yes	-	-	-	-	-
Georgia	pulmonary	yes	2 293	(48)	2 520	(52)	4 813
Kazakhstan	pulmonary	yes	13 836	(45)	17 156	(55)	30 992
Kyrgyzstan	pulmonary	yes	2 347	(50)	2 368	(50)	4 715
Moldova, Republic of	pulmonary	yes	2 898	(55)	2 383	(45)	5 281
Russian Federation	pulmonary	no	33 078	(22)	114 400	(78)	147 478
Tajikistan	pulmonary	no	1 414	(39)	2 220	(61)	3 634
Turkmenistan	pulmonary	yes	1 491	(44)	1 907	(56)	3 398
Ukraine	respiratory	-	-	-	-	-	-
Uzbekistan	pulmonary	no	8 512	(45)	10 507	(55)	19 019
Total East			69 177	(31)	135 798	(60)	226 595
Total WHO European Region			108 867	(35)	188 305	(61)	310 495

* Smear examinations on specimens other than sputum also included

† Provisional data

Table 14. Tuberculosis cases with HIV co-infection, WHO European Region*, 1998-2004

Geographic area Country	% unknown HIV status (latest year with data)	1998			1999			2000			2001			2002			2003			2004		
		TB cases	HIV + N	(%)	TB cases	HIV + N	(%)	TB cases	HIV + N	(%)	TB cases	HIV + N	(%)	TB cases	HIV + N	(%)	TB cases	HIV + N	(%)	TB cases	HIV + N	(%)
EU & West																						
Belgium	96%	-	-	-	-	-	-	1 313	52	(4.0)	1 321	60	(4.5)	1 320	51	(3.9)	1 117	70	(6.3)	1 226	55	(4.5)
Czech Rep.	>99%	-	-	-	-	-	-	1 200	2	(0.2)	1 350	2	(0.1)	1 442	0	(0.0)	1 162	2	(0.2)	-	-	-
Denmark	98%	-	-	-	537	13	(2.4)	548	11	(2.0)	511	11	(2.2)	-	-	-	393	11	(2.8)	385	7	(1.8)
Estonia	20%	820	0	(0.0)	754	1	(0.1)	791	1	(0.1)	812	7	(0.9)	713	20	(2.8)	623	18	(2.9)	594	26	(4.4)
France	59%	6 651	282	(4.2)	6 674	264	(4.0)	6 714	327	(4.9)	6 465	364	(5.6)	-	-	-	-	-	-	-	-	-
Ireland	98%	424	2	(0.5)	469	6	(1.3)	395	7	(1.8)	-	-	-	-	-	-	-	-	-	-	-	-
Italy	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	404	11	(2.7) †
Latvia	97%	-	-	-	1 914	9	(0.5)	2 009	14	(0.7)	2 022	27	(1.3)	1 818	25	(1.4)	1 726	40	(2.3)	1 610	40	(2.5)
Lithuania	0%	-	-	-	-	-	-	2 668	2	(0.1)	2 606	3	(0.1)	2 420	1	(0.0)	-	-	-	2 514	8	(0.3)
Malta	0%	16	0	(0.0)	22	2	(9.1)	18	0	(0.0)	16	0	(0.0)	24	0	(0.0)	7	1	(14.3)	19	1	(5.3)
Netherlands	97%	1 341	39	(2.9)	1 535	56	(3.6)	1 404	66	(4.7)	1 436	67	(4.7)	1 401	62	(4.4)	1 321	65	(4.9)	1 344	46	(3.4)
Poland	>99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10 124	15	(0.1)	-	-	-
Portugal	48%	-	-	-	-	-	-	4 494	700	(15.6)	4 387	680	(15.5)	4 431	727	(16.4)	4 148	669	(16.1)	3 873	607	(15.7)
Slovakia	0%	1 282	0	(0.0)	1 218	0	(0.0)	1 111	0	(0.0)	1 076	0	(0.0)	1 053	0	(0.0)	983	1	(0.1)	705	0	(0.0)
Slovenia	82%	449	1	(0.2)	438	2	(0.5)	380	2	(0.5)	372	2	(0.5)	349	1	(0.3)	293	1	(0.3)	263	3	(1.1)
Spain	62%	-	-	-	-	-	-	8 395	815	(9.7)	7 453	599	(8.0)	7 626	926	(12.1)	7 467	714	(9.6)	6 392	328	(5.1)
United Kingdom ‡	-	-	-	-	17 633	479	(2.7) §	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Andorra	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	0	(0.0)	7	0	(0.0)
Iceland	33%	17	0	(0.0)	12	0	(0.0)	13	0	(0.0)	13	0	(0.0)	8	1	(12.5)	5	1	(20.0)	12	1	(8.3)
Israel ‡	-	656	25	(3.8)	520	13	(2.5)	591	28	(4.7)	564	25	(4.4)	511	24	(4.7)	529	36	(6.8)	519	13	(2.5)
Centre																						
Albania	>99%	694	0	(0.0)	765	2	(0.3)	631	1	(0.2)	572	3	(0.5)	612	3	(0.5)	-	-	-	581	1	(0.2)
Bulgaria	>99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3 232	10	(0.3)
Romania	96%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31 623	161	(0.5)	31 814	144	(0.5)
East																						
Armenia	>99%	-	-	-	-	-	-	-	-	-	1 343	0	(0.0)	1 393	3	(0.2)	1 570	1	(0.1)	269	8	(3.0) †
Azerbaijan ‡	-	4 350	6	(0.1)	4 629	4	(0.1)	5 113	5	(0.1)	4 877	12	(0.2)	4 428	7	(0.2)	3 931	8	(0.2)	-	-	-
Belarus ‡	-	-	-	-	-	-	-	-	-	-	5 505	33	(0.6)	5 139	36	(0.7)	-	-	-	-	-	-
Uzbekistan	>99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26 172	160	(0.6)	25 714	138	(0.5)

* Aggregate data only; total annual numbers of cases may differ from those presented elsewhere in this report

HIV prevalence may be underestimated in many countries, due to incomplete HIV testing and reporting of HIV serostatus

† Selected cases (DOTS patients in Italy; random testing in Armenia)

‡ HIV serostatus attributed through matching of TB and HIV case reports; proportion of cases with unknown HIV serostatus not available

§ TB cases over 15 years of age notified in England and Wales between 1998-2000

|| Incomplete data

Table 15. AIDS cases with tuberculosis as initial AIDS indicative disease, WHO European Region, 2004 *

	Total AIDS cases		AIDS indicative disease unspecified		TB as initial AIDS-indicative disease						AIDS cases with initial AIDS-indicative TB/ total TB cases (%)
					Pulmonary TB †		Extra-pulmonary TB ‡		Total		
	N	Rate / 100 000	N	(%)	N	(%)	N	(%)	N	(%)	
EU & West											
Austria	139	1.7	4	(3)	19	(14)	8	(6)	27	(19)	3.0 %
Belgium	174	1.7	0	(0)	49	(28)	21	(12)	70	(40)	5.7 %
Cyprus	n/a	-	-	-	-	-	-	-	-	-	-
Czech Republic	12	0.1	0	(0)	1	(8)	0	(0)	1	(8)	0.1 %
Denmark	48	0.9	0	(0)	5	(10)	3	(6)	8	(17)	2.1 %
Estonia	27	2.0	0	(0)	10	(37)	0	(0)	10	(37)	1.7 %
Finland	19	0.4	0	(0)	3	(16)	3	(16)	6	(32)	1.8 %
France	1 488	2.4	1	(0)	166	(11)	155	(10)	321	(22)	5.8 %
Germany	1 043	1.3	0	(0)	41	(4)	42	(4)	83	(8)	1.3 %
Greece	72	0.6	0	(0)	6	(8)	2	(3)	8	(11)	1.0 %
Hungary	22	0.2	7	(32)	0	(0)	0	(0)	0	(0)	0.0 %
Ireland	38	0.9	3	(8)	5	(13)	1	(3)	6	(16)	1.4 %
Italy	1 654	2.9	0	(0)	104	(6)	76	(5)	180	(11)	4.3 %
Latvia	93	4.0	44	(47)	29	(31)	1	(1)	30	(32)	1.9 %
Lithuania	21	0.6	3	(14)	4	(19)	0	(0)	4	(19)	0.2 %
Luxembourg	12	2.6	0	(0)	0	(0)	0	(0)	0	(0)	0.0 %
Malta	1	0.3	1	(100)	-	-	-	-	-	-	-
Netherlands	196	1.2	196	(100)	-	-	-	-	-	-	-
Poland	172	0.4	3	(2)	23	(13)	4	(2)	27	(16)	0.3 %
Portugal	1 031	9.9	99	(10)	263	(26)	188	(18)	451	(44)	11.6 %
Slovakia	3	0.1	0	(0)	0	(0)	0	(0)	0	(0)	0.0 %
Slovenia	7	0.4	0	(0)	0	(0)	0	(0)	0	(0)	0.0 %
Spain	2 327	5.5	0	(0)	391	(17)	348	(15)	739	(32)	- §
Sweden	69	0.8	9	(13)	7	(10)	3	(4)	10	(14)	2.2 %
United Kingdom	891	1.5	0	(0)	193	(22)	76	(9)	269	(30)	3.5 %
Subtotal EU	9 559	2.1	370	(4)	1 319	(14)	931	(10)	2 250	(24)	2.9 %§
Andorra	n/a	-	-	-	-	-	-	-	-	-	-
Iceland	3	1.0	0	(0)	0	(0)	1	(33)	1	(33)	8.3 %
Israel	62	0.9	8	(13)	20	(32)	11	(18)	31	(50)	6.0 %
Monaco	n/a	-	-	-	-	-	-	-	-	-	-
Norway	n/a	-	-	-	-	-	-	-	-	-	-
San Marino	n/a	-	-	-	-	-	-	-	-	-	-
Switzerland	300	4.1	0	(0)	19	(6)	10	(3)	29	(10)	4.9 %
Total EU & West	9 924	2.1	378	(4)	1 358	(14)	953	(10)	2 311	(23)	2.9 %§
Centre											
Albania	6	0.2	2	(33)	0	(0)	0	(0)	0	(0)	0.0 %
Bosnia & Herzegovina	15	0.4	0	(0)	3	(20)	1	(7)	4	(27)	0.2 %
Bulgaria	n/a	-	-	-	-	-	-	-	-	-	-
Croatia	8	0.2	1	(13)	0	(0)	0	(0)	0	(0)	0.0 %
Macedonia, F.Y.R.	3	0.1	0	(0)	1	(33)	0	(0)	1	(33)	0.1 %
Romania	238	1.1	238	(100)	-	-	-	-	-	-	-
Serbia & Montenegro	53	0.7	2	(4)	7	(13)	2	(4)	9	(17)	0.3 %
Turkey	47	0.1	0	(0)	12	(26)	1	(2)	13	(28)	0.1 %
Total Centre	370	0.3	243	(66)	23	(6)	4	(1)	27	(7)	0.0 %
East											
Armenia	21	0.7	2	(10)	9	(43)	0	(0)	9	(43)	0.5 %
Azerbaijan	21	0.3	4	(19)	12	(57)	0	(0)	12	(57)	0.2 %
Belarus	84	0.9	0	(0)	22	(26)	7	(8)	29	(35)	0.4 %
Georgia	102	2.3	29	(28)	25	(25)	0	(0)	25	(25)	0.4 %
Kazakhstan	78	0.5	0	(0)	47	(60)	1	(1)	48	(62)	0.1 %
Kyrgyzstan	n/a	-	-	-	-	-	-	-	-	-	-
Moldova, Republic of	53	1.3	0	(0)	41	(77)	2	(4)	43	(81)	0.7 %
Russian Federation	n/a	-	-	-	-	-	-	-	-	-	-
Tajikistan	0	-	0	-	0	-	0	-	0	-	0.0 %
Turkmenistan	0	-	0	-	0	-	0	-	0	-	0.0 %
Ukraine	2 543	5.4	126	(5)	1 340	(53)	57	(2)	1 397	(55)	3.6 %
Uzbekistan	n/a	-	-	-	-	-	-	-	-	-	-
Total East	2 902	1.0	161	(6)	1 496	(52)	67	(2)	1 563	(54)	0.5 %
Total WHO European Region	13 196	1.5	782	(6)	2 877	(22)	1 024	(8)	3 901	(30)	0.8 %§

* Source: EuroHIV, European Non Aggregate AIDS Data Set, update December 2004, by year of report. Figures differ from those in EuroHIV reports, which are presented by year of diagnosis adjusted for reporting delay

† In persons over 12 years of age; includes cases with concomitant pulmonary and extrapulmonary TB

‡ At all ages

§ TB notifications for Spain incomplete; data for Spain excluded in the Totals.

n/a = not available

Table 16. AIDS cases with TB as initial AIDS-indicative disease, by year of diagnosis, WHO European Region, 1998-2004*

Geographic area Country	Year of diagnosis						
	1998	1999	2000	2001	2002	2003	2004
EU & West							
Austria	16	8	6	15	17	10	13
Belgium	30	30	46	43	52	49	35
Cyprus	-	-	-	-	-	-	-
Czech Republic	1	1	1	0	0	0	1
Denmark	5	9	11	16	10	11	10
Estonia	1	1	0	1	2	7	10
Finland	1	1	3	3	9	3	6
France	279	286	295	315	341	319	-
Germany	88	69	65	61	58	54	81
Greece	18	22	22	15	7	23	5
Hungary	4	8	3	0	1	3	-
Ireland	1	1	0	2	7	3	2
Italy	236	208	171	178	168	171	191
Latvia	2	9	10	23	-	-	-
Lithuania	0	1	1	3	1	2	4
Luxembourg	1	0	1	1	0	0	0
Malta	0	0	0	-	0	0	-
Netherlands	23	25	-	-	-	-	-
Poland	25	17	27	32	26	28	36
Portugal	552	560	519	472	460	373	329
Slovakia	0	0	0	0	0	0	0
Slovenia	1	2	2	1	1	1	0
Spain	1 219	1 020	895	725	644	675	488
Sweden	12	14	9	7	11	5	8
United Kingdom	117	100	151	183	254	279	247
Andorra	-	-	-	-	-	-	-
Iceland	0	0	0	0	0	1	1
Israel	25	13	31	27	29	37	17
Monaco	0	0	0	0	0	0	-
Norway	8	2	9	6	10	12	-
San Marino	-	0	0	0	0	-	-
Switzerland	31	34	21	25	24	14	32
Centre							
Albania	0	0	-	-	-	0	0
Bosnia & Herzegovina	1	3	2	-	1	2	2
Bulgaria	2	5	9	5	3	2	-
Croatia	4	4	0	2	6	0	0
Macedonia, F.Y.R.	0	0	0	0	0	0	-
Romania	-	-	-	-	-	-	-
Serbia & Montenegro	14	9	11	8	9	12	8
Turkey	9	2	9	9	13	14	13
East							
Armenia	1	2	1	0	2	6	9
Azerbaijan	2	4	8	10	12	16	12
Belarus	1	0	0	1	7	11	29
Georgia	0	2	7	-	24	16	-
Kazakhstan	6	3	7	15	24	58	48
Kyrgyzstan	0	1	0	1	9	5	-
Moldova, Republic of	1	1	0	7	2	31	61
Russian Federation	-	-	-	-	-	-	-
Tajikistan	0	0	0	1	0	0	0
Turkmenistan	0	0	0	0	1	0	0
Ukraine	172	435	532	-	-	1 079	1 397
Uzbekistan	0	0	1	4	0	5	-

* Source: EuroHIV, European Non Aggregate AIDS Data Set, update December 2004; data adjusted for reporting delays, methodology described in EuroHIV reports. Excluding data for years when countries reported specific diagnoses for <75% of cases.

Table 17. Multidrug resistance by previous anti-TB treatment history, WHO European Region, latest available year

Geographic area Country	Source of data / coverage *	Year	Cases never treated			Cases previously treated		
			Cases with DST result	Multidrug resistant		Cases with DST result	Multidrug resistant	
				N	(%)		N	(%)
Group A) Culture and DST done routinely; DST results complete or nationwide sample of TB cases								
EU & West								
Austria	TB case notification	2004	515	16	(3.1)	10	0	(0.0)
Belgium †	TB case notification	2004	629	3	(0.5)	68	5	(7.4)
Cyprus	TB case notification	2004	15	0	(0.0)	0	0	-
Denmark †	TB case notification	2004	268	0	(0.0)	21	0	(0.0)
Estonia	TB case notification	2004	358	51	(14.2)	94	39	(41.5)
Finland †	TB case notification	2004	189	0	(0.0)	11	0	(0.0)
Germany	TB case notification	2004	3 111	41	(1.3)	264	38	(14.4)
Latvia	TB case notification	2004	896	112	(12.5)	209	84	(40.2)
Lithuania	TB case notification	2004	1 128	104	(9.2)	458	212	(46.3)
Luxembourg	TB case notification	2004	31	1	(3.2)	0	0	-
Netherlands	TB case notification	2004	636	1	(0.2)	17	0	(0.0)
Poland	Survey	2001	2 716	8	(0.3)	522	43	(8.2)
Slovakia	TB case notification	2004	292	1	(0.3)	46	0	(0.0)
Slovenia	TB case notification	2004	202	0	(0.0)	28	0	(0.0)
Sweden	TB case notification	2004	347	5	(1.4)	22	1	(4.5)
United Kingdom ‡	TB case notification	2004	2 634	16	(0.6)	219	4	(1.8)
Andorra	TB case notification	2004	5	0	(0.0)	0	0	-
Iceland	TB case notification	2004	7	0	(0.0)	1	0	(0.0)
Israel	TB case notification	2004	250	11	(4.4)	15	1	(6.7)
Norway	TB case notification	2004	223	4	(1.8)	11	0	(0.0)
Switzerland	TB case notification	2004	340	3	(0.9)	29	1	(3.4)
Centre								
Bosnia & Herzegovina (Fed.) †	TB case notification	2004	1 049	4	(0.4)	77	6	(7.8)
Croatia	TB case notification	2004	671	3	(0.4)	86	0	(0.0)
Romania	Survey	2003-2004	869	25	(2.9)	382	41	(10.7)
East								
Kazakhstan	Survey §	2001	359	51	(14.2)	319	180	(56.4)
Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)								
EU & West								
Czech Republic	TB case notification	2004	480	4	(0.8)	10	2	(20.0)
France	Sentinel hospital network	2004	1 431	14	(1.0)	137	11	(8.0)
Greece	NRL, partial coverage	2004	501	16	(3.2)	-	-	-
Hungary	TB case notification	2004	469	5	(1.1)	88	4	(4.5)
Ireland	TB case notification	2004	121	0	(0.0)	4	0	(0.0)
Italy	Network of regional labs	2004	510	6	(1.2)	88	15	(17.0)
Malta	TB case notification	2004	7	0	(0.0)	1	0	-
Portugal	TB case notification	2004	1 101	12	(1.1)	149	10	(6.7)
Spain	NRL	2004	307	3	(1.0)	75	9	(12.0)
	Survey, Barcelona §	2001	133	1	(0.8)	32	4	(12.5)
	Survey, Galicia §	2001-2002	360	5	(1.4)	40	3	(7.5)
Centre								
Albania	TB case notification	2004	167	0	(0.0)	11	0	(0.0)
Bulgaria	All 15 labs doing DST	2004	480	11	(2.3)	342	36	(10.5)
Macedonia, FYR †	NRL only	2004	127	0	(0.0)	15	2	(13.3)
Serbia & Montenegro	TB case notification, Belgrade	2004	264	1	(0.4)	33	1	(3.0)
East								
Armenia	NRL (coverage unknown)	2004	464	79	(17.0)	168	78	(46.4)
Azerbaijan	All labs doing DST	2003	600	8	(1.3)	-	-	-
Belarus	TB case notification (MoH)	2000	2 060	220	(10.7)	-	-	-
Georgia	All labs doing DST, Tbilisi	2001	256	19	(7.4)	168	86	(51.2)
Kazakhstan	All labs doing DST	2004	8 446	1 339	(15.9)	8 774	3 489	(39.8)
Kyrgyzstan	NRL (partial coverage)	2004	768	169	(22.0)	173	90	(52.0)
Moldova, Rep. of	All labs doing DST	2002	959	126	(13.1)	321	77	(24.0)
Russian Federation	TB case notification (MoH)	1999	36 217	2 429	(6.7)	-	-	-
	Survey, Orel §	2002	379	10	(2.6)	210	89	(42.4)
	Survey, Tomsk §	2002	533	73	(13.7)	117	51	(43.6)
Turkmenistan	Survey, Dashoguz Velayat §	2001-2002	105	4	(3.8)	98	18	(18.4)
Ukraine	One lab, Kiev	1999	245	19	(7.8)	239	67	(28.0)
Uzbekistan	Survey, Karakalpakstan §	2001-2002	106	14	(13.2)	107	43	(40.2)

* Nationwide unless otherwise specified

† Cases classified according to previous history of tuberculosis (see Technical Note)

‡ Excluding Scotland (provisional data)

§ Source: WHO report "Anti-TB drug resistance in the world", N° 3, 2004. WHO/HTM/TB/2004.343

NRL= National Reference Laboratory

MoH = Ministry of Health

(Fed.) = Federation of Bosnia

Table 18. Laboratory practices and quality assurance for anti-TB Drug Susceptibility Testing (DST), WHO European Region, 2004

Geographic area Country	No. labs performing:		DST methods					External quality assurance for DST					
	Culture	DST	Non-radiometric proportion	Radiometric proportion	Resistance ratio	Absolute concentr.	Other	National *		International			
								No. labs	Year	% agreement of results for:			
									INH	RMP			
EU & West													
Austria	11	9	●	-	-	-	-	no	-	yes	2003	100	100
Belgium	158	20	●	●	-	-	●	yes	16	yes	2004	100	100
Cyprus	1	0 †	-	-	-	-	●	-	-	-	-	-	-
Czech Republic	43	15	●	-	-	-	●	yes	15	yes	2004	100	100
Denmark	1	1	-	●	-	-	-	-	-	yes	2004	95	100
Estonia	3	2	-	-	-	-	●	no	-	yes	2004	100	100
Finland	15	2	●	-	-	-	●	no	-	yes	2004	95	100
France	310	110	●	●	-	-	●	yes	28	yes	2004	100	100
Germany	200	70	●	●	-	-	●	yes	70	yes	2004	100	100
Greece	25	4-5	●	-	-	-	●	no	-	no	-	-	-
Hungary	20	13	●	-	-	-	●	no	-	yes	2003	100	95
Ireland	11	4	-	●	-	-	●	no	-	yes	2004	100	80
Italy	>200	>200	●	●	●	●	●	yes	27	yes	2004	100	100
Latvia	9	1	-	●	-	●	●	-	-	yes	2004	89	100
Lithuania	5	5	●	●	-	-	-	yes	5	yes	2004	95	100
Luxembourg	1	1	●	●	-	-	-	yes	-	no	-	-	-
Malta	1	0 †	-	-	-	-	-	-	-	-	-	-	-
Netherlands	43	~1/3	-	-	-	●	●	no	-	yes	2003	100	100
Poland	124	79	●	●	-	-	●	yes	all	yes	2004	n/a	n/a
Portugal	60	14	●	●	-	-	●	no	-	yes	2004	100	100
Slovakia	15	6	●	-	-	-	-	yes	6	yes	2003	100	100
Slovenia	5	1	●	-	-	-	●	yes	-	yes	2004	100	100
Spain	n/a	200	●	●	-	-	-	n/a	-	yes	2003	100	100
Sweden	5	6	-	●	-	-	●	yes	5	yes	2004	100	100
United Kingdom	~250	9	●	●	●	-	●	yes	6	yes	2004	100	100
Andorra	1	0 †	-	-	-	-	-	-	-	-	-	-	-
Iceland	1	0 †	-	-	-	-	-	-	-	-	-	-	-
Israel	18	2	-	-	●	-	●	yes	2	yes	2004	100	100
Norway	12	3	-	●	-	-	●	yes	2	yes	2004	90	100
Switzerland	~35	~15	●	●	-	-	●	yes	12	yes	2004	100	100
Centre													
Albania	2	1	●	-	-	-	-	no	-	yes	2002	90	90
Bosnia & Herzegovina (Fed.)	5	5	●	●	-	-	-	yes	5	yes	2004	n/a	n/a
Bulgaria	28	15	●	●	-	-	●	no	-	no	-	-	-
Croatia	16	11	●	-	-	-	●	yes	10	yes	2004	100	100
Macedonia, FYR of	4	1	●	-	-	-	-	no	-	no	-	-	-
Romania	122	69	-	-	-	●	-	yes	8	yes	2004	92	100
Serbia & Montenegro	36	11	●	-	-	-	-	yes	6	yes	2004	95	95
East													
Armenia	1	1	●	-	-	-	-	no	-	yes	2004	100	100
Azerbaijan	7	7	-	-	-	●	-	no	-	no	-	-	-
Kazakhstan	21	21	-	-	-	●	-	yes	20	yes	2002	100	100
Kyrgyzstan	4	1	-	-	-	●	-	no	-	yes	2004	100	100

* For countries with more than one DST laboratory

† DST done abroad (EU country)

n/a = not available

INH = isoniazid; RMP = rifampicin

(Fed.) = Federation of Bosnia

Table 19. Characteristics of drug resistance surveillance (DRS), WHO European Region, 2004

Geographic area	Country	Routine use of culture	Source of data	Geographic coverage	Culture confirmed cases (%) *	Cases included	
						Total culture positive	DST result (INH & RMP)
							N
Group A) Culture and DST done routinely; DST results complete or nationwide sample of TB cases							
EU & West							
	Austria	yes	TB case notification	national	64%	586	541 (92)
	Belgium	yes	TB case notification	national	77%	948	868 (92)
	Cyprus	yes	TB case notification	national	63%	19	16 (84)
	Denmark	yes	TB case notification	national	76%	291	289 (99)
	Estonia	yes	TB case notification	national	76%	452	452 (100)
	Finland	yes	TB case notification	national	86%	287	273 (95)
	Germany	yes	TB case notification	national	66%	4 338	4 000 (92)
	Latvia	yes	TB case notification	national	72%	1 156	1 105 (96)
	Lithuania	yes	TB case notification	national	63%	1 592	1 592 (100)
	Luxembourg	yes	TB case notification	national	100%	31	31 (100)
	Netherlands	yes	TB case notification	national	56% †	759	759 (100)
	Slovakia	yes	TB case notification	national	51%	357	344 (96)
	Slovenia	yes	TB case notification	national	88%	231	230 (100)
	Sweden	yes	TB case notification	national	80%	370	369 (100)
	United Kingdom	yes	TB case notification	national ‡	60%	4 219	3 793 (90)
	Andorra	yes	TB case notification	national	86%	6	5 (83)
	Iceland	yes	TB case notification	national	67%	8	8 (100)
	Israel	yes	TB case notification	national	51%	265	265 (100)
	Norway	yes	TB case notification	national	81%	246	246 (100)
	Switzerland	yes	TB case notification	national	81%	478	473 (99)
Centre							
	Bosnia & Herzegovina (Fed.)	yes	TB case notification	national	59%	1 125	1 125 (100)
	Croatia	yes	TB case notification	national	58%	758	757 (100)
	Romania	no	Survey, 3 NRLs	national	-	-	1 251 -
Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)							
EU & West							
	Czech Republic	yes	TB case notification	national	63%	666	490 (74)
	France	yes	Sentinel hospital network	national	-	1 731	1 699 (98)
	Greece	no	NRL	partial	-	501	501 (100)
	Hungary	yes	TB case notification	national	41%	1 014	558 (55)
	Ireland	yes	TB case notification	national	48%	209	162 (78)
	Italy	no	Lab network	national	-	763	763 (100)
	Malta	yes	TB case notification	national	42%	8	8 (100)
	Portugal	yes	TB case notification	national	54%	2 092	1 250 (60)
	Spain	yes	NRL	national	-	1 560	1 560 (100)
Centre							
	Albania	no	TB case notification	national	35%	201	178 (89)
	Bulgaria	no	All 15 labs doing DST	partial	37%	822	822 (100)
	Macedonia, FYR	no	NRL	national	82%	168	168 (100)
	Serbia & Montenegro	no	TB case notification	Belgrade region	59%	297	297 (100)
East							
	Armenia	no	NRL	national	43%	739	632 (86)
	Azerbaijan	no	All labs doing DST	partial	-	500	500 (100)
	Kazakhstan	yes	All labs doing DST	national	-	70 788	17 220 (24)
	Kyrgyzstan	no	NRL	partial	-	941	941 (100)

* In areas included in DRS

† Provisional data

‡ Excluding Scotland (provisional data)

NRL= National Reference Laboratory

(Fed.) = Federation of Bosnia

Table 20. Drug resistance, all tuberculosis cases (combined resistance), WHO European Region, 2004

Geographic area Country	Cases with DST results	Cases resistant to at least:									
		Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (MDR)		Ethambutol *		Streptomycin *	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Group A) Culture and DST done routinely; DST results complete or nationwide sample of TB cases											
EU & West											
Austria	541	48	(8.9)	17	(3.1)	17	(3.1)	10	(1.8)	38	(7.0)
Belgium	868	44	(5.1)	15	(1.7)	12	(1.4)	13	(1.5)	-	-
Cyprus	16	1	(6.3)	0	(0.0)	0	(0.0)	0	(0.0)	2	(12.5)
Denmark	289	19	(6.6)	0	(0.0)	0	(0.0)	2	(0.7)	3	(1.0)
Estonia	452	134	(29.6)	90	(19.9)	90	(19.9)	93	(20.6)	143	(31.6)
Finland	273	10	(3.7)	0	(0.0)	0	(0.0)	5	(1.8)	7	(2.6)
Germany	4 000	378	(9.5)	111	(2.8)	98	(2.5)	95	(2.4)	332	(8.3)
Latvia	1 105	346	(31.3)	198	(17.9)	196	(17.7)	141	(12.8)	330	(29.9)
Lithuania	1 592	513	(32.2)	324	(20.4)	318	(20.0)	192	(12.1)	474	(29.8)
Luxembourg	31	2	(6.5)	1	(3.2)	1	(3.2)	1	(3.2)	1	(3.2)
Netherlands	759	44	(5.8)	4	(0.5)	3	(0.4)	1	(0.1)	27	(3.6)
Slovakia	344	6	(1.7)	6	(1.7)	1	(0.3)	2	(0.6)	8	(2.3)
Slovenia	230	4	(1.7)	1	(0.4)	0	(0.0)	0	(0.0)	4	(1.7)
Sweden	369	35	(9.5)	7	(1.9)	6	(1.6)	2	(0.5)	-	-
United Kingdom †	3 793	264	(7.0)	97	(2.6)	35	(0.9)	16	(0.4)	-	-
Andorra	5	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Iceland	8	2	(25.0)	0	(0.0)	0	(0.0)	1	(12.5)	-	-
Israel	265	41	(15.5)	15	(5.7)	12	(4.5)	8	(3.0)	46	(17.4)
Norway	246	19	(7.7)	5	(2.0)	4	(1.6)	3	(1.2)	25	(10.2)
Switzerland	473	31	(6.6)	5	(1.1)	5	(1.1)	3	(0.6)	-	-
Centre											
Bosnia & Herzegovina (Fed.)	1 125	18	(1.6)	10	(0.9)	10	(0.9)	-	-	-	-
Croatia	757	7	(0.9)	3	(0.4)	3	(0.4)	3	(0.4)	7	(0.9)
Romania	1 251	179	(14.3)	90	(7.2)	66	(5.3)	74	(5.9)	139	(11.1)
Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)											
EU & West											
Czech Republic	490	13	(2.7)	8	(1.6)	6	(1.2)	3	(0.6)	16	(3.3)
France	1 699	88	(5.2)	29	(1.7)	26	(1.5)	13	(0.8)	106	(6.2)
Greece ‡	501	-	-	-	-	-	-	-	-	-	-
Hungary	558	38	(6.8)	10	(1.8)	9	(1.6)	15	(2.7)	38	(6.8)
Ireland	162	7	(4.3)	0	(0.0)	0	(0.0)	1	(0.6)	-	-
Italy	763	84	(11.0)	32	(4.2)	24	(3.1)	13	(1.7)	85	(11.1)
Malta	8	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Portugal	1 250	97	(7.8)	26	(2.1)	22	(1.8)	31	(2.5)	127	(10.2)
Spain	1 560	143	(9.2)	70	(4.5)	59	(3.8)	22	(1.4)	53	(3.4)
Centre											
Albania	178	3	(1.7)	0	(0.0)	0	(0.0)	1	(0.6)	8	(4.5)
Bulgaria	822	124	(15.1)	76	(9.2)	47	(5.7)	62	(7.5)	65	(7.9)
Macedonia, FYR	168	10	(6.0)	7	(4.2)	2	(1.2)	1	(0.6)	26	(15.5)
Serbia & Montenegro	297	4	(1.3)	2	(0.7)	2	(0.7)	3	(1.0)	19	(6.4)
East											
Armenia	632	296	(46.8)	162	(25.6)	157	(24.8)	87	(13.8)	351	(55.5)
Azerbaijan	500	56	(11.2)	47	(9.4)	17	(3.4)	37	(7.4)	133	(26.6)
Kazakhstan	17 220	8 333	(48.4)	5 173	(30.0)	4 828	(28.0)	4 629	(26.9)	8 782	(51.0)
Kyrgyzstan	941	453	(48.1)	280	(29.8)	259	(27.5)	201	(21.4)	585	(62.2)

* Data presented if DST results were available for > 90% of cases tested for INH and RMP

† Excluding Scotland (provisional data)

‡ New cases only (data shown in Table 21)

(Fed.) = Federation of Bosnia

Table 21. Drug resistance, tuberculosis cases never treated (primary resistance), WHO European Region, 2004

Geographic area	Cases with DST result	Cases resistant to at least:									
		Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol *		Streptomycin *	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Group A) Culture and DST done routinely; DST results complete or nationwide sample of TB cases											
EU & West											
Austria	515	46	(8.9)	16	(3.1)	16	(3.1)	9	(1.7)	37	(7.2)
Belgium †	629	23	(3.7)	6	(1.0)	3	(0.5)	7	(1.1)	-	-
Cyprus	15	1	(6.7)	0	(0.0)	0	(0.0)	0	(0.0)	2	(13.3)
Denmark †	268	18	(6.7)	0	(0.0)	0	(0.0)	2	(0.7)	3	(1.1)
Estonia	358	81	(22.6)	51	(14.2)	51	(14.2)	51	(14.2)	94	(26.3)
Finland †	189	8	(4.2)	0	(0.0)	0	(0.0)	5	(2.6)	6	(3.2)
Germany	3 111	247	(7.9)	50	(1.6)	41	(1.3)	51	(1.6)	216	(6.9)
Latvia	896	241	(26.9)	113	(12.6)	112	(12.5)	73	(8.1)	227	(25.3)
Lithuania	1 128	240	(21.3)	108	(9.6)	104	(9.2)	52	(4.6)	229	(20.3)
Luxembourg	31	2	(6.5)	1	(3.2)	1	(3.2)	1	(3.2)	1	(3.2)
Netherlands	636	35	(5.5)	2	(0.3)	1	(0.2)	1	(0.2)	19	(3.0)
Slovakia	292	5	(1.7)	4	(1.4)	1	(0.3)	2	(0.7)	7	(2.4)
Slovenia	202	3	(1.5)	0	(0.0)	0	(0.0)	0	(0.0)	4	(2.0)
Sweden	347	30	(8.6)	6	(1.7)	5	(1.4)	2	(0.6)	-	-
United Kingdom ‡	2 634	182	(6.9)	59	(2.2)	16	(0.6)	8	(0.3)	-	-
Andorra	5	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Iceland	7	2	(28.6)	0	(0.0)	0	(0.0)	1	(14.3)	-	-
Israel	250	40	(16.0)	14	(5.6)	11	(4.4)	8	(3.2)	45	(18.0)
Norway	223	19	(8.5)	4	(1.8)	4	(1.8)	3	(1.3)	24	(10.8)
Switzerland	340	19	(5.6)	3	(0.9)	3	(0.9)	1	(0.3)	-	-
Centre											
Bosnia & Herzegovina (Fed.) †	1 048	7	(0.7)	4	(0.4)	4	(0.4)	-	-	-	-
Croatia	671	6	(0.9)	3	(0.4)	3	(0.4)	2	(0.3)	6	(0.9)
Romania	869	72	(8.3)	42	(4.8)	25	(2.9)	20	(2.3)	66	(7.6)
Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)											
EU & West											
Czech Republic	480	11	(2.3)	6	(1.3)	4	(0.8)	3	(0.6)	15	(3.1)
France	1 431	59	(4.1)	16	(1.1)	14	(1.0)	4	(0.3)	82	(5.7)
Greece	501	57	(11.4)	21	(4.2)	16	(3.2)	15	(3.0)	36	(7.2)
Hungary	469	27	(5.8)	6	(1.3)	5	(1.1)	11	(2.3)	34	(7.2)
Ireland	121	5	(4.1)	0	(0.0)	0	(0.0)	1	(0.8)	-	-
Italy	510	41	(8.0)	11	(2.2)	6	(1.2)	4	(0.8)	52	(10.2)
Malta	7	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Portugal	1 101	78	(7.1)	15	(1.4)	12	(1.1)	20	(1.8)	113	(10.3)
Spain	307	21	(6.8)	3	(1.0)	3	(1.0)	0	(0.0)	4	(1.3)
Centre											
Albania	167	2	(1.2)	0	(0.0)	0	(0.0)	1	(0.6)	8	(4.8)
Bulgaria	480	66	(13.8)	31	(6.5)	11	(2.3)	30	(6.3)	34	(7.1)
Macedonia, FYR †	127	6	(4.7)	4	(3.1)	0	(0.0)	1	(0.8)	22	(17.3)
Serbia & Montenegro	264	3	(1.1)	1	(0.4)	1	(0.4)	2	(0.8)	18	(6.8)
East											
Armenia	464	177	(38.1)	81	(17.5)	79	(17.0)	39	(8.4)	226	(48.7)
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	8 446	3 057	(36.2)	1 490	(17.6)	1 339	(15.9)	1 574	(18.6)	3 420	(40.5)
Kyrgyzstan	768	331	(43.1)	187	(24.3)	169	(22.0)	139	(18.1)	459	(59.8)

* Data presented if DST results were available for > 90% of cases tested for INH and RMP

† Cases classified according to TB history (see Technical Note)

‡ Excluding Scotland (provisional data)

(Fed.) = Federation of Bosnia

Table 22. Drug resistance, tuberculosis cases previously treated (acquired resistance), WHO European Region, 2004

Geographic area	Cases with DST result	Cases resistant to at least:									
		Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol *		Streptomycin *	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Group A) Culture and DST done routinely; DST results complete or nationwide sample of TB cases											
EU & West											
Austria	10	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Belgium †	68	7	(10.3)	5	(7.4)	5	(7.4)	2	(2.9)	-	-
Cyprus	0	0	-	0	-	0	-	0	-	0	-
Denmark †	21	1	(4.8)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Estonia	94	53	(56.4)	39	(41.5)	39	(41.5)	42	(44.7)	49	(52.1)
Finland †	11	1	(9.1)	0	(0.0)	0	(0.0)	0	(0.0)	1	(9.1)
Germany	264	69	(26.1)	40	(15.2)	38	(14.4)	25	(9.5)	55	(20.8)
Latvia	209	105	(50.2)	85	(40.7)	84	(40.2)	68	(32.5)	103	(49.3)
Lithuania	458	270	(59.0)	214	(46.7)	212	(46.3)	139	(30.3)	242	(52.8)
Luxembourg	0	0	-	0	-	0	-	0	-	0	-
Netherlands	17	4	(23.5)	0	(0.0)	0	(0.0)	0	(0.0)	3	(17.6)
Slovakia	46	1	(2.2)	2	(4.3)	0	(0.0)	0	(0.0)	1	(2.2)
Slovenia	28	1	(3.6)	1	(3.6)	0	(0.0)	0	(0.0)	0	(0.0)
Sweden	22	5	(22.7)	1	(4.5)	1	(4.5)	0	(0.0)	-	-
United Kingdom ‡	219	15	(6.8)	6	(2.7)	4	(1.8)	1	(0.5)	-	-
Andorra	0	0	-	0	-	0	-	0	-	0	-
Iceland	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Israel	15	1	(6.7)	1	(6.7)	1	(6.7)	0	(0.0)	1	(6.7)
Norway	11	0	(0.0)	1	(9.1)	0	(0.0)	0	(0.0)	1	(9.1)
Switzerland	29	1	(3.4)	1	(3.4)	1	(3.4)	0	(0.0)	-	-
Centre											
Bosnia & Herzegovina (Fed.) †	77	11	(14.3)	6	(7.8)	6	(7.8)	-	-	-	-
Croatia	86	1	(1.2)	0	(0.0)	0	(0.0)	1	(1.2)	1	(1.2)
Romania	382	107	(28.0)	48	(12.6)	41	(10.7)	54	(14.1)	73	(19.1)
Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)											
EU & West											
Czech Republic	10	2	(20.0)	2	(20.0)	2	(20.0)	0	(0.0)	1	(10.0)
France	137	24	(17.5)	12	(8.8)	11	(8.0)	9	(6.6)	18	(13.1)
Greece	-	-	-	-	-	-	-	-	-	-	-
Hungary	88	11	(12.5)	4	(4.5)	4	(4.5)	4	(4.5)	4	(4.5)
Ireland	4	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Italy	88	32	(36.4)	18	(20.5)	15	(17.0)	8	(9.1)	23	(26.1)
Malta	1	0	-	0	-	0	-	0	-	0	-
Portugal	149	19	(12.8)	11	(7.4)	10	(6.7)	11	(7.4)	14	(9.4)
Spain	75	10	(13.3)	14	(18.7)	9	(12.0)	6	(8.0)	0	(0.0)
Centre											
Albania	11	1	(9.1)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Bulgaria	342	58	(17.0)	45	(13.2)	36	(10.5)	32	(9.4)	31	(9.1)
Macedonia, FYR †	15	4	(26.7)	3	(20.0)	2	(13.3)	0	(0.0)	1	(6.7)
Serbia & Montenegro	33	1	(3.0)	1	(3.0)	1	(3.0)	1	(3.0)	1	(3.0)
East											
Armenia	168	119	(70.8)	81	(48.2)	78	(46.4)	48	(28.6)	125	(74.4)
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	8 774	5 276	(60.1)	3 683	(42.0)	3 489	(39.8)	3 055	-	5 362	-
Kyrgyzstan	173	122	(70.5)	93	(53.8)	90	(52.0)	62	(35.8)	126	(72.8)

* Data presented if DST results were available for > 90% of cases tested for INH and RMP

† Cases classified according to TB history (see Technical Note)

‡ Excluding Scotland (provisional data)

(Fed.) = Federation of Bosnia

Table 23. Combined anti-tuberculosis drug resistance in nationals, WHO European Region, 2004

Geographic area	Classification	Cases with DST result	Cases resistant to at least:									
			Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol *		Streptomycin *	
			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Group A) Culture and DST done routinely; DST results complete or nationwide sample of TB cases												
EU & West												
Austria	citizenship	332	11 (3.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (1.8)		
Belgium	citizenship	411	13 (3.2)	3 (0.7)	1 (0.2)	2 (0.5)	2 (0.5)	2 (0.5)	2 (0.5)	-	-	
Cyprus	birthplace	6	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (16.7)		
Denmark †	birthplace	114	7 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)		
Estonia	birthplace	343	101 (29.4)	70 (20.4)	70 (20.4)	70 (20.4)	71 (20.7)	71 (20.7)	103 (30.0)			
Finland	birthplace	234	5 (2.1)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.3)	3 (1.3)	2 (0.9)			
Germany	birthplace	2 039	79 (3.9)	16 (0.8)	9 (0.4)	16 (0.8)	16 (0.8)	16 (0.8)	65 (3.2)			
Latvia	birthplace	1 018	316 (31.0)	182 (17.9)	180 (17.7)	127 (12.5)	127 (12.5)	127 (12.5)	304 (29.9)			
Lithuania	birthplace	1 532	488 (31.9)	306 (20.0)	300 (19.6)	178 (11.6)	178 (11.6)	178 (11.6)	452 (29.5)			
Luxembourg	birthplace	6	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	citizenship	321	12 (3.7)	0 (0.0)	0 (0.0)	1 (0.3)	1 (0.3)	1 (0.3)	8 (2.5)			
Slovakia	birthplace	341	5 (1.5)	6 (1.8)	1 (0.3)	1 (0.3)	1 (0.3)	1 (0.3)	6 (1.8)			
Slovenia	birthplace	185	3 (1.6)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (2.2)			
Sweden	birthplace	90	4 (4.4)	0 (0.0)	0 (0.0)	1 (1.1)	1 (1.1)	1 (1.1)	-	-		
United Kingdom ‡	birthplace	929	48 (5.2)	13 (1.4)	7 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	-	-		
Andorra	birthplace	0	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -		
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)		
Israel	birthplace	39	5 (12.8)	2 (5.1)	0 (0.0)	1 (2.6)	1 (2.6)	1 (2.6)	7 (17.9)			
Norway	birthplace	53	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (3.8)			
Switzerland	birthplace	109	4 (3.7)	1 (0.9)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	-	-		
Centre												
Bosnia & Herzegovina (Fed.)	birthplace	1 125	18 (1.6)	10 (0.9)	10 (0.9)	-	-	-	-	-	-	
Croatia	birthplace	492	5 (1.0)	2 (0.4)	2 (0.4)	2 (0.4)	2 (0.4)	2 (0.4)	6 (1.2)			
Romania	birthplace	1 251	179 (14.3)	90 (7.2)	66 (5.3)	74 (5.9)	74 (5.9)	74 (5.9)	139 (11.1)			
Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)												
EU & West												
Czech Republic	birthplace	440	6 (1.4)	4 (0.9)	2 (0.5)	1 (0.2)	1 (0.2)	1 (0.2)	8 (1.8)			
France	birthplace	691	18 (2.6)	7 (1.0)	4 (0.6)	2 (0.3)	2 (0.3)	2 (0.3)	38 (5.5)			
Greece §	citizenship	282	35 (12.4)	11 (3.9)	7 (2.5)	8 (2.8)	8 (2.8)	8 (2.8)	18 (6.4)			
Hungary	birthplace	540	38 (7.0)	10 (1.9)	9 (1.7)	15 (2.8)	15 (2.8)	15 (2.8)	38 (7.0)			
Ireland	birthplace	116	1 (0.9)	0 (0.0)	0 (0.0)	1 (0.9)	1 (0.9)	1 (0.9)	-	-		
Italy	-	401	40 (10.0)	18 (4.5)	11 (2.7)	7 (1.7)	7 (1.7)	7 (1.7)	40 (10.0)			
Malta	citizenship	4	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)			
Portugal	birthplace	1 088	87 (8.0)	21 (1.9)	18 (1.7)	28 (2.6)	28 (2.6)	28 (2.6)	119 (10.9)			
Spain	birthplace	1 244	104 (8.4)	50 (4.0)	40 (3.2)	16 (1.3)	16 (1.3)	16 (1.3)	44 (3.5)			
Centre												
Albania	birthplace	178	3 (1.7)	0 (0.0)	0 (0.0)	1 (0.6)	1 (0.6)	1 (0.6)	8 (4.5)			
Bulgaria	citizenship	822	124 (15.1)	76 (9.2)	47 (5.7)	62 (7.5)	62 (7.5)	62 (7.5)	65 (7.9)			
Macedonia, FYR	birthplace	-	-	-	-	-	-	-	-	-	-	
Serbia & Montenegro	-	297	4 (1.3)	2 (0.7)	2 (0.7)	3 (1.0)	3 (1.0)	3 (1.0)	19 (6.4)			
East												
Armenia	citizenship	620	288 (46.5)	154 (24.8)	149 (24.0)	86 (13.9)	86 (13.9)	86 (13.9)	342 (55.2)			
Azerbaijan	citizenship	500	56 (11.2)	47 (9.4)	17 (3.4)	37 (7.4)	37 (7.4)	37 (7.4)	133 (26.6)			
Kazakhstan	citizenship	17 220	8 333 (48.4)	5 173 (30.0)	4 828 (28.0)	4 629 (26.9)	4 629 (26.9)	4 629 (26.9)	8 782 (51.0)			
Kyrgyzstan	citizenship	941	453 (48.1)	280 (29.8)	259 (27.5)	201 (21.4)	201 (21.4)	201 (21.4)	585 (62.2)			

* Data presented if DST results were available for > 90% of cases tested for INH and RMP

† By birthplace of parents for Danish born cases < 26 years of age

‡ Excluding Scotland (provisional data)

§ New cases only

(Fed.) = Federation of Bosnia

Table 24. Combined anti-tuberculosis drug resistance in persons of foreign origin, WHO European Region, 2004

Geographic area	Classification	Cases with DST result	Cases resistant to at least:									
			Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol *		Streptomycin *	
			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Group A) Culture and DST done routinely; DST results complete or nationwide sample of TB cases												
EU & West												
Austria	citizenship	209	37 (17.7)	17 (8.1)	17 (8.1)	17 (8.1)	10 (4.8)	32 (15.3)				
Belgium	citizenship	457	31 (6.8)	12 (2.6)	11 (2.4)	11 (2.4)	11 (2.4)	-	-			
Cyprus	birthplace	10	1 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (10.0)				
Denmark †	birthplace	174	12 (6.9)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.1)	3 (1.7)				
Estonia	birthplace	107	33 (30.8)	20 (18.7)	20 (18.7)	20 (18.7)	22 (20.6)	39 (36.4)				
Finland	birthplace	30	4 (13.3)	0 (0.0)	0 (0.0)	0 (0.0)	2 (6.7)	4 (13.3)				
Germany	birthplace	1 855	292 (15.7)	94 (5.1)	88 (4.7)	88 (4.7)	78 (4.2)	263 (14.2)				
Latvia	birthplace	87	30 (34.5)	16 (18.4)	16 (18.4)	16 (18.4)	14 (16.1)	26 (29.9)				
Lithuania	birthplace	60	25 (41.7)	18 (30.0)	18 (30.0)	18 (30.0)	14 (23.3)	22 (36.7)				
Luxembourg	birthplace	25	2 (8.0)	1 (4.0)	1 (4.0)	1 (4.0)	1 (4.0)	1 (4.0)				
Netherlands	citizenship	433	32 (7.4)	4 (0.9)	3 (0.7)	3 (0.7)	0 (0.0)	19 (4.4)				
Slovakia	birthplace	3	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	2 (66.7)				
Slovenia	birthplace	45	1 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)				
Sweden	birthplace	276	31 (11.2)	7 (2.5)	6 (2.2)	6 (2.2)	1 (0.4)	-	-			
United Kingdom ‡	birthplace	2 468	182 (7.4)	73 (3.0)	23 (0.9)	23 (0.9)	14 (0.6)	-	-			
Andorra	birthplace	4	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)				
Iceland	birthplace	7	2 (28.6)	0 (0.0)	0 (0.0)	0 (0.0)	1 (14.3)	1 (14.3)				
Israel	birthplace	226	36 (15.9)	13 (5.8)	12 (5.3)	12 (5.3)	7 (3.1)	39 (17.3)				
Norway	birthplace	193	19 (9.8)	5 (2.6)	4 (2.1)	4 (2.1)	3 (1.6)	23 (11.9)				
Switzerland	birthplace	279	24 (8.6)	4 (1.4)	4 (1.4)	4 (1.4)	3 (1.1)	-	-			
Centre												
Bosnia & Herzegovina (Fed.)	birthplace	0	0 -	0 -	0 -	0 -	- -	- -	- -			
Croatia	birthplace	93	1 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)				
Romania	birthplace	0	0 -	0 -	0 -	0 -	0 -	0 -				
Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)												
EU & West												
Czech Republic	birthplace	50	7 (14.0)	4 (8.0)	4 (8.0)	4 (8.0)	2 (4.0)	8 (16.0)				
France	birthplace	899	66 (7.3)	22 (2.4)	22 (2.4)	22 (2.4)	11 (1.2)	62 (6.9)				
Greece §	citizenship	178	19 (10.7)	8 (4.5)	7 (3.9)	7 (3.9)	7 (3.9)	16 (9.0)				
Hungary	birthplace	13	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)				
Ireland	birthplace	38	6 (15.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	-	-			
Italy	-	356	43 (12.1)	13 (3.7)	12 (3.4)	12 (3.4)	6 (1.7)	43 (12.1)				
Malta	citizenship	4	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)				
Portugal	birthplace	160	9 (5.6)	5 (3.1)	4 (2.5)	4 (2.5)	3 (1.9)	8 (5.0)				
Spain	birthplace	316	39 (12.3)	20 (6.3)	19 (6.0)	19 (6.0)	6 (1.9)	9 (2.8)				
Centre												
Albania	birthplace	0	0 -	0 -	0 -	0 -	0 -	0 -				
Bulgaria	citizenship	0	0 -	0 -	0 -	0 -	0 -	0 -				
Macedonia, FYR	birthplace	-	- -	- -	- -	- -	- -	- -				
Serbia & Montenegro	-	0	0 -	0 -	0 -	0 -	0 -	0 -				
East												
Armenia	citizenship	12	8 (66.7)	8 (66.7)	8 (66.7)	8 (66.7)	1 (8.3)	9 (75.0)				
Azerbaijan	citizenship	0	0 -	0 -	0 -	0 -	0 -	0 -				
Kazakhstan	citizenship	0	0 -	0 -	0 -	0 -	0 -	0 -				
Kyrgyzstan	citizenship	0	0 -	0 -	0 -	0 -	0 -	0 -				

* Data presented if DST results were available for > 90% of cases tested for INH and RMP

† By birthplace of parents for Danish born cases < 26 years of age

‡ Excluding Scotland (provisional data)

§ New cases only

(Fed.) = Federation of Bosnia

Table 25. Combined drug resistance by area of origin, EU & West, 2004

Country of report Area of origin	Cases with DST results	Cases resistant to at least:					
		Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (MDR)	
		N	(%)	N	(%)	N	(%)
a) Baltic States							
EU & West *	7	1	(14.3)	1	(14.3)	1	(14.3)
Centre	0	0	-	0	-	0	-
Former Soviet Union †	3 137	991	(31.6)	610	(19.4)	602	(19.2)
Rest of Asia	3	1	(33.3)	1	(33.3)	1	(33.3)
Africa	0	0	-	0	-	0	-
Other	0	0	-	0	-	0	-
Unknown	2	0	-	0	-	0	-
Subtotal Baltic States	3 149	993	(31.5)	612	(19.4)	604	(19.2)
b) Other countries ‡							
EU & West *	6 702	283	(4.2)	63	(0.9)	43	(0.6)
Centre	832	54	(6.5)	12	(1.4)	10	(1.2)
Former Soviet Union †	592	197	(33.3)	95	(16.0)	92	(15.5)
Rest of Asia	892	89	(10.0)	15	(1.7)	14	(1.6)
Africa	1 273	124	(9.7)	22	(1.7)	19	(1.5)
Other	143	9	(6.3)	1	(0.7)	1	(0.7)
Unknown	240	15	(6.3)	1	(0.4)	1	(0.4)
Subtotal other countries	10 674	771	(7.2)	209	(2.0)	180	(1.7)
Total EU & West	13 823	1 764	(12.8)	821	(5.9)	784	(5.7)

* Cases reported in or originating from the Baltic States are classified under Former Soviet Union

† The 12 countries in the East (see Technical Note) and the three Baltic States (Estonia, Latvia and Lithuania)

‡ Countries with individual data on origin and drug resistance: Andorra, Austria, Belgium, Cyprus, Czech Republic, Denmark, Finland, Germany, Hungary, Iceland, Ireland, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, Sweden and Switzerland

Table 26. Resistance to isoniazid and MDR, all tuberculosis cases (combined resistance), WHO European Region, 2000-2004 *

Geographic area Country	2000		2001		2002		2003		2004	
	INH Resistant		INH Resistant		INH Resistant		INH Resistant		INH Resistant	
	N	(%) †	N	(%) †	N	(%) †	N	(%) †	N	(%) †
EU & West										
Austria	22	(2.9)	24	(3.8)	19	(2.8)	36	(6.0)	48	(8.9)
Belgium	47	(6.4)	53	(7.1)	62	(7.7)	58	(7.3)	44	(5.1)
Cyprus	-	-	-	-	1	(33.3)	2	(40.0)	1	(6.3)
Denmark	37	(8.7)	21	(5.5)	14	(4.7)	12	(4.0)	19	(6.6)
Estonia	158	(30.0)	217	(37.4)	179	(33.6)	152	(32.8)	134	(29.6)
Finland	15	(3.4)	16	(3.9)	10	(2.6)	10	(2.9)	10	(3.7)
Germany	-	-	294	(7.6)	371	(7.9)	344	(7.7)	378	(9.5)
Latvia	347	(30.3)	327	(29.8)	441	(35.5)	374	(31.4)	346	(31.3)
Lithuania	277	(30.1)	455	(31.3)	471	(35.1)	508	(36.3)	513	(32.2)
Luxembourg	2	(4.6)	1	(3.5)	0	(0.0)	3	(5.6)	2	(6.5)
Netherlands	51	(5.9)	24	(4.8)	27	(3.5)	45	(7.3)	44	(5.8)
Slovakia	27	(4.7)	22	(3.8)	13	(2.6)	23	(5.7)	6	(1.7)
Slovenia	9	(2.8)	12	(3.9)	11	(3.8)	3	(1.2)	4	(1.7)
Sweden	37	(10.1)	31	(8.6)	33	(9.4)	26	(7.5)	35	(9.5)
United Kingdom ‡	203	(6.1)	209	(6.6)	267	(7.1)	271	(7.2)	264	(7.0)
Andorra	2	(40.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Iceland	0	(0.0)	1	(8.3)	0	(0.0)	1	(25.0)	2	(25.0)
Israel	74	(26.3)	64	(20.2)	56	(16.3)	56	(17.7)	41	(15.5)
Norway	21	(12.4)	18	(8.4)	22	(11.5)	23	(8.5)	19	(7.7)
Switzerland	24	(4.9)	23	(4.6)	31	(6.0)	38	(7.9)	31	(6.6)
Centre										
Bosnia & Herzegovina	11	(1.0)	2	(0.2)	6	(0.6) §	18	(1.7) §	18	(1.6) §
Croatia	12	(1.4)	15	(1.9)	17	(2.0)	26	(3.1)	7	(0.9)
	MDR		MDR		MDR		MDR		MDR	
	N	(%) †	N	(%) †	N	(%) †	N	(%) †	N	(%) †
EU & West										
Austria	4	(0.5)	5	(0.8)	3	(0.4)	12	(2.0)	17	(3.1)
Belgium	11	(1.5)	18	(2.4)	21	(2.6)	9	(1.1)	12	(1.4)
Cyprus	-	-	-	-	1	(33.3)	0	(0.0)	0	(0.0)
Denmark	2	(0.5)	0	(0.0)	1	(0.3)	0	(0.0)	0	(0.0)
Estonia	103	(19.5)	158	(27.2)	138	(25.9)	106	(22.8)	90	(19.9)
Finland	2	(0.5)	4	(1.0)	3	(0.8)	3	(0.9)	0	(0.0)
Germany	-	-	105	(2.7)	95	(2.0)	93	(2.1)	98	(2.5)
Latvia	150	(13.1)	150	(13.7)	226	(18.2)	174	(14.6)	196	(17.7)
Lithuania	156	(16.9)	266	(18.3)	297	(22.1)	312	(22.3)	318	(20.0)
Luxembourg	0	(0.0)	0	(0.0)	0	(0.0)	1	(1.9)	1	(3.2)
Netherlands	8	(0.9)	2	(0.4)	2	(0.3)	8	(1.3)	3	(0.4)
Slovakia	7	(1.2)	6	(1.0)	3	(0.6)	6	(1.5)	1	(0.3)
Slovenia	0	(0.0)	3	(1.0)	2	(0.7)	1	(0.4)	0	(0.0)
Sweden	5	(1.4)	4	(1.1)	4	(1.1)	7	(2.0)	6	(1.6)
United Kingdom ‡	37	(1.1)	24	(0.8)	31	(0.8)	49	(1.3)	35	(0.9)
Andorra	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Iceland	0	(0.0)	0	(0.0)	0	(0.0)	1	(25.0)	0	(0.0)
Israel	41	(14.6)	22	(6.9)	17	(4.9)	20	(6.3)	12	(4.5)
Norway	3	(1.8)	5	(2.3)	7	(3.7)	3	(1.1)	4	(1.6)
Switzerland	2	(0.4)	7	(1.4)	11	(2.1)	12	(2.5)	5	(1.1)
Centre										
Bosnia & Herzegovina	5	(0.4)	2	(0.2)	4	(0.4) §	2	(0.2) §	10	(0.9) §
Croatia	2	(0.2)	5	(0.6)	6	(0.7)	8	(1.0)	3	(0.4)

* Countries in group A in 2004 (see Table 19 and Technical Note); for trends in new and retreated cases, see Country Profiles

† As a proportion of all cases with results for INH and RMP

‡ Excluding Scotland (provisional data)

§ Federation of Bosnia only

MDR = multidrug resistance (resistance to at least INH and RMP)

Table 27. Characteristics of treatment outcome monitoring (TOM) and treatment success, WHO European Region, 2003

Geographic area					Total definite pulmonary cases			
Country	Geographic coverage	Type of data	Type of cohort	Notified in TOM areas *	Included in TOM cohorts		Overall treatment success (%)	
					N	(%) †		
Group A) Complete cohorts with nationwide coverage								
EU & West								
Austria	national	individual	culture	544	544	-	67%	
Belgium	national	individual	culture	680	680	-	69%	
Cyprus	national	individual	culture	21	21	-	81%	
Czech Republic	national	individual	culture	644	644	-	75%	
Denmark	national	individual	culture	224	224	-	83%	
Estonia	national	individual	culture	430	430	-	60%	
Germany	national	individual	culture	3 843	3 843	-	70%	
Hungary	national	individual	culture	898	898	-	53%	
Ireland	national	individual	culture	211	211	-	64%	
Latvia	national	individual	culture	1 208	1 208	-	71%	
Lithuania	national	individual	culture	1 610	1 610	-	62%	
Malta	national	individual	culture	2	2	-	100%	
Netherlands	national	individual	culture	530	530	-	84%	
Poland	national	individual	culture	5 302	5 302	-	78%	
Portugal	national	individual	culture	2 104	2 104	-	83%	
Slovakia	national	individual	culture	372	372	-	89%	
Slovenia	national	individual	culture	233	233	-	83%	
Sweden	national	individual	culture	228	228	-	83%	
United Kingdom	national ‡	aggregate	culture	2 729	2 717	100%	62%	
Andorra	national	individual	culture	5	5	-	80%	
Iceland	national	individual	culture	2	2	-	100%	
Israel	national	aggregate	culture	250	282	113%	76%	
Norway	national	individual	culture	171	171	-	84%	
San Marino	national	aggregate	smear	1	1	100%	100%	
Centre								
Albania	national	individual	culture	215	215	-	87%	
Bulgaria	national	aggregate	culture	1 377	1 377	100%	89%	
Macedonia, FYR	national	aggregate	smear	241	242	100%	80%	
Romania	national	individual	culture	17 012	17 012	-	73%	
East								
Azerbaijan	national	aggregate	smear	1 320	3 014	228% §	55%	
Georgia	national	aggregate	smear	1 740	1 740	100%	56%	
Kazakhstan	national	aggregate	smear	14 058	12 636	90%	67%	
Kyrgyzstan	national	aggregate	smear	2 286	2 066	90%	82%	
Moldova, Rep. of	national	aggregate	smear	2 188	2 180	100%	47%	
Turkmenistan	national	aggregate	smear	1 737	1 694	98%	68%	
Group B) Incomplete cohorts or partial geographic coverage								
EU & West								
Italy	selected Centres	aggregate	culture	-	137	-	93%	
Centre								
Bosnia & Herzegovina	Republika Srpska only	aggregate	culture	-	572	-	97%	
Croatia	national	individual	smear	504	504	-	37%	
Serbia & Montenegro	Belgrade region	aggregate	culture	-	349	-	89%	
Turkey	national	aggregate	smear	-	6 133	-	72%	
East								
Armenia	DOTS areas	aggregate	smear	708	586	83%	68%	
Belarus	DOTS areas (new)	aggregate	smear and/or culture	2 239	2 236	100%	73%	
Russian Federation	DOTS areas (new & relapse)	aggregate	smear	7 268	7 257	100%	59%	
Tajikistan	national	aggregate	smear	-	1 254	-	50%	
Uzbekistan	national	aggregate	smear	7 652	5 479	72%	83%	

* Notifications in 2003 may differ from those shown elsewhere in this report

† Not shown for countries with complete individual datasets with outcome data (100% by definition);

may exceed 100% in countries with aggregate data, due to updated information on culture or smear results

‡ Excluding Scotland (2002 cohort)

§ Large increase in recruitment of retreated cases in 2004

Table 28. Treatment outcome, new definite pulmonary tuberculosis cases, WHO European Region, 2003

Geographic area	Cohort	Total included	Success					Died	Failed	Defaulted	Transferred	Still on treatment		Unknown						
			Cured	Treatment completed	Subtotal success	Unknown	Unknown													
Country			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)						
Group A) Complete cohorts with nationwide coverage																				
EU & West																				
Austria	culture	506	0	(0)	343	(68)	343	(68)	53	(10)	0	(0)	34	(7)	1	(0)	0	(0)	75	(15)
Belgium *	culture	437	96	(22)	217	(50)	313	(72)	32	(7)	0	(0)	5	(1)	0	(0)	6	(1)	81	(19)
Cyprus	culture	21	16	(76)	1	(5)	17	(81)	0	(0)	0	(0)	2	(10)	2	(10)	0	(0)	0	(0)
Czech Republic	culture	619	352	(57)	113	(18)	465	(75)	32	(5)	0	(0)	8	(1)	7	(1)	4	(1)	103	(17)
Denmark *	culture	213	95	(45)	84	(39)	179	(84)	19	(9)	0	(0)	4	(2)	6	(3)	1	(0)	4	(2)
Estonia	culture	332	224	(67)	7	(2)	231	(70)	35	(11)	4	(1)	21	(6)	1	(0)	40	(12)	0	(0)
Germany	culture	2 624	990	(38)	937	(36)	1 927	(73)	287	(11)	4	(0)	44	(2)	0	(0)	127	(5)	235	(9)
Hungary	culture	709	276	(39)	108	(15)	384	(54)	55	(8)	76	(11)	50	(7)	41	(6)	101	(14)	2	(0)
Ireland *	culture	152	4	(3)	103	(68)	107	(70)	10	(7)	1	(1)	4	(3)	0	(0)	2	(1)	28	(18)
Latvia	culture	963	726	(75)	23	(2)	749	(78)	87	(9)	5	(1)	49	(5)	2	(0)	71	(7)	0	(0)
Lithuania	culture	1 099	836	(76)	0	(0)	836	(76)	84	(8)	25	(2)	90	(8)	7	(1)	53	(5)	4	(0)
Malta	culture	2	0	(0)	2	(100)	2	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	culture	439	59	(13)	318	(72)	377	(86)	31	(7)	0	(0)	22	(5)	9	(2)	0	(0)	0	(0)
Poland	culture	4 573	3 153	(69)	490	(11)	3 643	(80)	224	(5)	54	(1)	305	(7)	81	(2)	20	(0)	246	(5)
Portugal	culture	1 838	195	(11)	1 344	(73)	1 539	(84)	94	(5)	5	(0)	87	(5)	54	(3)	59	(3)	0	(0)
Slovakia	culture	318	24	(8)	256	(81)	280	(88)	38	(12)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Slovenia	culture	205	63	(31)	109	(53)	172	(84)	22	(11)	1	(0)	8	(4)	0	(0)	2	(1)	0	(0)
Sweden	culture	208	0	(0)	174	(84)	174	(84)	15	(7)	0	(0)	2	(1)	0	(0)	6	(3)	11	(5)
United Kingdom †	culture	1 995	0	(0)	1 299	(65)	1 299	(65)	120	(6)	9	(0)	109	(5)	19	(1)	67	(3)	372	(19)
Andorra	culture	5	4	(80)	0	(0)	4	(80)	1	(20)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Iceland	culture	2	2	(100)	0	(0)	2	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Israel	culture	251	182	(73)	11	(4)	193	(77)	33	(13)	2	(1)	1	(0)	16	(6)	5	(2)	1	(0)
Norway	culture	132	69	(52)	42	(32)	111	(84)	13	(10)	0	(0)	3	(2)	5	(4)	0	(0)	0	(0)
San Marino	smear	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Centre																				
Albania	culture	200	97	(49)	77	(39)	174	(87)	6	(3)	0	(0)	16	(8)	1	(1)	0	(0)	3	(2)
Bulgaria	culture	1 260	1 145	(91)	0	(0)	1 145	(91)	40	(3)	25	(2)	36	(3)	14	(1)	0	(0)	0	(0)
Macedonia, FYR	smear	200	119	(60)	48	(24)	167	(84)	3	(2)	0	(0)	25	(13)	1	(1)	0	(0)	4	(2)
Romania	culture	12 272	7 988	(65)	2 091	(17)	10 079	(82)	544	(4)	598	(5)	783	(6)	73	(1)	88	(1)	107	(1)
East																				
Azerbaijan	smear	2 242	1 009	(45)	312	(14)	1 321	(59)	46	(2)	59	(3)	86	(4)	328	(15)	0	(0)	402	(18)
Georgia	smear	989	481	(49)	176	(18)	657	(66)	23	(2)	37	(4)	150	(15)	78	(8)	0	(0)	44	(4)
Kazakhstan	smear	8 660	6 362	(73)	90	(1)	6 452	(75)	453	(5)	1 193	(14)	389	(4)	173	(2)	0	(0)	0	(0)
Kyrgyzstan	smear	1 634	1 298	(79)	82	(5)	1 380	(84)	71	(4)	97	(6)	62	(4)	24	(1)	0	(0)	0	(0)
Moldova, Rep. of	smear	1 210	615	(51)	53	(4)	668	(55)	81	(7)	124	(10)	108	(9)	31	(3)	13	(1)	185	(15)
Turkmenistan	smear	1 197	769	(64)	75	(6)	844	(71)	105	(9)	147	(12)	97	(8)	4	(0)	0	(0)	0	(0)
Group B) Incomplete cohorts or partial geographic coverage																				
EU & West																				
Italy	culture	122	96	(79)	17	(14)	113	(93)	2	(2)	0	(0)	4	(3)	3	(2)	0	(0)	0	(0)
Centre																				
Bosnia & Herzegovina ‡	culture	533	327	(61)	196	(37)	523	(98)	2	(0)	1	(0)	3	(1)	2	(0)	2	(0)	0	(0)
Croatia	smear	438	136	(31)	32	(7)	168	(38)	20	(5)	0	(0)	10	(2)	4	(1)	2	(0)	234	(53)
Serbia & Montenegro	culture	305	246	(81)	32	(10)	278	(91)	14	(5)	0	(0)	10	(3)	0	(0)	3	(1)	0	(0)
Turkey	smear	6 082	238	(4)	4 134	(68)	4 372	(72)	103	(2)	2	(0)	214	(4)	177	(3)	312	(5)	902	(15)
East																				
Armenia	smear	406	272	(67)	40	(10)	312	(77)	8	(2)	18	(4)	27	(7)	21	(5)	0	(0)	20	(5)
Belarus	mixed §	2 236	0	(0)	1 630	(73)	1 630	(73)	176	(8)	224	(10)	70	(3)	136	(6)	0	(0)	0	(0)
Russian Federation	smear	6 311	3 665	(58)	208	(3)	3 873	(61)	635	(10)	779	(12)	490	(8)	229	(4)	0	(0)	305	(5)
Tajikistan	smear	927	342	(37)	81	(9)	423	(46)	92	(10)	68	(7)	56	(6)	10	(1)	0	(0)	278	(30)
Uzbekistan	smear	4 674	3 679	(79)	292	(6)	3 971	(85)	327	(7)	172	(4)	204	(4)	0	(0)	0	(0)	0	(0)

* No previous diagnosis of tuberculosis

† 2002 cohort (excluding Scotland)

‡ Republika Srpska only

§ Smear and/or culture

Table 29. Treatment outcome, retreated definite pulmonary tuberculosis cases, WHO European Region, 2003

Geographic area	Cohort	Total included	Success					Died	Failed	Defaulted	Transferred	Still on treatment		Unknown		
			Cured	Treatment completed	Subtotal success	Unknown	Unknown									
Country			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)		
Group A) Complete cohorts with nationwide coverage																
EU & West																
Austria	culture	12	0	(0)	7	(58)	7	(58)	1	(8)	0	(0)	0	(0)	4	(33)
Belgium *	culture	60	13	(22)	24	(40)	37	(62)	7	(12)	0	(0)	1	(2)	14	(23)
Cyprus	culture	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Czech Republic	culture	25	11	(44)	9	(36)	20	(80)	0	(0)	0	(0)	0	(0)	1	(4)
Denmark *	culture	11	6	(55)	2	(18)	8	(73)	3	(27)	0	(0)	0	(0)	0	(0)
Estonia	culture	98	28	(29)	1	(1)	29	(30)	19	(19)	7	(7)	22	(22)	0	(0)
Germany	culture	299	111	(37)	76	(25)	187	(63)	42	(14)	0	(0)	9	(3)	26	(9)
Hungary	culture	183	60	(33)	27	(15)	87	(48)	16	(9)	29	(16)	14	(8)	4	(2)
Ireland *	culture	23	0	(0)	13	(57)	13	(57)	3	(13)	0	(0)	2	(9)	1	(4)
Latvia	culture	245	107	(44)	6	(2)	113	(46)	29	(12)	1	(0)	18	(7)	84	(34)
Lithuania	culture	497	164	(33)	0	(0)	164	(33)	97	(20)	23	(5)	98	(20)	2	(0)
Malta	culture	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Netherlands	culture	21	2	(10)	13	(62)	15	(71)	2	(10)	0	(0)	4	(19)	0	(0)
Poland	culture	724	445	(61)	66	(9)	511	(71)	34	(5)	18	(2)	95	(13)	16	(2)
Portugal	culture	266	29	(11)	175	(66)	204	(77)	16	(6)	2	(1)	26	(10)	6	(2)
Slovakia	culture	50	5	(10)	41	(82)	46	(92)	4	(8)	0	(0)	0	(0)	0	(0)
Slovenia	culture	26	9	(35)	11	(42)	20	(77)	3	(12)	0	(0)	3	(12)	0	(0)
Sweden	culture	19	0	(0)	16	(84)	16	(84)	2	(11)	0	(0)	0	(0)	1	(5)
United Kingdom †	culture	229	0	(0)	124	(54)	124	(54)	25	(11)	2	(1)	18	(8)	2	(1)
Andorra	culture	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Iceland	culture	0	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Israel	culture	28	18	(64)	3	(11)	21	(75)	2	(7)	0	(0)	2	(7)	1	(4)
Norway	culture	6	2	(33)	2	(33)	4	(67)	0	(0)	0	(0)	0	(0)	2	(33)
San Marino	smear	1	1	(100)	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)
Centre																
Albania	culture	15	5	(33)	8	(53)	13	(87)	2	(13)	0	(0)	0	(0)	0	(0)
Bulgaria	culture	117	80	(68)	0	(0)	80	(68)	1	(1)	7	(6)	18	(15)	11	(9)
Macedonia, FYR	smear	42	18	(43)	9	(21)	27	(64)	1	(2)	0	(0)	14	(33)	0	(0)
Romania	culture	4 740	1 734	(37)	619	(13)	2 353	(50)	466	(10)	568	(12)	740	(16)	32	(1)
East																
Azerbaijan	smear	772	209	(27)	142	(18)	351	(45)	90	(12)	104	(13)	123	(16)	53	(7)
Georgia	smear	751	209	(28)	108	(14)	317	(42)	47	(6)	74	(10)	172	(23)	83	(11)
Kazakhstan	smear	3 976	1 959	(49)	58	(1)	2 017	(51)	463	(12)	1 050	(26)	342	(9)	104	(3)
Kyrgyzstan	smear	432	85	(20)	234	(54)	319	(74)	33	(8)	49	(11)	25	(6)	6	(1)
Moldova, Rep. of	smear	970	270	(28)	88	(9)	358	(37)	158	(16)	193	(20)	186	(19)	50	(5)
Turkmenistan	smear	497	179	(36)	136	(27)	315	(63)	56	(11)	68	(14)	55	(11)	3	(1)
Group B) Incomplete cohorts or partial geographic coverage																
EU & West																
Italy	culture	15	0	(0)	15	(100)	15	(100)	0	(0)	0	(0)	0	(0)	0	(0)
Centre																
Bosnia & Herzegovina ‡	culture	39	22	(56)	11	(28)	33	(85)	1	(3)	0	(0)	2	(5)	1	(3)
Croatia	smear	66	14	(21)	3	(5)	17	(26)	9	(14)	0	(0)	4	(6)	1	(2)
Serbia & Montenegro	culture	44	31	(70)	3	(7)	34	(77)	5	(11)	0	(0)	1	(2)	0	(0)
Turkey	smear	51	20	(39)	13	(25)	33	(65)	3	(6)	2	(4)	6	(12)	4	(8)
East																
Armenia	smear	180	42	(23)	43	(24)	85	(47)	7	(4)	19	(11)	21	(12)	10	(6)
Belarus	mixed §	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Russian Federation	smear	946	383	(40)	41	(4)	424	(45)	128	(14)	272	(29)	65	(7)	51	(5)
Tajikistan	smear	101	49	(49)	8	(8)	57	(56)	8	(8)	16	(16)	12	(12)	1	(1)
Uzbekistan	smear	805	416	(52)	134	(17)	550	(68)	89	(11)	61	(8)	105	(13)	0	(0)

* Previous diagnosis of tuberculosis

† 2002 cohort (excluding Scotland)

‡ Republika Srpska only

§ Smear and/or culture

Table 30. Treatment outcome by age group, new pulmonary culture positive TB cases, WHO European Region, 2003 *

Geographic area Country	0-14 years			15-44 years			45-64 years			65+ years		
	Total included	Success N (%)		Total included	Success N (%)		Total included	Success N (%)		Total included	Success N (%)	
a) Treatment success												
EU & West												
Austria	14	7 (50)		250	179 (72)		150	102 (68)		92	55 (60)	
Belgium	22	17 (77)		212	164 (77)		112	82 (73)		91	50 (55)	
Cyprus	0	0 -		14	11 (79)		3	3 (100)		4	3 (75)	
Czech Republic	0	0 -		195	172 (88)		236	181 (77)		188	112 (60)	
Denmark	10	9 (90)		119	106 (89)		64	51 (80)		20	13 (65)	
Estonia	0	0 -		167	115 (69)		124	91 (73)		41	25 (61)	
Germany	51	50 (98)		1 215	952 (78)		696	516 (74)		662	409 (62)	
Hungary	1	1 (100)		261	145 (56)		330	164 (50)		117	74 (63)	
Ireland	3	3 (100)		87	66 (76)		37	24 (65)		25	14 (56)	
Latvia	3	1 (33)		563	456 (81)		312	237 (76)		85	55 (65)	
Lithuania	1	1 (100)		544	428 (79)		410	303 (74)		144	104 (72)	
Malta	0	0 -		1	1 (100)		1	1 (100)		0	0 -	
Netherlands	11	11 (100)		286	256 (90)		81	73 (90)		61	37 (61)	
Poland	11	10 (91)		1 742	1 429 (82)		1 618	1 301 (80)		1 202	903 (75)	
Portugal	13	11 (85)		1 125	947 (84)		424	368 (87)		251	192 (76)	
Slovakia	5	4 (80)		101	96 (95)		95	84 (88)		117	96 (82)	
Slovenia	1	1 (100)		73	68 (93)		55	47 (85)		76	56 (74)	
Sweden	8	8 (100)		120	107 (89)		29	22 (76)		51	37 (73)	
Andorra	0	0 -		2	2 (100)		3	2 (67)		0	0 -	
Iceland	0	0 -		1	1 (100)		0	0 -		1	1 (100)	
Norway	6	6 (100)		82	75 (91)		17	15 (88)		27	15 (56)	
Total EU & West	160	140 (88)		7 160	5 776 (81)		4 797	3 667 (76)		3 255	2 251 (69)	
Centre												
Albania	4	4 (100)		91	79 (87)		64	57 (89)		41	34 (83)	
Romania	157	137 (87)		6 932	5 861 (85)		4 007	3 204 (80)		1 173	877 (75)	
b) Death												
EU & West												
Austria	14	0 (0)		250	7 (3)		150	20 (13)		92	26 (28)	
Belgium	22	0 (0)		212	3 (1)		112	5 (4)		91	24 (26)	
Cyprus	0	0 -		14	0 (0)		3	0 (0)		4	0 (0)	
Czech Republic	0	0 -		195	1 (1)		236	13 (6)		188	18 (10)	
Denmark	10	0 (0)		119	4 (3)		64	8 (13)		20	7 (35)	
Estonia	0	0 -		167	11 (7)		124	13 (10)		41	11 (27)	
Germany	51	0 (0)		1 215	28 (2)		696	79 (11)		662	180 (27)	
Hungary	1	0 (0)		261	7 (3)		330	24 (7)		117	24 (21)	
Ireland	3	0 (0)		87	1 (1)		37	2 (5)		25	7 (28)	
Latvia	3	0 (0)		563	24 (4)		312	36 (12)		85	27 (32)	
Lithuania	1	0 (0)		544	16 (3)		410	41 (10)		144	27 (19)	
Malta	0	0 -		1	0 (0)		1	0 (0)		0	0 -	
Netherlands	11	0 (0)		286	3 (1)		81	5 (6)		61	23 (38)	
Poland	11	0 (0)		1 742	26 (1)		1 618	62 (4)		1 202	136 (11)	
Portugal	13	1 (8)		1 125	27 (2)		424	21 (5)		251	43 (17)	
Slovakia	5	1 (20)		101	5 (5)		95	11 (12)		117	21 (18)	
Slovenia	1	0 (0)		73	1 (1)		55	3 (5)		76	18 (24)	
Sweden	8	0 (0)		120	1 (1)		29	3 (10)		51	11 (22)	
Andorra	0	0 -		2	0 (0)		3	1 (33)		0	0 -	
Iceland	0	0 -		1	0 (0)		0	0 -		1	0 (0)	
Norway	6	0 (0)		82	0 (0)		17	1 (6)		27	12 (44)	
Total EU & West	160	2 (1)		7 160	165 (2)		4 797	348 (7)		3 255	615 (19)	
Centre												
Albania	4	0 (0)		91	1 (1)		64	2 (3)		41	3 (7)	
Romania	157	5 (3)		6 932	116 (2)		4 007	256 (6)		1 173	167 (14)	

* Countries in group A with individual data (excluding 28 cases with age unknown)

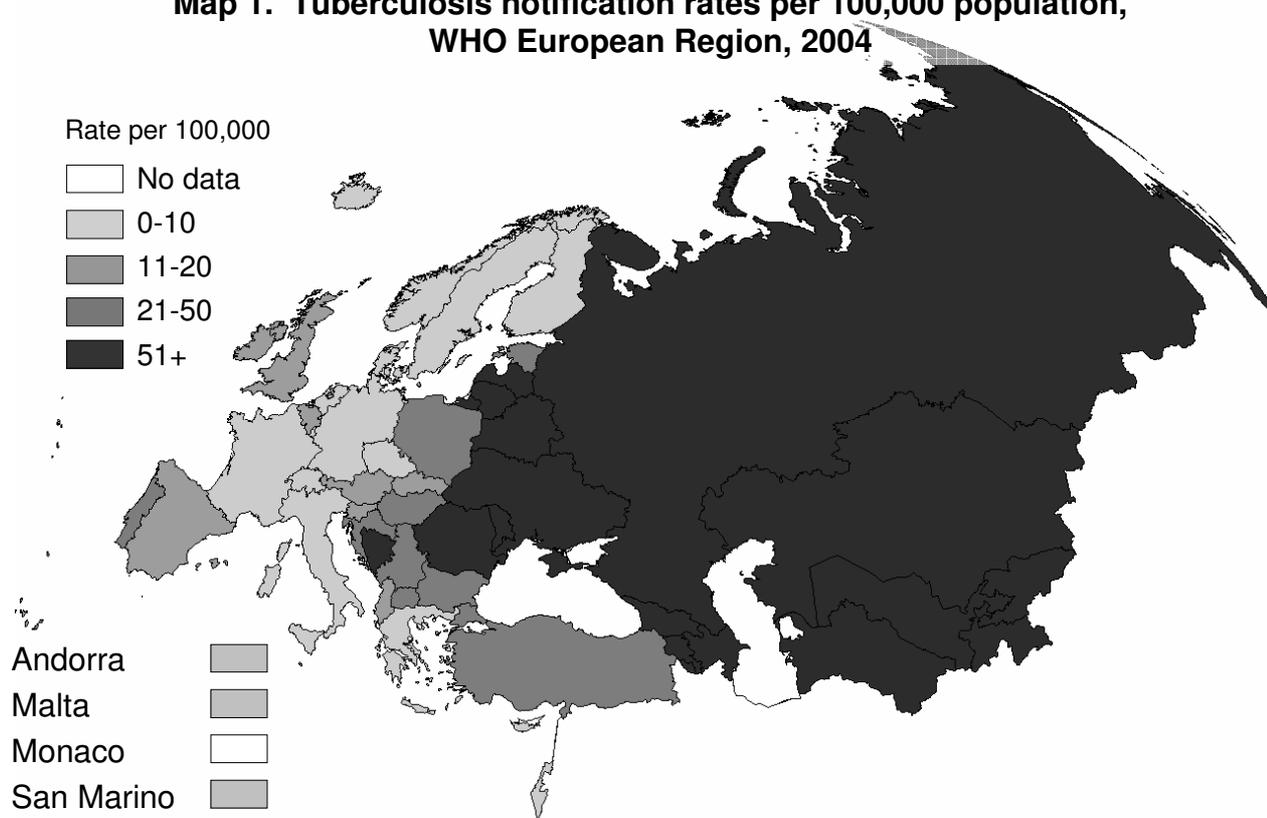
Table 31. Treatment outcomes, all pulmonary and extra-pulmonary TB cases, WHO European Region, 2003 *

Geographic area	Cases	Success		Died		Still on treatment		Other	
		N	%	N	%	N	%	N	%
A. Pulmonary									
EU & West									
Austria	821	559	(68)	80	(10)	0	(0)	182	(22)
Cyprus	29	22	(76)	0	(0)	0	(0)	7	(24)
Czech Republic	911	715	(78)	32	(4)	5	(1)	159	(17)
Denmark	286	243	(85)	26	(9)	1	(0)	16	(6)
Estonia	557	379	(68)	58	(10)	61	(11)	59	(11)
Germany	5 603	3 800	(68)	653	(12)	338	(6)	812	(14)
Hungary	2 403	1 528	(64)	237	(10)	279	(12)	359	(15)
Ireland	299	189	(63)	24	(8)	4	(1)	82	(27)
Latvia	1 543	1 141	(74)	158	(10)	155	(10)	89	(6)
Lithuania	2 392	1 643	(69)	269	(11)	165	(7)	315	(13)
Malta	4	4	(100)	0	(0)	0	(0)	0	(0)
Netherlands	868	656	(76)	72	(8)	0	(0)	140	(16)
Portugal	3 013	2 464	(82)	177	(6)	118	(4)	254	(8)
Slovakia	777	703	(90)	73	(9)	0	(0)	1	(0)
Slovenia	249	205	(82)	28	(11)	2	(1)	14	(6)
Sweden	256	213	(83)	21	(8)	7	(3)	15	(6)
Andorra	9	7	(78)	1	(11)	0	(0)	1	(11)
Iceland	3	3	(100)	0	(0)	0	(0)	0	(0)
Norway	211	178	(84)	19	(9)	2	(1)	12	(6)
Centre									
Albania	362	309	(85)	15	(4)	0	(0)	38	(10)
Romania	26 956	20 065	(74)	1 591	(6)	529	(2)	4 771	(18)
B. Extra-pulmonary									
EU & West									
Austria	159	112	(70)	13	(8)	0	(0)	34	(21)
Cyprus	6	5	(83)	0	(0)	0	(0)	1	(17)
Czech Republic	251	182	(73)	6	(2)	0	(0)	63	(25)
Denmark	107	95	(89)	3	(3)	2	(2)	7	(7)
Estonia	66	50	(76)	3	(5)	4	(6)	9	(14)
Germany	1 390	990	(71)	123	(9)	76	(5)	201	(14)
Hungary	179	134	(75)	23	(13)	15	(8)	7	(4)
Ireland	102	71	(70)	7	(7)	3	(3)	21	(21)
Latvia	183	170	(93)	8	(4)	3	(2)	2	(1)
Lithuania	429	401	(93)	6	(1)	6	(1)	16	(4)
Malta	3	3	(100)	0	(0)	0	(0)	0	(0)
Netherlands	453	366	(81)	20	(4)	0	(0)	67	(15)
Portugal	1 124	952	(85)	58	(5)	40	(4)	74	(7)
Slovakia	206	190	(92)	15	(7)	0	(0)	1	(0)
Slovenia	44	37	(84)	4	(9)	0	(0)	3	(7)
Sweden	152	130	(86)	8	(5)	3	(2)	11	(7)
Andorra	2	1	(50)	0	(0)	0	(0)	1	(50)
Iceland	2	1	(50)	0	(0)	1	(50)	0	(0)
Norway	125	115	(92)	5	(4)	0	(0)	5	(4)
Centre									
Albania	199	170	(85)	6	(3)	0	(0)	23	(12)
Romania	4 080	3 411	(84)	115	(3)	36	(1)	518	(13)

* Including only countries with individual data on outcome for both pulmonary and extra-pulmonary cases. Cases with unknown site of disease (194) excluded.

4. MAPS AND FIGURES

Map 1. Tuberculosis notification rates per 100,000 population, WHO European Region, 2004



Map 2. Proportion of tuberculosis cases of foreign origin, WHO European Region, 2004

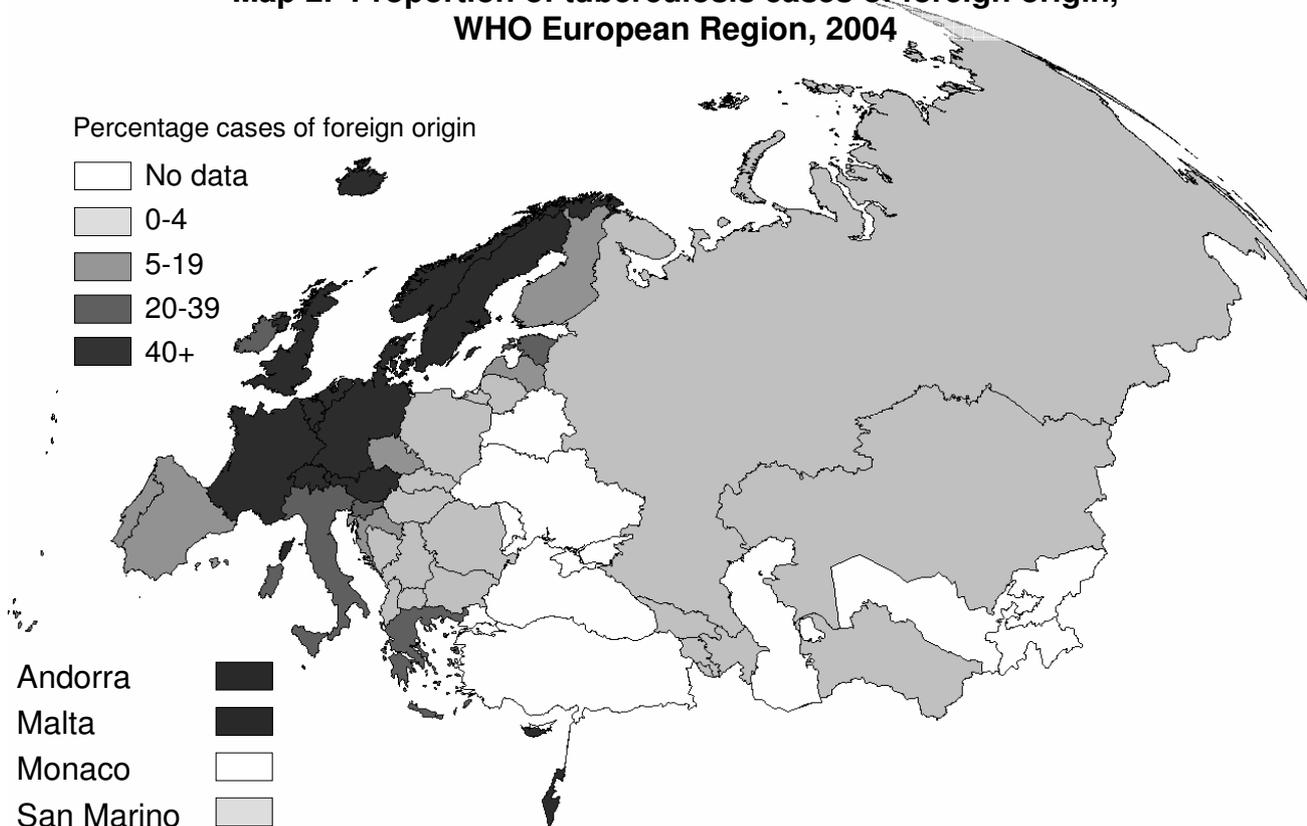


Figure 3. Tuberculosis notification rates by geographic area*, 1997-2004

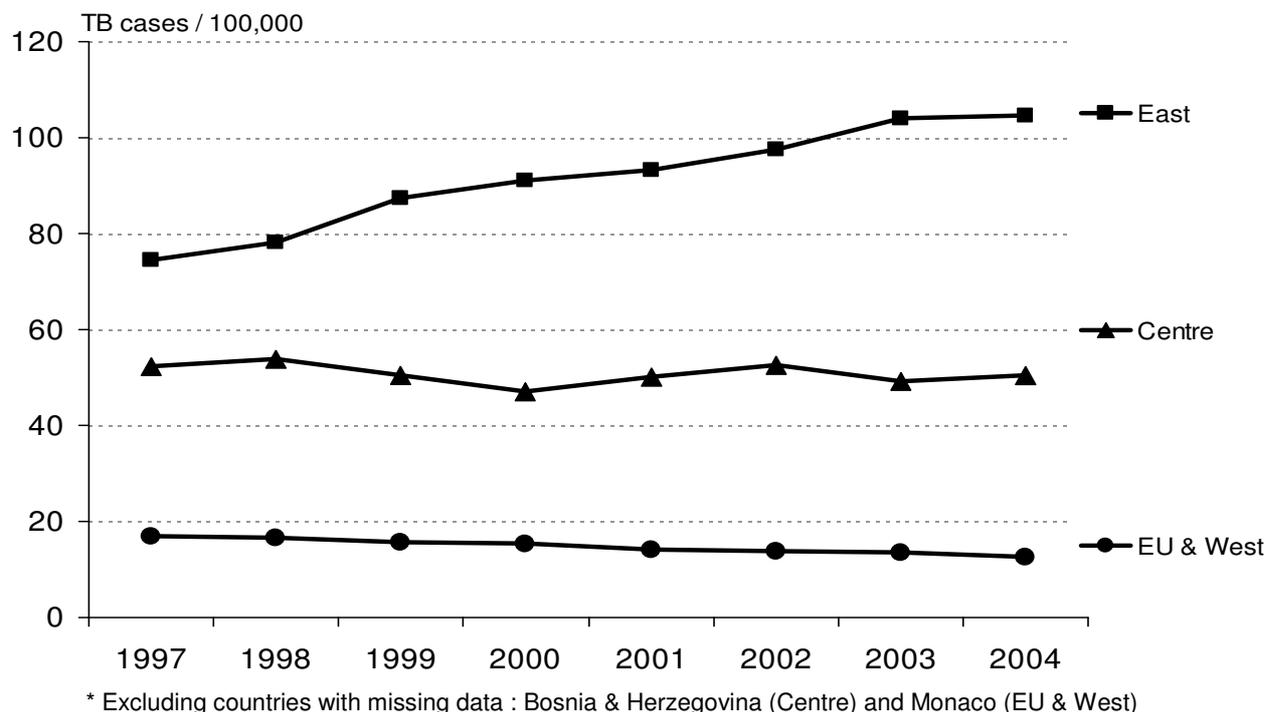
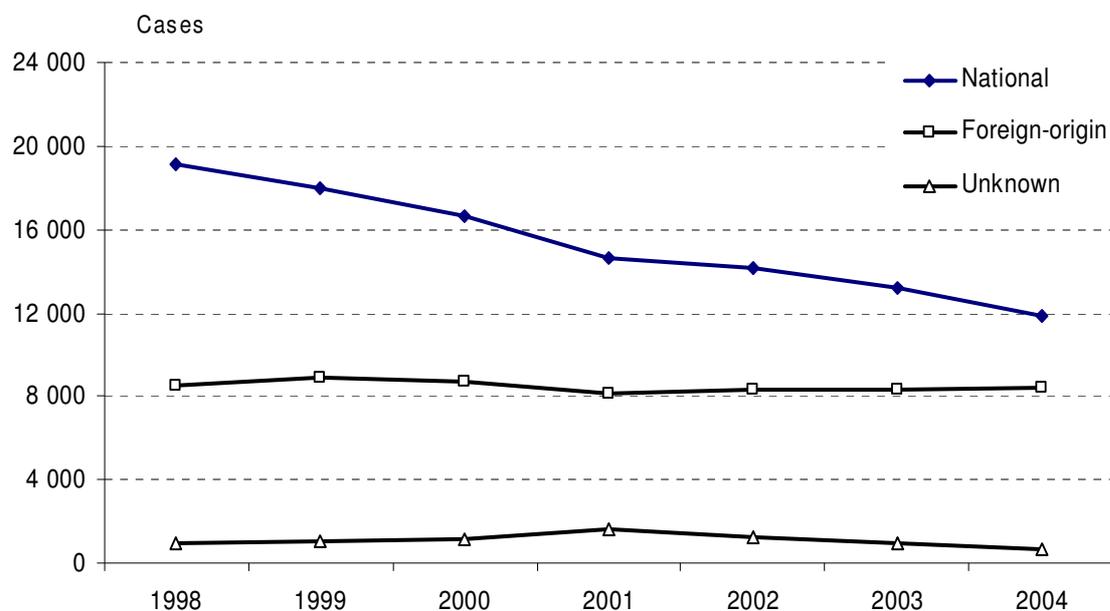


Figure 4. Tuberculosis cases by geographic origin, EU & West*, 1998-2004



* Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Iceland, Israel, Netherlands, Norway, Slovakia, Slovenia, Sweden and Switzerland

Figure 5. Tuberculosis notification rates by age group and sex, 2004

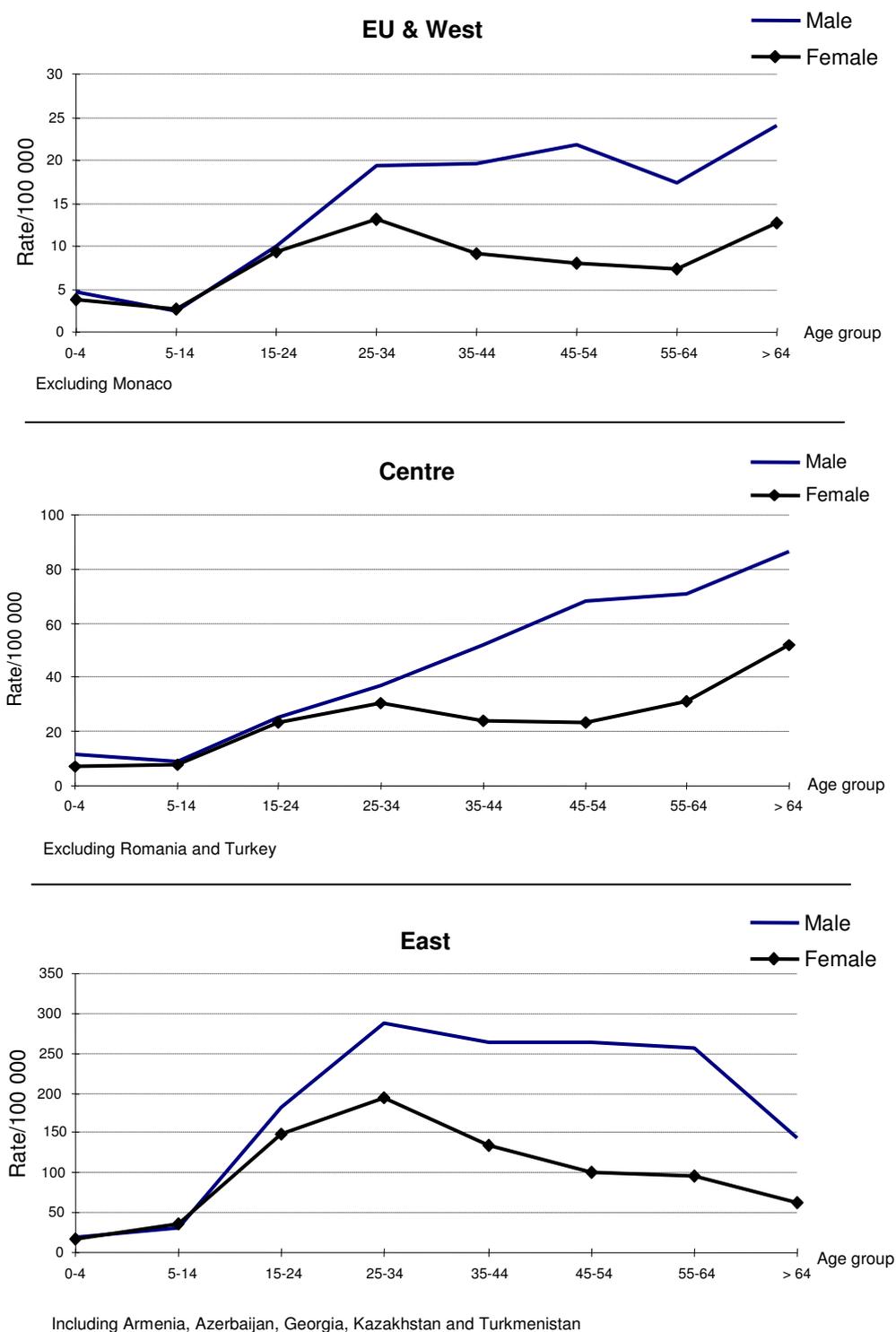
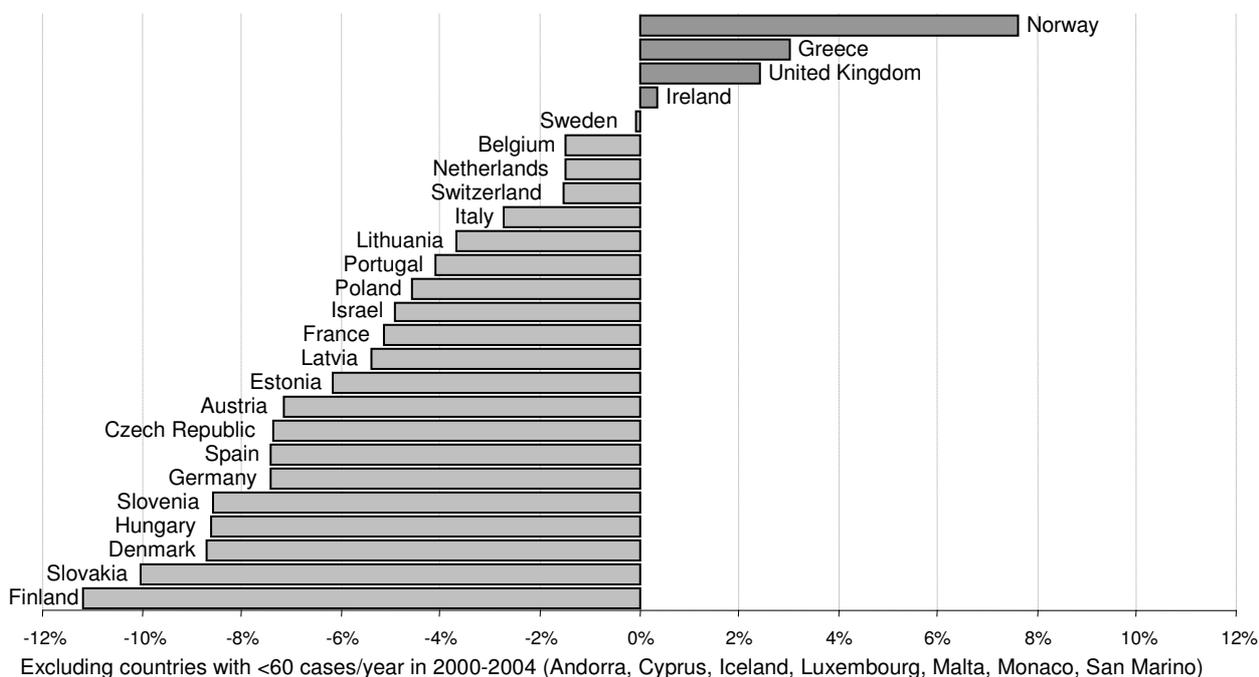
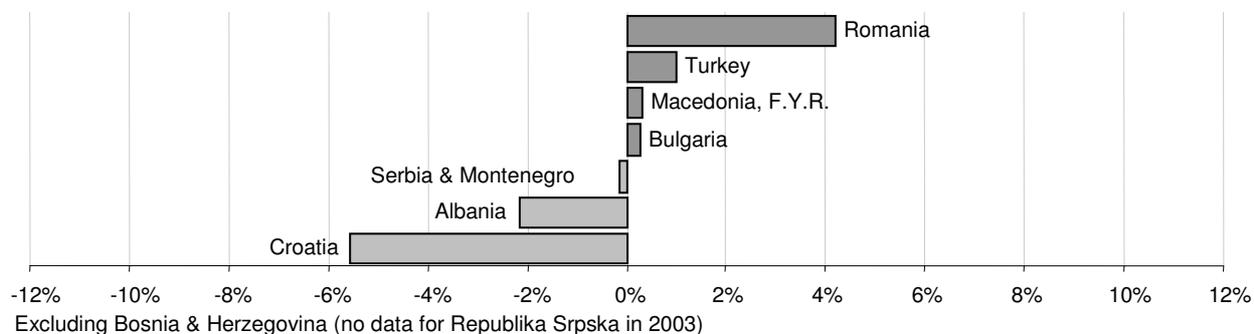


Figure 6. Mean annual percentage change in TB notification rates, 2000-2004

EU & West



Centre



East

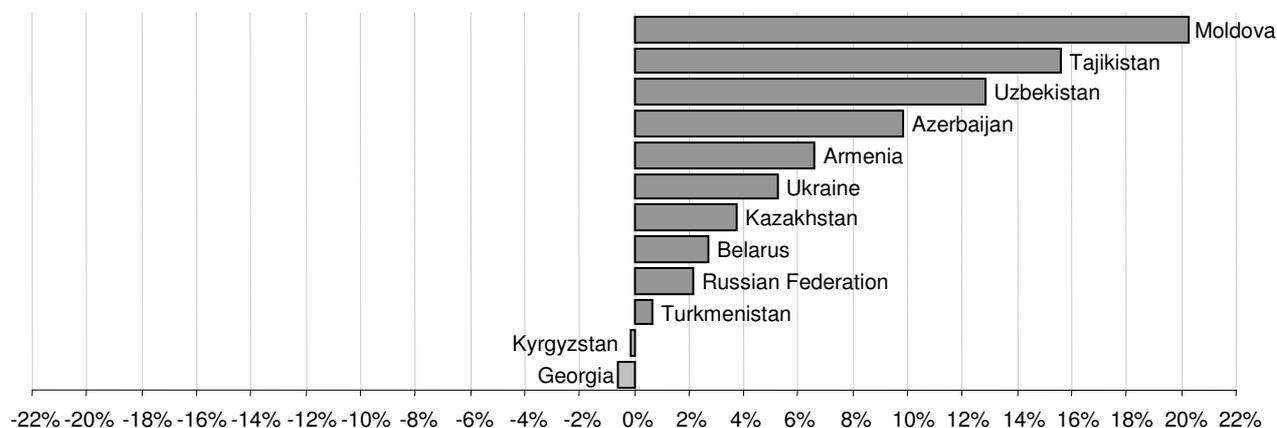
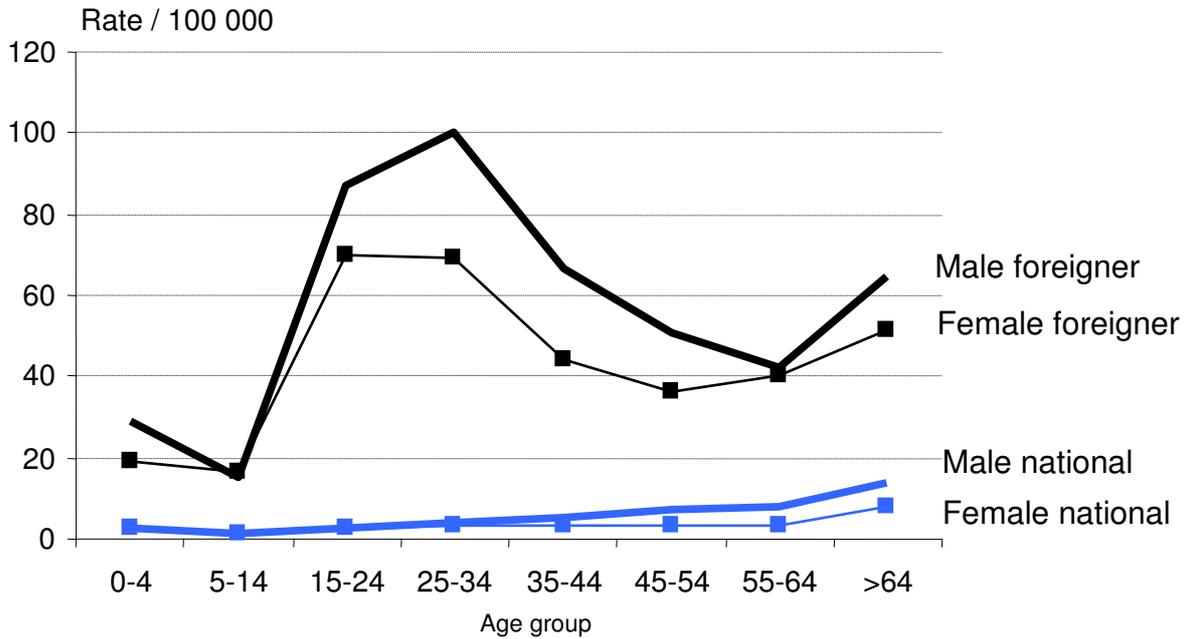
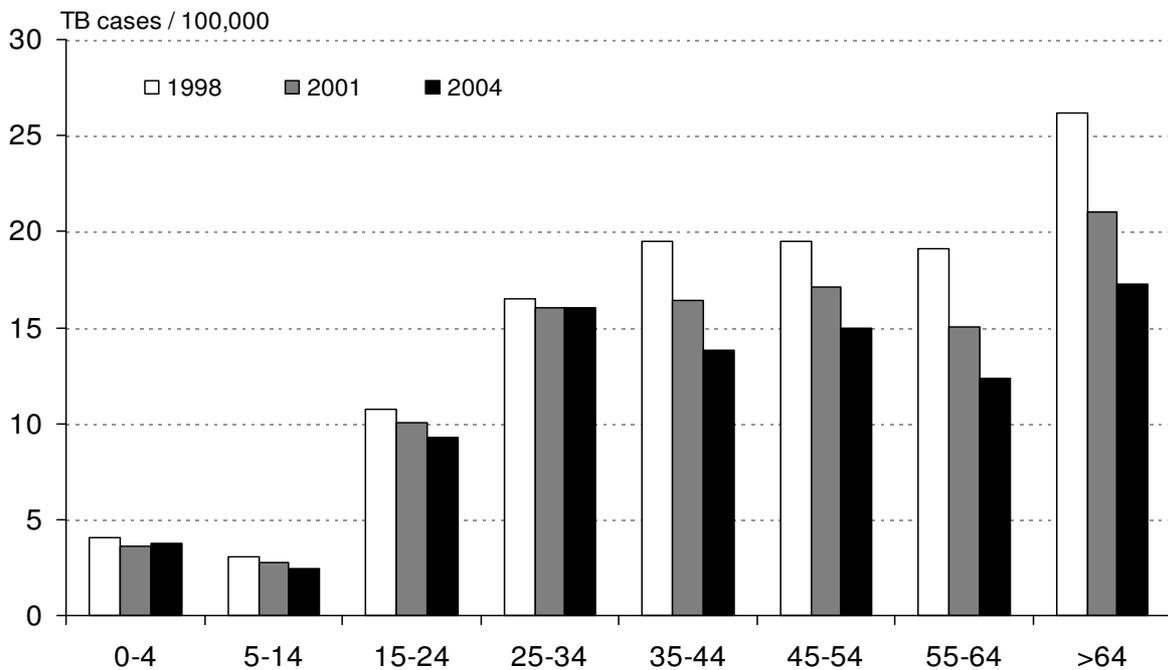


Figure 7. Tuberculosis notification rates by age-group, sex and geographic origin, EU & West*, 2004



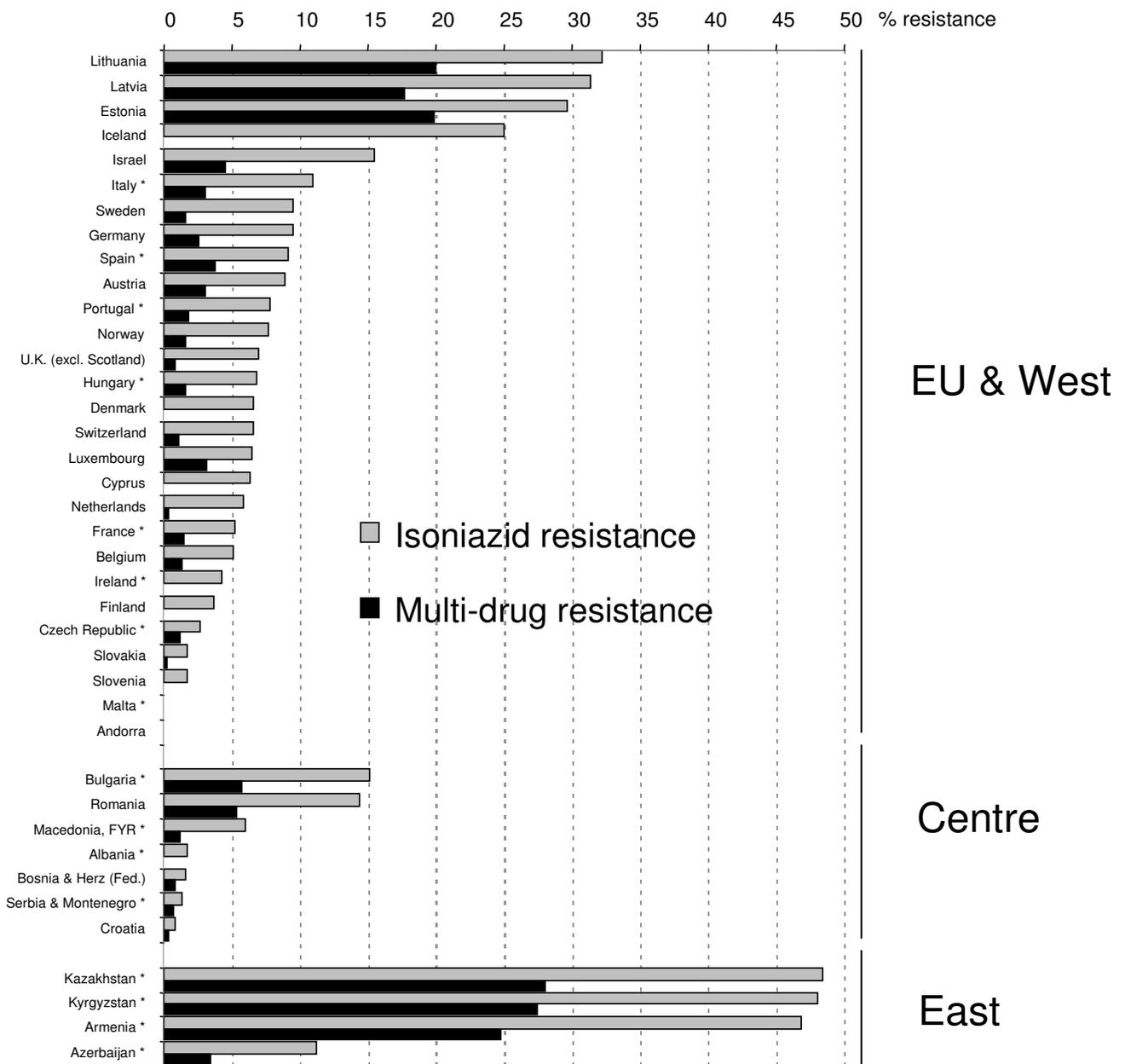
* Countries with population data by geographic origin: Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Netherlands, Norway, Slovenia, Sweden, Switzerland and United Kingdom

Figure 8. Tuberculosis notification rates by age-group, EU & West*, 1998-2004



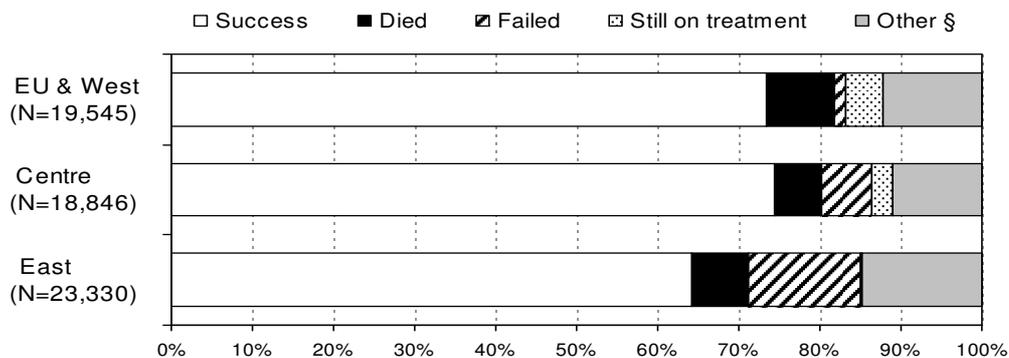
* Excluding Andorra, Cyprus, Monaco, San Marino and Spain, and 589 cases without data on age.

Figure 9. Drug resistance, all tuberculosis cases (combined resistance), 2004



* Culture or DST not routinely performed; DST results incomplete (Group B, see Table 17)

Figure 10. Treatment outcomes, all definite pulmonary tuberculosis cases, 2003*

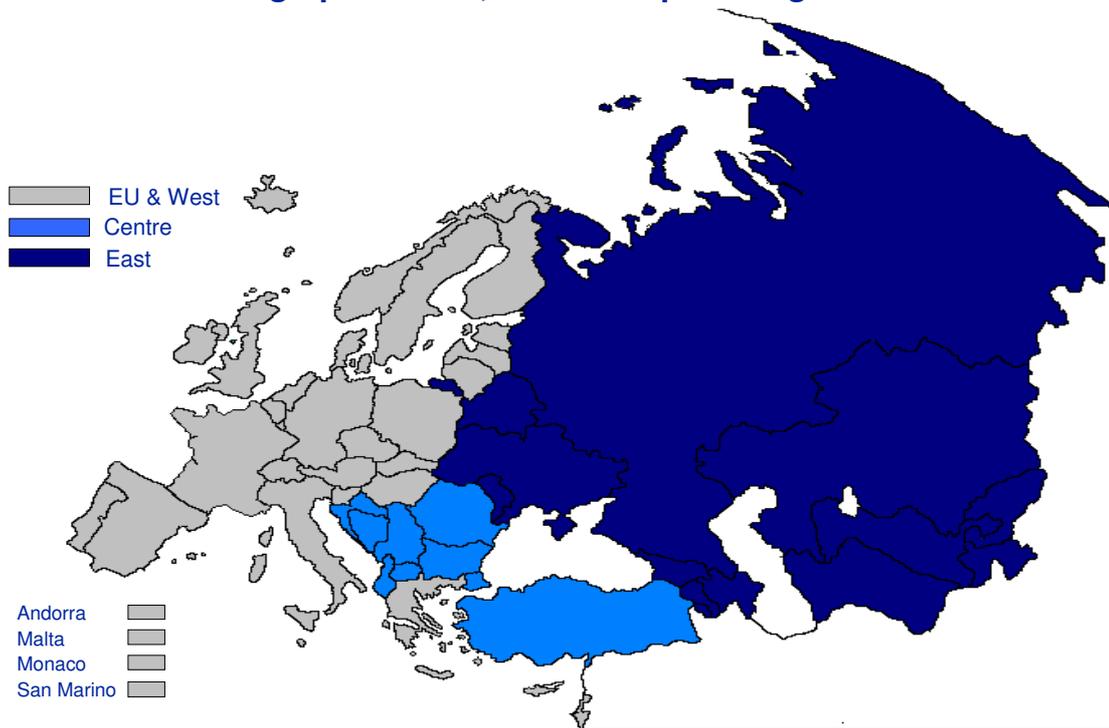


* Countries with complete, nationwide data (see Table 27)

§ Defaulted, transferred, unknown

5. PROFILES

Geographic areas, WHO European Region



Albania

Tuberculosis case notifications, 2004

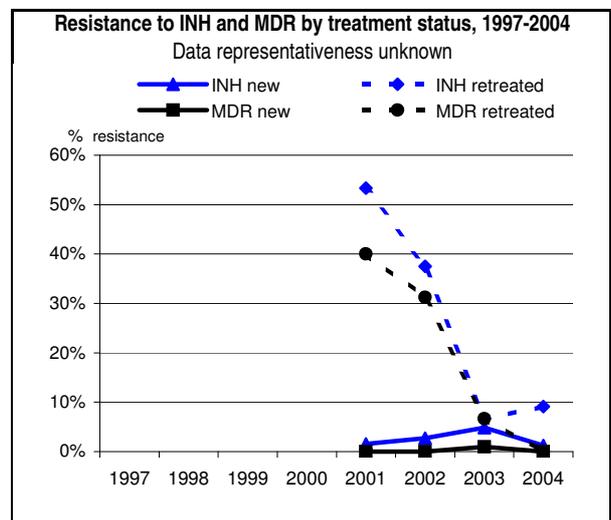
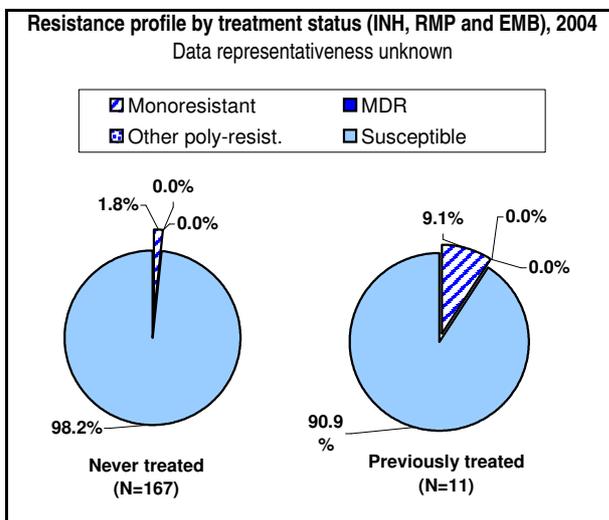
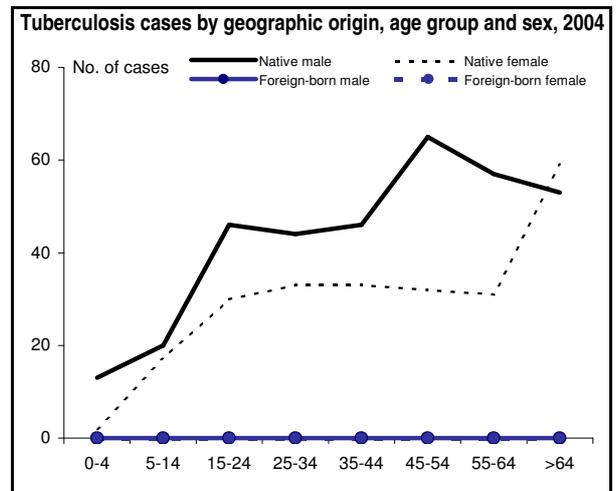
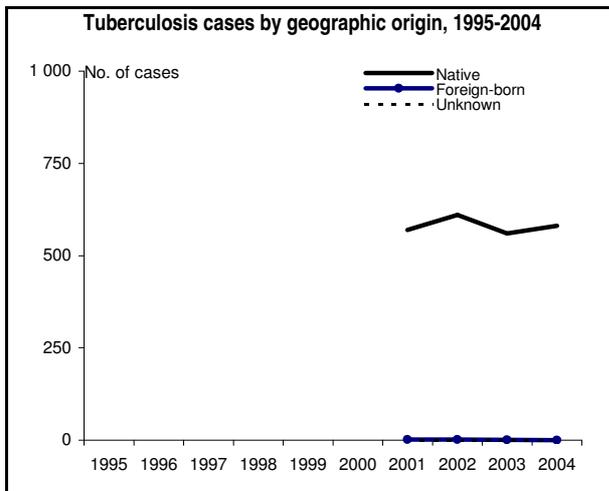
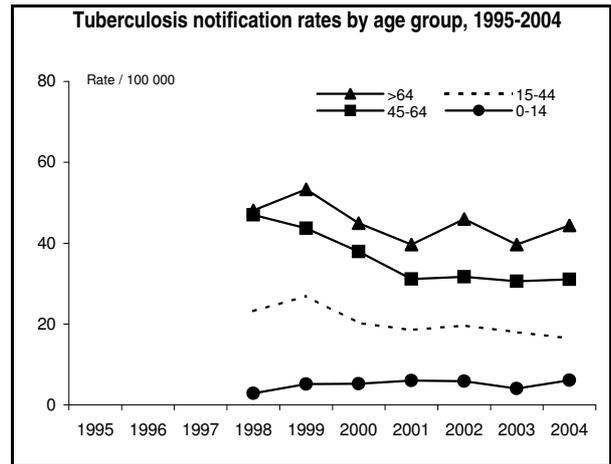
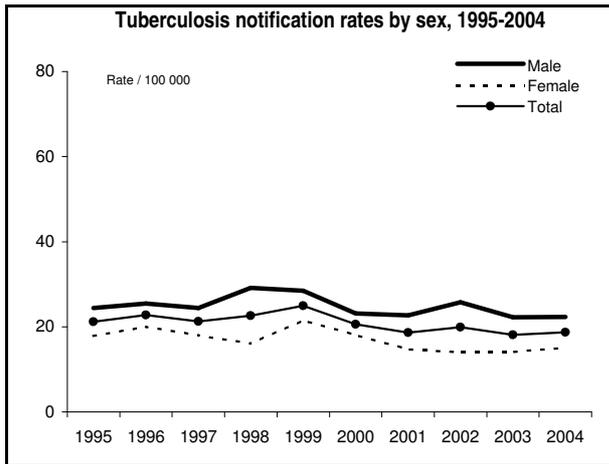
Type of data	Individual
Total number of cases	581
Notification rate per 100 000	18.7
Sex ratio (M:F)	1.5
Median age-group, nationals	45-54 years
Median age-group, non-nationals	-
Foreign born	0 (0.0%)
New (never-treated)	544 (93.6%)
Culture positive	201 (34.6%)
Pulmonary	357 (61.4%)
of which sputum smear positive	220 (61.6%)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes (2002)
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	178
Cases resistant to INH	3 (1.7%)
Cases resistant to RMP	0 (0.0%)
MDR cases	0 (0.0%)
Cases resistant to EMB	1 (0.6%)
Cases resistant to SM	8 (4.5%)
Data representativeness unknown	
Culture and DST not routinely performed	

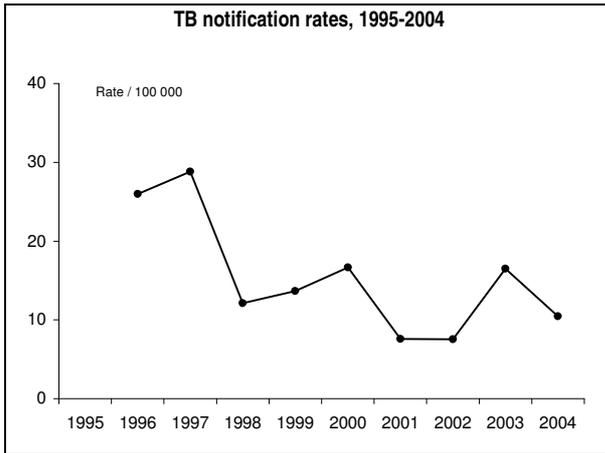
Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	200
Success	174 (87%)
Death	6 (3%)
Failure	0 (0%)
Default	16 (8%)
Transfer	1 (1%)
Still on treatment	0 (0%)
Unknown	3 (2%)



Andorra

Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2004		Treatment Outcome Monitoring, 2003	
Type of data	Individual	International proficiency testing	No §	Geographic coverage	National
Total number of cases	7	Geographic coverage	National	Cohort	New pulmonary culture positive
Notification rate per 100 000	10.5	Linkage with TB case notification	Yes	Included in TOM cohort	5
Sex ratio (M:F)	1.3	Cases with DST results	5	Success	4 (80%)
Median age-group, nationals	-	Cases resistant to INH	0 (0.0%)	Death	1 (20%)
Median age-group, non-nationals	25-34 years	Cases resistant to RMP	0 (0.0%)	Failure	0 (0%)
Foreign born	6 (85.7%)	MDR cases	0 (0.0%)	Default	0 (0%)
New (never-treated)	7 (100.0%)	Cases resistant to EMB	0 (0.0%)	Transfer	0 (0%)
Culture positive	6 (85.7%)	Cases resistant to SM	0 (0.0%)	Still on treatment	0 (0%)
Pulmonary	5 (71.4%)	§ DST done in Spain		Unknown	0 (0%)
of which sputum smear positive	3 (60.0%)				



Tuberculosis notification rates by age group, 1995-2004

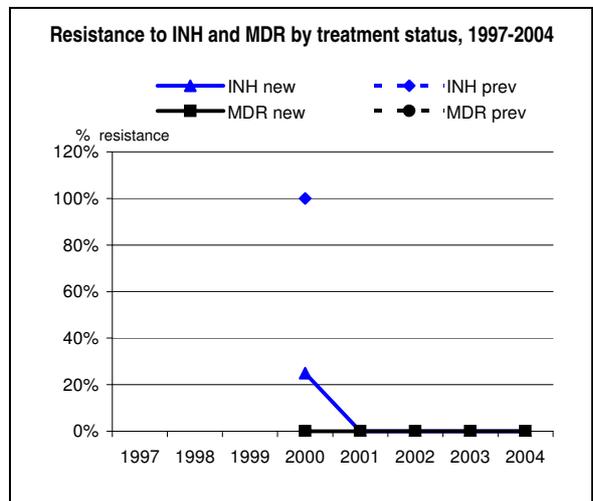
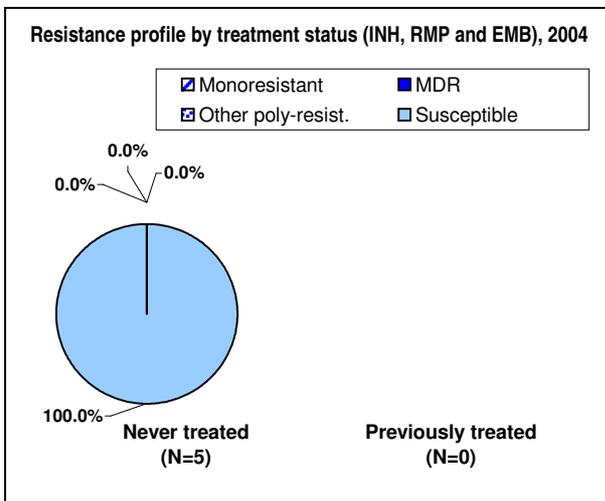
Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, 1995-2004

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2004

Insufficient number of cases for graphic presentation



Armenia

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	1 701
Notification rate per 100 000	56.2
Sex ratio (M:F)	4.0
Median age-group, nationals	25-34 years
Median age-group, non-nationals	-
Foreign citizens	0 (0.0%)
New (never-treated)	1 558 (91.6%)
Culture positive	-
Pulmonary	1 404 (82.5%)
of which sputum smear positive	745 (53.1%)

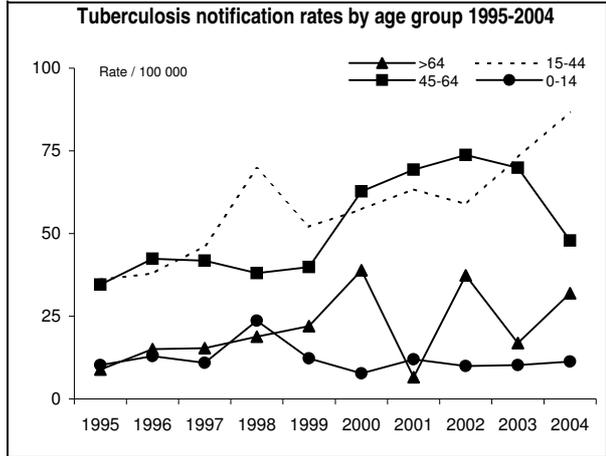
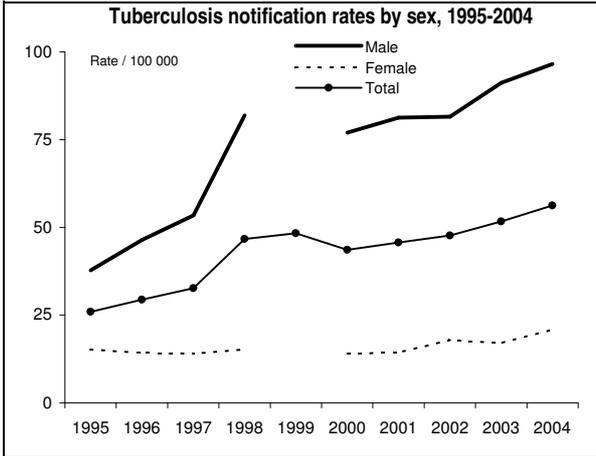
Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	No §
Cases with DST results	632
Cases resistant to INH	296 (46.8%)
Cases resistant to RMP	162 (25.6%)
MDR cases	157 (24.8%)
Cases resistant to EMB	87 (13.8%)
Cases resistant to SM	351 (55.5%)

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

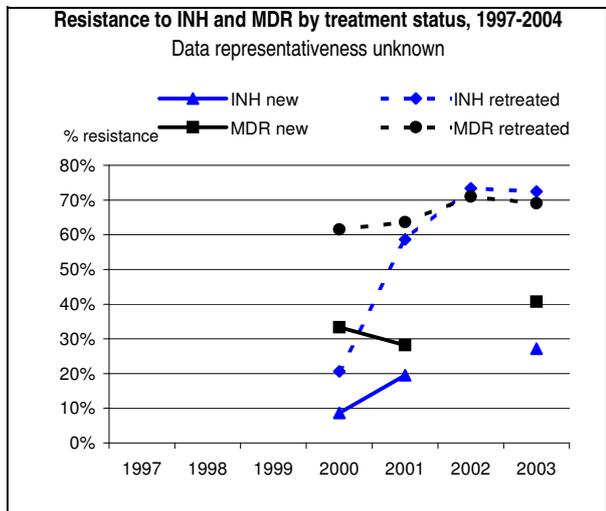
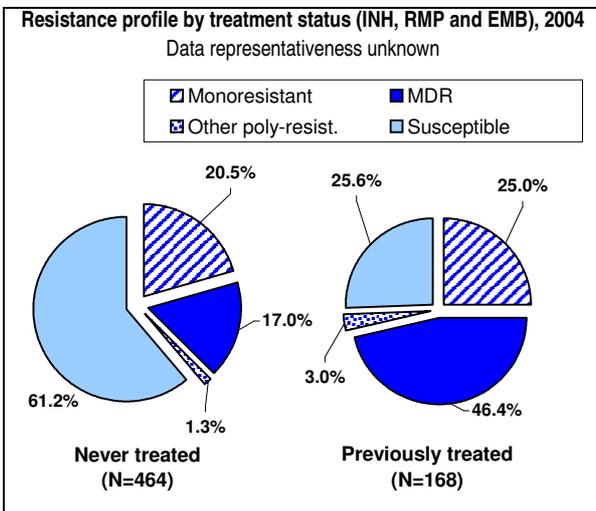
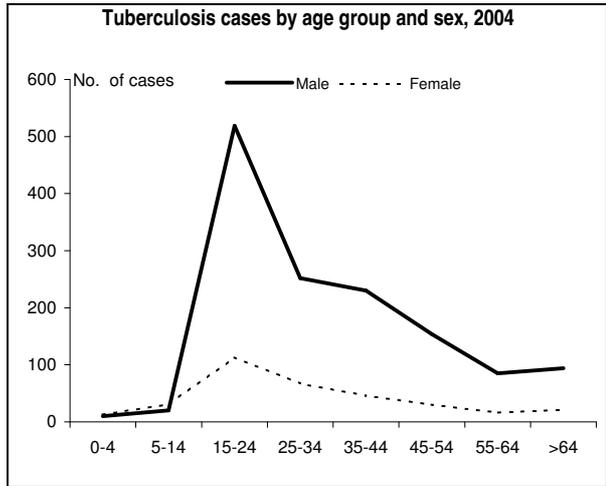
Treatment Outcome Monitoring, 2003

Geographic coverage	Selected DOTS areas
Cohort	New pulmonary smear positive
Included in TOM cohort	406
Success	312 (77%)
Death	8 (2%)
Failure	18 (4%)
Default	27 (7%)
Transfer	21 (5%)
Still on treatment	0 (0%)
Unknown	20 (5%)



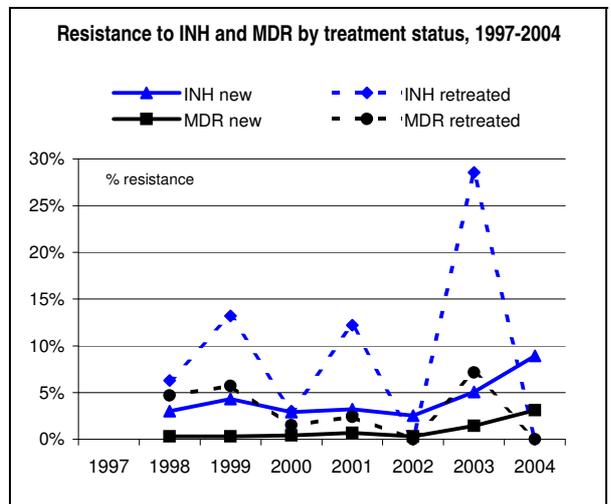
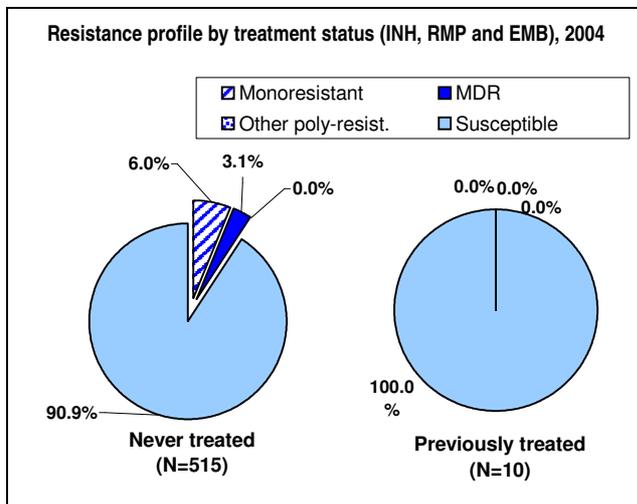
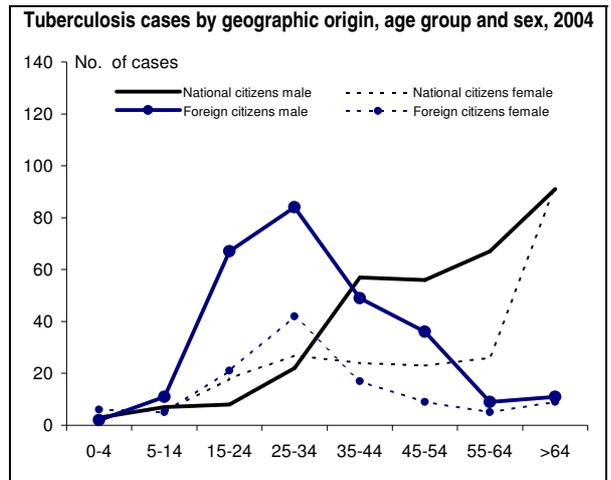
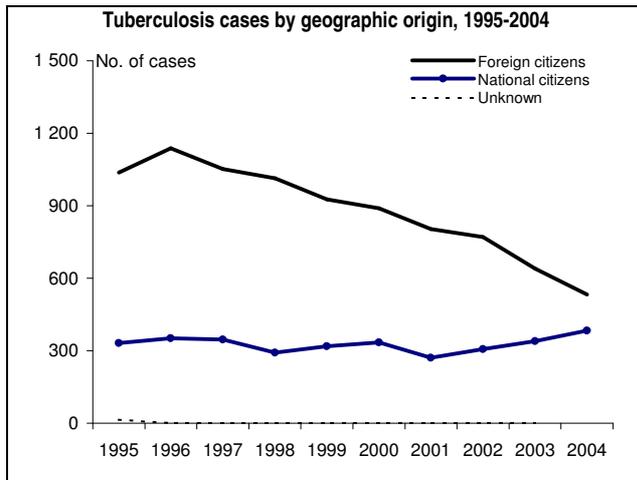
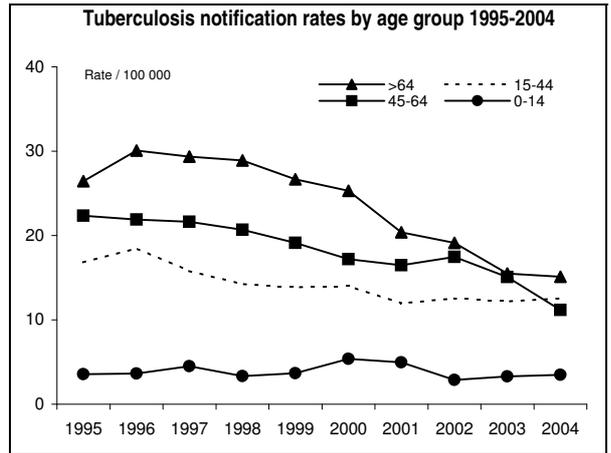
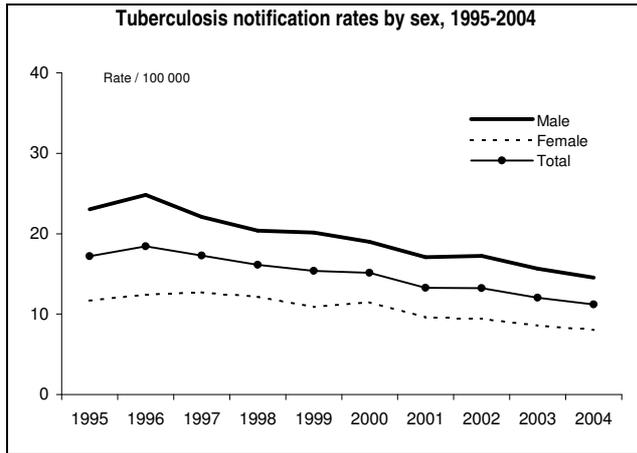
Tuberculosis cases by geographic origin, 1995-2004

No foreign citizens reported



Austria

Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2004		Treatment Outcome Monitoring, 2003	
Type of data	Individual	International proficiency testing	Yes (2003)	Geographic coverage	National
Total number of cases	915	Geographic coverage	National	Cohort	New pulmonary culture positive
Notification rate per 100 000	11.2	Linkage with TB case notification	Yes	Included in TOM cohort	506
Sex ratio (M:F)	1.7	Cases with DST results	541	Success	343 (68%)
Median age-group, nationals	55-64 years	Cases resistant to INH	48 (8.9%)	Death	53 (10%)
Median age-group, non-nationals	25-34 years	Cases resistant to RMP	17 (3.1%)	Failure	0 (0%)
Foreign citizens	383 (41.9%)	MDR cases	17 (3.1%)	Default	34 (7%)
New (never-treated)	865 (94.5%)	Cases resistant to EMB	10 (1.8%)	Transfer	1 (0%)
Culture positive	586 (64.0%)	Cases resistant to SM	38 (7.0%)	Still on treatment	0 (0%)
Pulmonary	767 (83.8%)			Unknown	75 (15%)
of which sputum smear positive	223 (29.1%)				



Azerbaijan

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	6 501
Notification rate per 100 000	77.8
Sex ratio (M:F)	1.5
Median age-group, nationals	35-44 years
Median age-group, non-nationals	-
Foreign citizens	0 (0.0%)
New (never-treated)	4 313 (66.3%)
Culture positive	1 115 (17.2%)
Pulmonary	5 861 (90.2%)
of which sputum smear positive	2 563 (43.7%)

Drug Resistance Surveillance, 2004

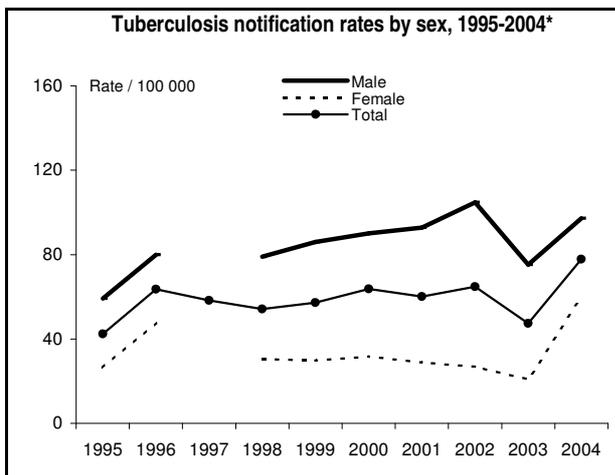
International proficiency testing	No
Geographic coverage	Partial
Linkage with TB case notification	No †
Cases with DST results	500
Cases resistant to INH	56 (11.2%)
Cases resistant to RMP	47 (9.4%)
MDR cases	17 (3.4%)
Cases resistant to EMB	37 (7.4%)
Cases resistant to SM	133 (26.6%)

† From all DST labs (representativeness unknown)

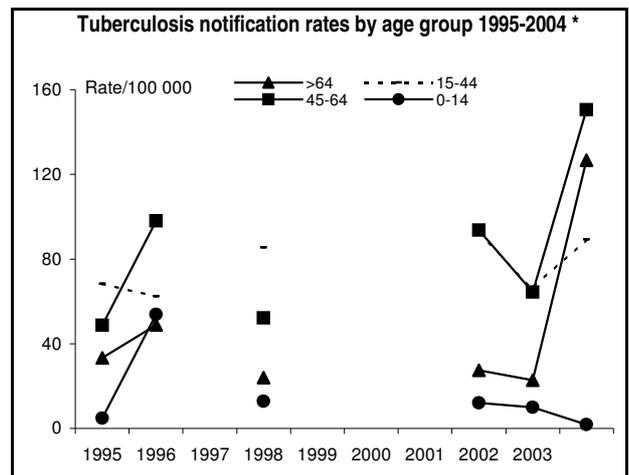
Culture and DST not routinely performed

Treatment Outcome Monitoring, 2003

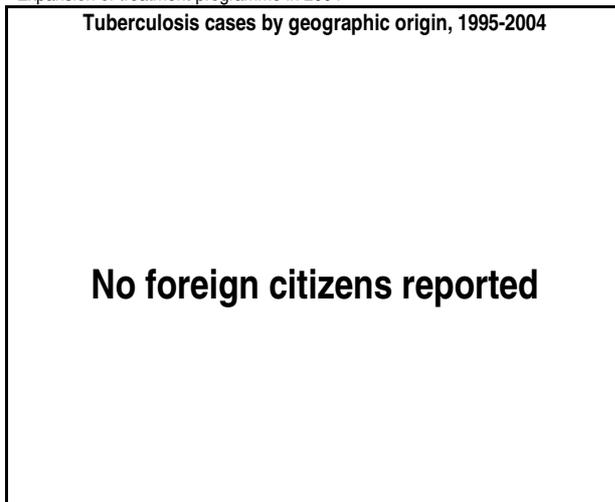
Geographic coverage	National
Cohort	New pulmonary smear positive
Included in TOM cohort	2 242
Success	1 321 (59%)
Death	46 (2%)
Failure	59 (3%)
Default	86 (4%)
Transfer	328 (15%)
Still on treatment	0 (0%)
Unknown	402 (18%)



*Expansion of treatment programme in 2004

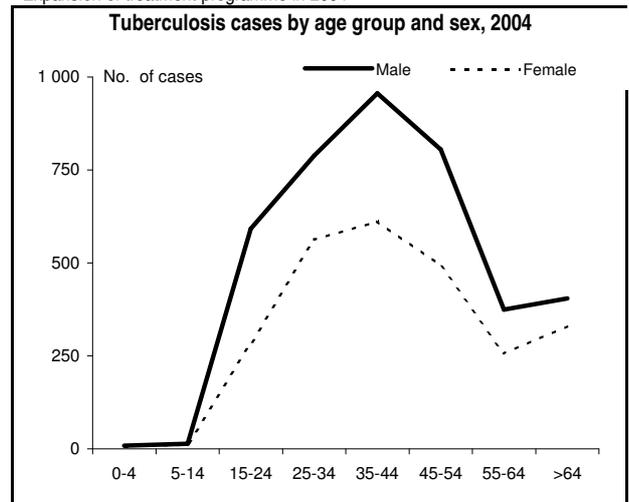


*Expansion of treatment programme in 2004



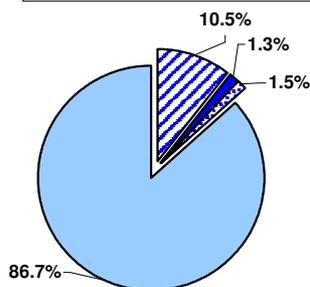
Tuberculosis cases by geographic origin, 1995-2004

No foreign citizens reported



Resistance profile by treatment status (INH, RMP and EMB), 2003

Data representativeness unknown

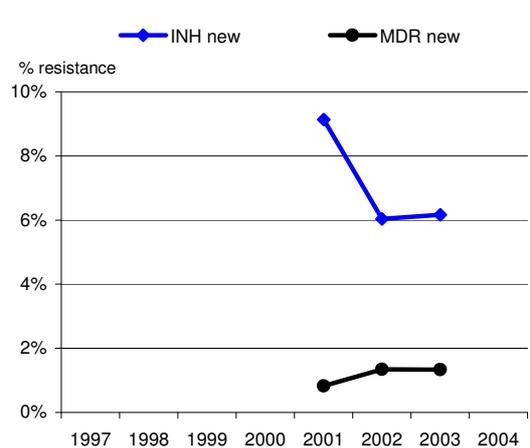


Never treated
(N=600)

Previously treated
(N=0)

Resistance to INH and MDR by treatment status, 1997-2004

Data representativeness unknown



Belarus

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	6 490
Notification rate per 100 000	66.2
Sex ratio (M:F)*	2.5
Median age-group, nationals*	35-44 years
Median age-group, non-nationals	-
Foreign born/citizens	-
New (never-treated)	5 410 (83.4%)
Culture positive	2 287 (35.2%)
Respiratory*	5 045 (93.3%)
of which sputum smear positive	-

* New cases only

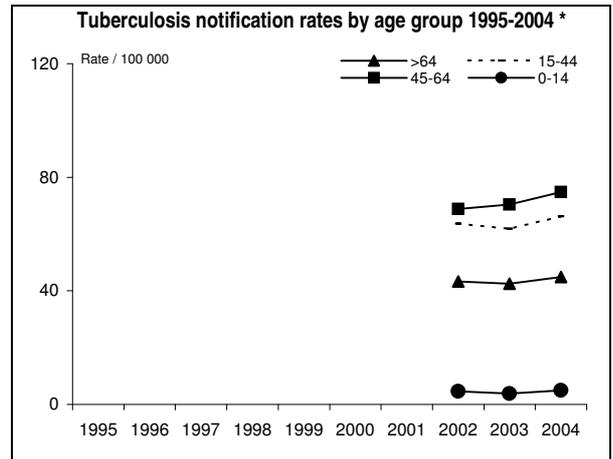
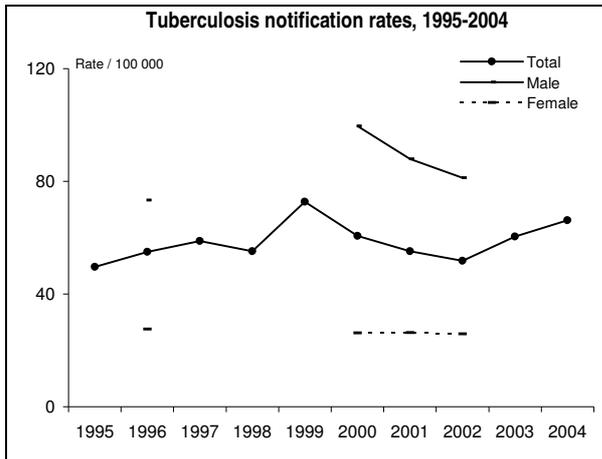
Drug Resistance Surveillance, 2000

International proficiency testing	No
Geographic coverage	National
Linkage with TB case notification	Yes †
Cases with DST results	2 060 / 2 550 (81%)
Cases resistant to INH	-
Cases resistant to RMP	-
MDR cases †	220 (10.7%)
Cases resistant to EMB	-
Cases resistant to SM	-

† New cases notified to MoH (prisons not included)
Culture not routinely performed

Treatment Outcome Monitoring, 2003

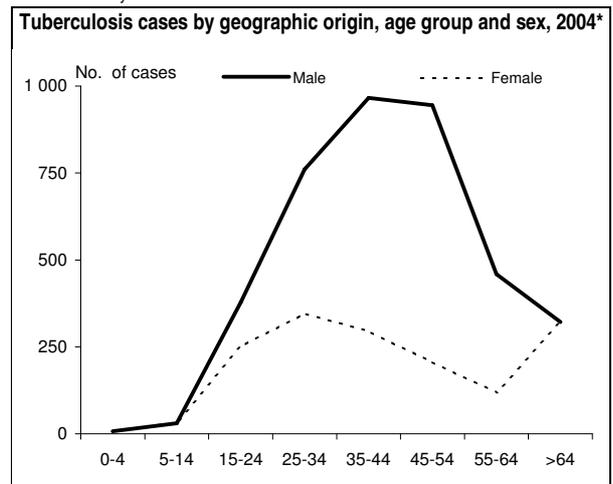
Geographic coverage	DOTS areas	
Cohort	New pulm smear and/or cult. positive	
Included in TOM cohort	2 236	
Success	1 630	(73%)
Death	176	(8%)
Failure	224	(10%)
Default	70	(3%)
Transfer	136	(6%)
Still on treatment	0	(0%)
Unknown	0	(0%)



* New cases only in 2003-4

Tuberculosis cases by geographic origin, 1995-2004

Foreign-born / citizens not included in TB notifications



* New cases and cases with previous treatment history unknown

Resistance profile by treatment status (INH, RMP and EMB), 2004

NOT AVAILABLE

Resistance to INH and MDR by treatment status, 1997-2004

NOT AVAILABLE

Belgium

Tuberculosis case notifications, 2004

Type of data	Individual
Total number of cases	1 226
Notification rate per 100 000	11.8
Sex ratio (M:F)	1.8
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Foreign citizens	649 (52.9%)
New (never-treated)	875 (71.4%)
Culture positive	948 (77.3%)
Pulmonary	907 (74.0%)
of which smear positive	433 (47.7%)*

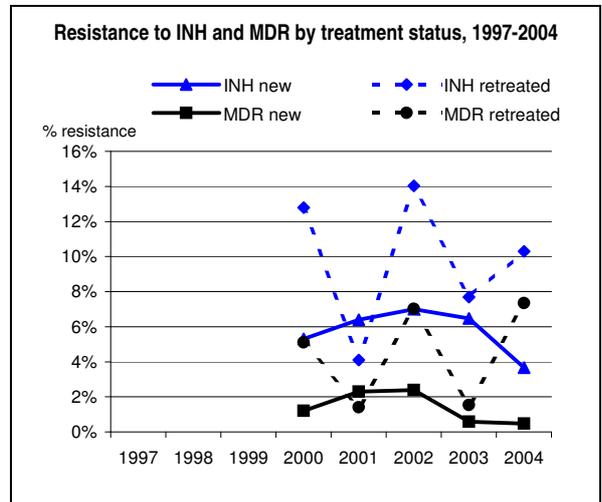
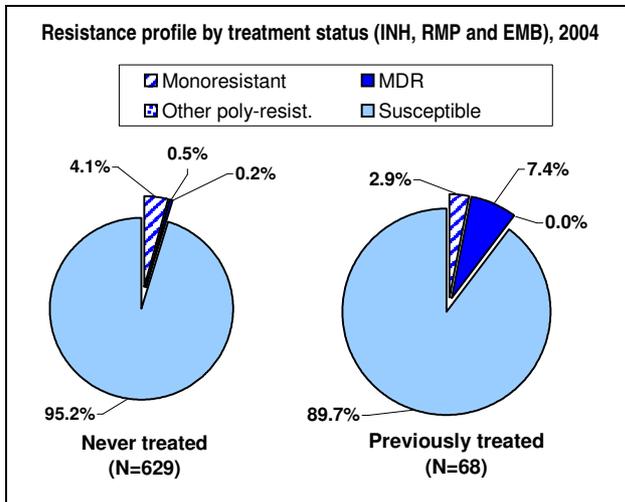
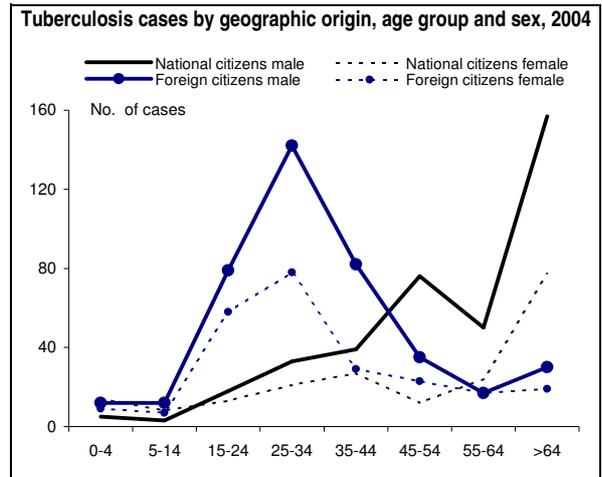
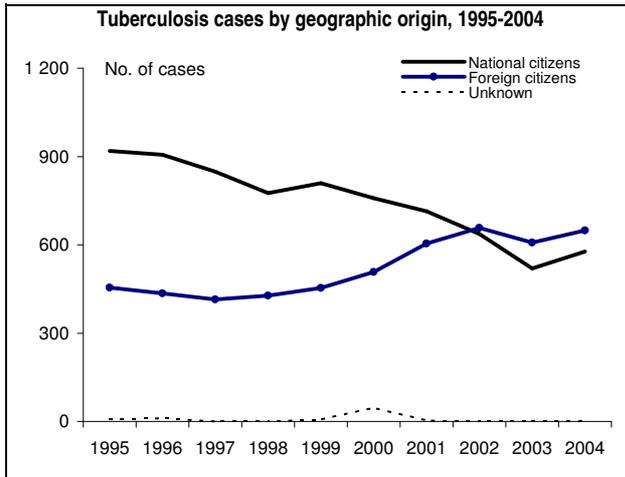
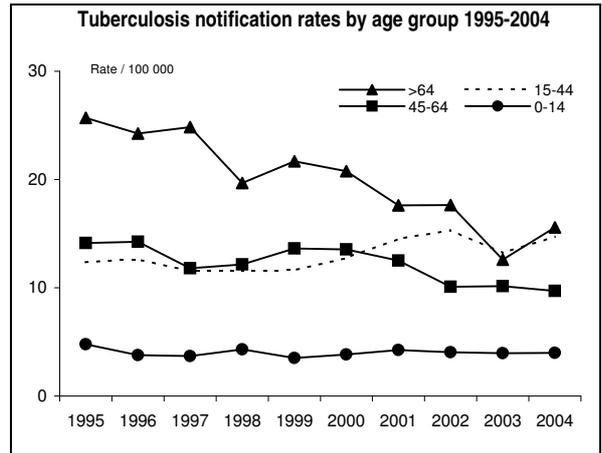
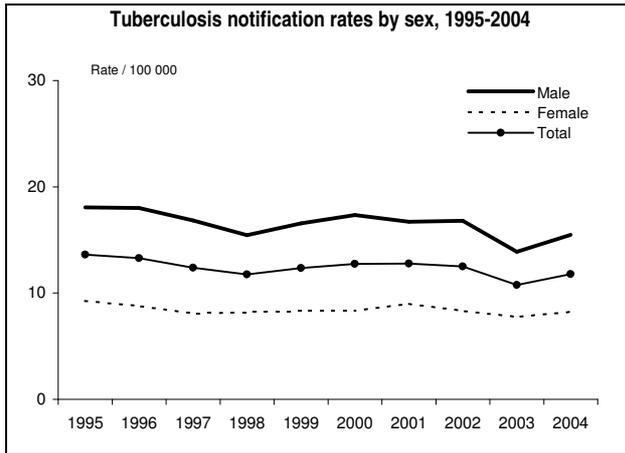
*Including also smear of specimens other than sputum

Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	868
Cases resistant to INH	44 (5.1%)
Cases resistant to RMP	15 (1.7%)
MDR cases	12 (1.4%)
Cases resistant to EMB	13 (1.5%)
Cases resistant to SM	-

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	437
Success	313 (72%)
Death	32 (7%)
Failure	0 (0%)
Default	5 (1%)
Transfer	0 (0%)
Still on treatment	6 (1%)
Unknown	81 (19%)



Bosnia & Herzegovina

Tuberculosis case notifications, 2004

Type of data	Individual *
Total number of cases	2 382
Notification rate per 100 000	60.9
Sex ratio (M:F)	1.3
Median age-group, nationals	45-54 years
Median age-group, non-nationals	15-24 years
Foreign citizens	2 (0.1%)
New (never-treated)	2 237 (93.9%)
Culture positive	1 676 (70.4%)
Pulmonary	2 185 (91.7%)
of which sputum smear positive	939 (43.0%)

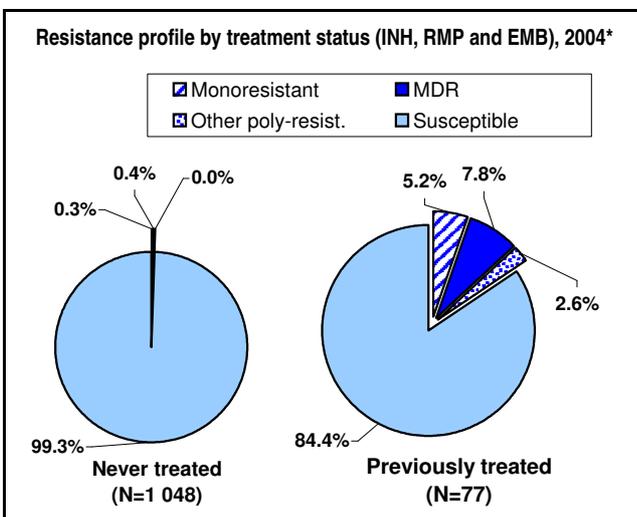
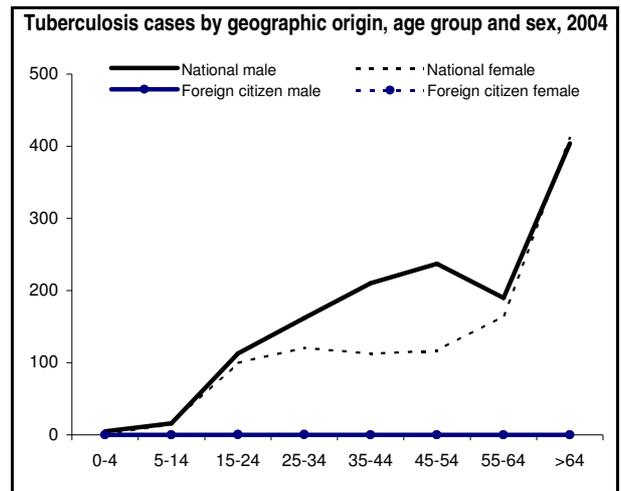
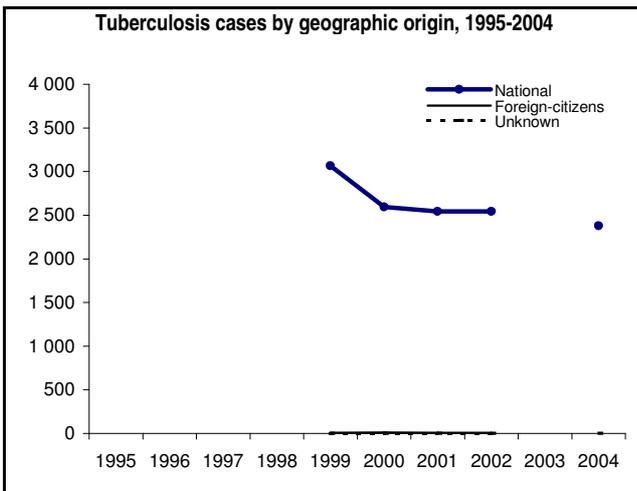
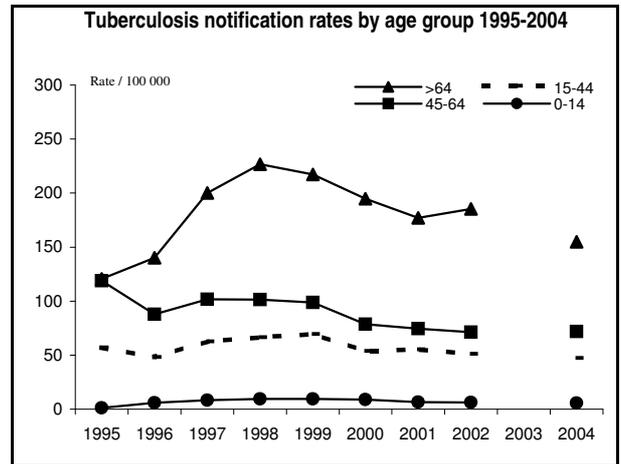
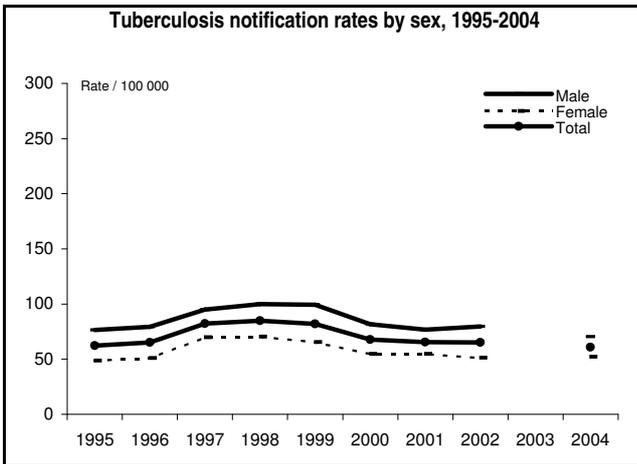
* Federation of Bosnia; aggregate for Rep Srpska

Drug Resistance Surveillance, 2004

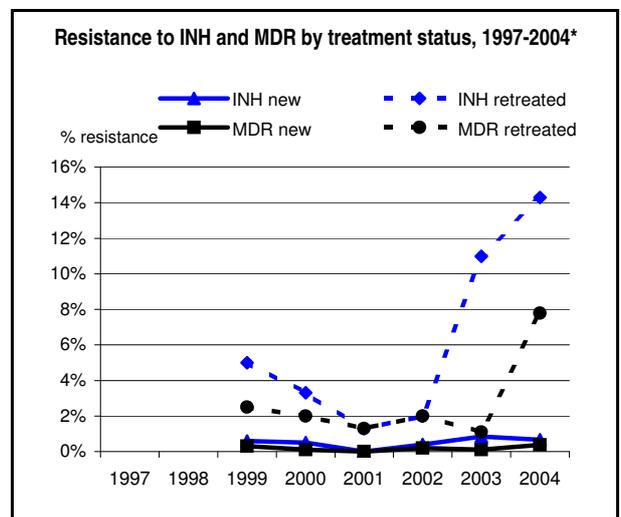
International proficiency testing	Yes
Geographic coverage	Fed. of Bosnia
Linkage with TB case notification	Yes
Cases with DST results	1 125
Cases resistant to INH	18 (1.6%)
Cases resistant to RMP	10 (0.9%)
MDR cases	10 (0.9%)
Cases resistant to EMB	-
Cases resistant to SM	-

Treatment Outcome Monitoring, 2003

Geographic coverage	Republika Srpska only	
Cohort	New pulmonary culture positive	
Included in TOM cohort	533	
Success	523	(98%)
Death	2	(0%)
Failure	1	(0%)
Default / unknown	3	(1%)
Transfer	2	(0%)
Still on treatment	2	(0%)
Unknown	0	(0%)



* Federation of Bosnia only in 2002-4



Bulgaria

Tuberculosis case notifications, 2004

Type of data provided	Aggregate
Total number of cases	3 232
Notification rate per 100 000	41.5
Sex ratio (M:F)	2.0
Median age-group (all cases)	45-54 years
Median age-group, non-nationals	-
Foreign citizens	0 (0.0%)
New (never-treated)	2 923 (90.4%)
Culture positive	1 283 (39.7%)
Respiratory	2 887 (89.3%)
of which sputum smear positive	1 417 (49.1%)

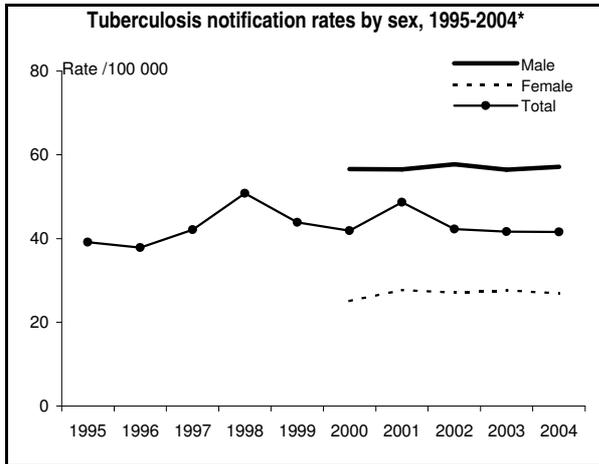
Drug Resistance Surveillance, 2004

International proficiency testing	No
Geographic coverage	Partial †
Linkage with TB case notification	Yes
Cases with DST results	822
Cases resistant to INH	124 (15.1%)
Cases resistant to RMP	76 (9.2%)
MDR cases	47 (5.7%)
Cases resistant to EMB	62 (7.5%)
Cases resistant to SM	65 (7.9%)

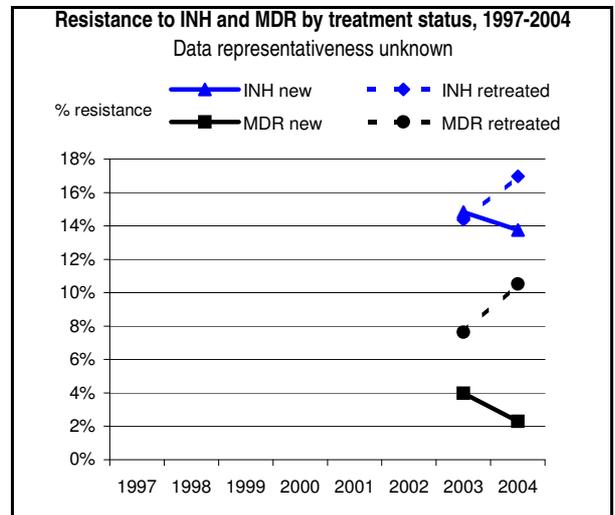
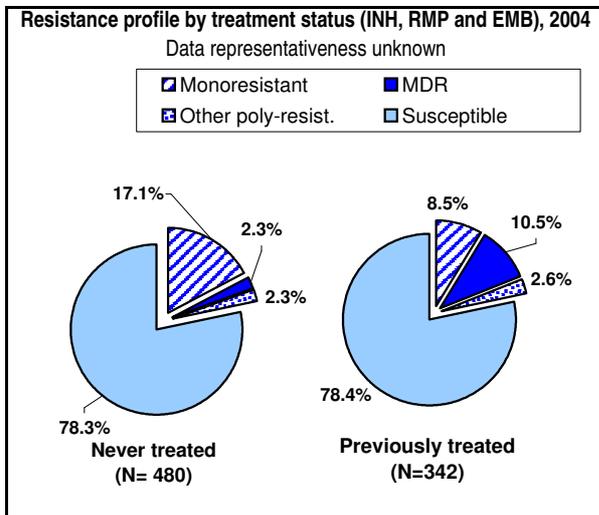
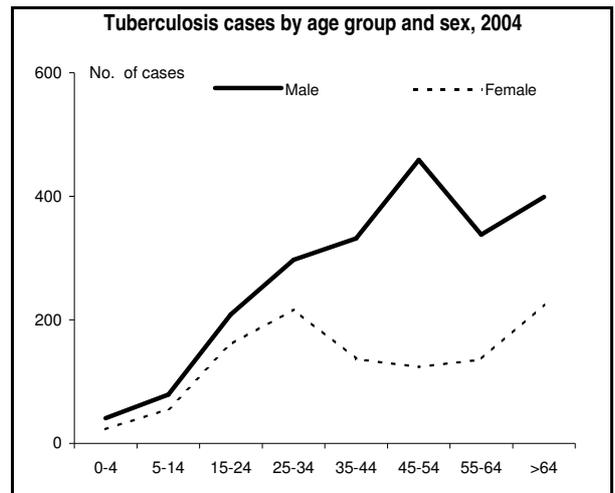
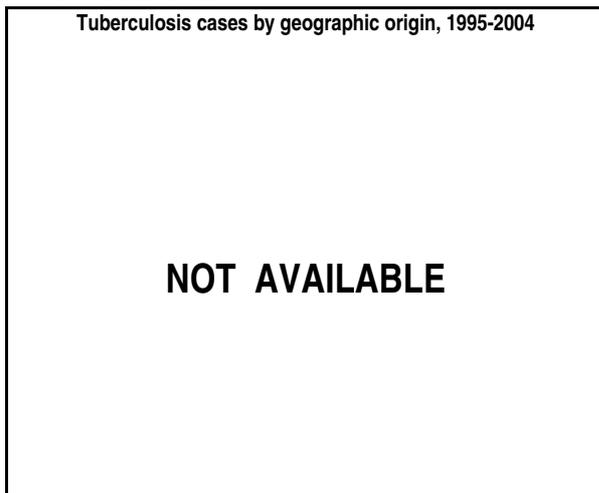
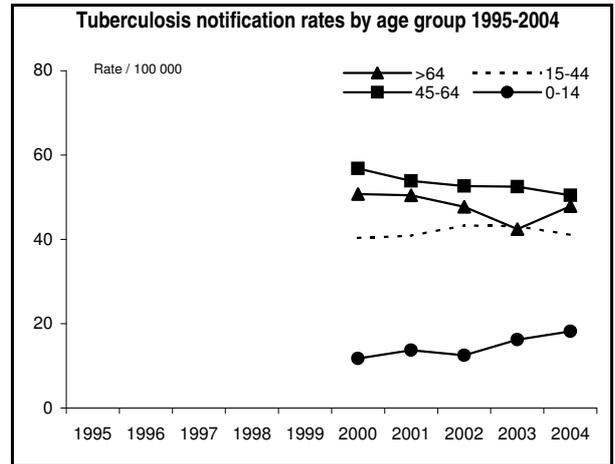
† All 15 labs doing DST (representativeness unknown)

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	1 260
Success	1 145 (91%)
Death	40 (3%)
Failure	25 (2%)
Default	36 (3%)
Transfer	14 (1%)
Still on treatment	0 (0%)
Unknown	0 (0%)



* 14% with sex unknown in 2001

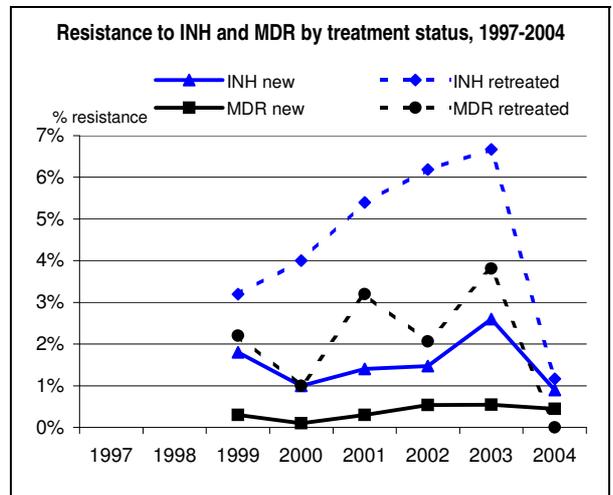
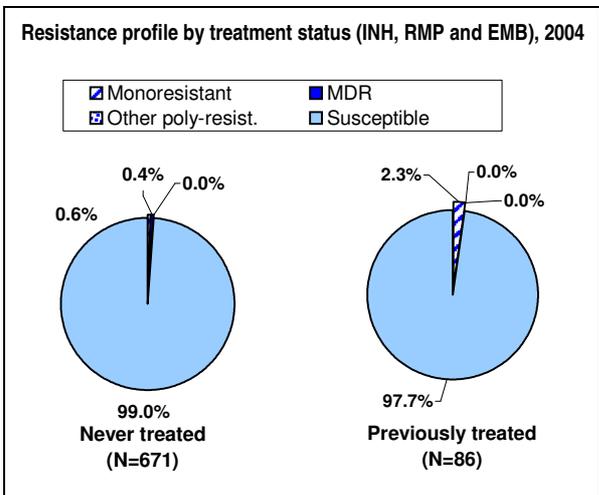
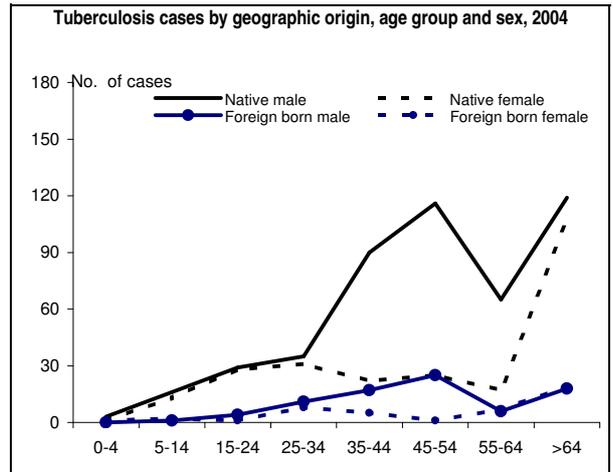
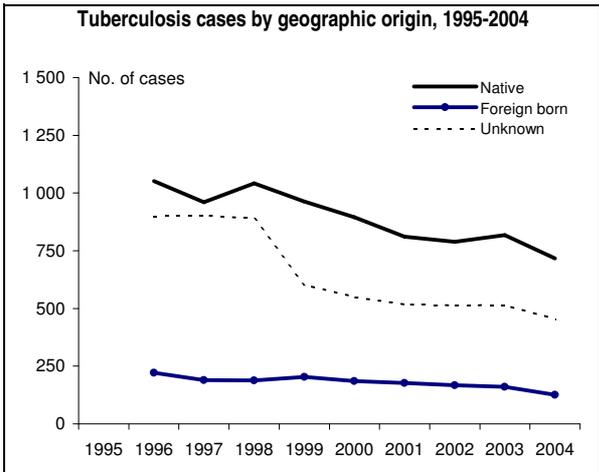
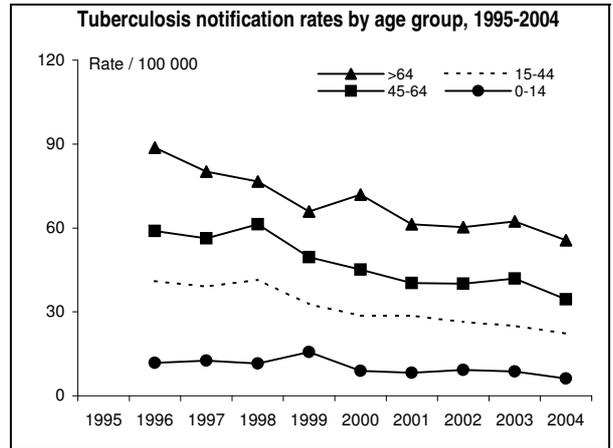
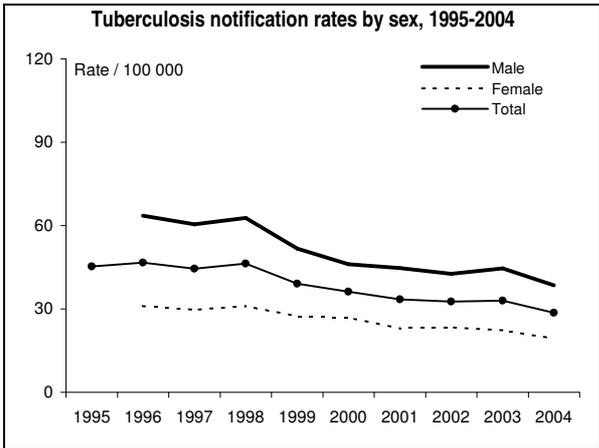


Croatia

Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2004		Treatment Outcome Monitoring, 2003	
Type of data	Individual	International proficiency testing	Yes	Geographic coverage	National
Total number of cases	1 297	Geographic coverage	National	Cohort	New pulmonary smear positive
Notification rate per 100 000	28.6	Linkage with TB case notification	Yes	Included in TOM cohort	438 §
Sex ratio (M:F)	1.9	Cases with DST results	757	Success	168 (38%)
Median age-group, nationals	45-54 years	Cases resistant to INH	7 (0.9%)	Death	20 (5%)
Median age-group, non-nationals	45-54 years	Cases resistant to RMP	3 (0.4%)	Failure	0 (0%)
Foreign born*	126 (9.7%)	MDR cases	3 (0.4%)	Default	10 (2%)
New (never-treated)	1 167 (90.0%)	Cases resistant to EMB	3 (0.4%)	Transfer	4 (1%)
Culture positive	758 (58.4%)	Cases resistant to SM	7 (0.9%)	Still on treatment	2 (0%)
Pulmonary	1 140 (87.9%)			Unknown	234 (53%)
of which sputum smear positive	471 (41.3%)				

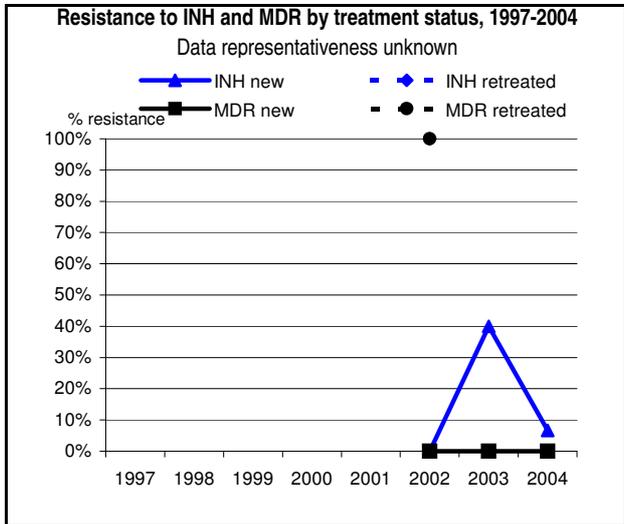
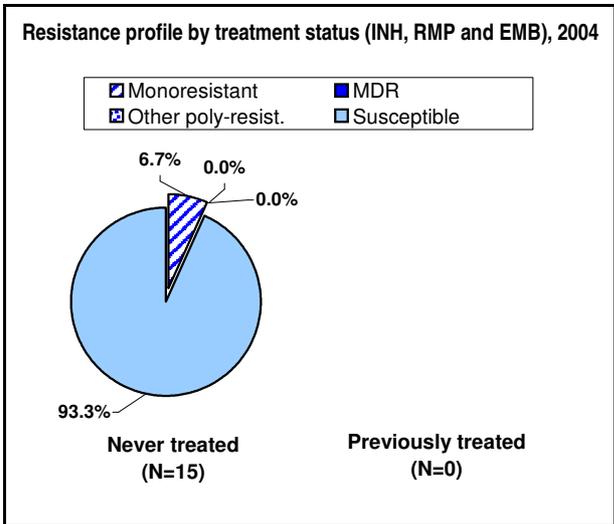
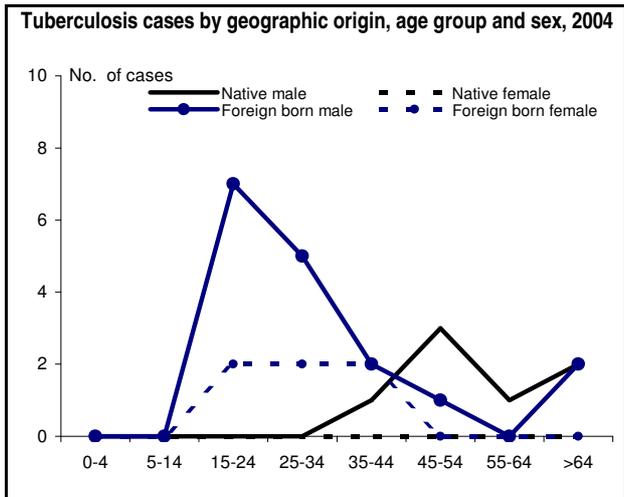
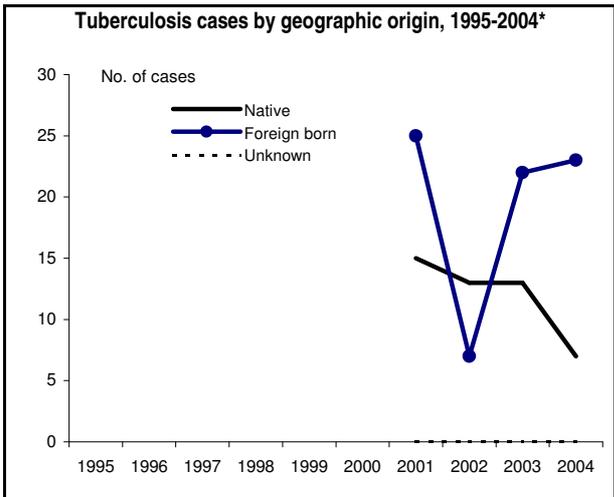
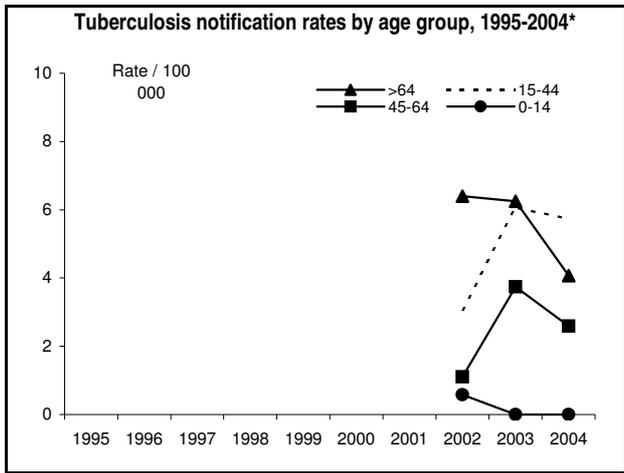
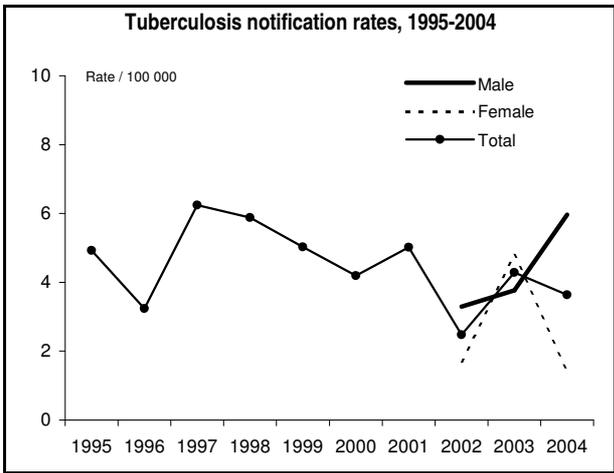
§ Incomplete cohort

*35% of cases with unknown origin



Cyprus*

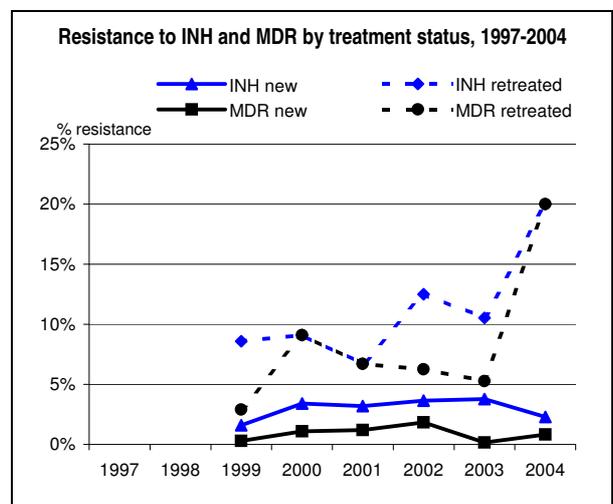
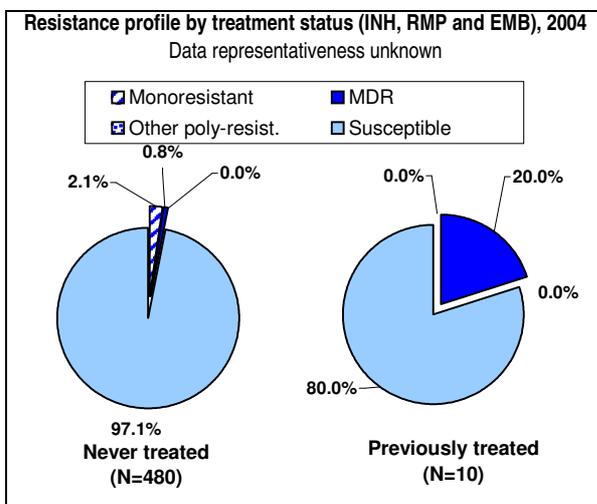
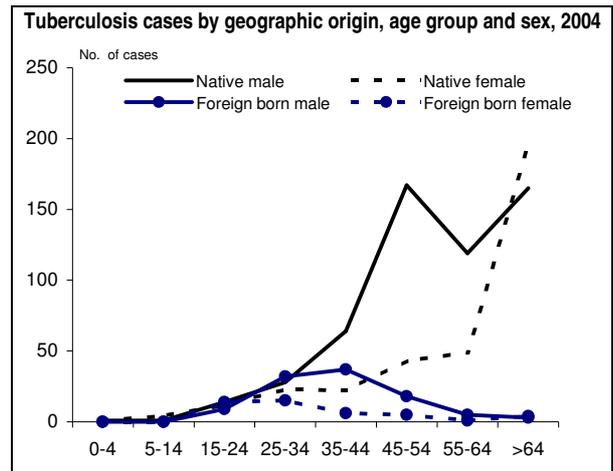
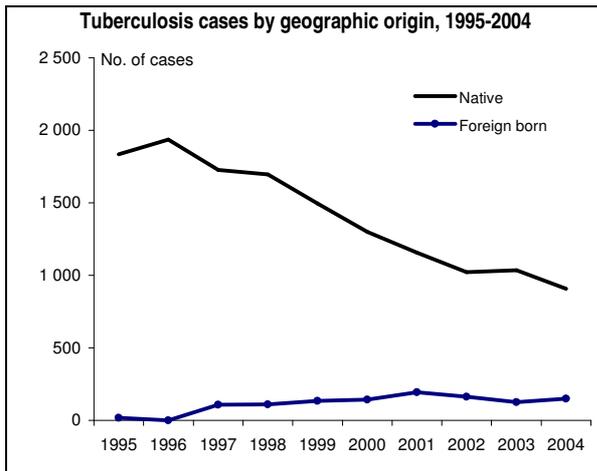
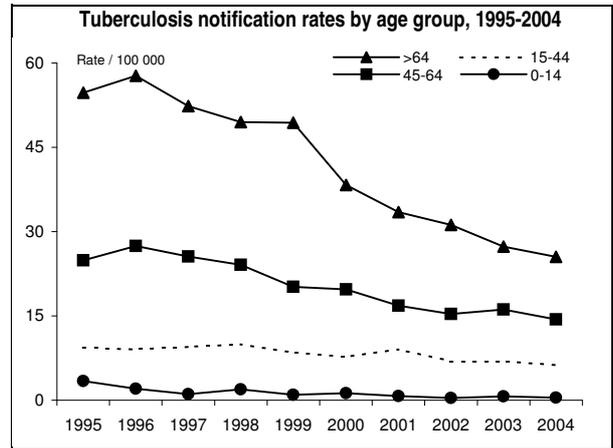
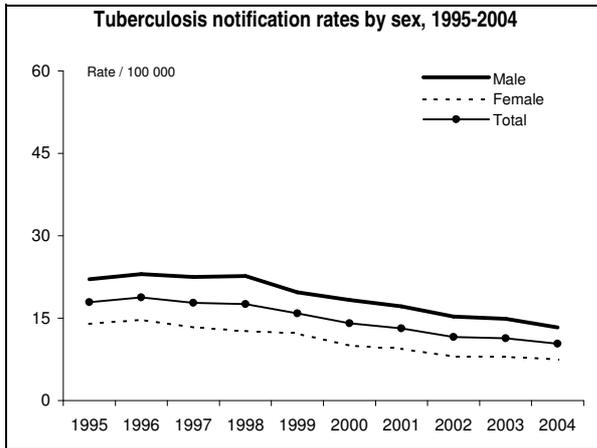
Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2004		Treatment Outcome Monitoring, 2003	
Type of data	Individual	International proficiency testing	- †	Geographic coverage	National
Total number of cases	30	Geographic coverage	National	Cohort	New pulmonary culture positive
Notification rate per 100 000	3.6	Linkage with TB case	Yes	Included in TOM cohort	21
Sex ratio (M:F)	4.0	Cases with DST results	16	Success	17 (81%)
Median age-group, nationals	45-54 years	Cases resistant to INH	1 (6.3%)	Death	0 (0%)
Median age-group, non-nationals	25-34 years	Cases resistant to RMP	0 (0.0%)	Failure	0 (0%)
Foreign born	23 (76.7%)	MDR cases	0 (0.0%)	Default	2 (10%)
New (never-treated)	27 (90.0%)	Cases resistant to EMB	0 (0.0%)	Transfer	2 (10%)
Culture positive	19 (63.3%)	Cases resistant to SM	2 (12.5%)	Still on treatment	0 (0%)
Pulmonary	27 (90.0%)	† DST done abroad		Unknown	0 (0%)
of which sputum smear positive	10 (37.0%)				



* included in WHO European Region in 2003

Czech Republic

Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2004		Treatment Outcome Monitoring, 2003	
Type of data	Individual	International proficiency testing	Yes	Geographic coverage	National
Total number of cases	1 057	Geographic coverage	National	Cohort	New pulmonary culture positive
Notification rate per 100 000	10.3	Linkage with TB case notification	Yes	Included in TOM cohort	619
Sex ratio (M:F)	1.7	Cases with DST results	490	Success	465 (75%)
Median age-group, nationals	55-64 years	Cases resistant to INH	13 (2.7%)	Death	32 (5%)
Median age-group, non-nationals	35-44 years	Cases resistant to RMP	8 (1.6%)	Failure	0 (0%)
Foreign born	149 (14.1%)	MDR cases	6 (1.2%)	Default	8 (1%)
New (never-treated)	1 027 (97.2%)	Cases resistant to EMB	3 (0.6%)	Transfer	7 (1%)
Culture positive	666 (63.0%)	Cases resistant to SM	16 (3.3%)	Still on treatment	4 (1%)
Pulmonary	817 (77.3%)	Data representativeness unknown		Unknown	103 (17%)
of which sputum smear positive	311 (38.1%)				



Denmark

Tuberculosis case notifications, 2004*

Type of data	Individual
Total number of cases	385 *
Notification rate per 100 000	7.1
Sex ratio (M:F)	1.2
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Foreign born	237 (61.6%)
New (never-treated)	356 (92.5%)
Culture positive	291 (75.6%)
Pulmonary	289 (75.1%)
of which sputum smear positive	162 (56.1%)

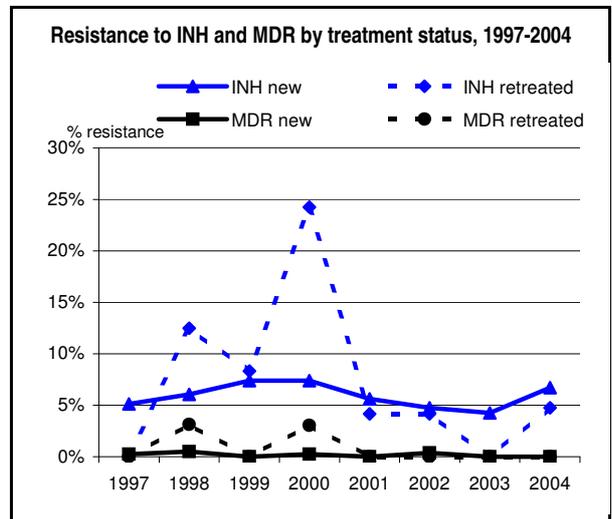
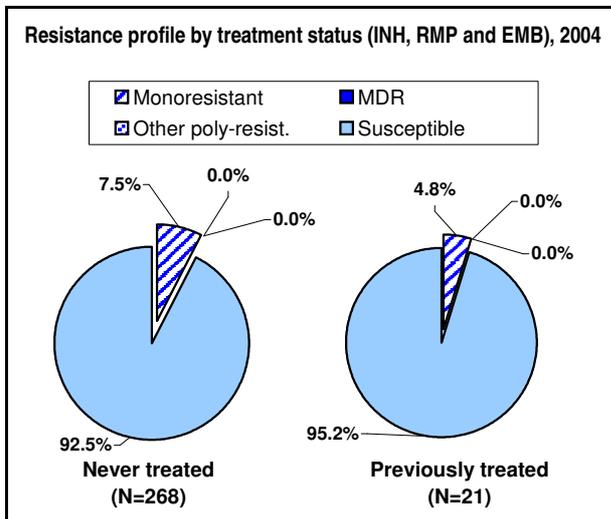
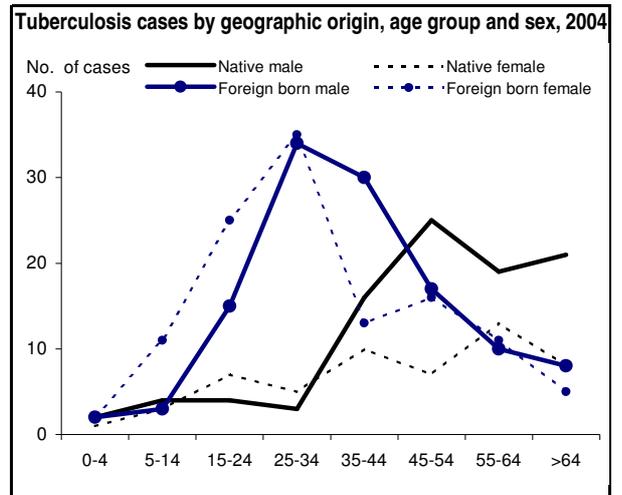
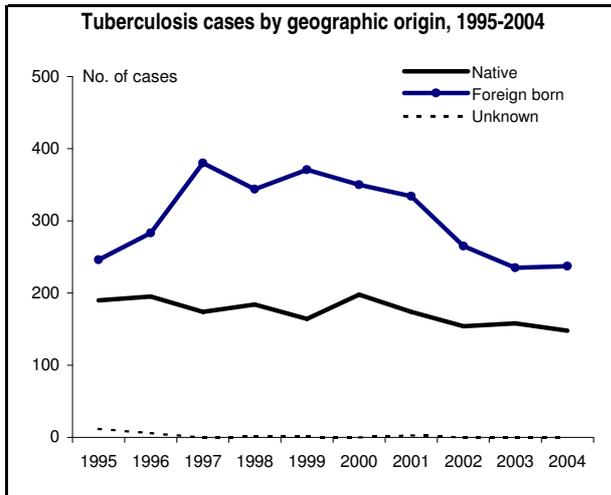
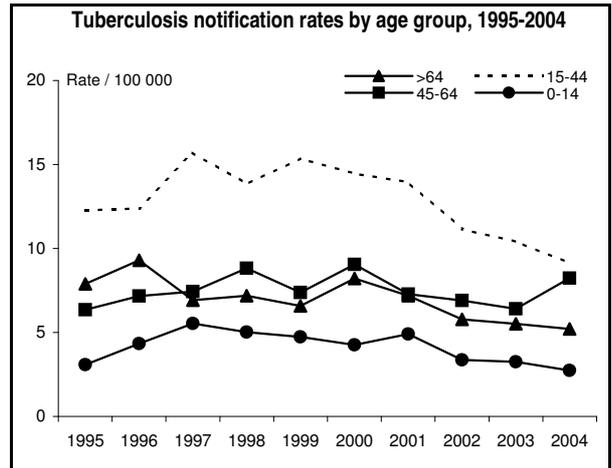
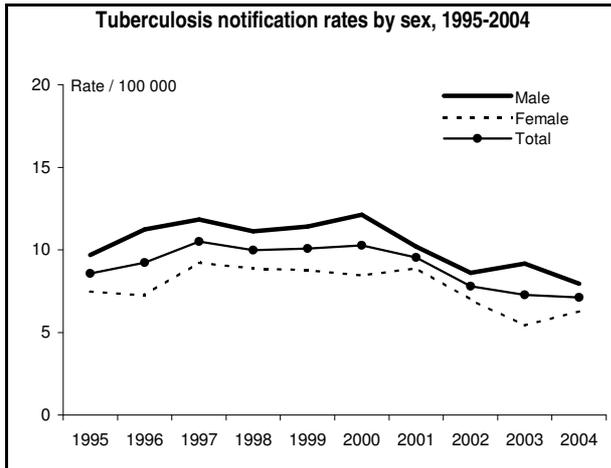
*Excluding Greenland (67 cases in 2004)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	289
Cases resistant to INH	19 (6.6%)
Cases resistant to RMP	0 (0.0%)
MDR cases	0 (0.0%)
Cases resistant to EMB	2 (0.7%)
Cases resistant to SM	3 (1.0%)

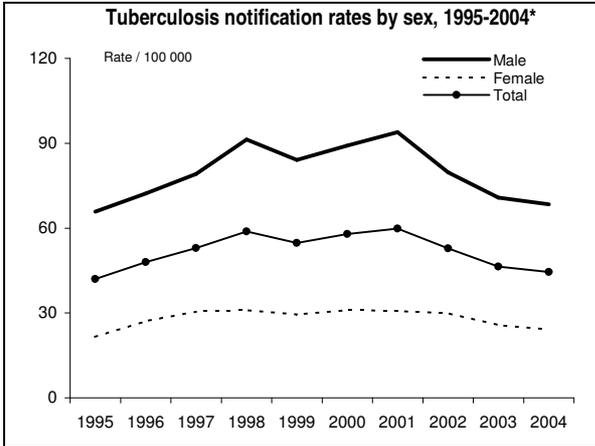
Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	213
Success	179 (84%)
Death	19 (9%)
Failure	0 (0%)
Default	4 (2%)
Transfer	6 (3%)
Still on treatment	1 (0%)
Unknown	4 (2%)

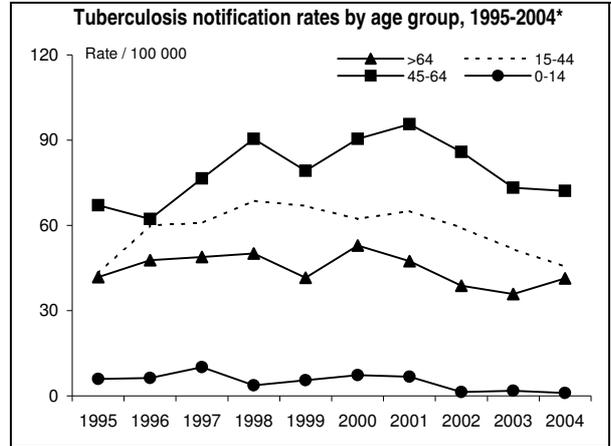


Estonia

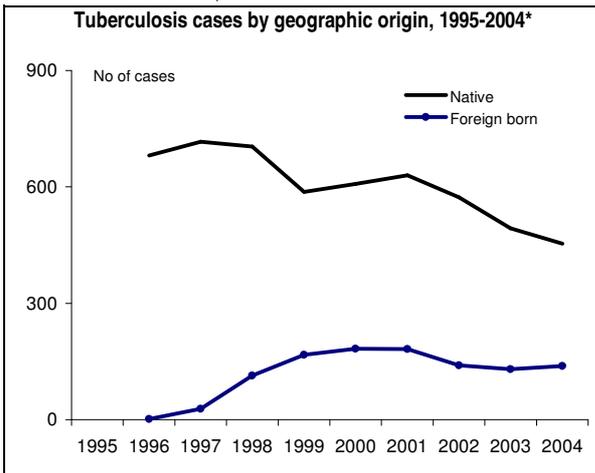
Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2004		Treatment Outcome Monitoring, 2003	
Type of data	Individual	International proficiency testing	Yes	Geographic coverage	National
Total number of cases	594	Geographic coverage	National	Cohort	New pulmonary culture positive
Notification rate per 100 000	44.5	Linkage with TB case notification	Yes	Included in TOM cohort	332
Sex ratio (M:F)	2.4	Cases with DST results	452	Success	231 (70%)
Median age-group, nationals	45-54 years	Cases resistant to INH	134 (29.6%)	Death	35 (11%)
Median age-group, non-nationals	45-54 years	Cases resistant to RMP	90 (19.9%)	Failure	4 (1%)
Foreign born	138 (23.2%)	MDR cases	90 (19.9%)	Default	21 (6%)
New (never-treated)	478 (80.5%)	Cases resistant to EMB	93 (20.6%)	Transfer	1 (0%)
Culture positive	452 (76.1%)	Cases resistant to SM	143 (31.6%)	Still on treatment	40 (12%)
Pulmonary	532 (89.6%)			Unknown	0 (0%)
of which sputum smear positive	254 (47.7%)				



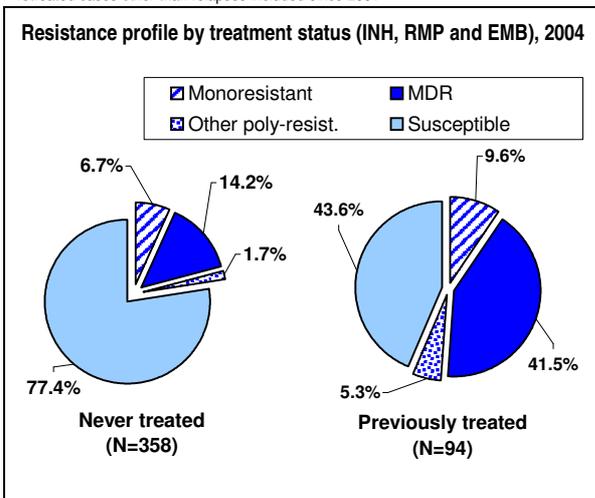
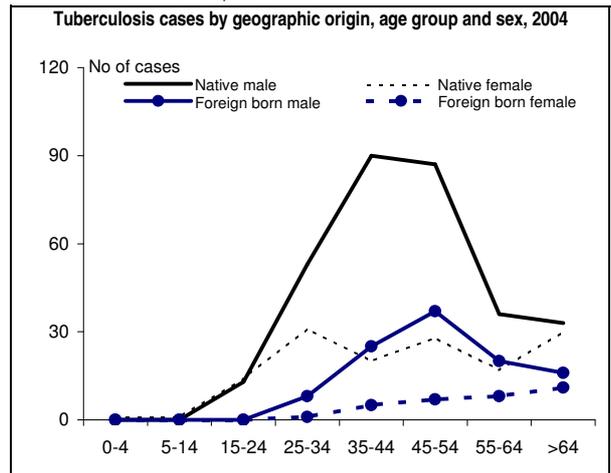
* retreated cases other than relapses included since 2001



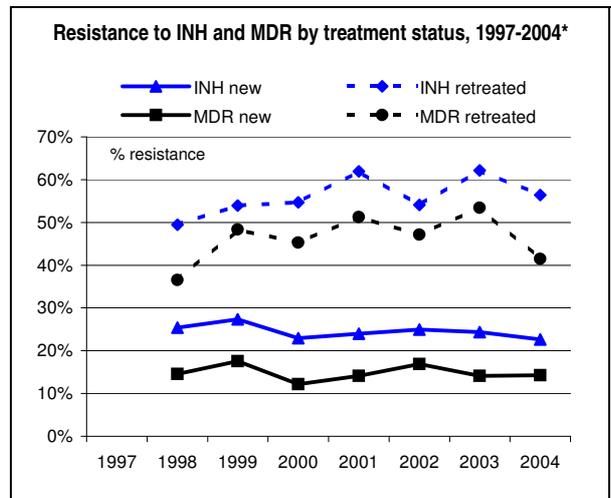
* retreated cases other than relapses included



* retreated cases other than relapses included since 2001



* retreated cases other than relapses included since 2001



Finland

Tuberculosis case notifications, 2004

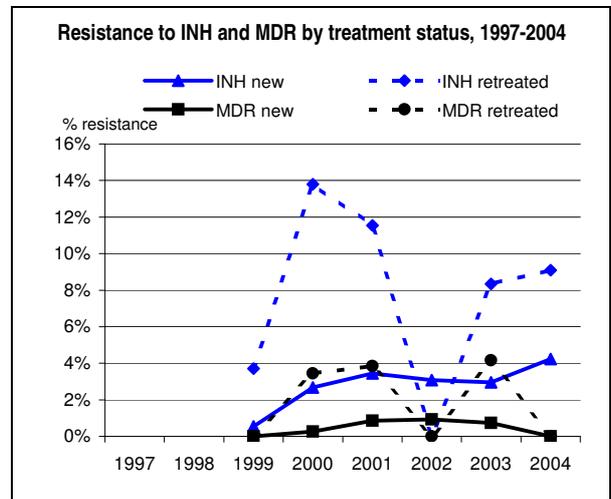
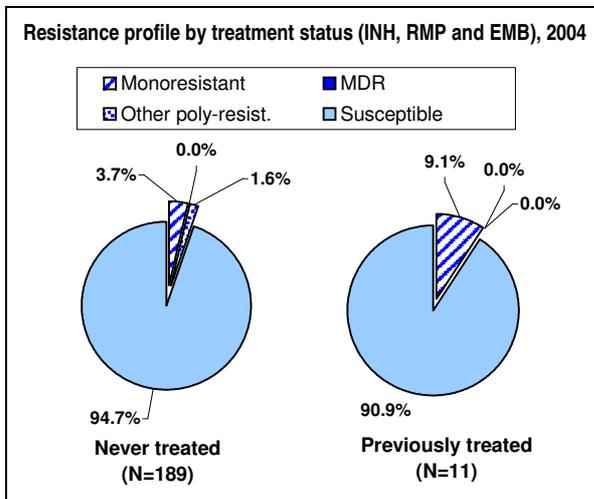
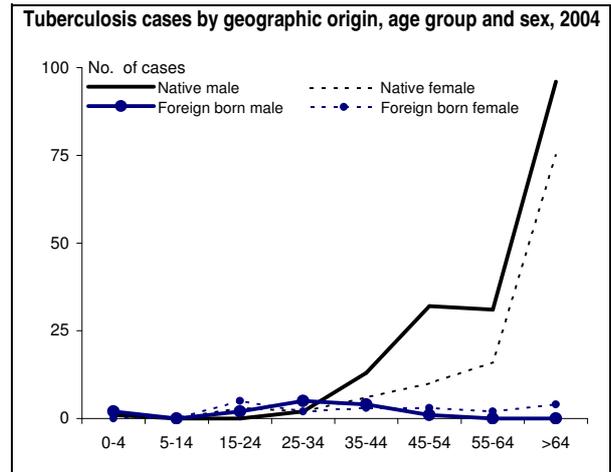
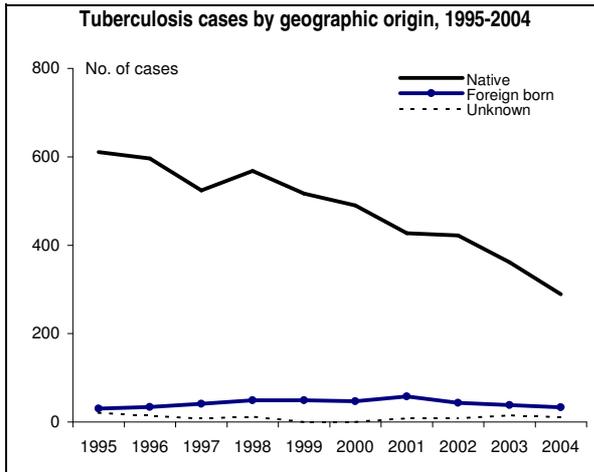
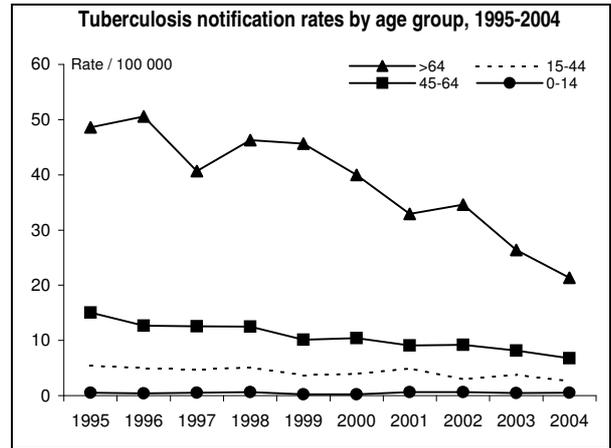
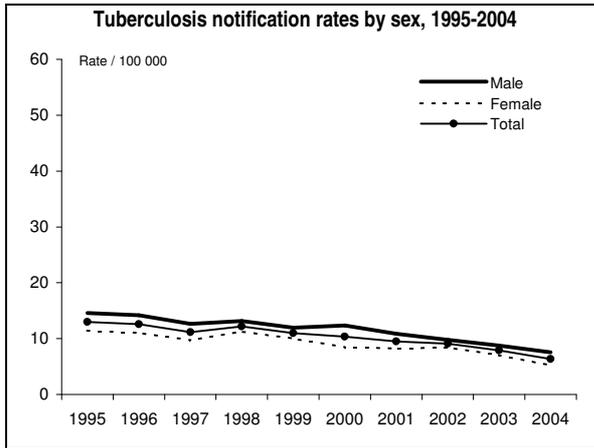
Type of data	Individual
Total number of cases	333
Notification rate per 100 000	6.4
Sex ratio (M:F)	1.4
Median age-group, nationals	>64 years
Median age-group, non-nationals	35-44 years
Foreign born	33 (9.9%)
New (never-treated)	230 (69.1%)
Culture positive	287 (86.2%)
Pulmonary	231 (69.4%)
of which sputum smear positive	128 (55.4%)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	273
Cases resistant to INH	10 (3.7%)
Cases resistant to RMP	0 (0.0%)
MDR cases	0 (0.0%)
Cases resistant to EMB	5 (1.8%)
Cases resistant to SM	7 (2.6%)

Treatment Outcome Monitoring, 2003

NOT AVAILABLE



France

Tuberculosis case notifications, 2004

Type of data	Individual *
Total number of cases	5 514
Notification rate per 100 000	8.9
Sex ratio (M:F)	1.6
Median age-group, nationals	45-54 years
Median age-group, non-nationals	35-44 years
Foreign born	2 488 (45.1%)
New (never-treated)	4 472 (81.1%)
Culture positive †	2 007 (36.4%)
Pulmonary	3 939 (71.4%)
of which sputum smear positive	2 089 (53.0%)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	No †
Cases with DST results	1 699
Cases resistant to INH	88 (5.2%)
Cases resistant to RMP	29 (1.7%)
MDR cases	26 (1.5%)
Cases resistant to EMB	13 (0.8%)
Cases resistant to SM	106 (6.2%)

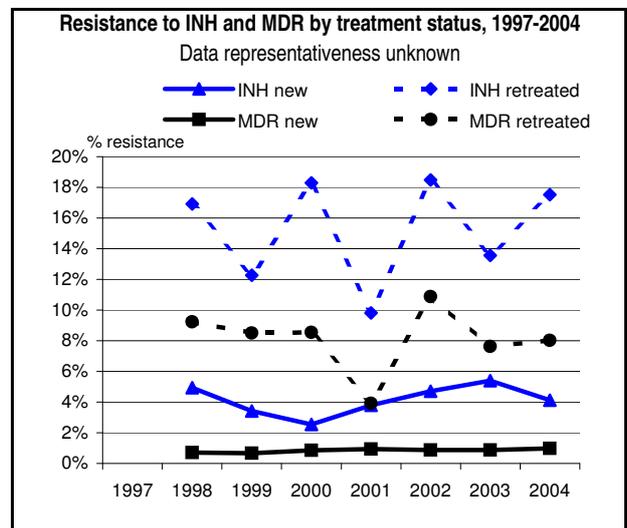
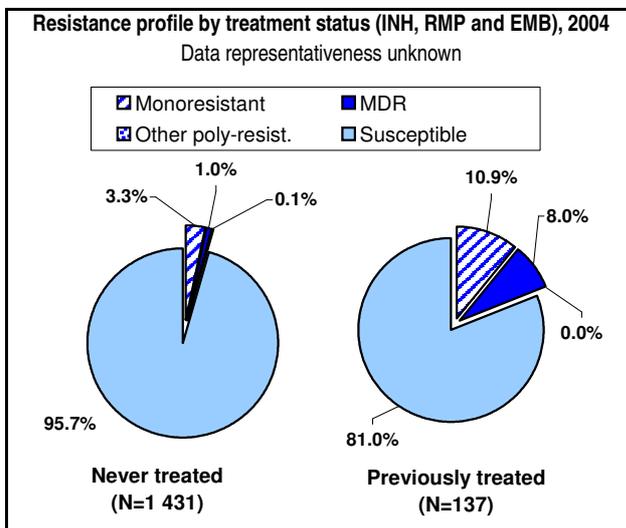
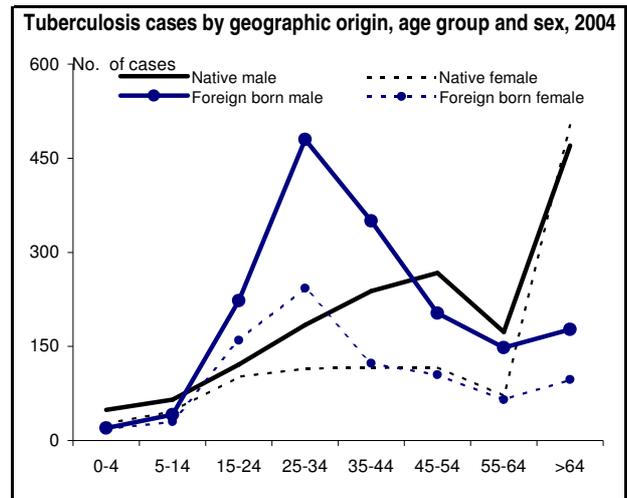
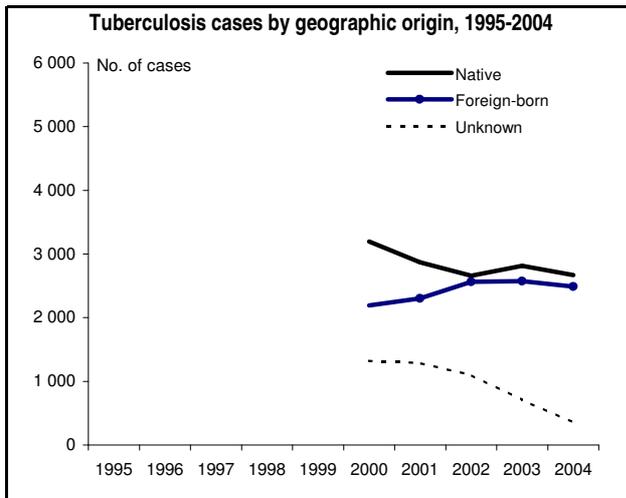
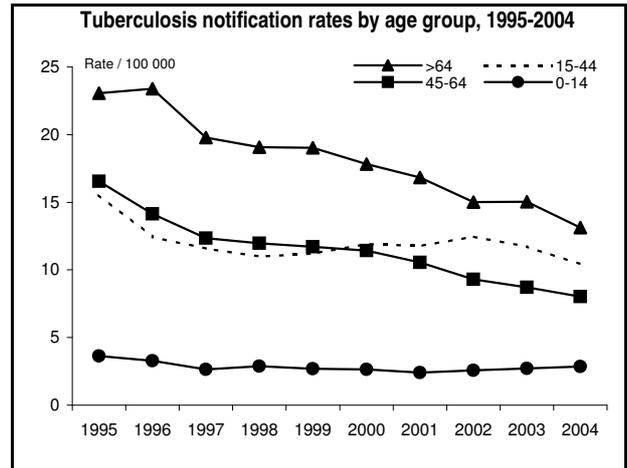
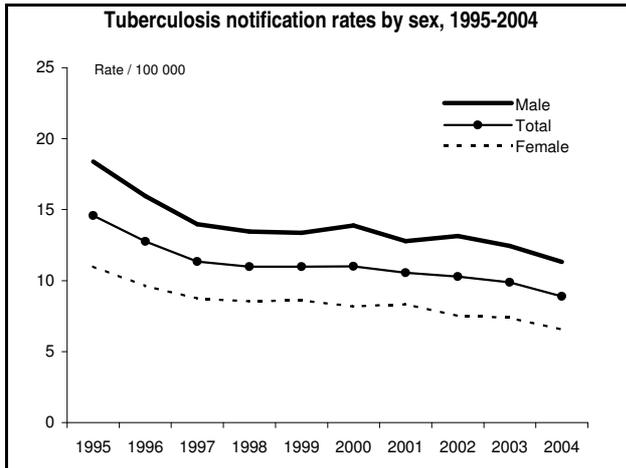
† Data from sentinel network of laboratories (representativeness unknown)

Treatment Outcome Monitoring, 2003

NOT AVAILABLE

* Except DST results

† 51% of cases with culture result not available

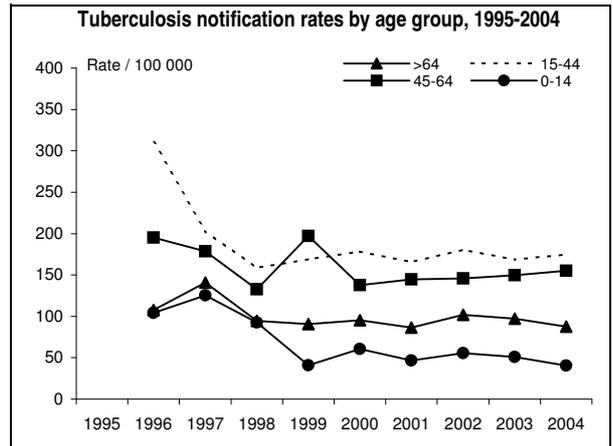
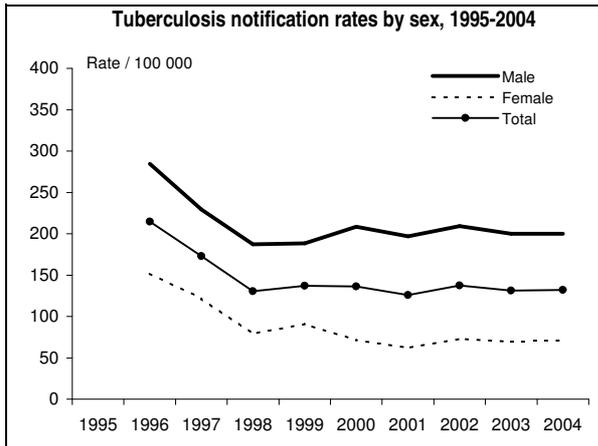


Georgia*

Tuberculosis case notifications, 2004*		Drug Resistance Surveillance, 2001		Treatment Outcome Monitoring, 2003	
Type of data	Aggregate	International proficiency testing	No	Geographic coverage	National
Total number of cases	5 967	Geographic coverage	Tbilisi	Cohort	New pulmonary smear positive
Notification rate per 100 000	132.1	Linkage with TB case notification	No †	Included in TOM cohort	989
Sex ratio (M:F)	2.5	Cases with DST results	424	Success	657 (66%)
Median age-group, nationals	35-44 years	Cases resistant to INH	230 (54.2%)	Death	23 (2%)
Median age-group, non-nationals	-	Cases resistant to RMP	109 (25.7%)	Failure	37 (4%)
Foreign born	0 (0.0%)	MDR cases	105 (24.8%)	Default	150 (15%)
New (never-treated)	3 863 (64.7%)	Cases resistant to EMB	129 (30.4%)	Transfer	78 (8%)
Culture positive	-	Cases resistant to SM	303 (71.5%)	Still on treatment	0 (0%)
Pulmonary	4 813 (80.7%)	† Data from all laboratories performing DST (representativeness unknown)		Unknown	44 (4%)
of which sputum smear positive	2 293 (47.6%)				

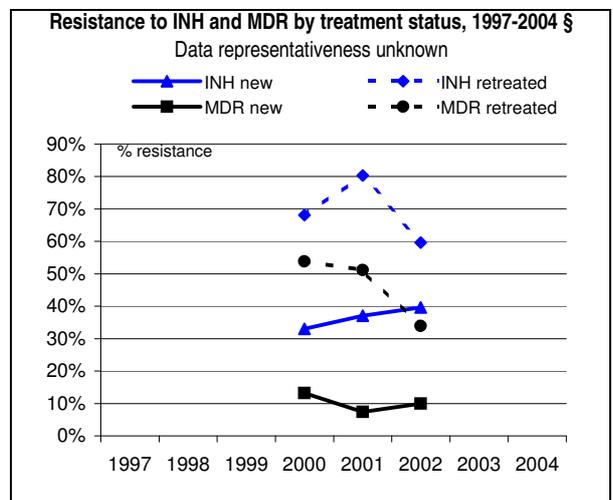
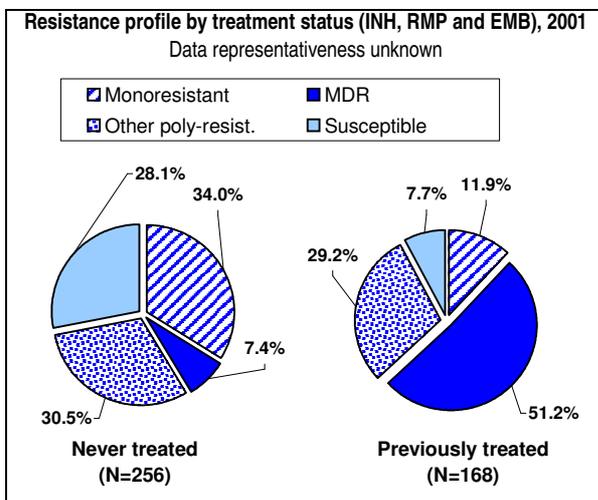
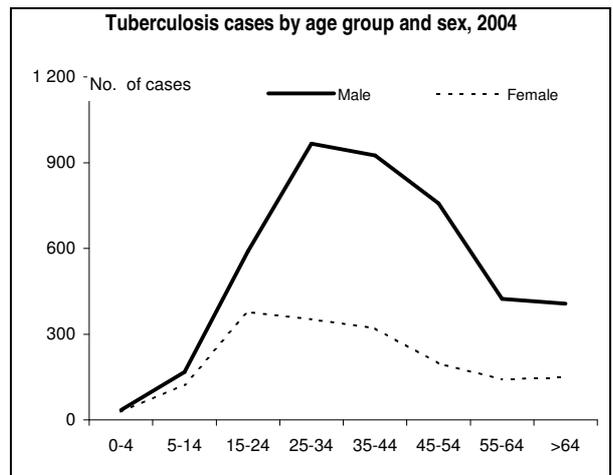
* Excluding Abkhazia and Southern Ossetia

Culture and DST not routinely performed



Tuberculosis cases by geographic origin, 1995-2004

No foreign citizens reported



§ In 2002, only cases in prisoners

Germany

Tuberculosis case notifications, 2004

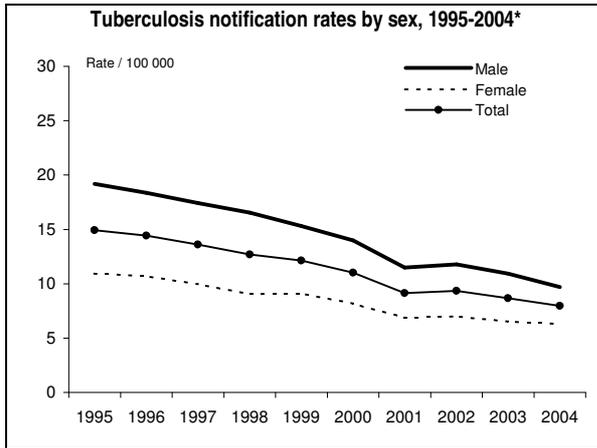
Type of data	Individual
Total number of cases	6 583
Notification rate per 100 000	8.0
Sex ratio (M:F)	1.5
Median age-group, nationals	55-64 years
Median age-group, non-nationals	35-44 years
Foreign born	2 879 (43.7%)
New (never-treated)	4 929 (74.9%)
Culture positive	4 338 (65.9%)
Pulmonary	5 092 (77.4%)
of which sputum smear positive	1 720 (33.8%)

Drug Resistance Surveillance, 2004

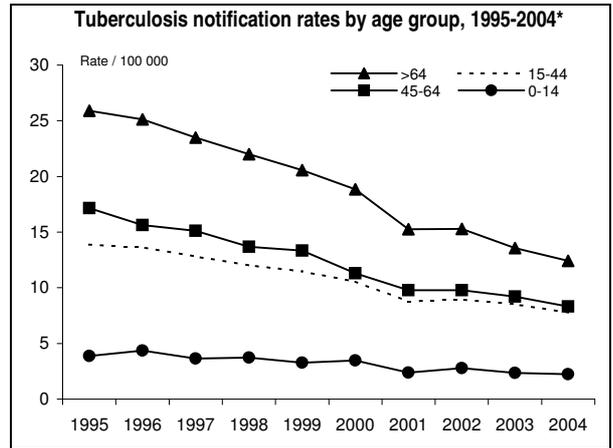
International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	4 000
Cases resistant to INH	378 (9.5%)
Cases resistant to RMP	111 (2.8%)
MDR cases	98 (2.5%)
Cases resistant to EMB	95 (2.4%)
Cases resistant to SM	332 (8.3%)

Treatment Outcome Monitoring, 2003

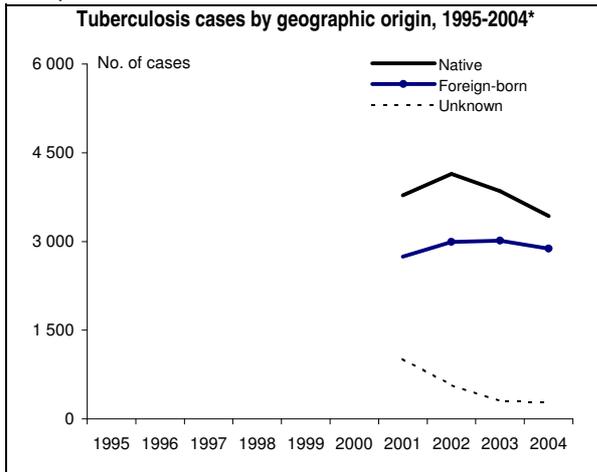
Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	2 624
Success	1 927 (73%)
Death	287 (11%)
Failure	4 (0%)
Default	44 (2%)
Transfer	0 (0%)
Still on treatment	127 (5%)
Unknown	235 (9%)



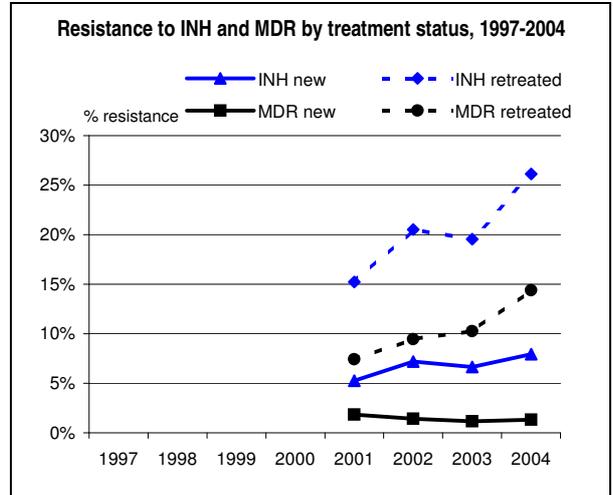
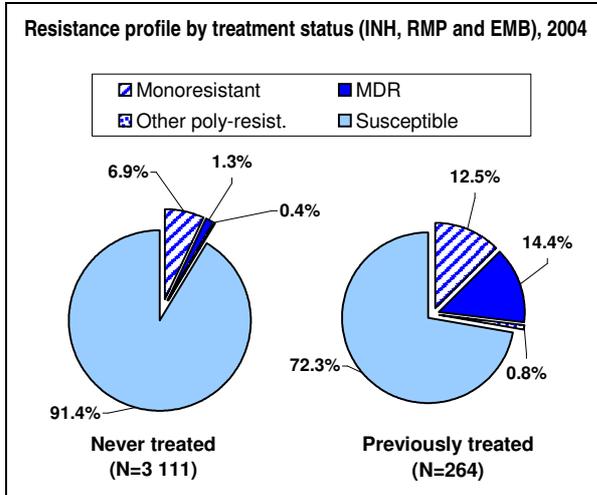
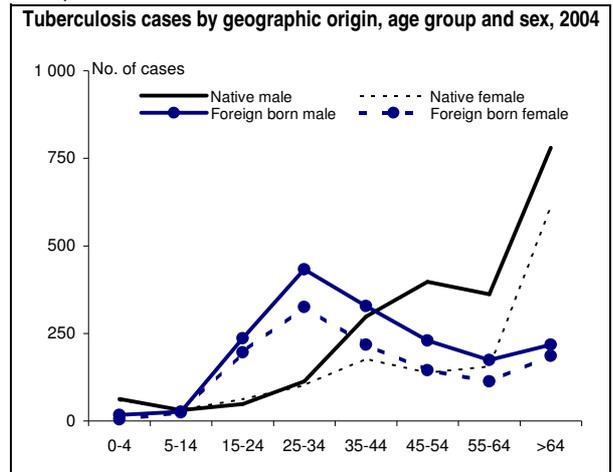
*Incomplete data in 2001



*Incomplete data in 2001



*Incomplete data in 2001



Greece

Tuberculosis case notifications, 2004

Type of data	Individual *
Total number of cases	774
Notification rate per 100 000	7.0
Sex ratio (M:F)	2.0
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Foreign born	180 (23.3%)
New (never-treated)	600 (77.5%)
Culture positive	206 (26.6%)
Respiratory	622 (80.4%)
of which sputum smear positive	195 (31.4%)

* Except DST results

Drug Resistance Surveillance, 2004

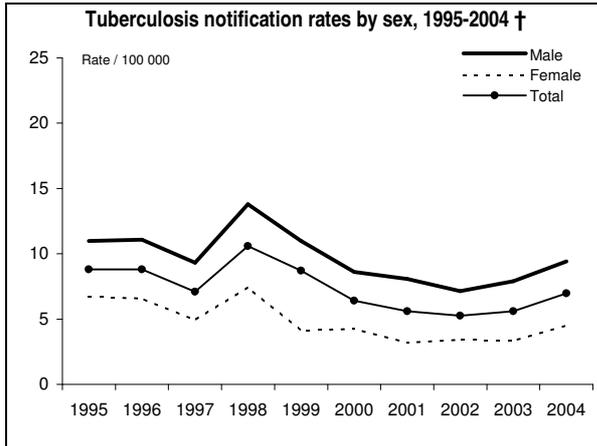
International proficiency testing	No
Geographic coverage	Partial
Linkage with TB case notification	No ‡
Cases with DST results	501 §
Cases resistant to INH	57 (11.4%)
Cases resistant to RMP	21 (4.2%)
MDR cases	16 (3.2%)
Cases resistant to EMB	15 (3.0%)
Cases resistant to SM	36 (7.2%)

‡ Data from NRL (representativeness unknown)

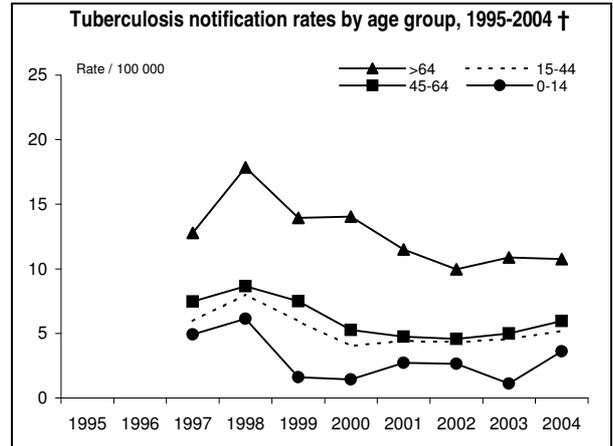
§ New cases only

Treatment Outcome Monitoring, 2003

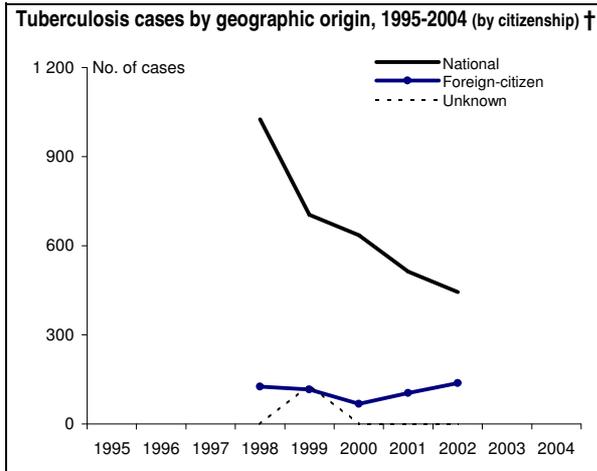
NOT AVAILABLE



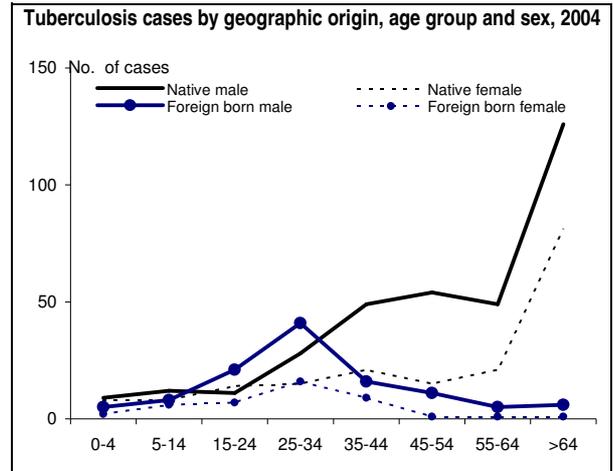
† TB case definition changed in 1998



† TB case definition changed in 1998

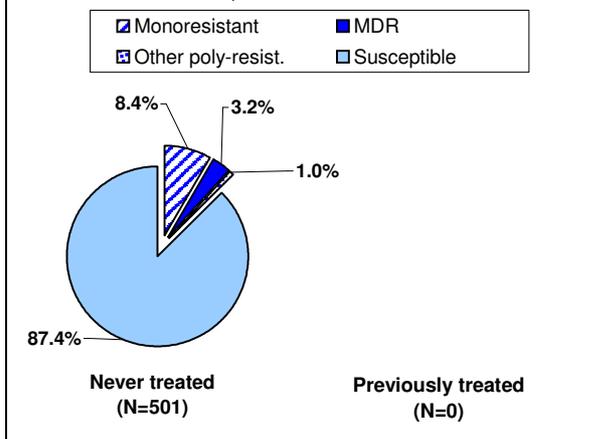


† TB case definition changed in 1998



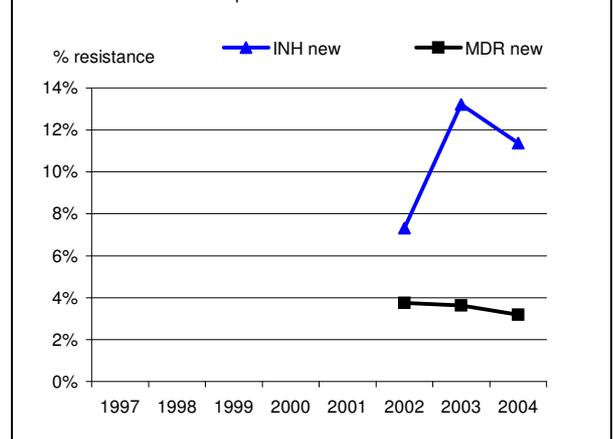
Resistance profile by treatment status (INH, RMP and EMB), 2004

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2004 §

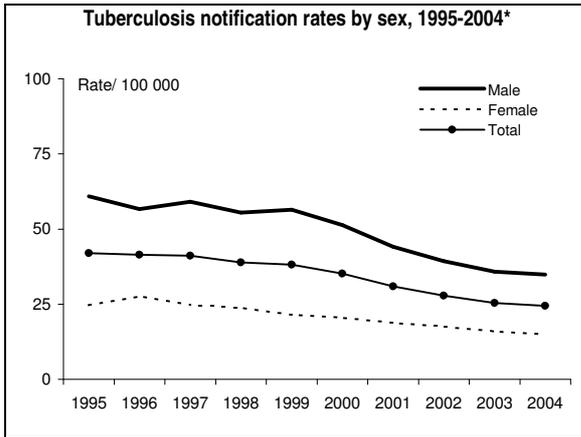
Data representativeness unknown



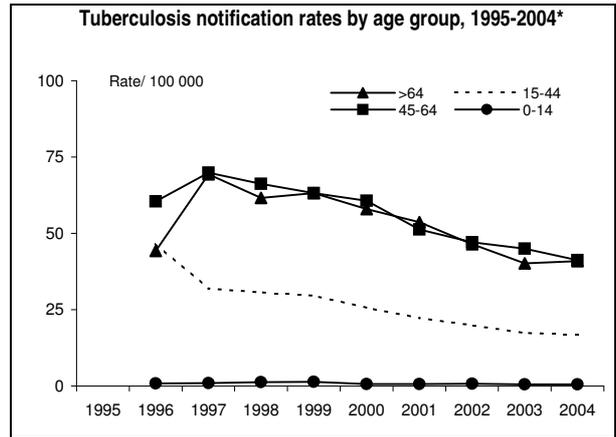
§ New cases only

Hungary

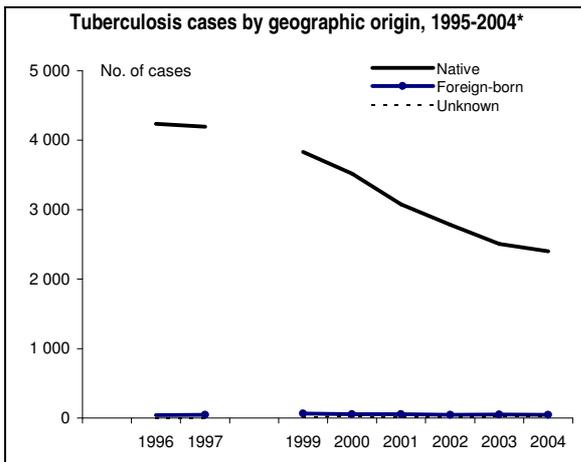
Tuberculosis case notifications, 2004			Drug Resistance Surveillance, 2004			Treatment Outcome Monitoring, 2003		
Type of data	Individual		International proficiency testing	Yes (2003)		Geographic coverage	National	
Total number of cases	2 476		Geographic coverage	National		Cohort	New pulmonary culture positive	
Notification rate per 100 000	24.5		Linkage with TB case notification	Yes		Included in TOM cohort	709	
Sex ratio (M:F)	2.1		Cases with DST results	558		Success	384 (54%)	
Median age-group, nationals	45-54 years		Cases resistant to INH	38 (6.8%)		Death	55 (8%)	
Median age-group, non-nationals	25-34 years		Cases resistant to RMP	10 (1.8%)		Failure	76 (11%)	
Foreign born	44 (1.8%)		MDR cases	9 (1.6%)		Default	50 (7%)	
New (never-treated)	2 072 (83.7%)		Cases resistant to EMB	15 (2.7%)		Transfer	41 (6%)	
Culture positive	1 014 (41.0%)		Cases resistant to SM	38 (6.8%)		Still on treatment	101 (14%)	
Pulmonary	2 327 (94.0%)		Data representativeness unknown			Unknown	2 (0%)	
of which sputum smear positive	665 (28.6%)		Culture and DST not routinely performed					



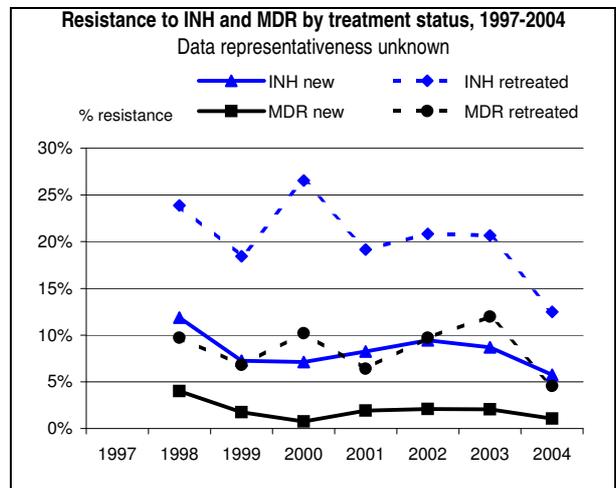
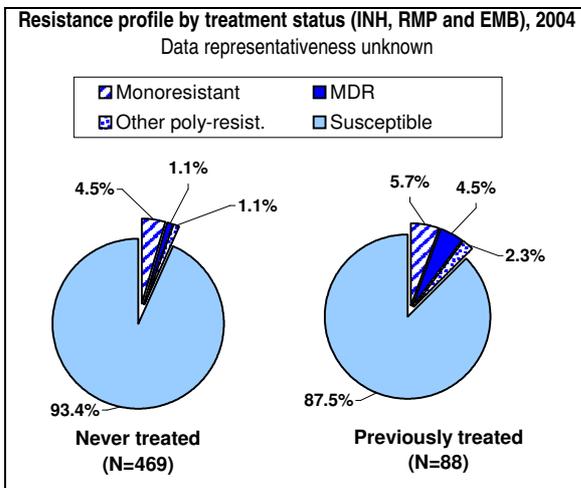
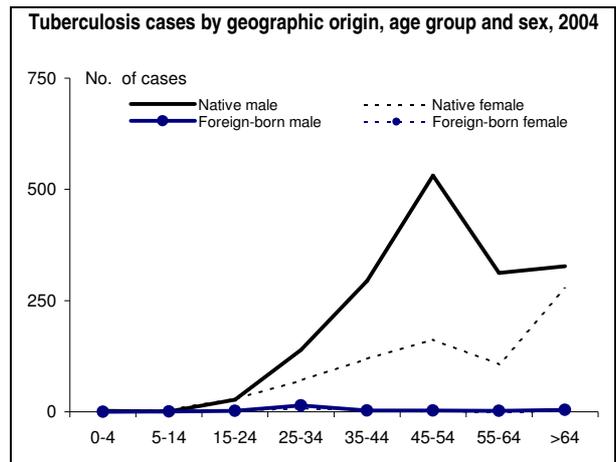
* TB case definition changed in 1997



* TB case definition changed in 1997



* TB case definition changed in 1997



Iceland

Tuberculosis case notifications, 2004

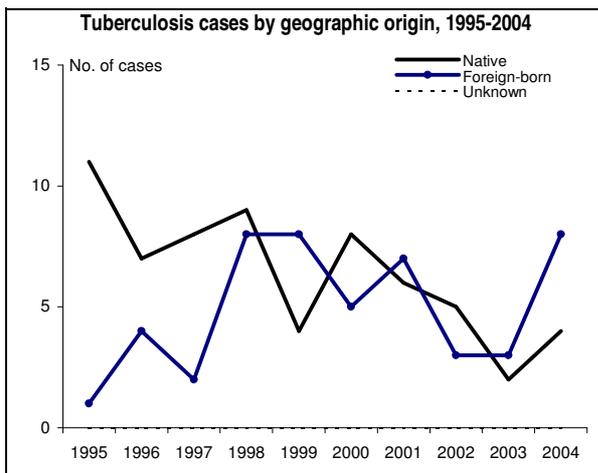
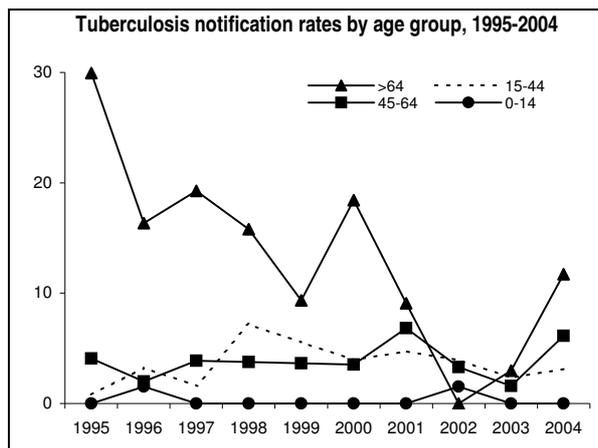
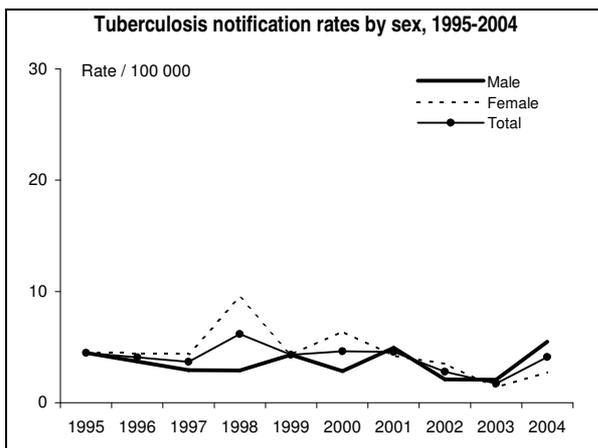
Type of data	Individual
Total number of cases	12
Notification rate per 100 000	4.1
Sex ratio (M:F)	2.0
Median age-group, nationals	>64 years
Median age-group, non-nationals	35-44 years
Foreign born	8 (66.7%)
New (never-treated)	11 (91.7%)
Culture positive	8 (66.7%)
Pulmonary	5 (41.7%)
of which sputum smear positive	2 (40.0%)

Drug Resistance Surveillance, 2004

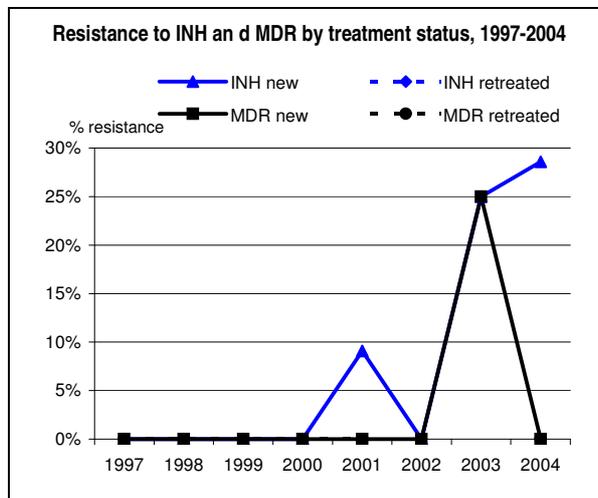
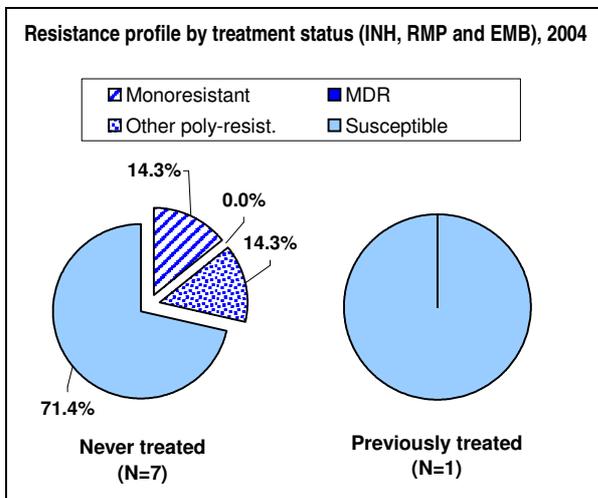
International proficiency testing	- †
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	8
Cases resistant to INH	2 (25.0%)
Cases resistant to RMP	0 (0.0%)
MDR cases	0 (0.0%)
Cases resistant to EMB	1 (12.5%)
Cases resistant to SM	- -
† DST done abroad	

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	2
Success	2 (100%)
Death	0 (0%)
Failure	0 (0%)
Default	0 (0%)
Transfer	0 (0%)
Still on treatment	0 (0%)
Unknown	0 (0%)



Insufficient number of cases for graphic presentation



Ireland

Tuberculosis case notifications, 2004

Type of data	Individual
Total number of cases	437
Notification rate per 100 000	10.7
Sex ratio (M:F)	1.5
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Foreign born	122 (27.9%)
New (never-treated)	283 (64.8%)
Culture positive*	209 (47.8%)
Pulmonary	300 (68.6%)
of which sputum smear positive	135 (45.0%)

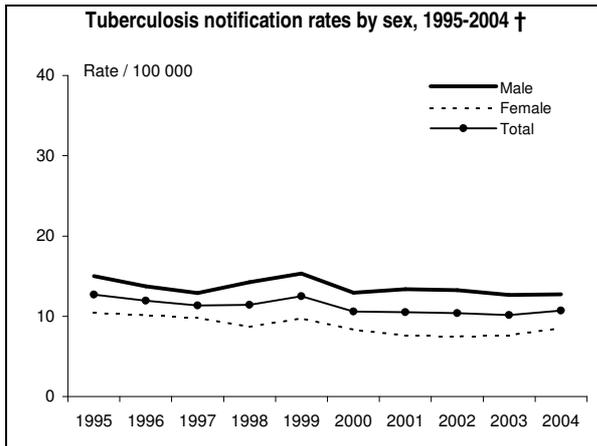
*41% with culture result unknown

Drug Resistance Surveillance, 2004

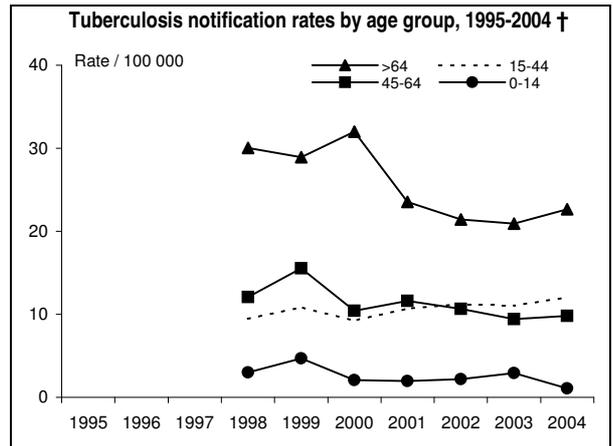
International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	162
Cases resistant to INH	7 (4.3%)
Cases resistant to RMP	0 (0.0%)
MDR cases	0 (0.0%)
Cases resistant to EMB	1 (0.6%)
Cases resistant to SM	-

Treatment Outcome Monitoring, 2003

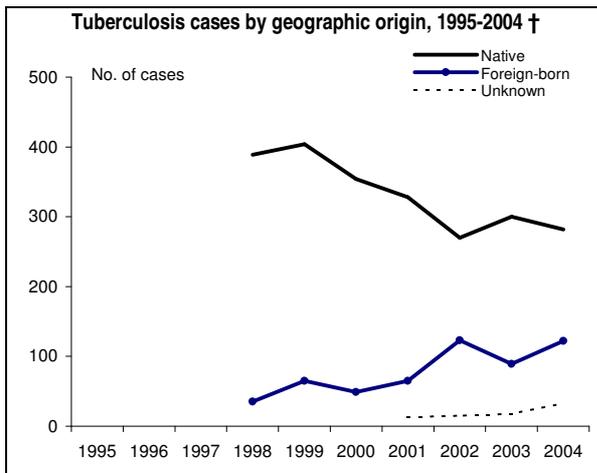
Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	152
Success	107 (70%)
Death	10 (7%)
Failure	1 (1%)
Default	4 (3%)
Transfer	0 (0%)
Still on treatment	2 (1%)
Unknown	28 (18%)



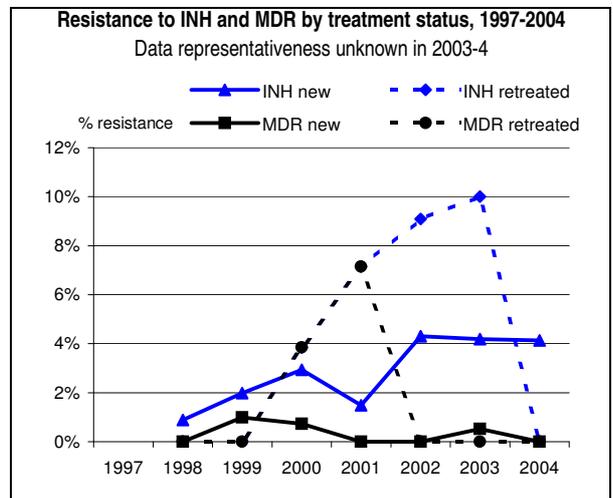
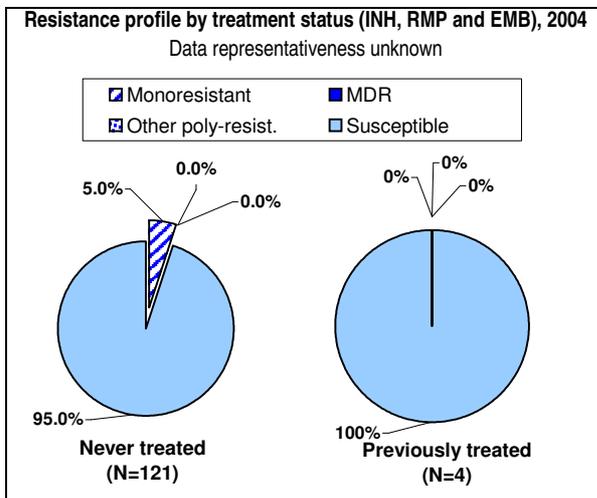
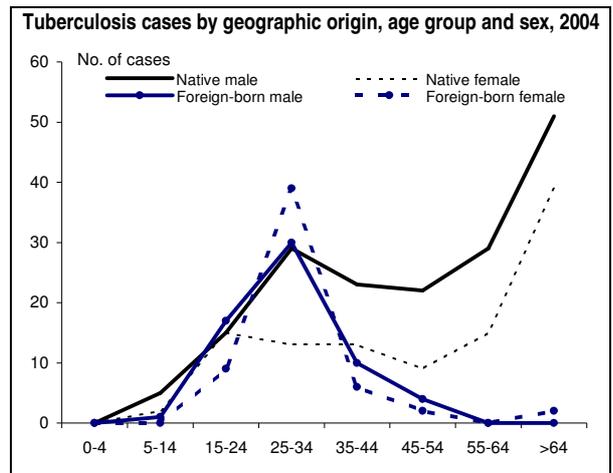
† Notification system reorganised in 1998



† Notification system reorganised in 1998



† Notification system reorganised in 1998



Israel

Tuberculosis case notifications, 2004

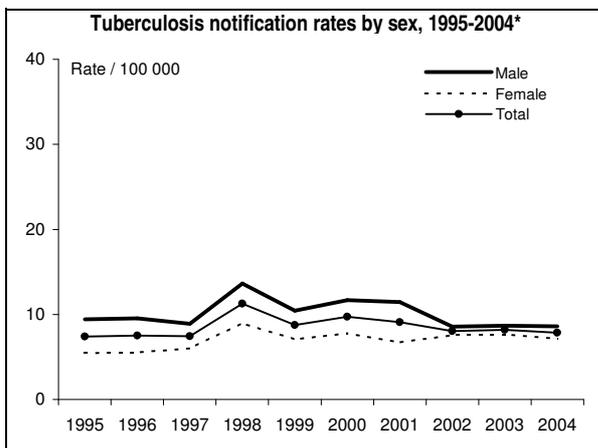
Type of data	Aggregate
Total number of cases	519
Notification rate per 100 000	7.9
Sex ratio (M:F)	1.2
Median age-group, nationals	35-44 years
Median age-group, non-nationals	45-54 years
Foreign born	420 (80.9%)
New (never-treated)	489 (94.2%)
Culture positive	265 (51.1%)
Pulmonary	394 (75.9%)
of which sputum smear positive	102 (25.9%)

Drug Resistance Surveillance, 2004

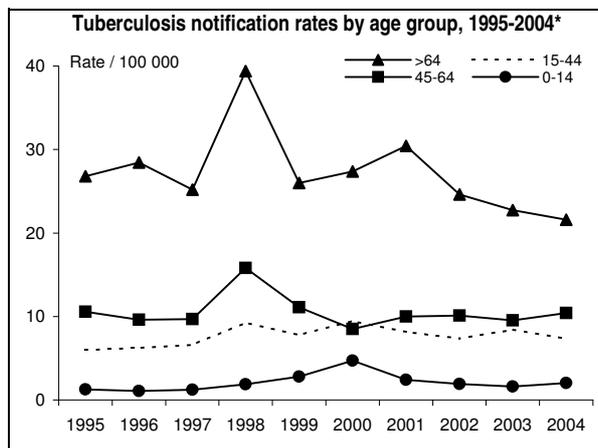
International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	265
Cases resistant to INH	41 (15.5%)
Cases resistant to RMP	15 (5.7%)
MDR cases	12 (4.5%)
Cases resistant to EMB	8 (3.0%)
Cases resistant to SM	46 (17.4%)

Treatment Outcome Monitoring, 2003

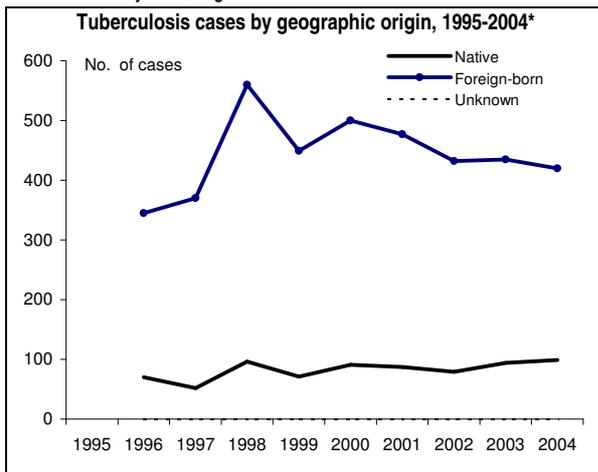
Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	251
Success	193 (77%)
Death	33 (13%)
Failure	2 (1%)
Default	1 (0%)
Transfer	16 (6%)
Still on treatment	5 (2%)
Unknown	1 (0%)



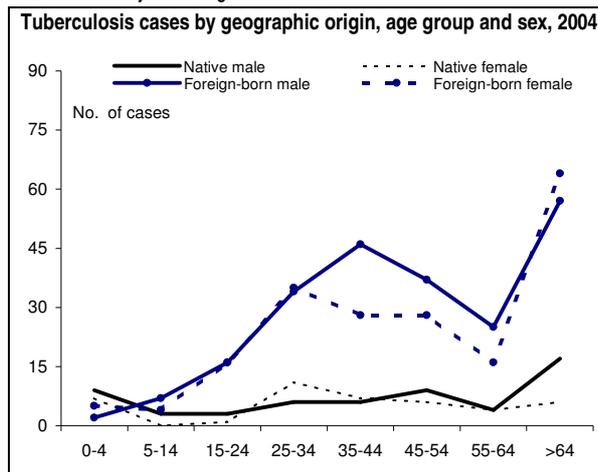
* TB notification system re-organised in 1998



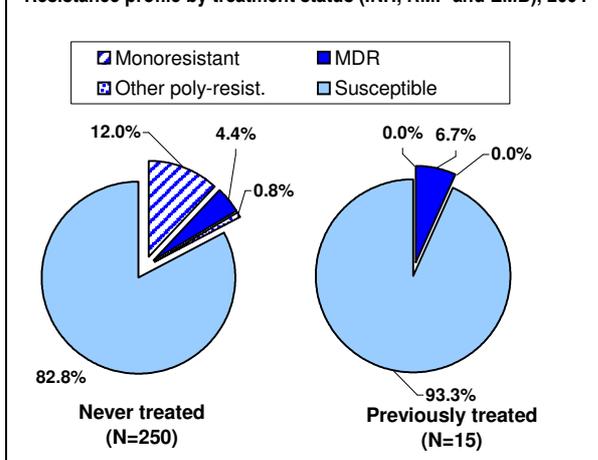
* TB notification system re-organised in 1998



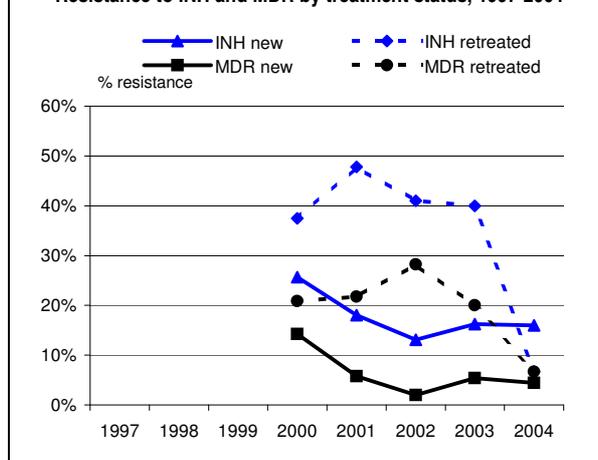
* TB notification system re-organised in 1998



Resistance profile by treatment status (INH, RMP and EMB), 2004



Resistance to INH and MDR by treatment status, 1997-2004



Italy

Tuberculosis case notifications, 2004

Type of data	Individual *
Total number of cases	4 220
Notification rate per 100 000	7.3
Sex ratio (M:F)	1.6
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Foreign born	1 664 (39.4%)
New (never-treated)	3 130 (74.2%)
Culture positive †	1 954 (46.3%)
Pulmonary	3 026 (71.7%)
of which sputum smear positive	1 136 (37.5%)

* Except for DRS

† 47% of cases with culture result unknown

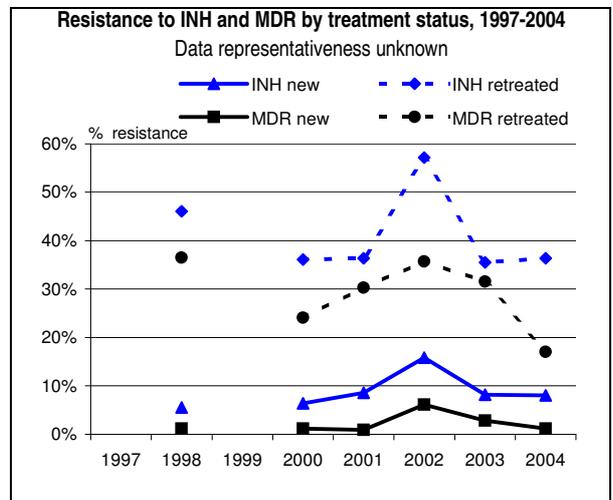
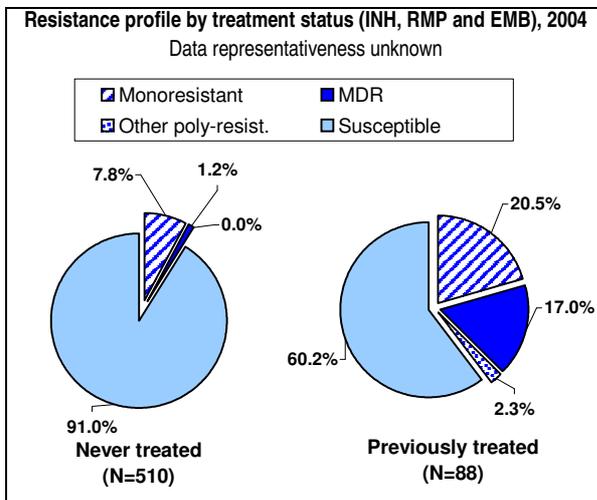
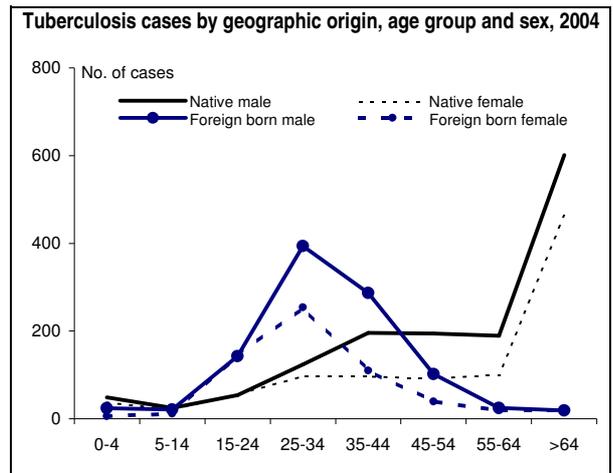
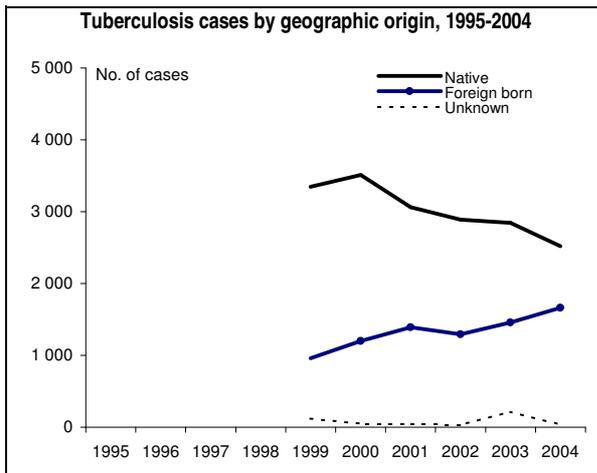
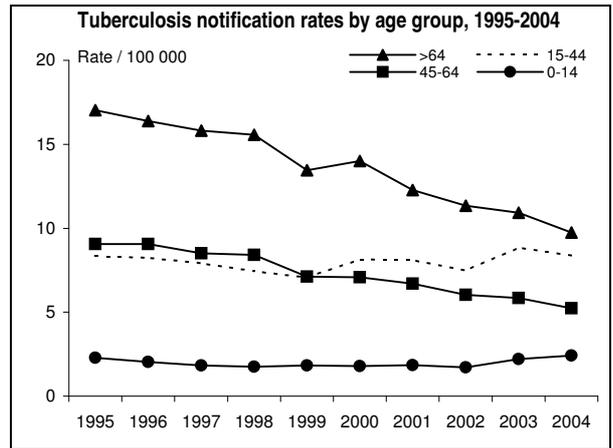
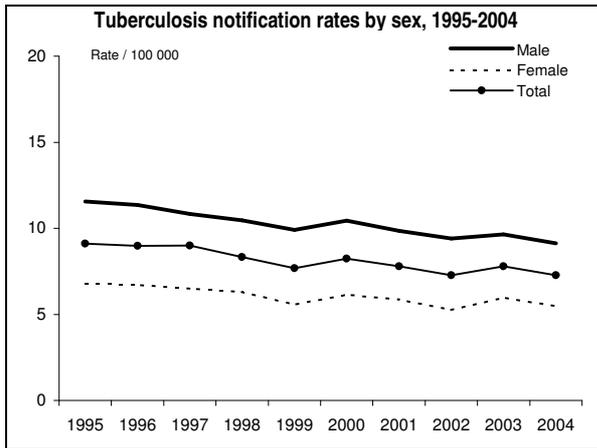
Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	Partial
Linkage with TB case notification	No §
Cases with DST results	763
Cases resistant to INH	84 (11.0%)
Cases resistant to RMP	32 (4.2%)
MDR cases	24 (3.1%)
Cases resistant to EMB	13 (1.7%)
Cases resistant to SM	85 (11.1%)

§ Data from a network of national labs (9 Regions) (representativeness unknown)

Treatment Outcome Monitoring, 2003

Geographic coverage	Selected Centres
Cohort	New pulmonary culture positive
Included in TOM cohort	122
Success	113 (93%)
Death	2 (2%)
Failure	0 (0%)
Default	4 (3%)
Transfer	3 (2%)
Still on treatment	0 (0%)
Unknown	0 (0%)



Kazakhstan

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	32 131
Notification rate per 100 000	216.5
Sex ratio (M:F)	1.4
Median age-group, nationals	25-34 years
Median age-group, non-nationals	-
Foreign citizens	0 (0.0%)
New (never-treated)	23 163 (72.1%)
Culture positive	4 835 (15.0%)
Pulmonary	30 992 (96.5%)
of which sputum smear positive	13 836 (44.6%)

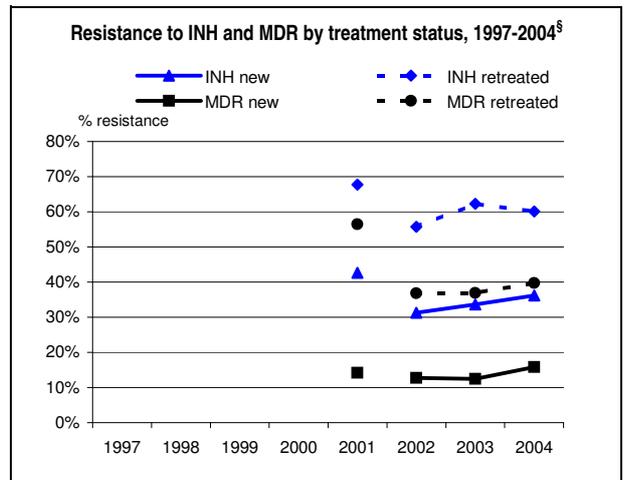
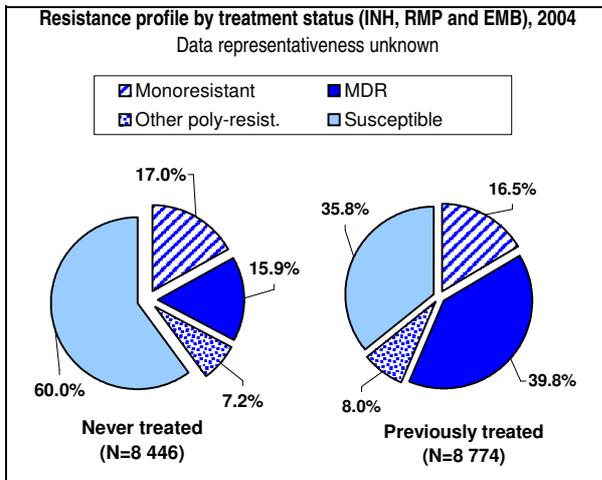
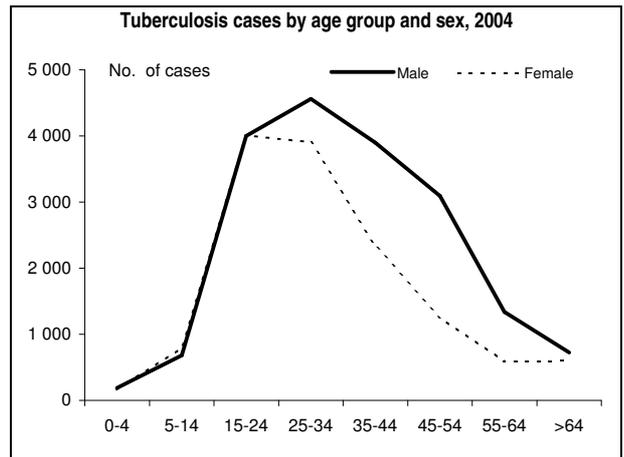
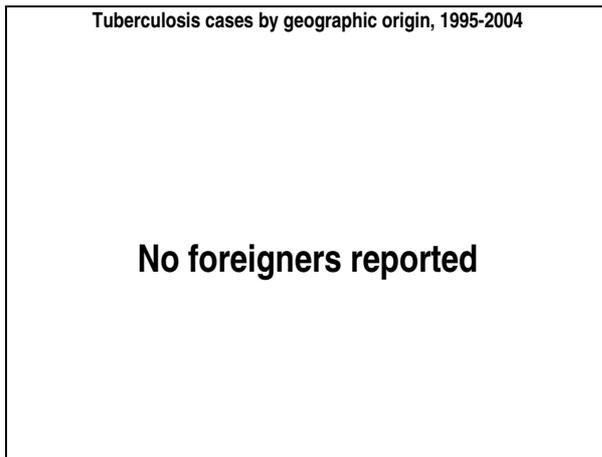
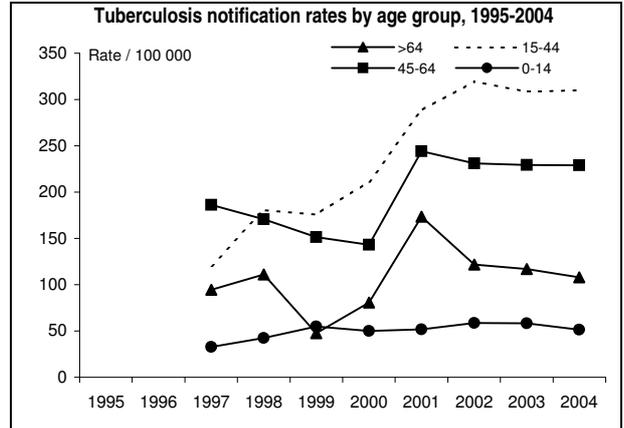
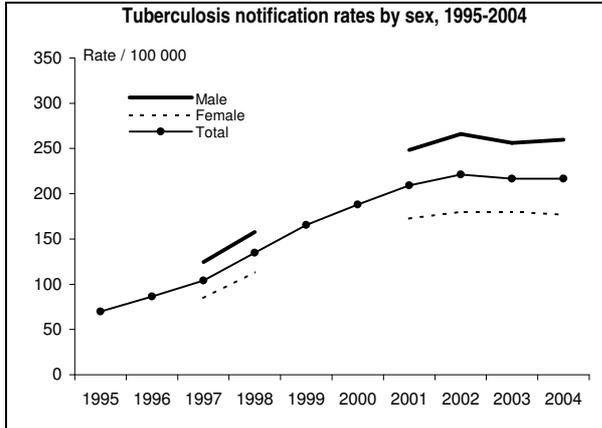
Drug Resistance Surveillance, 2004

International proficiency testing	Yes (2002)
Geographic coverage	National
Linkage with TB case notification	No *
Cases with DST results	17 220
Cases resistant to INH	8 333 (48.4%)
Cases resistant to RMP	5 173 (30.0%)
MDR cases	4 828 (28.0%)
Cases resistant to EMB	4 629 (26.9%)
Cases resistant to SM	8 782 (51.0%)

* All labs doing DST (representativeness unknown)

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary smear positive
Included in TOM cohort	8 660
Success	6 452 (75%)
Death	453 (5%)
Failure	1 193 (14%)
Default	389 (4%)
Transfer	173 (2%)
Still on treatment	0 (0%)
Unknown	0 (0%)



§ 2001: nationwide survey; other years: diagnostic DST results

Kyrgyzstan

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	6 641
Notification rate per 100 000	127.6
Sex ratio (M:F)*	1.3
Median age-group, nationals*	25-34 years
Median age-group, non-nationals	-
Foreign born\ citizens	-
New (never-treated)	5 756 (86.7%)
Culture positive	1 098 (16.5%)
Pulmonary	4 715 (71.0%)
of which sputum smear positive	2 347 (49.8%)

* New cases only

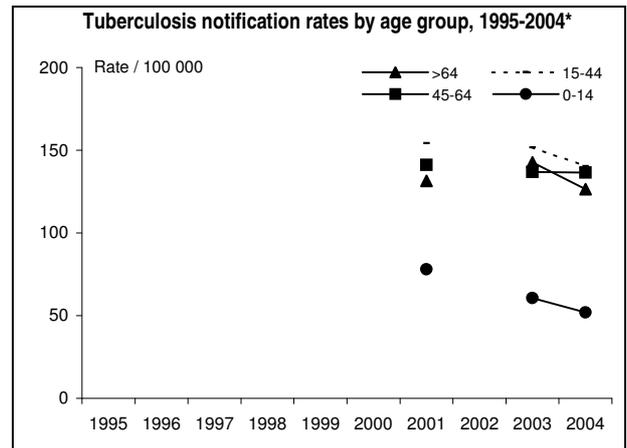
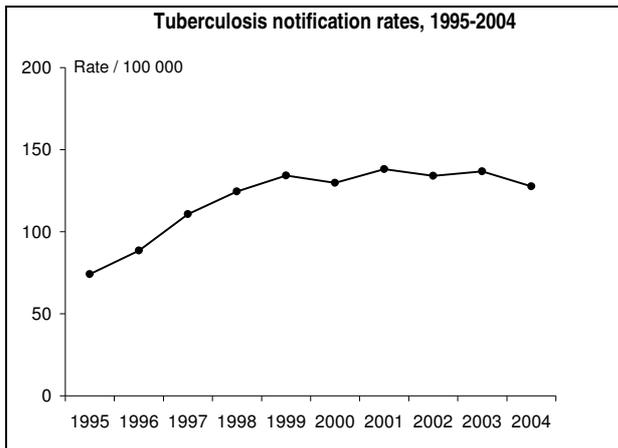
Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	Partial
Linkage with TB case notification	No §
Cases with DST results	941
Cases resistant to INH	453 (48.1%)
Cases resistant to RMP	280 (29.8%)
MDR cases	259 (27.5%)
Cases resistant to EMB	201 (21.4%)
Cases resistant to SM	585 (62.2%)

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

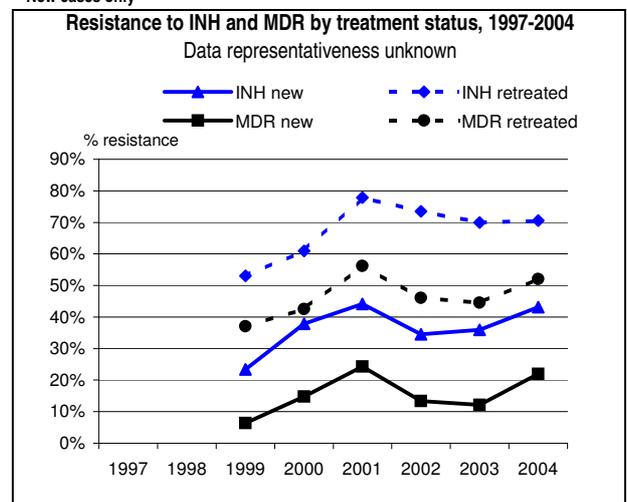
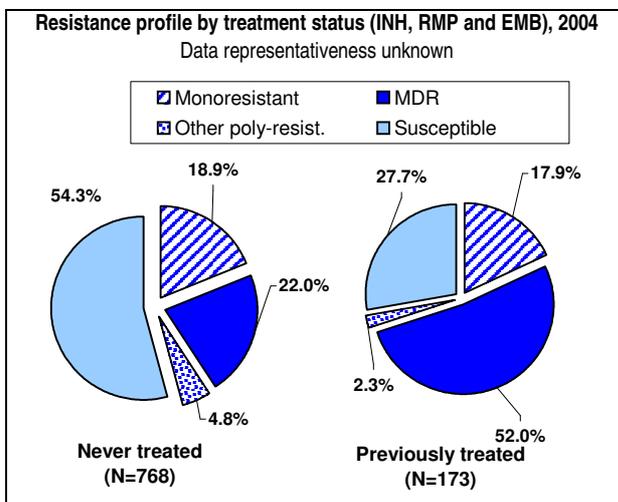
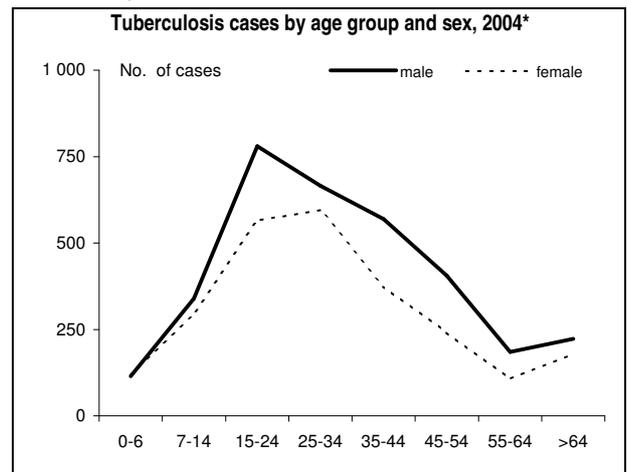
Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary smear positive
Included in TOM cohort	1 634
Success	1 380 (84%)
Death	71 (4%)
Failure	97 (6%)
Default	62 (4%)
Transfer	24 (1%)
Still on treatment	0 (0%)
Unknown	0 (0%)



Tuberculosis cases by geographic origin, 1995-2004

Foreigners not included in TB notifications



Latvia

Tuberculosis case notifications, 2004

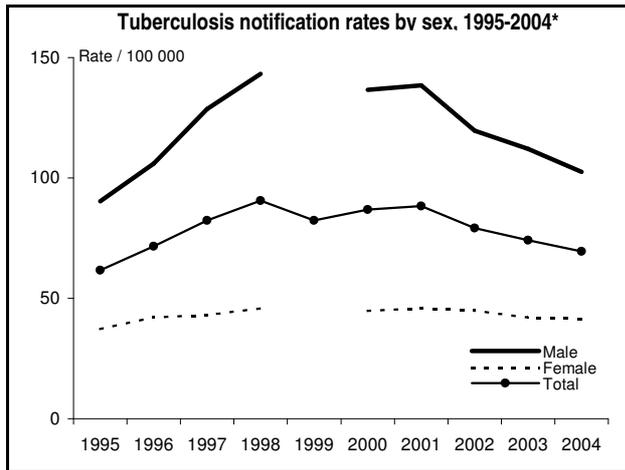
Type of data	Individual
Total number of cases	1 610
Notification rate per 100 000	69.4
Sex ratio (M:F)	2.1
Median age-group, nationals	35-44 years
Median age-group, non-nationals	45-54 years
Foreign born	119 (7.4%)
New (never-treated)	1 373 (85.3%)
Culture positive	1 156 (71.8%)
Pulmonary	1 405 (87.3%)
of which sputum smear positive	742 (52.8%)

Drug Resistance Surveillance, 2004

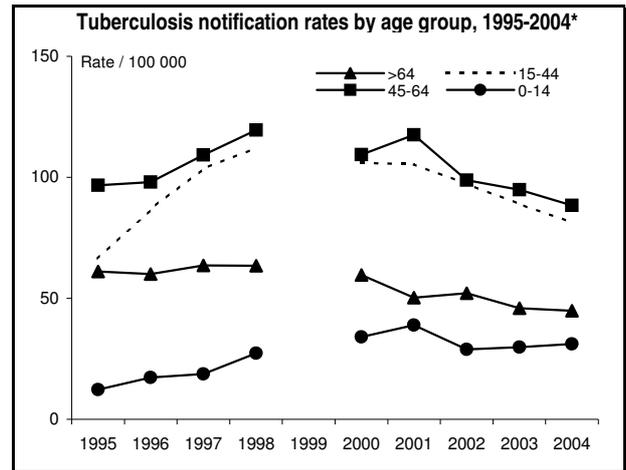
International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	1 105
Cases resistant to INH	346 (31.3%)
Cases resistant to RMP	198 (17.9%)
MDR cases	196 (17.7%)
Cases resistant to EMB	141 (12.8%)
Cases resistant to SM	330 (29.9%)

Treatment Outcome Monitoring, 2003

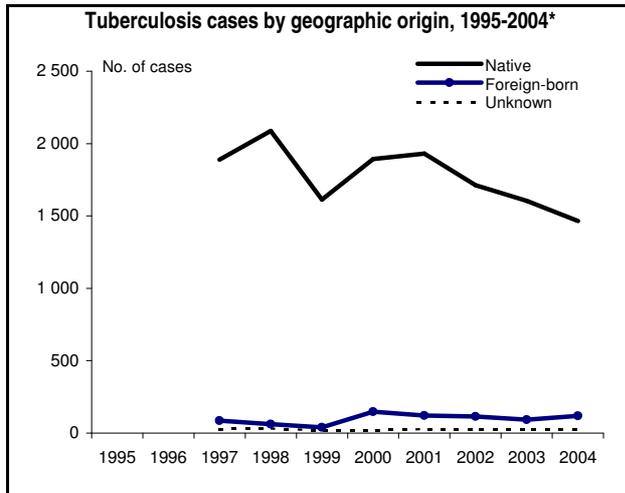
Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	963
Success	749 (78%)
Death	87 (9%)
Failure	5 (1%)
Default	49 (5%)
Transfer	2 (0%)
Still on treatment	71 (7%)
Unknown	0 (0%)



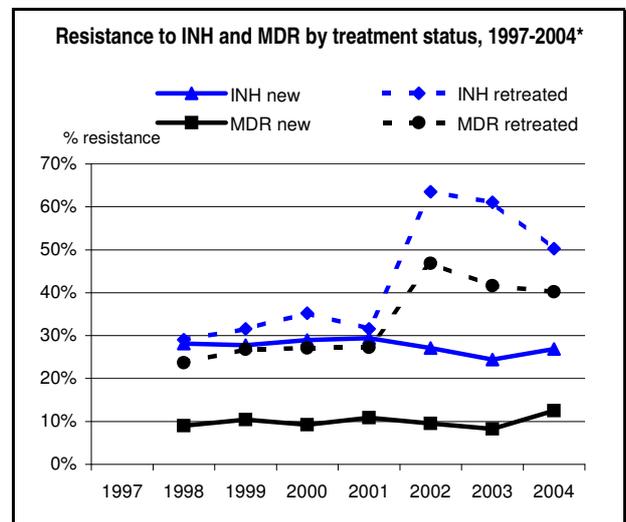
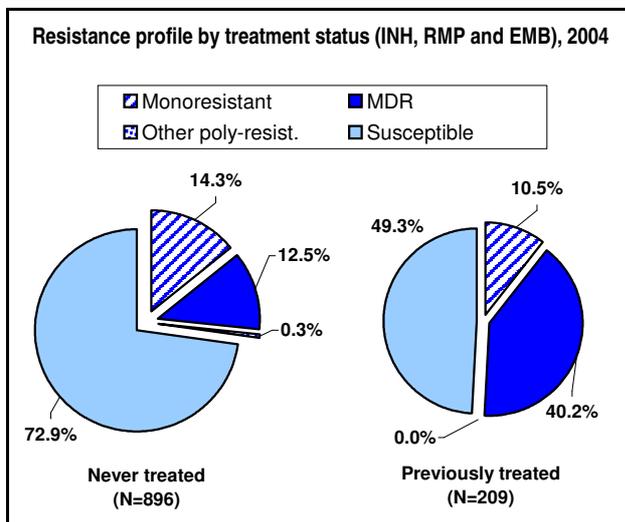
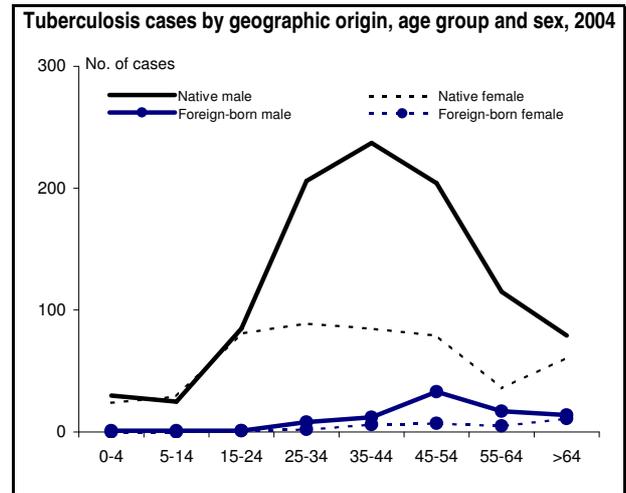
* Retreated cases other than relapses included since 2001



* Retreated cases other than relapses included since 2001



* Retreated cases other than relapses included since 2001



* Retreated cases other than relapses included since 2001

Lithuania

Tuberculosis case notifications, 2004

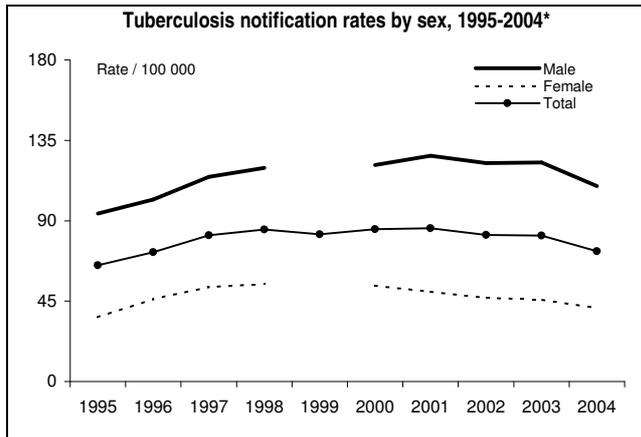
Type of data	Individual
Total number of cases	2 514
Notification rate per 100 000	73.0
Sex ratio (M:F)	2.3
Median age-group, nationals	45-54 years
Median age-group, non-nationals	45-54 years
Foreign born	87 (3.5%)
New (never-treated)	2 026 (80.6%)
Culture positive	1 592 (63.3%)
Pulmonary	2 125 (84.5%)
of which sputum smear positive	1 249 (58.8%)

Drug Resistance Surveillance, 2004

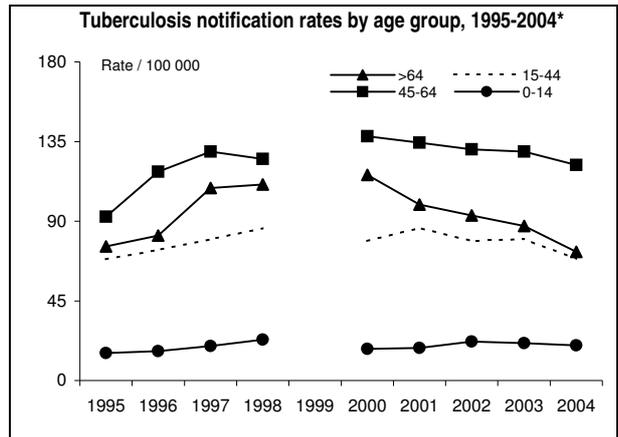
International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	1 592
Cases resistant to INH	513 (32.2%)
Cases resistant to RMP	324 (20.4%)
MDR cases	318 (20.0%)
Cases resistant to EMB	192 (12.1%)
Cases resistant to SM	474 (29.8%)

Treatment Outcome Monitoring, 2003

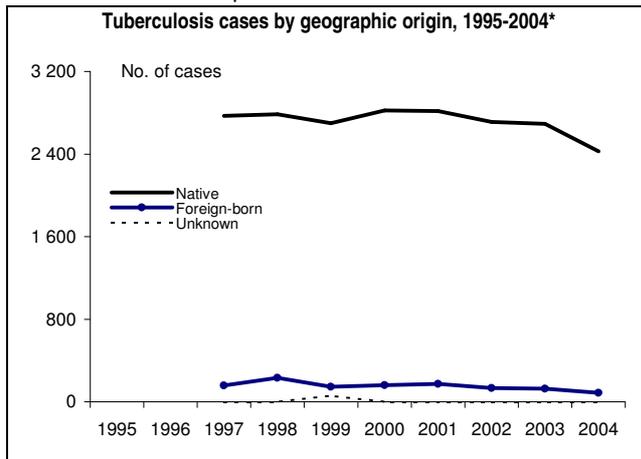
Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	1 099
Success	836 (76%)
Death	84 (8%)
Failure	25 (2%)
Default	90 (8%)
Transfer	7 (1%)
Still on treatment	53 (5%)
Unknown	4 (0%)



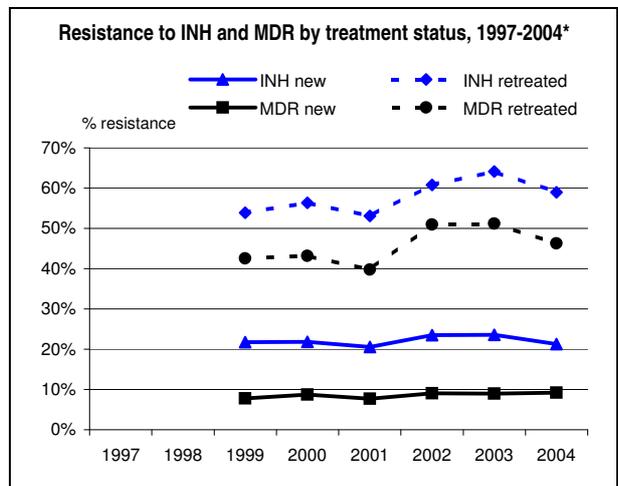
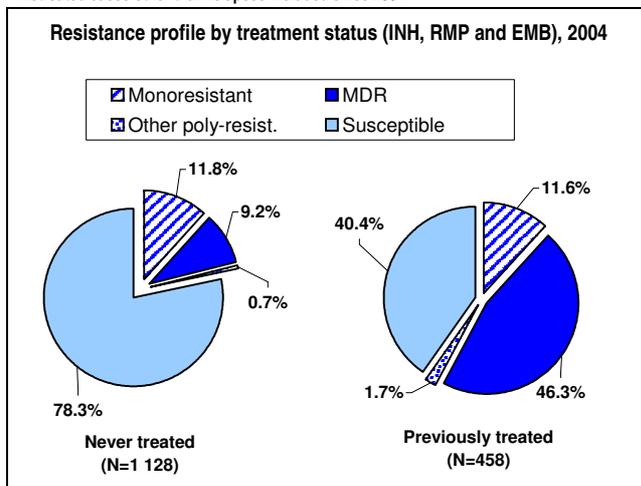
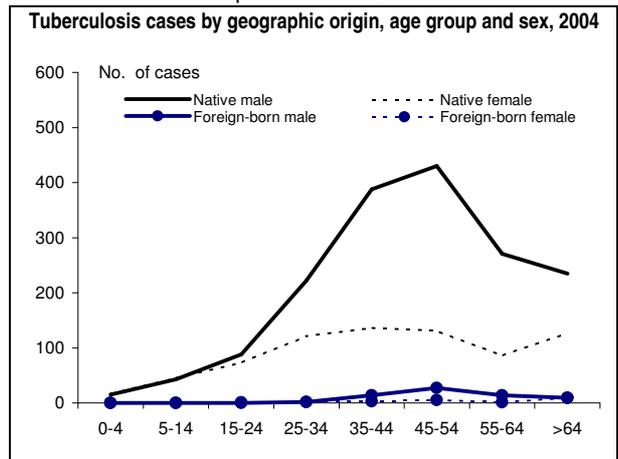
* Retreated cases other than relapses included since 2001



* Retreated cases other than relapses included since 2001



* Retreated cases other than relapses included since 2001



* Retreated cases other than relapses included since 2001

Luxembourg

Tuberculosis case notifications, 2004

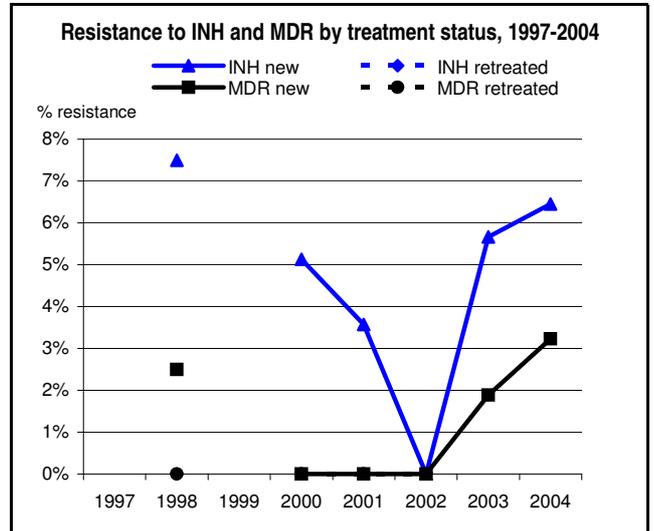
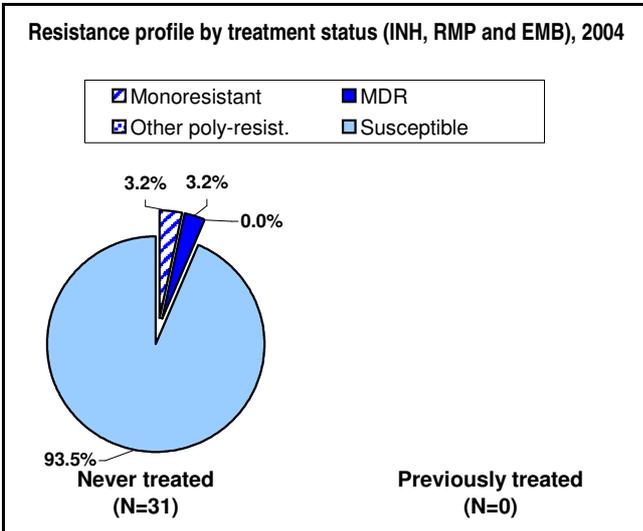
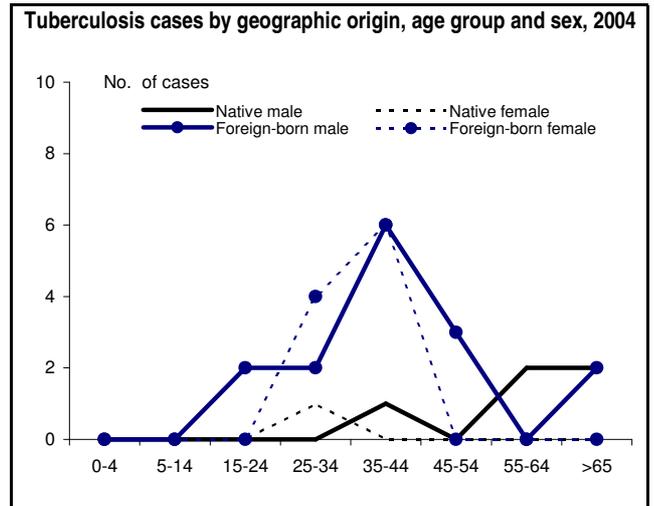
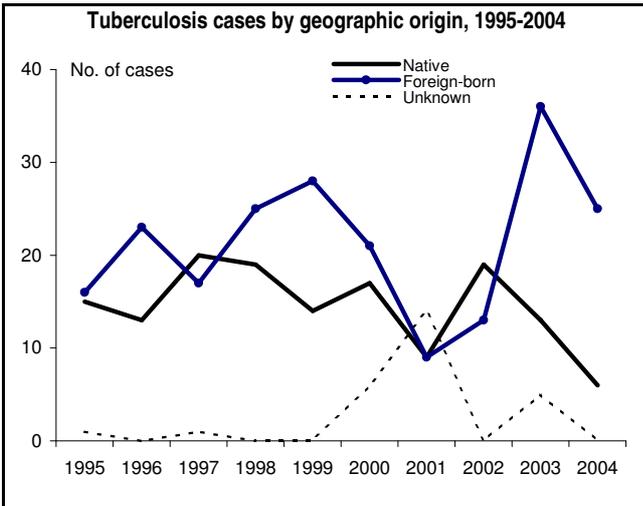
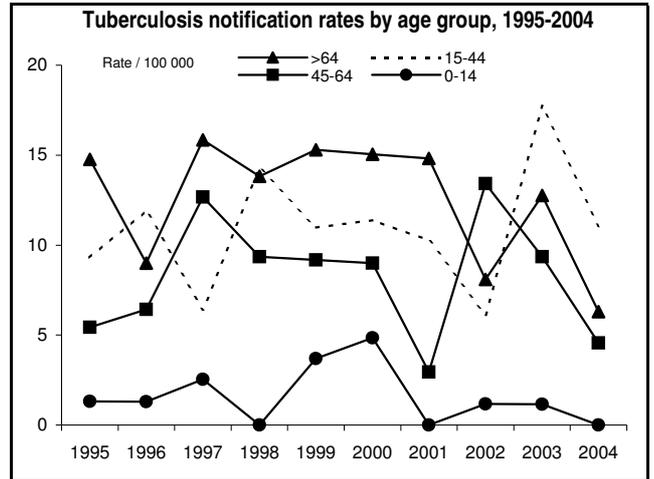
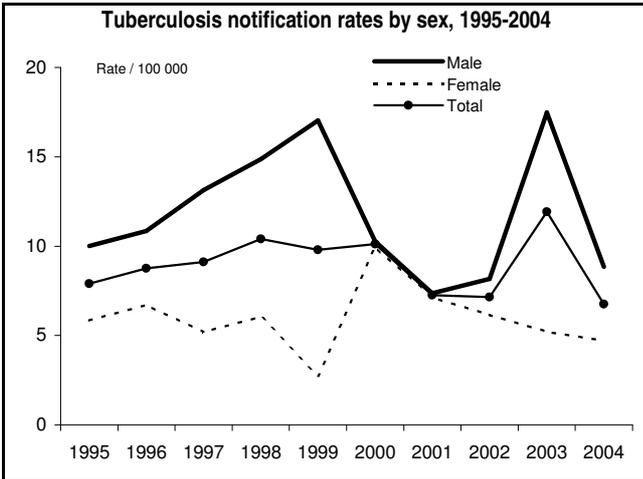
Type of data	Individual
Total number of cases	31
Notification rate per 100 000	6.8
Sex ratio (M:F)	1.8
Median age-group, nationals	55-64 years
Median age-group, non-nationals	35-44 years
Foreign born	25 (80.6%)
New (never-treated)	31 (100.0%)
Culture positive	31 (100.0%)
Pulmonary	29 (93.5%)
of which sputum smear positive	20 (69.0%)

Drug Resistance Surveillance, 2004

International proficiency testing	No
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	31
Cases resistant to INH	2 (6.5%)
Cases resistant to RMP	1 (3.2%)
MDR cases	1 (3.2%)
Cases resistant to EMB	1 (3.2%)
Cases resistant to SM	1 (3.2%)

Treatment Outcome Monitoring, 2003

NOT AVAILABLE



F.Y.R. of Macedonia

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	680
Notification rate per 100 000	33.5
Sex ratio (M:F)	1.4
Median age-group, nationals	35-44 years
Median age-group, non-nationals	45-54 years
Foreign born *	3 (0.4%)
New (never-treated)	607 (89.3%)
Culture positive	143 (21.0%)
Pulmonary	509 (74.9%)
of which sputum smear positive	248 (48.7%)

* 23% with geographic origin unknown

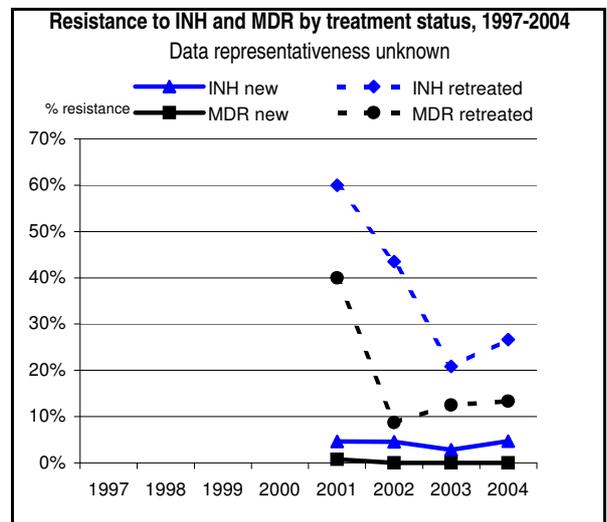
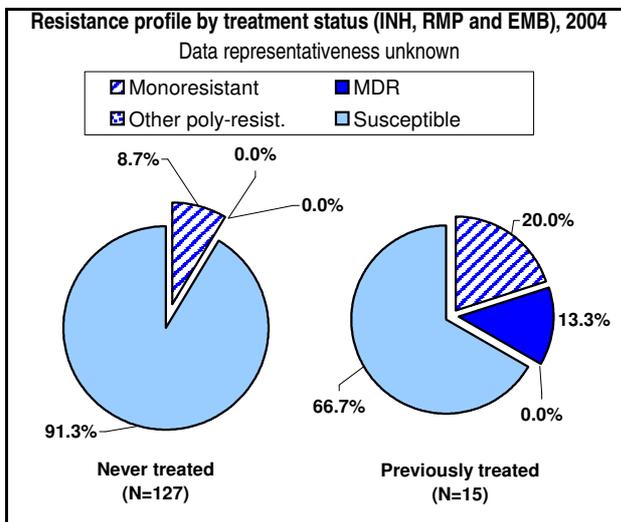
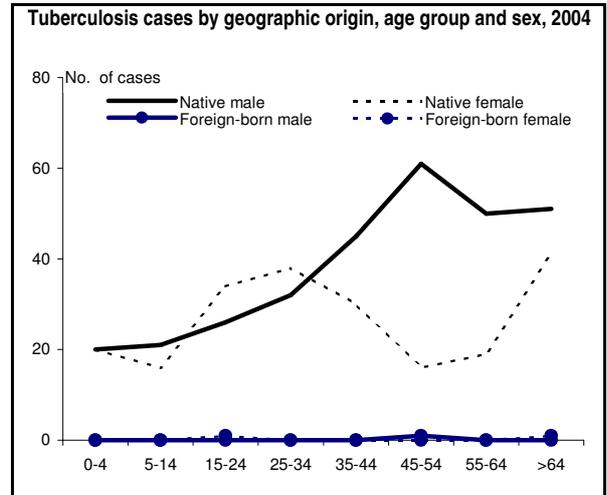
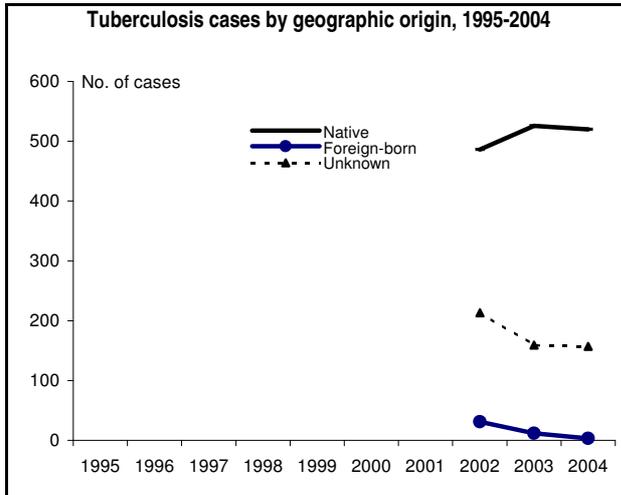
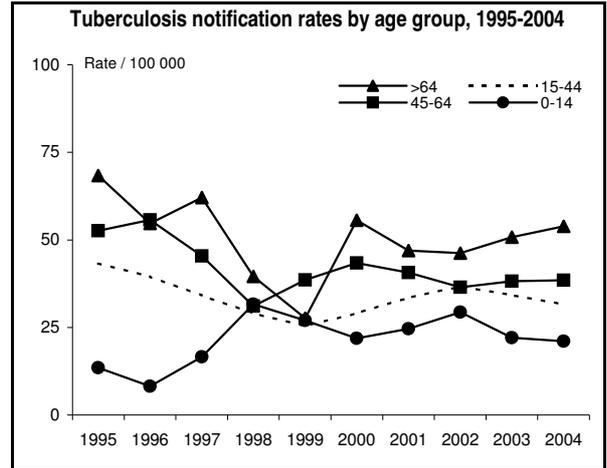
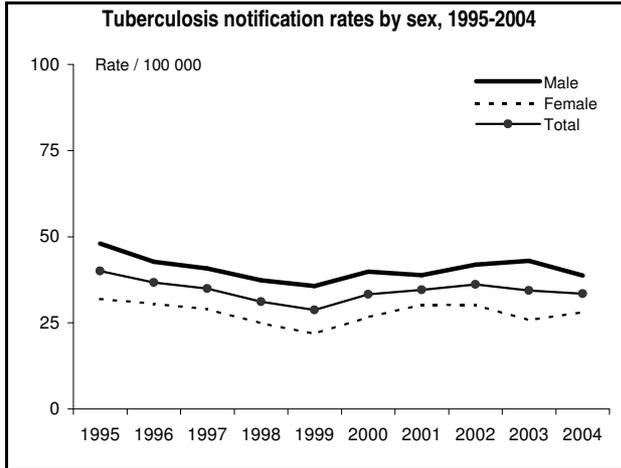
Drug Resistance Surveillance, 2004

International proficiency testing	No
Geographic coverage	National †
Linkage with TB case notification	Yes
Cases with DST results	168
Cases resistant to INH	10 (6.0%)
Cases resistant to RMP	7 (4.2%)
MDR cases	2 (1.2%)
Cases resistant to EMB	1 (0.6%)
Cases resistant to SM	26 (15.5%)
† NRL (data representativeness unknown)	

Culture and DST not routinely used

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary smear positive
Included in TOM cohort	200
Success	167 (84%)
Death	3 (2%)
Failure	0 (0%)
Default	25 (13%)
Transfer	1 (1%)
Still on treatment	0 (0%)
Unknown	4 (2%)



Malta

Tuberculosis case notifications, 2004

Type of data	Individual
Total number of cases	19
Notification rate per 100 000	4.8
Sex ratio (M:F)	2.8
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Foreign citizens	12 (63.2%)
New (never-treated)	18 (94.7%)
Culture positive	8 (42.1%)
Pulmonary	14 (73.7%)
of which sputum smear positive	2 (14.3%)

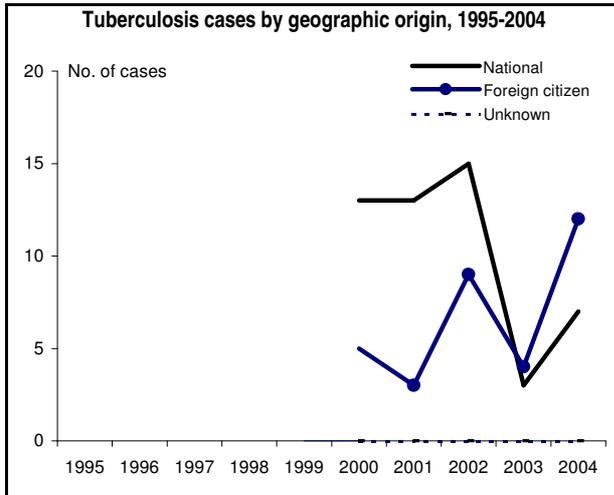
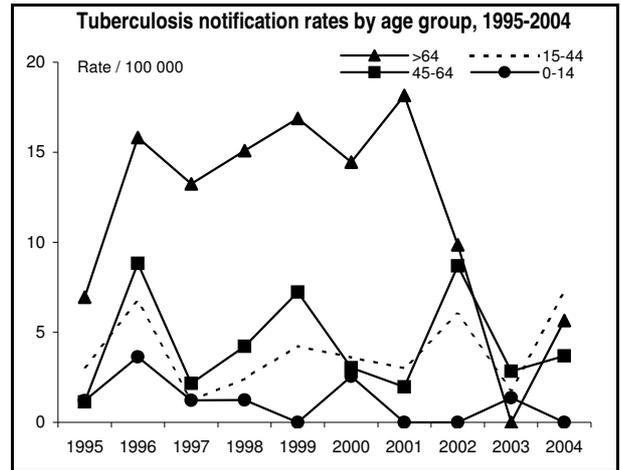
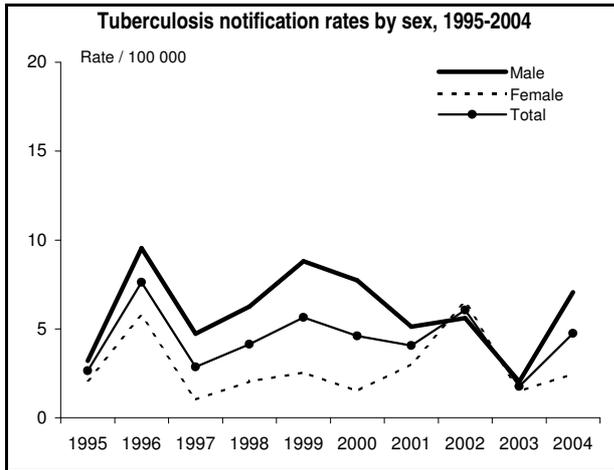
Drug Resistance Surveillance, 2004

International proficiency testing	No *
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	8
Cases resistant to INH	0 (0.0%)
Cases resistant to RMP	0 (0.0%)
MDR cases	0 (0.0%)
Cases resistant to EMB	0 (0.0%)
Cases resistant to SM	0 (0.0%)

* DST done abroad
Data representativeness unknown

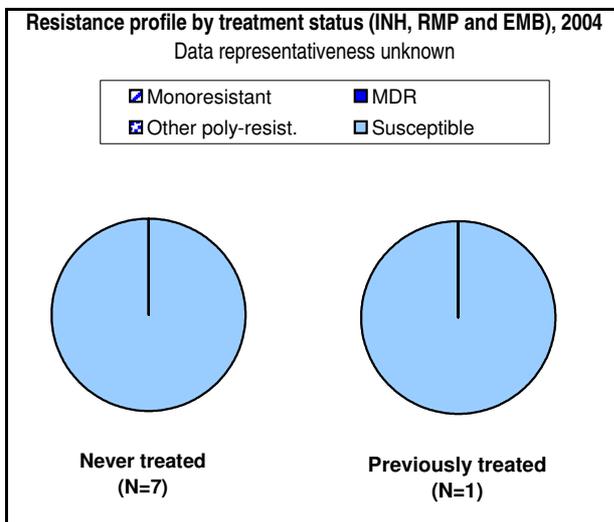
Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	2
Success	2 (100%)
Death	0 (0%)
Failure	0 (0%)
Default	0 (0%)
Transfer	0 (0%)
Still on treatment	0 (0%)
Unknown	0 (0%)



Tuberculosis cases by geographic origin, age group and sex, 2004

Insufficient number of cases for graphic presentation



Resistance to INH and MDR by treatment status, 1997-2004
Data representativeness unknown

No resistance reported

Moldova, Republic of

Tuberculosis case notifications, 2004

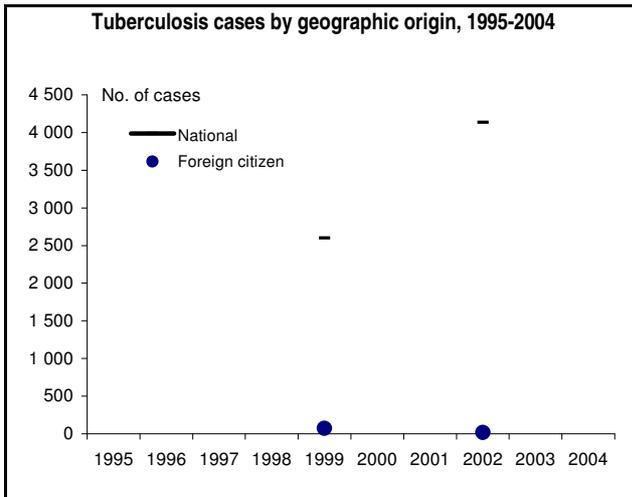
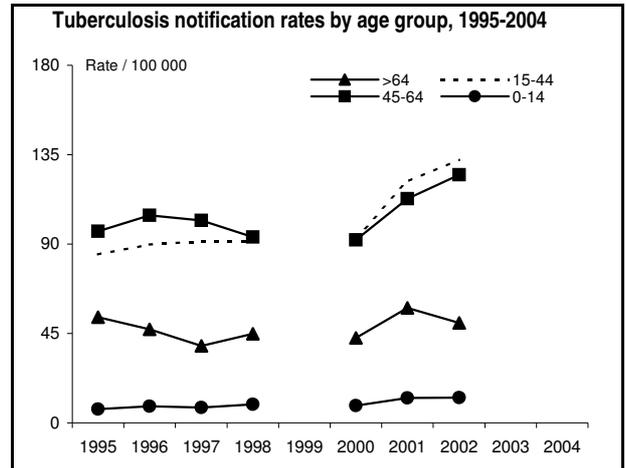
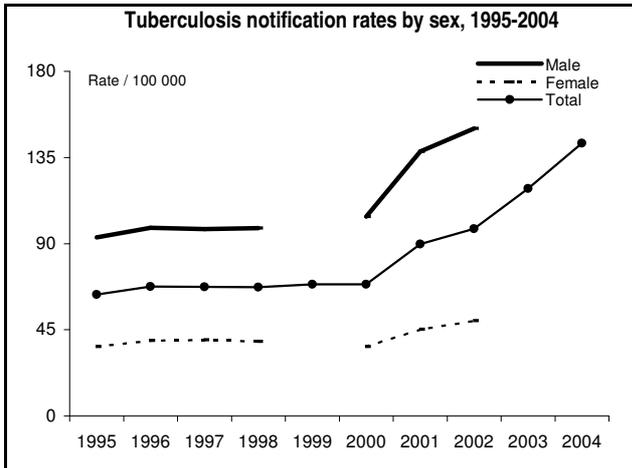
Type of data	Aggregate
Total number of cases	6 008
Notification rate per 100 000	142.4
Sex ratio (M:F)	-
Median age-group, nationals	-
Median age-group, non-nationals	-
Foreign born \ citizens	-
New (never-treated)	4 035 (67.2%)
Culture positive	-
Pulmonary	5 281 (87.9%)
of which sputum smear positive	2 898 (54.9%)

Drug Resistance Surveillance, 2002

International proficiency testing	No
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	1 022
Cases resistant to INH	252 (24.7%)
Cases resistant to RMP	262 (25.6%)
MDR cases	192 (18.8%)
Cases resistant to EMB	35 (3.4%)
Cases resistant to SM	367 (35.9%)
Data representativeness unknown	
Culture not routinely performed	

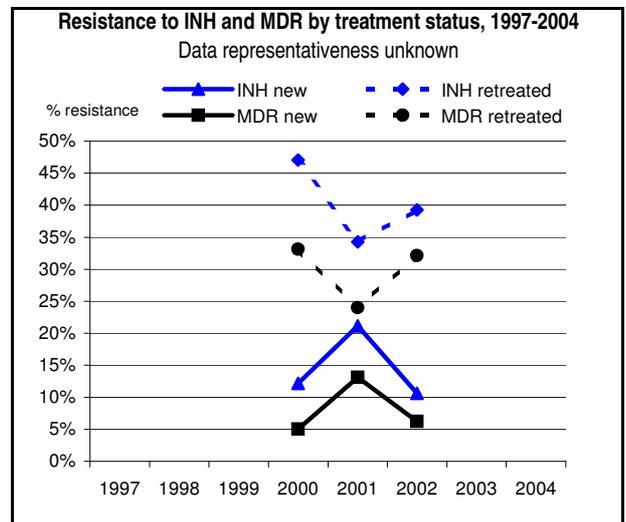
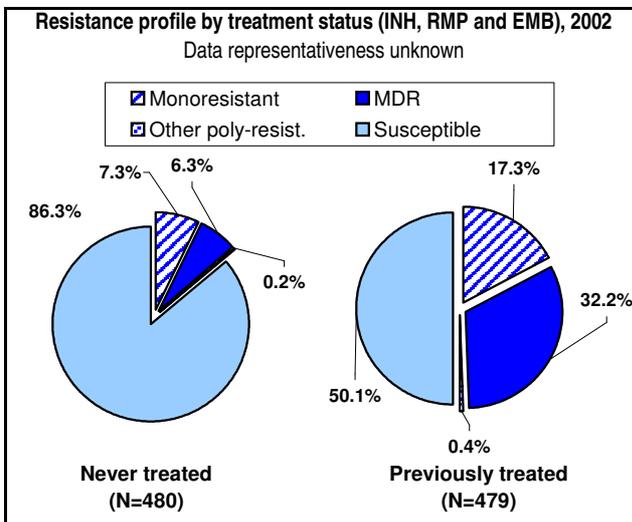
Treatment Outcome Monitoring, 2003

Geographic coverage	DOTS Areas	
Cohort	New pulmonary smear positive	
Included in TOM cohort	1 210	
Success	668	(55%)
Death	81	(7%)
Failure	124	(10%)
Default	108	(9%)
Transfer	31	(3%)
Still on treatment	13	(1%)
Unknown	185	(15%)
Data representativeness unknown		



Tuberculosis cases by geographic origin, age group and sex, 2004

NOT AVAILABLE



Monaco

Tuberculosis case notifications, 2004

NOT AVAILABLE

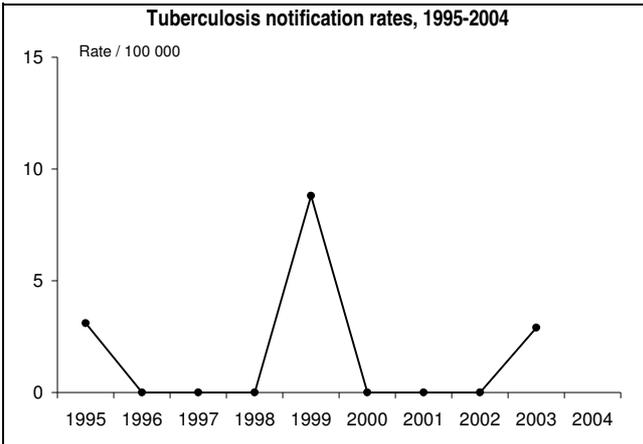
Drug Resistance Surveillance, 2004

NOT AVAILABLE

Treatment Outcome Monitoring, 2003

NOT AVAILABLE

Tuberculosis notification rates, 1995-2004



Tuberculosis notification rates by age group, 1995-2004

NOT AVAILABLE

Tuberculosis cases by geographic origin, 1995-2004

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2004

NOT AVAILABLE

Resistance profile by treatment status (INH, RMP and EMB), 2004

NOT AVAILABLE

Resistance to INH and MDR by treatment status, 1997-2004

NOT AVAILABLE

The Netherlands

Tuberculosis case notifications, 2004

Type of data	Individual
Total number of cases	1 344
Notification rate per 100 000	8.3
Sex ratio (M:F)	1.4
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Foreign citizens	721 (53.6%)
New (never-treated)	1 120 (83.3%)
Culture positive*	759 (56.5%)
Pulmonary	797 (59.3%)
of which sputum smear positive	369 (46.3%)

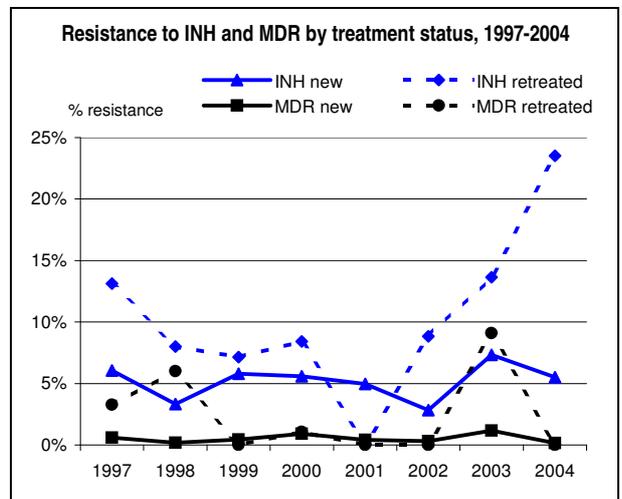
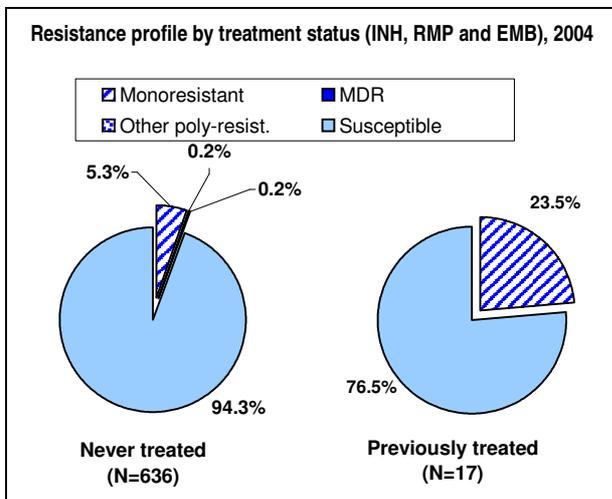
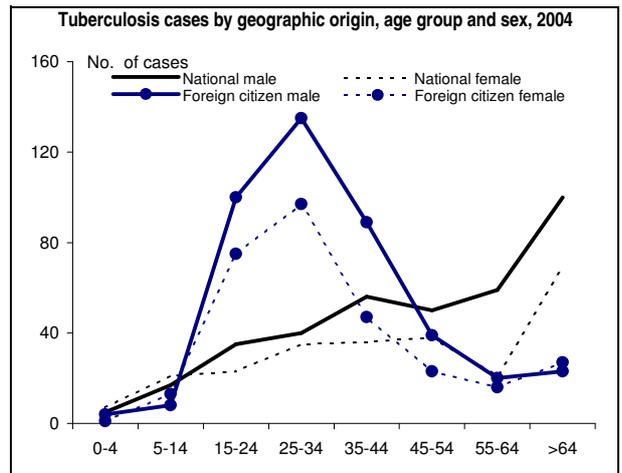
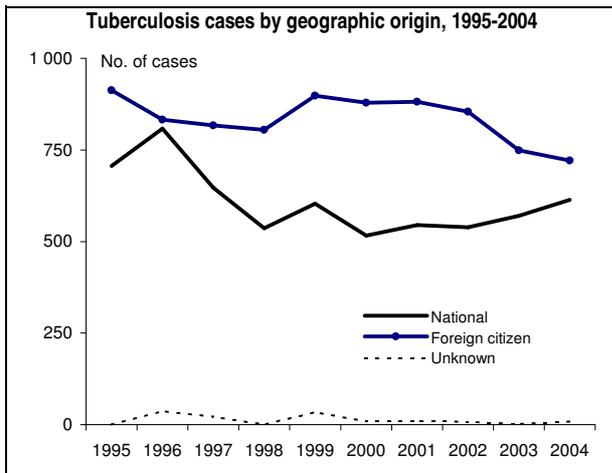
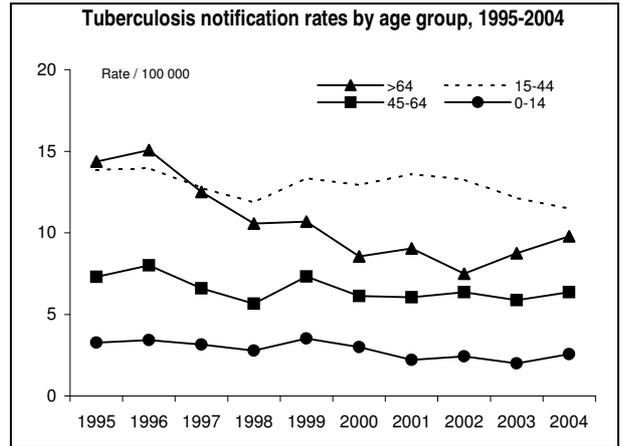
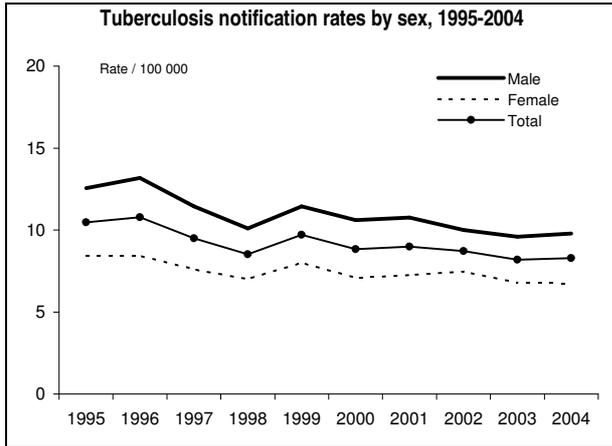
* Provisional data (34% without culture result)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	759
Cases resistant to INH	44 (5.8%)
Cases resistant to RMP	4 (0.5%)
MDR cases	3 (0.4%)
Cases resistant to EMB	1 (0.1%)
Cases resistant to SM	27 (3.6%)

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	439
Success	377 (86%)
Death	31 (7%)
Failure	0 (0%)
Default	22 (5%)
Transfer	9 (2%)
Still on treatment	0 (0%)
Unknown	0 (0%)



Norway

Tuberculosis case notifications, 2004

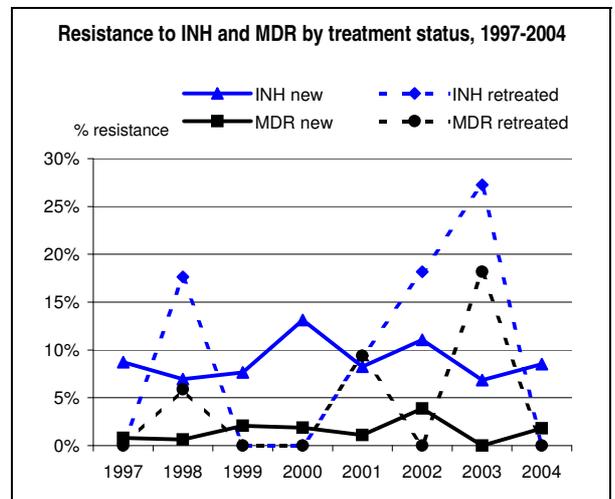
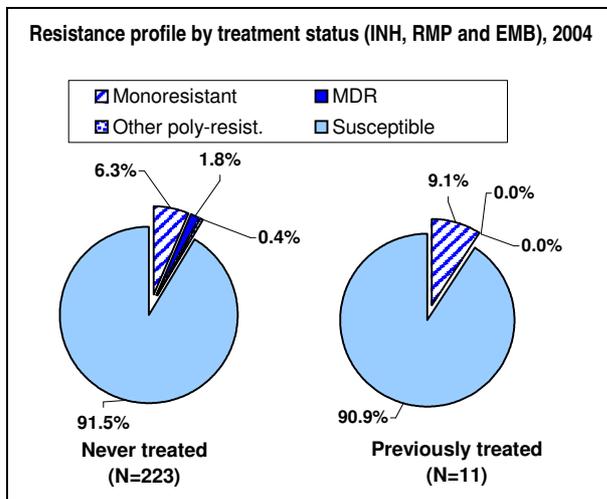
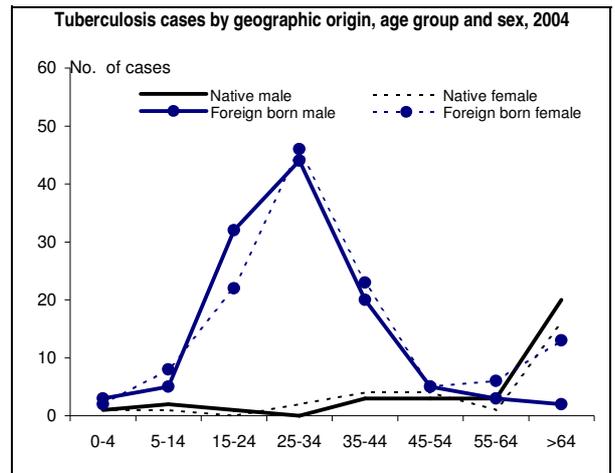
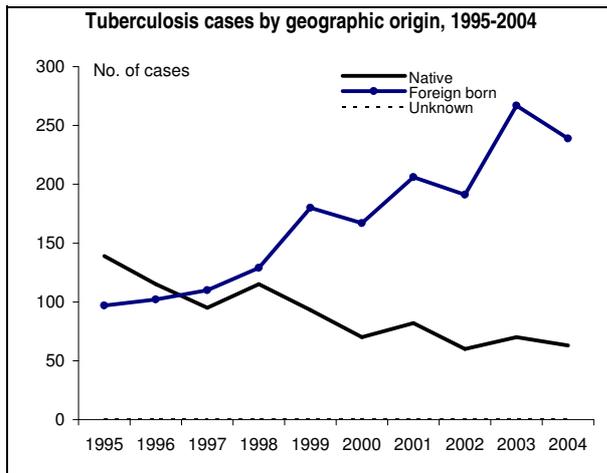
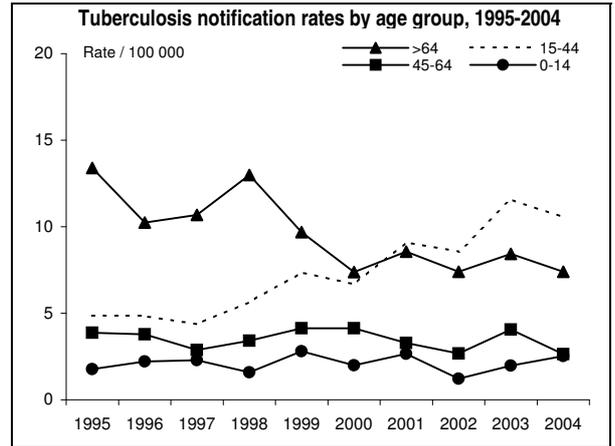
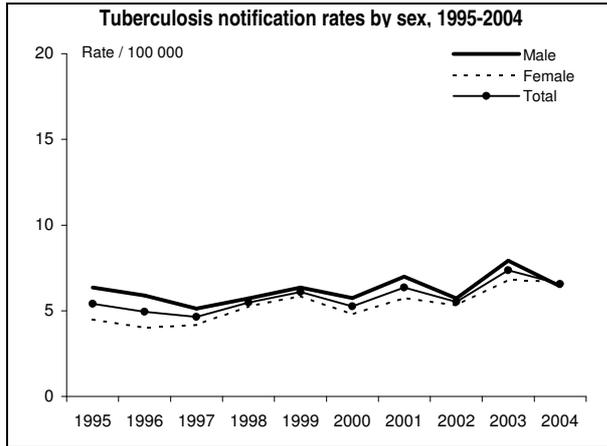
Type of data	Individual
Total number of cases	302
Notification rate per 100 000	6.6
Sex ratio (M:F)	0.9
Median age-group, nationals	>64 years
Median age-group, non-nationals	25-34 years
Foreign born	239 (79.1%)
New (never-treated)	260 (86.1%)
Culture positive	246 (81.5%)
Pulmonary	194 (64.2%)
among which sputum smear	52 (26.8%)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	246
Cases resistant to INH	19 (7.7%)
Cases resistant to RMP	5 (2.0%)
MDR cases	4 (1.6%)
Cases resistant to EMB	3 (1.2%)
Cases resistant to SM	25 (10.2%)

Treatment Outcome Monitoring, 2003

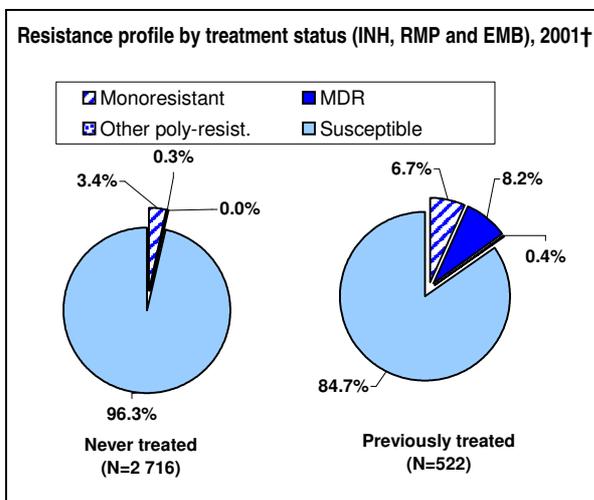
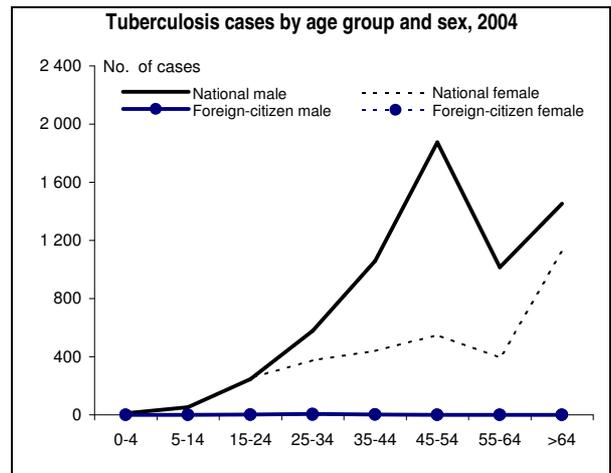
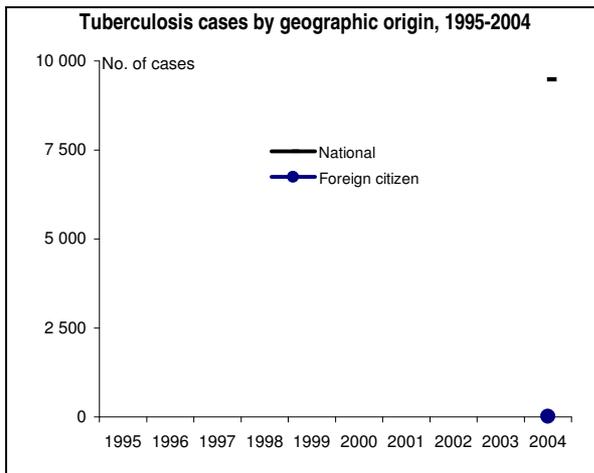
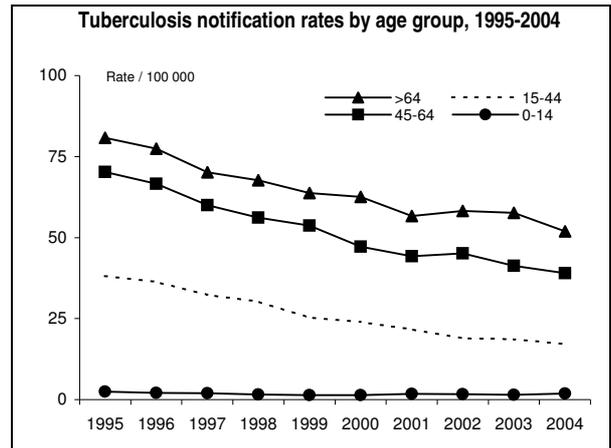
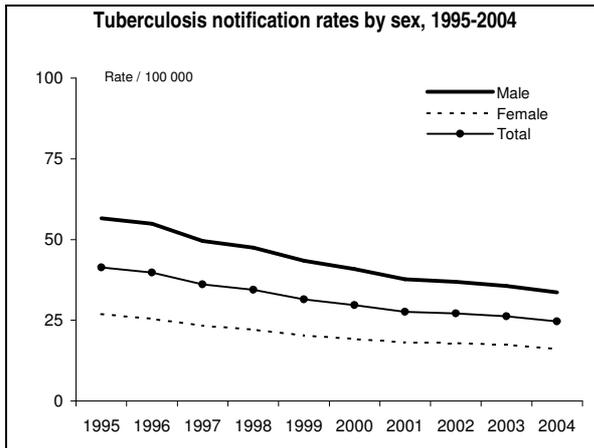
Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	132
Success	111 (84%)
Death	13 (10%)
Failure	0 (0%)
Default	3 (2%)
Transfer	5 (4%)
Still on treatment	0 (0%)
Unknown	0 (0%)



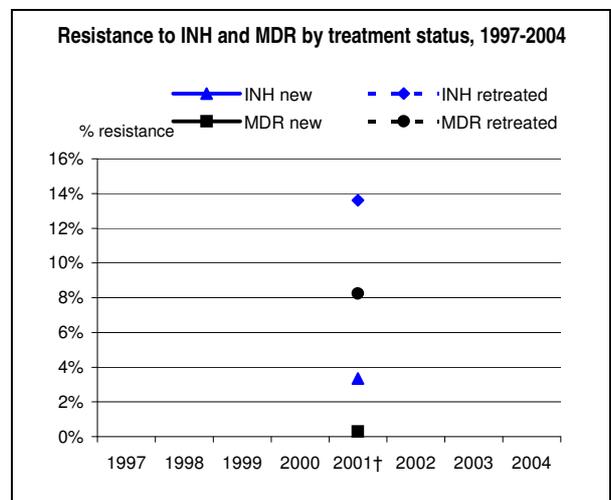
Poland

Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2001		Treatment Outcome Monitoring, 2003	
Type of data	Individual *	International proficiency testing	Yes (2003)	Geographic coverage	National
Total number of cases	9 493	Geographic coverage	National	Cohort	New pulmonary culture positive
Notification rate per 100 000	24.6	Linkage with TB case notification	No †	Included in TOM cohort	4 573
Sex ratio (M:F)	2.0	Cases with DST results	3 239	Success	3 643 (80%)
Median age-group (all cases)	45-54 years	Cases resistant to INH	162 (5.0%)	Death	224 (5%)
Median age-group, non-nationals	25-34 years	Cases resistant to RMP	66 (2.0%)	Failure	54 (1%)
Foreign citizens	16 (0.2%)	MDR cases	51 (1.6%)	Default	305 (7%)
New (never-treated)	8 337 (87.8%)	Cases resistant to EMB	16 (0.5%)	Transfer	81 (2%)
Culture positive	5 049 (53.2%)	Cases resistant to SM	131 (4.0%)	Still on treatment	20 (0%)
Pulmonary	8 691 (91.6%)	† Survey of all laboratories doing DST		Unknown	246 (5%)
of which sputum smear positive	3 219 (37.0%)				

* Except for origin and DST



† Survey of all laboratories doing DST



† Survey of all laboratories doing DST

Portugal

Tuberculosis case notifications, 2004

Type of data	Individual
Total number of cases	3 873
Notification rate per 100 000	37.1
Sex ratio (M:F)	2.1
Median age-group, nationals	35-44 years
Median age-group, non-nationals	35-44 years
Foreign born	455 (11.7%)
New (never-treated)	3 473 (89.7%)
Culture positive	2 092 (54.0%)
Pulmonary	2 871 (74.1%)
of which sputum smear positive	1 716 (59.8%)

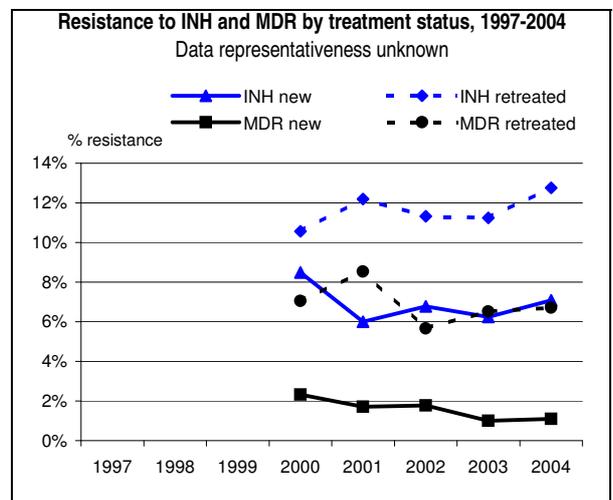
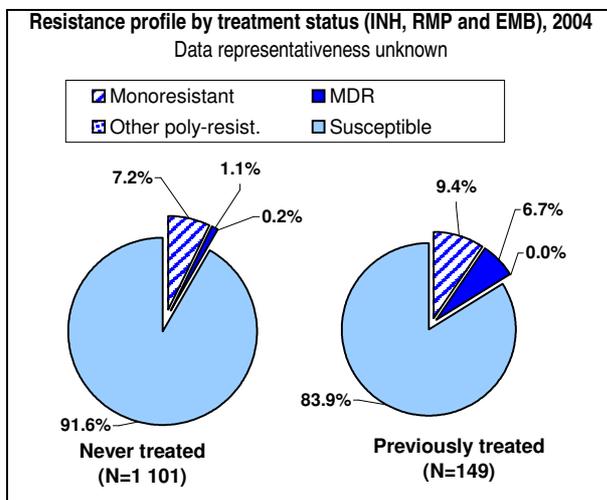
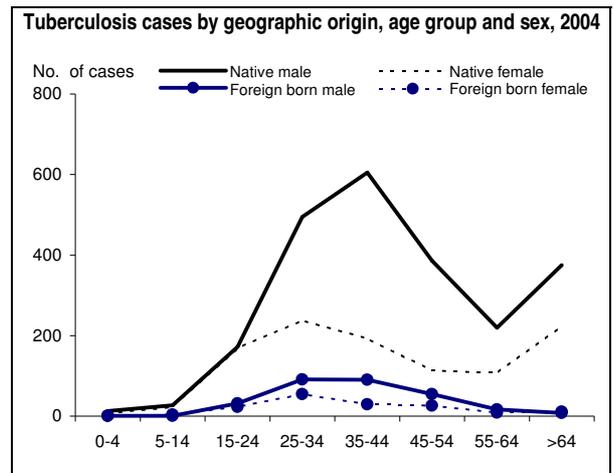
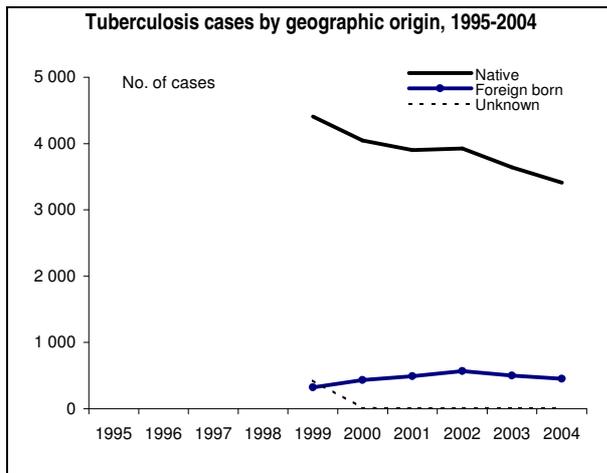
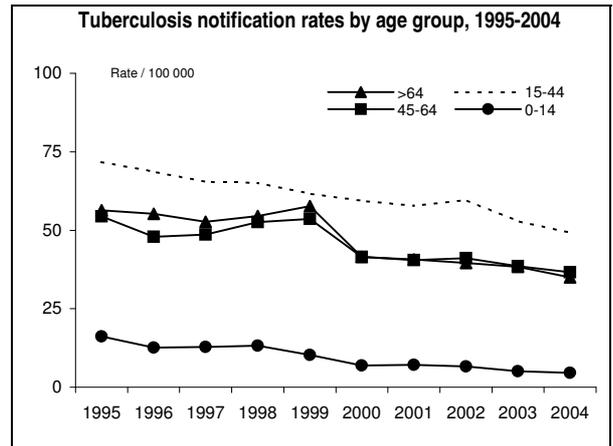
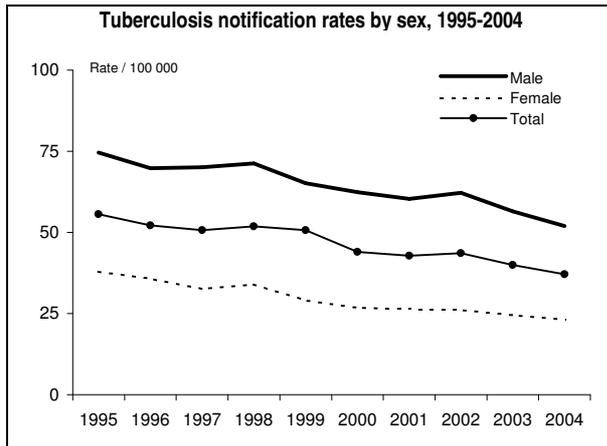
Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	1 250
Cases resistant to INH	97 (7.8%)
Cases resistant to RMP	26 (2.1%)
MDR cases	22 (1.8%)
Cases resistant to EMB	31 (2.5%)
Cases resistant to SM	127 (10.2%)

Data representativeness unknown

Treatment Outcome Monitoring, 2003

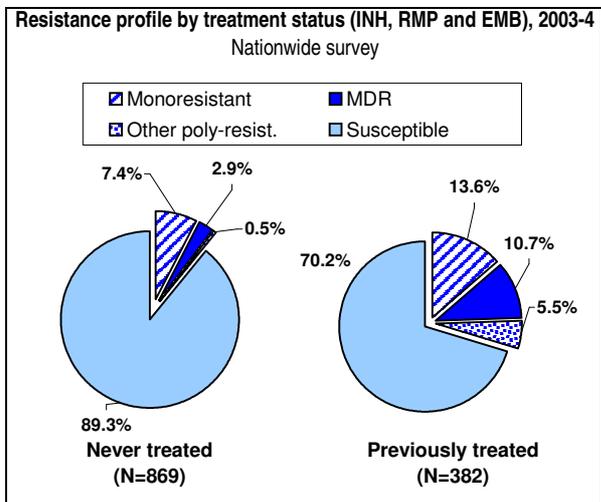
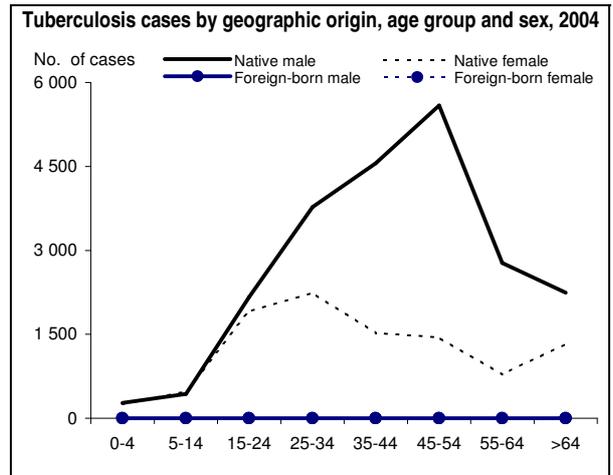
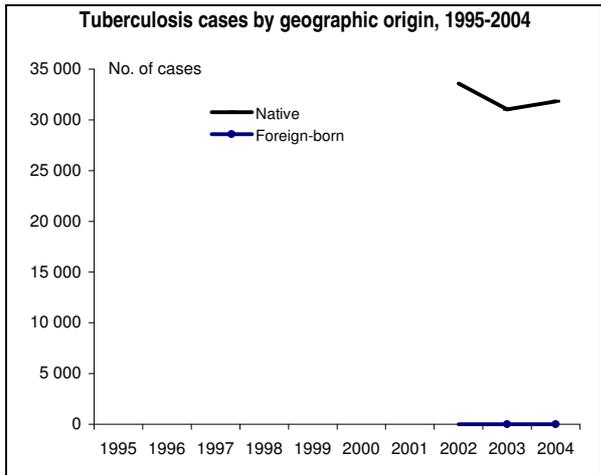
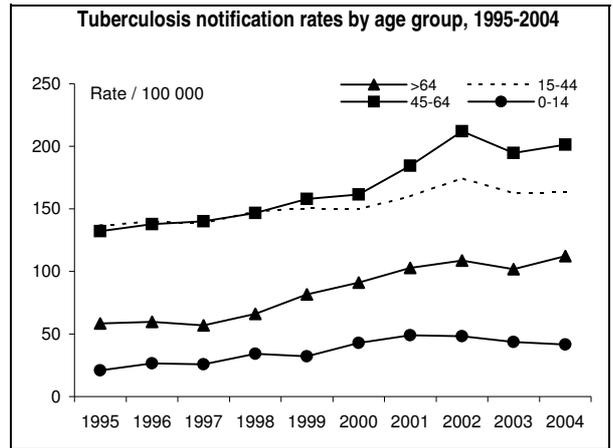
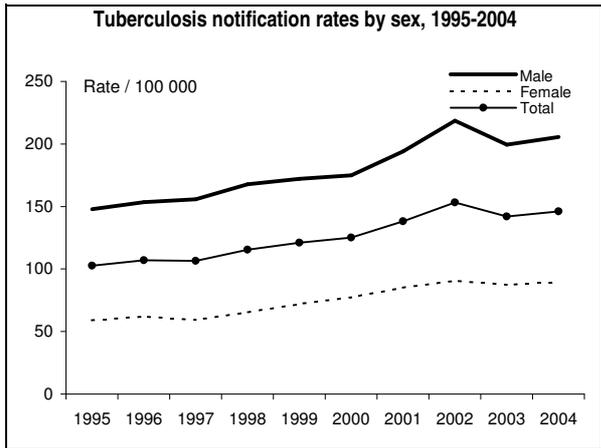
Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	1 838
Success	1 539 (84%)
Death	94 (5%)
Failure	5 (0%)
Default	87 (5%)
Transfer	54 (3%)
Still on treatment	59 (3%)
Unknown	0 (0%)



Romania

Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2003-4		Treatment Outcome Monitoring, 2003	
Type of data	Individual	International proficiency testing	Yes	Geographic coverage	National
Total number of cases	31 814	Geographic coverage	National survey	Cohort	New pulmonary culture positive
Notification rate per 100 000	146.0	Linkage with TB case notification	-	Included in TOM cohort	12 272
Sex ratio (M:F)	2.2	Cases with DST results	1 251	Success	10 079 (82%)
Median age-group, nationals	35-44 years	Cases resistant to INH	179 (14.3%)	Death	544 (4%)
Median age-group, non-nationals	25-34 years	Cases resistant to RMP	90 (7.2%)	Failure	598 (5%)
Foreign-born	8 (0.0%)	MDR cases	66 (5.3%)	Default	783 (6%)
New (never-treated)	25 026 (78.7%)	Cases resistant to EMB	74 (5.9%)	Transfer	73 (1%)
Culture positive*	13 324 (41.9%)	Cases resistant to SM	139 (11.1%)	Still on treatment	88 (1%)
Pulmonary	27 677 (87.0%)			Unknown	107 (1%)
of which sputum smear positive	15 717 (56.8%)				

* 45% without culture result



Resistance to INH and MDR by treatment status, 1997-2004

NOT AVAILABLE

Russian Federation

Tuberculosis case notifications, 2004

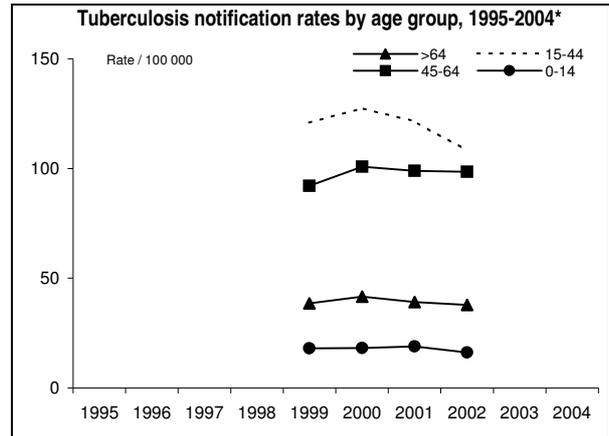
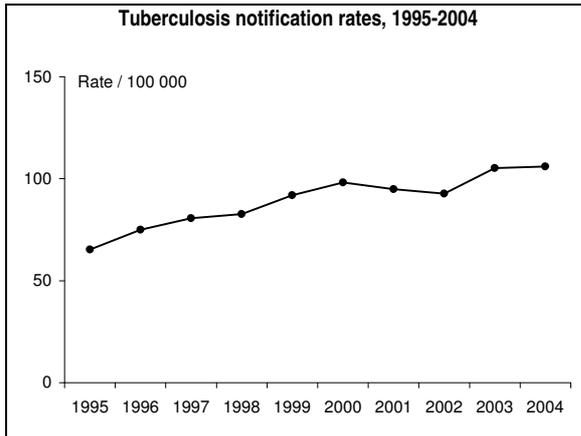
Type of data	Aggregate	
Total number of cases	152 438	
Notification rate per 100 000	105.9	
Sex ratio (M:F)*	2.5	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign born	838	(0.5%)
New (never-treated)	118 924	(78.0%)
Culture positive	6 538	(4.3%)
Pulmonary	147 478	(96.7%)
of which sputum smear positive	33 078	(22.4%)

Drug Resistance Surveillance

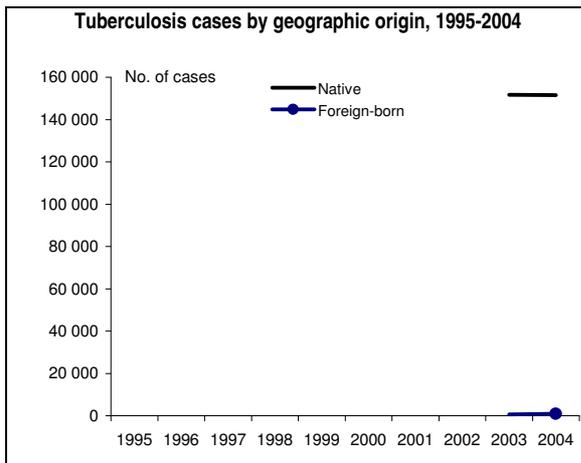
see bottom Table

Treatment Outcome Monitoring, 2003

Geographic coverage	DOTS areas	
Cohort	New pulmonary smear positive	
Included in TOM cohort	6 311	
Success	3 873	(61%)
Death	635	(10%)
Failure	779	(12%)
Default	490	(8%)
Transfer	229	(4%)
Still on treatment	0	(0%)
Unknown	305	(5%)



* New cases only



Tuberculosis cases by age group and sex, 2004

NOT AVAILABLE

Resistance to INH and MDR by treatment status					
Data from cases notified at MoH and 2 regional surveys (representativeness unknown)					
Area / source	Total tested	INH resistance		MDR	
		N	%	N	%
Cases never treated					
Nationwide, MoH, 1999	36 217	-	-	2 429	6.7%
Orel, 2002	379	68	17.9%	10	2.6%
Tomsk, 2002	533	155	29.1%	73	13.7%
Cases retreated					
Nationwide, MoH, 1999	-	-	-	-	-
Orel, 2002	210	149	71.0%	89	42.4%
Tomsk, 2002	117	60	51.3%	51	43.6%

Resistance to INH and MDR by treatment status, 1997-2004

NOT AVAILABLE

San Marino

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	0
Notification rate per 100 000	0.0
Sex ratio (M:F)	-
Median age-group, nationals	-
Median age-group, non-nationals	-
Foreign citizens	0 -
New (never-treated)	0 -
Culture positive	0 -
Respiratory	0 -
of which sputum smear positive	- -

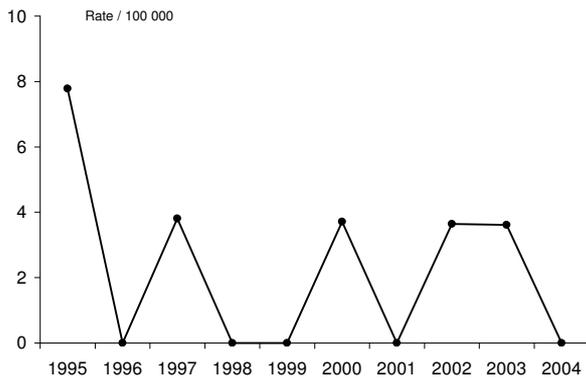
Drug Resistance Surveillance, 2004

Zero cases reported

Treatment Outcome Monitoring, 2003

Zero cases reported

Tuberculosis notification rates, 1995-2004



Tuberculosis notification rates by age group, 1995-2004

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, 1995-2004

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2004

Zero cases reported

Resistance profile by treatment status (INH, RMP and EMB), 2004

Zero cases reported

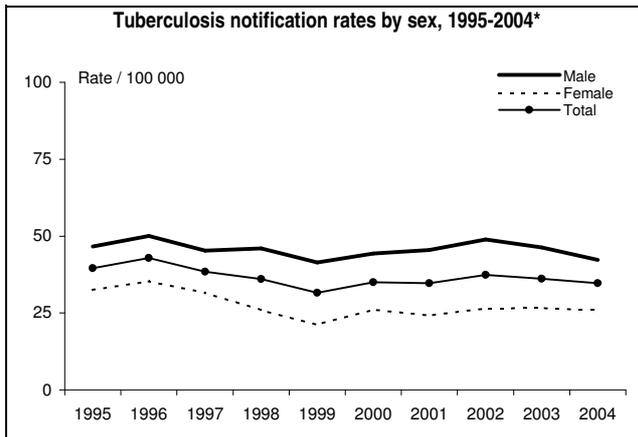
Resistance to INH and MDR by treatment status, 1997-2004

No resistance reported

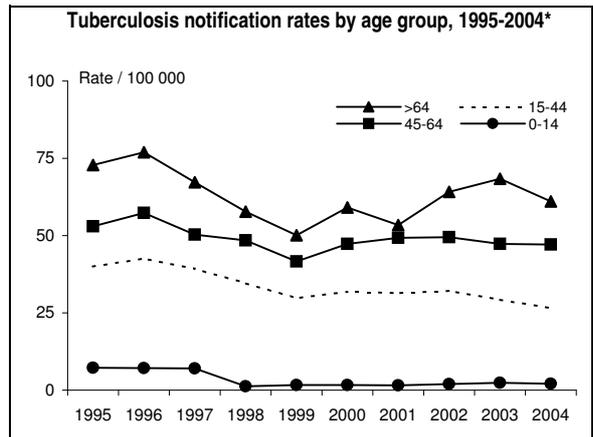
Serbia & Montenegro

Tuberculosis case notifications, 2004*		Drug Resistance Surveillance, 2004		Treatment Outcome Monitoring, 2003	
Type of data	Aggregate	International proficiency testing	Yes	Geographic coverage	Belgrade region
Total number of cases	2 824	Geographic coverage	Belgrade region	Cohort	New pulmonary culture positive
Notification rate per 100 000	34.7	Linkage with TB case notification	Yes	Included in TOM cohort	305
Sex ratio (M:F)	1.6	Cases with DST results	297	Success	278 (91%)
Median age-group, nationals	45-54 years	Cases resistant to INH	4 (1.3%)	Death	14 (5%)
Median age-group, non-nationals	25-34 years	Cases resistant to RMP	2 (0.7%)	Failure	0 (0%)
Foreign citizens	1 (0.0%)	MDR cases	2 (0.7%)	Default	10 (3%)
New (never-treated)	2 412 (85.4%)	Cases resistant to EMB	3 (1.0%)	Transfer	0 (0%)
Culture positive	1 258 (44.5%)	Cases resistant to SM	19 (6.4%)	Still on treatment	3 (1%)
Pulmonary	2 490 (88.2%)	Culture and DST not routinely used		Unknown	0 (0%)
of which sputum smear positive	1 125 (45.2%)				

* Excluding Kosovo (1,009 cases in 2004)



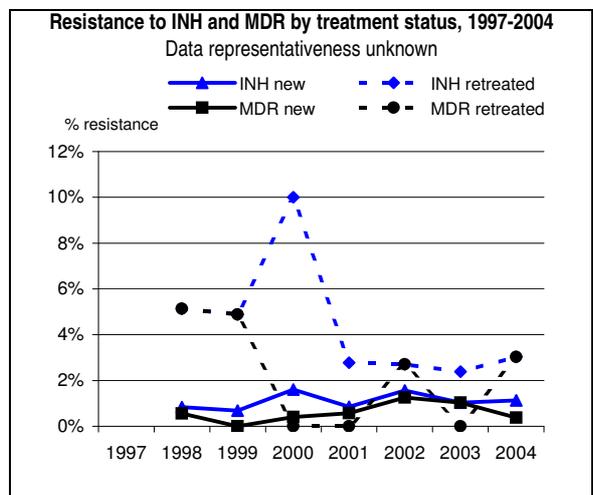
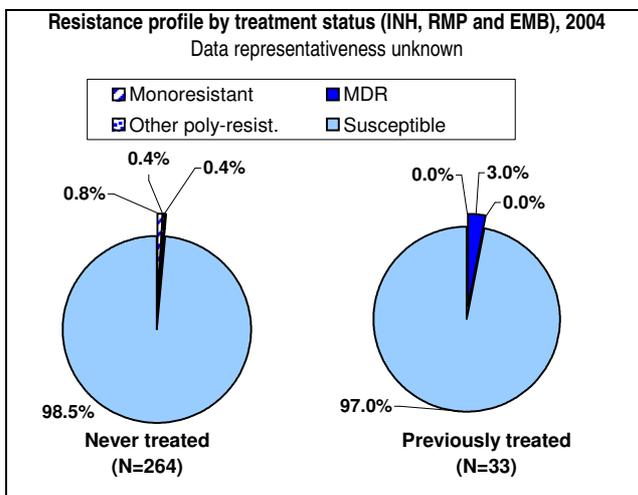
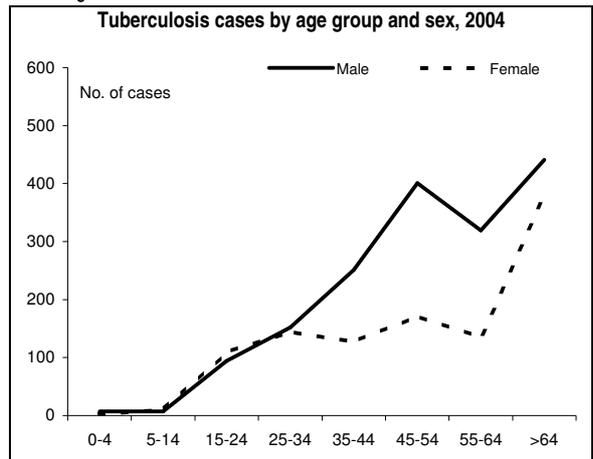
* including cases from Kosovo until 1997



* including cases from Kosovo until 1997

Tuberculosis cases by geographic origin, 1995-2004

Insufficient number of cases for graphic presentation



Slovakia

Tuberculosis case notifications, 2004

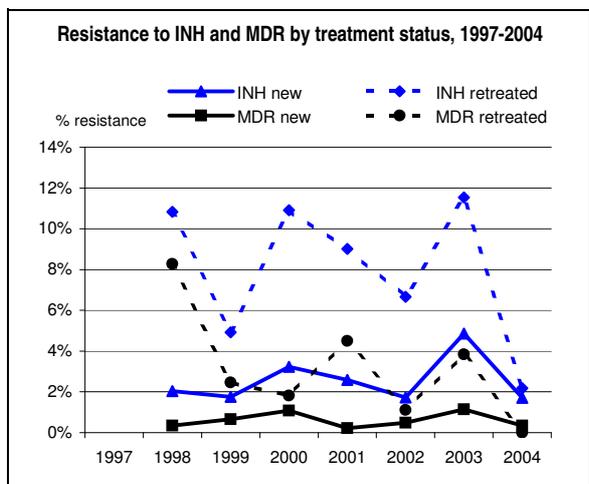
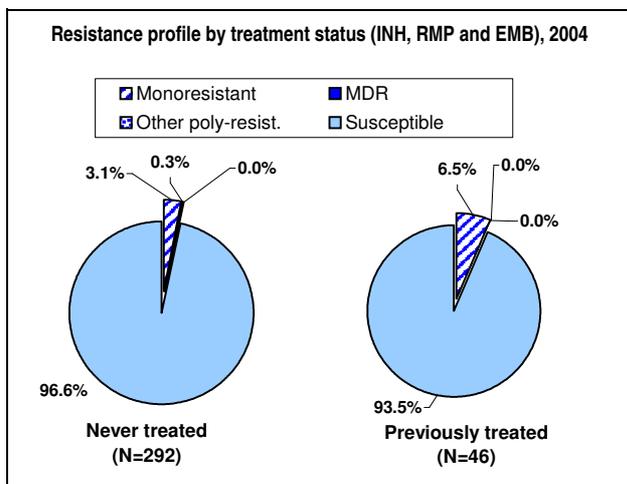
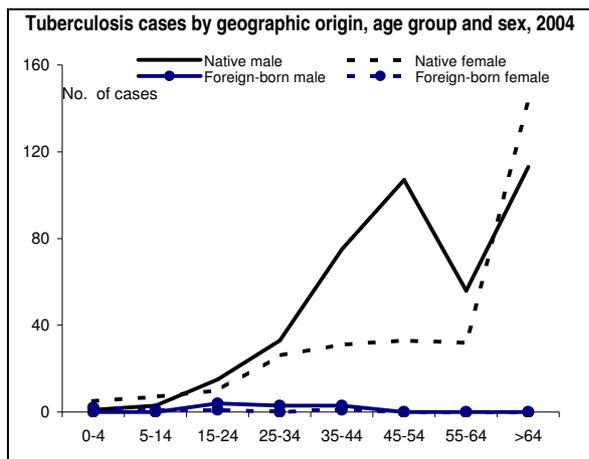
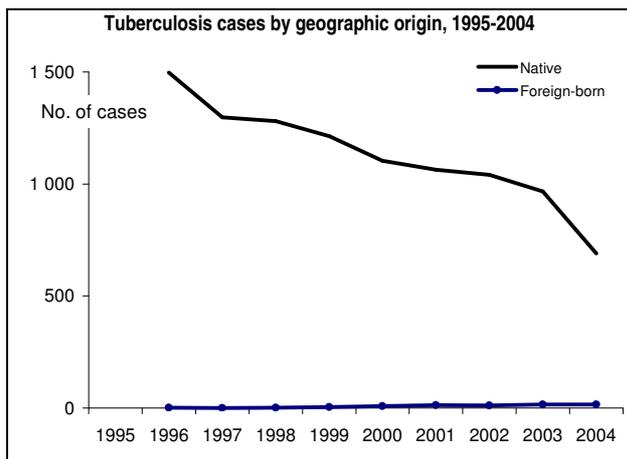
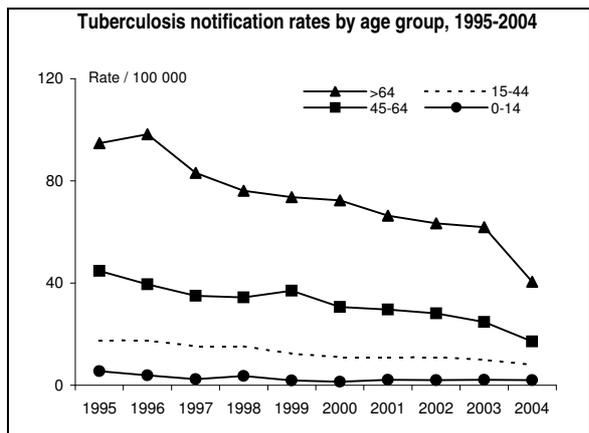
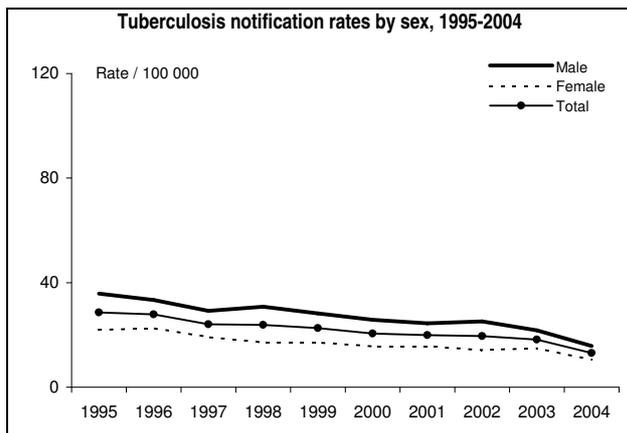
Type of data	Individual
Total number of cases	705
Notification rate per 100 000	13.1
Sex ratio (M:F)	1.4
Median age-group, nationals	45-54 years
Median age-group, non-nationals	15-24 years
Foreign born	15 (2.1%)
New (never-treated)	604 (85.7%)
Culture positive	357 (50.6%)
Pulmonary	564 (80.0%)
of which sputum smear positive	180 (31.9%)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes (2003)
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	344
Cases resistant to INH	6 (1.7%)
Cases resistant to RMP	6 (1.7%)
MDR cases	1 (0.3%)
Cases resistant to EMB	2 (0.6%)
Cases resistant to SM	8 (2.3%)

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary culture positive
Included in TOM cohort	318
Success	280 (88%)
Death	38 (12%)
Failure	0 (0%)
Default	0 (0%)
Transfer	0 (0%)
Still on treatment	0 (0%)
Unknown	0 (0%)



Slovenia

Tuberculosis case notifications, 2004

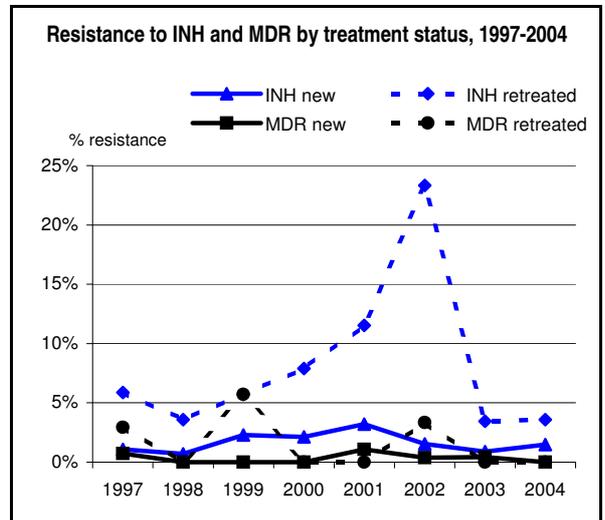
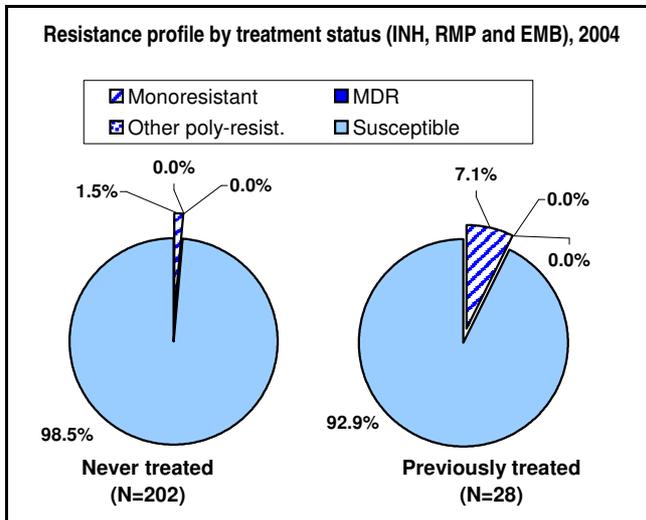
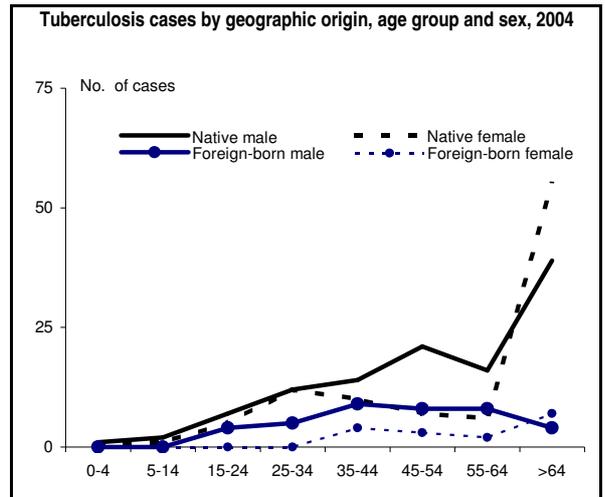
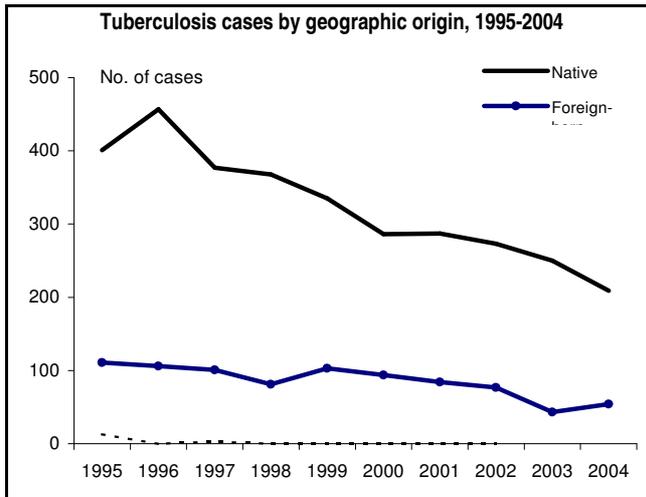
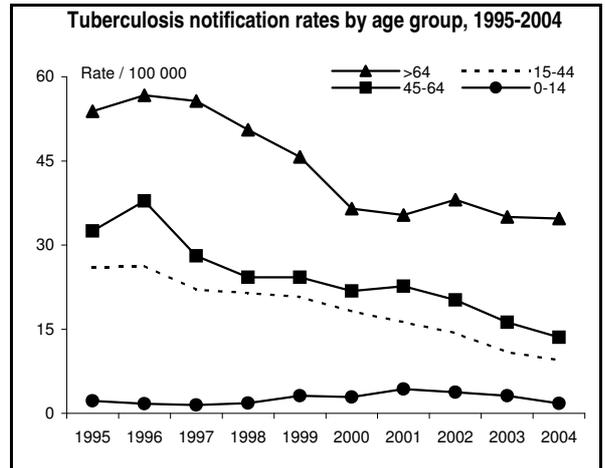
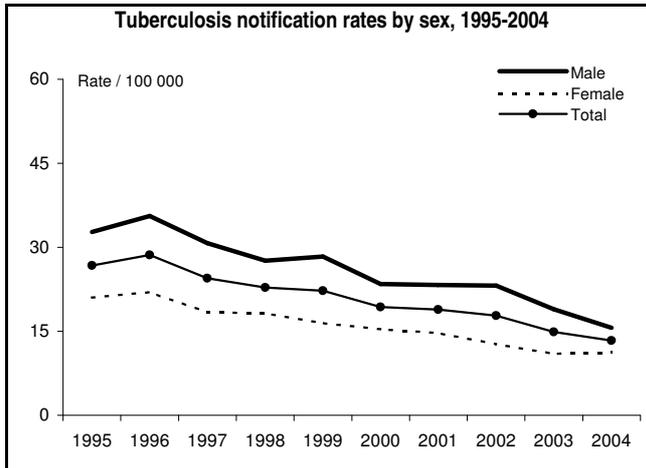
Type of data	Individual	
Total number of cases	263	
Notification rate per 100 000	13.4	
Sex ratio (M:F)	1.3	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	45-54 years	
Foreign born	54	(20.5%)
New (never-treated)	229	(87.1%)
Culture positive	231	(87.8%)
Pulmonary	212	(80.6%)
of which sputum smear positive	106	(50.0%)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	230	
Cases resistant to INH	4	(1.7%)
Cases resistant to RMP	1	(0.4%)
MDR cases	0	(0.0%)
Cases resistant to EMB	0	(0.0%)
Cases resistant to SM	4	(1.7%)

Treatment Outcome Monitoring, 2003

Geographic coverage	National	
Cohort	New pulmonary culture positive	
Included in TOM cohort	205	
Success	172	(84%)
Death	22	(11%)
Failure	1	(0%)
Default	8	(4%)
Transfer	0	(0%)
Still on treatment	2	(1%)
Unknown	0	(0%)



Spain

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	6 392 (provisional)
Notification rate per 100 000	15.0
Sex ratio (M:F)	2.0
Median age-group, nationals	35-44 years
Median age-group, non-nationals	25-34 years
Foreign born*	717 (11.2%)
New (never-treated)	5 415 (84.7%)
Culture positive	3 261 (51.0%)
Pulmonary	5 499 (86.0%)
of which sputum smear positive	2 233 (40.6%)

* 23% of cases missing information on origin

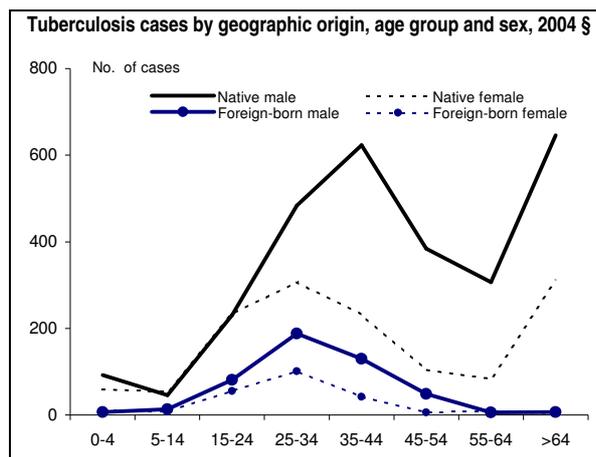
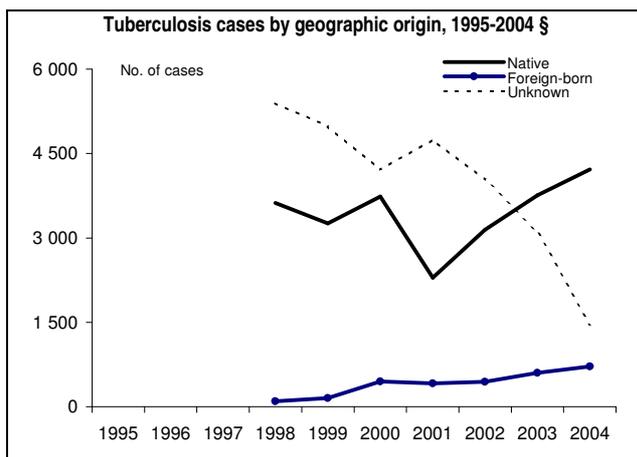
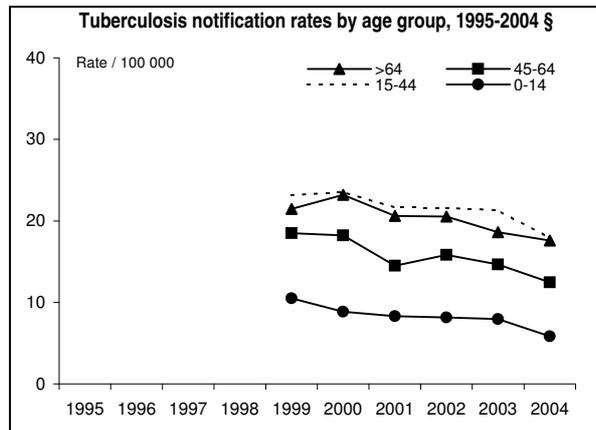
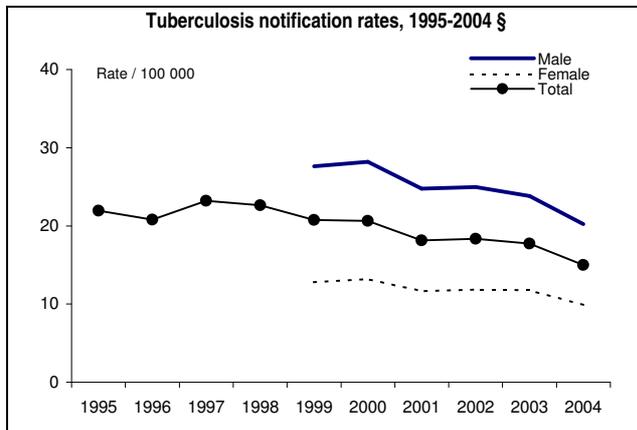
Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	No †
Cases with DST results	1 560
Cases resistant to INH	143 (9.2%)
Cases resistant to RMP	70 (4.5%)
MDR cases	59 (3.8%)
Cases resistant to EMB	22 (1.4%)
Cases resistant to SM	53 (3.4%)

† Data from NRLs (representativeness unknown)

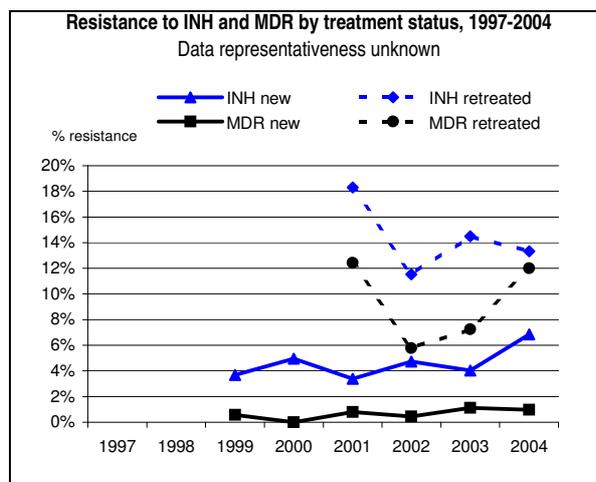
Treatment Outcome Monitoring, 2003

NOT AVAILABLE



Resistance to INH and MDR by treatment status
Data from NRL or regional surveys (national representativeness unknown)

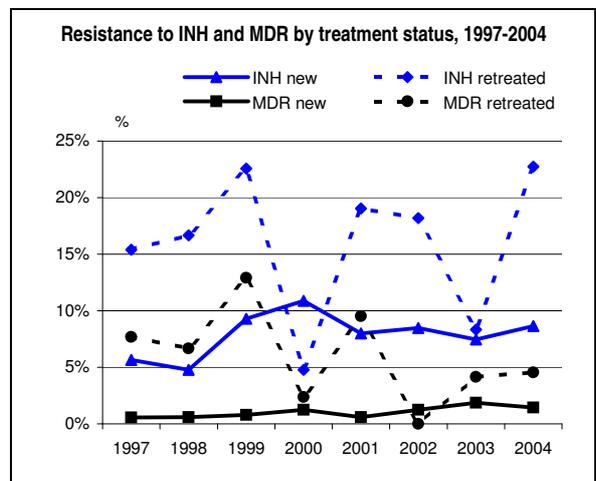
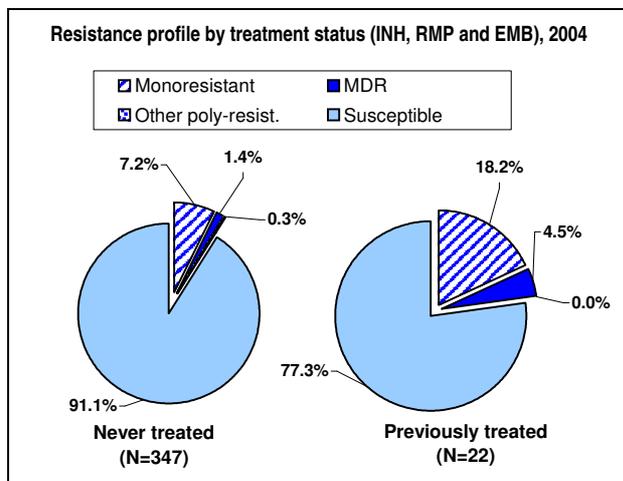
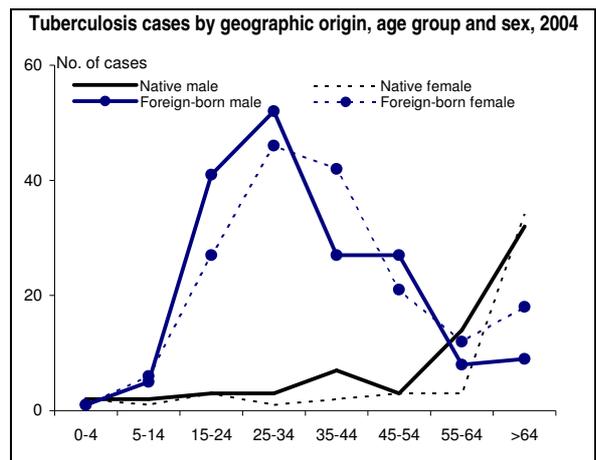
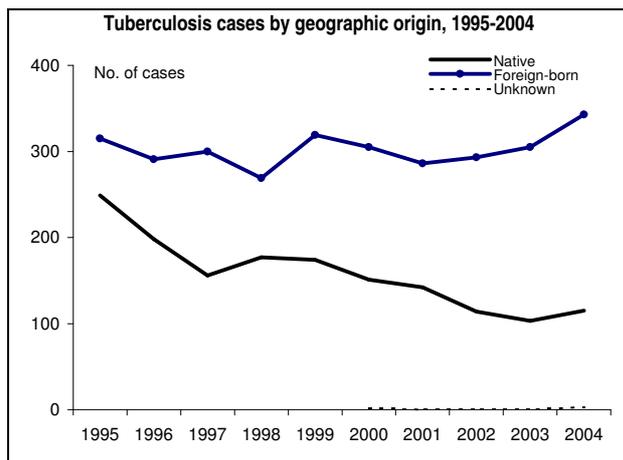
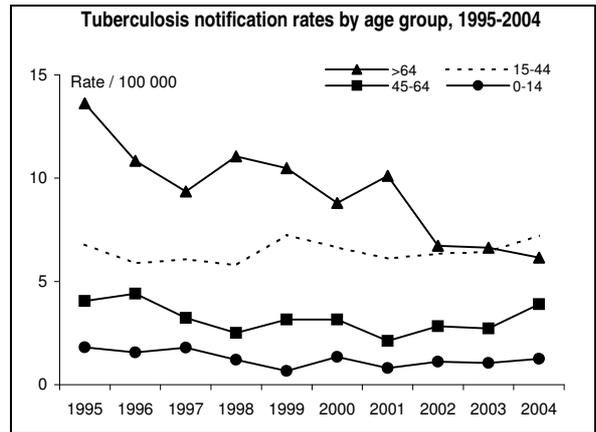
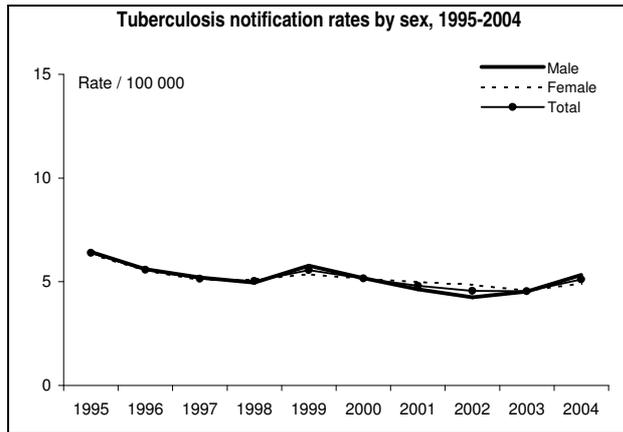
Area / source	Total tested	INH resistance		MDR	
		N	%	N	%
Cases never treated					
NRLs, 2004	307	21	6.8%	3	1.0%
Galicia, 2001-2002	360	16	4.4%	5	1.4%
Barcelona, 2001	133	8	6.0%	1	0.8%
Cases retreated					
NRLs, 2004	75	10	13.3%	9	12.0%
Galicia, 2001-2002	40	7	17.5%	3	7.5%
Barcelona, 2001	32	9	28.1%	4	12.5%



§ 1995-96 new respiratory cases only; 1997-2003 new and recurrent respiratory and meningal cases; 2004 provisional data on all TB cases

Sweden

Tuberculosis case notifications, 2004		Drug Resistance Surveillance, 2004		Treatment Outcome Monitoring, 2003	
Type of data	Individual	International proficiency testing	Yes	Geographic coverage	National
Total number of cases	461	Geographic coverage	National	Cohort	New pulmonary culture positive
Notification rate per 100 000	5.1	Linkage with TB case notification	Yes	Included in TOM cohort	208
Sex ratio (M:F)	1.1	Cases with DST results	369	Success	174 (84%)
Median age-group, nationals	>64 years	Cases resistant to INH	35 (9.5%)	Death	15 (7%)
Median age-group, non-nationals	25-34 years	Cases resistant to RMP	7 (1.9%)	Failure	0 (0%)
Foreign born	343 (74.4%)	MDR cases	6 (1.6%)	Default	2 (1%)
New (never-treated)	428 (92.8%)	Cases resistant to EMB	2 (0.5%)	Transfer	0 (0%)
Culture positive	370 (80.3%)	Cases resistant to SM	-	Still on treatment	6 (3%)
Pulmonary	299 (64.9%)			Unknown	11 (5%)
of which sputum smear positive	126 (42.1%)				



Switzerland

Tuberculosis case notifications, 2004

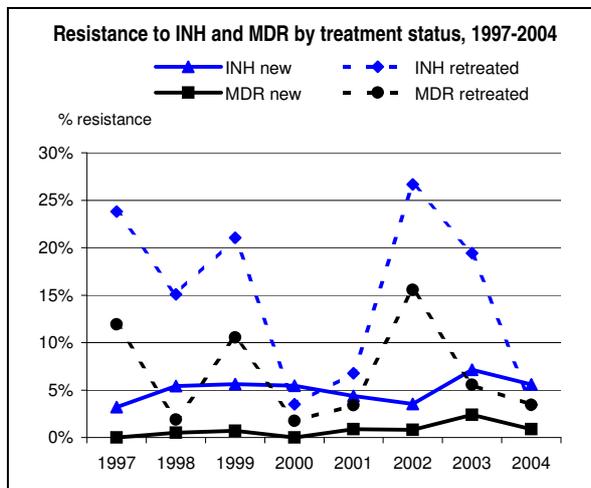
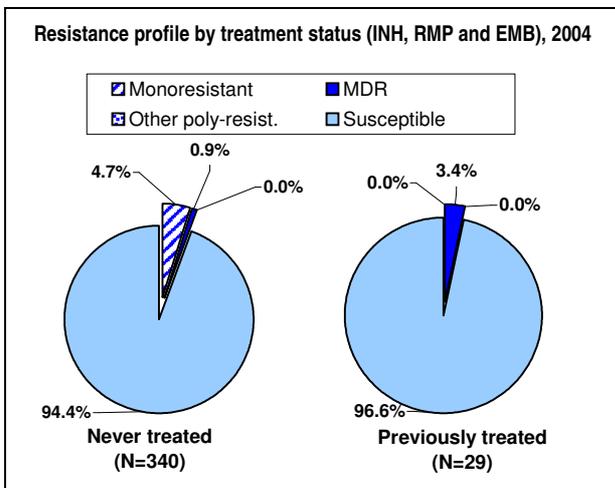
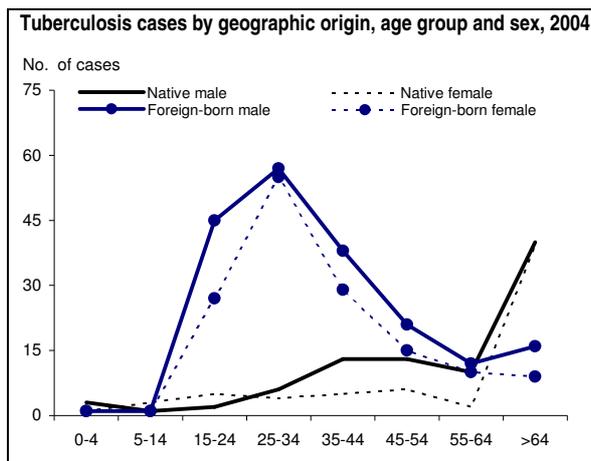
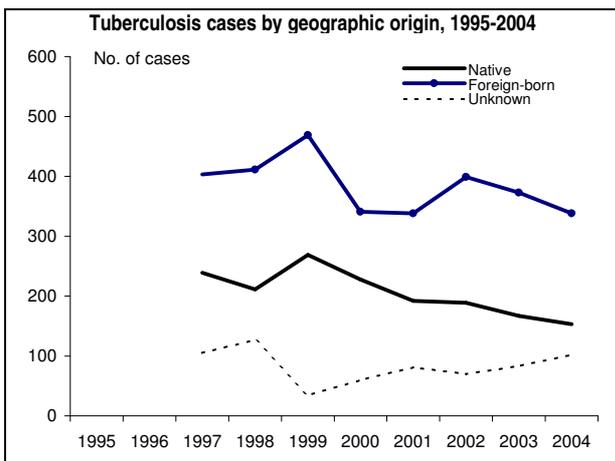
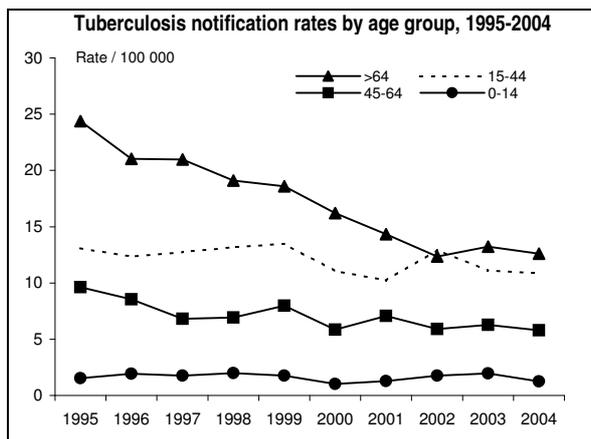
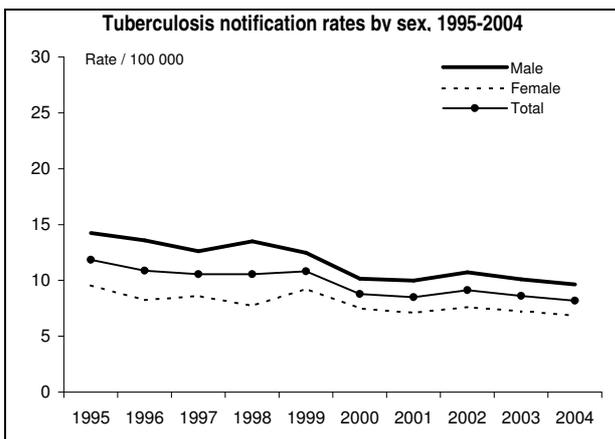
Type of data	Individual
Total number of cases	593
Notification rate per 100 000	8.2
Sex ratio (M:F)	1.3
Median age-group, nationals	>64 years
Median age-group, non-nationals	25-34 years
Foreign born	338 (57.0%)
New (never-treated)	414 (69.8%)
Culture positive	478 (80.6%)
Pulmonary	437 (73.7%)
of which sputum smear positive	128 (29.3%)

Drug Resistance Surveillance, 2004

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	473
Cases resistant to INH	31 (6.6%)
Cases resistant to RMP	5 (1.1%)
MDR cases	5 (1.1%)
Cases resistant to EMB	3 (0.6%)
Cases resistant to SM	-

Treatment Outcome Monitoring, 2003

NOT AVAILABLE



Tajikistan

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	5 122
Notification rate per 100 000	79.7
Sex ratio (M:F) *	1.6
Median age-group, all cases *	25-34 years
Median age-group, non-nationals	-
Foreign citizens	-
New (never-treated)	4 468 (87%)
Culture positive	-
Pulmonary	3 634 (71%)
of which sputum smear positive	1 414 (39%)

* New cases only

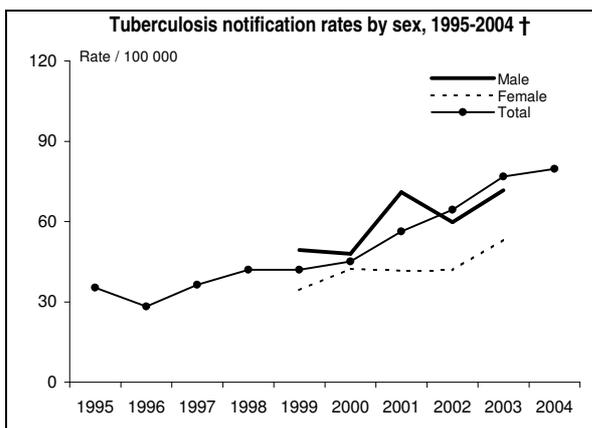
Drug Resistance Surveillance, 2004

NOT AVAILABLE

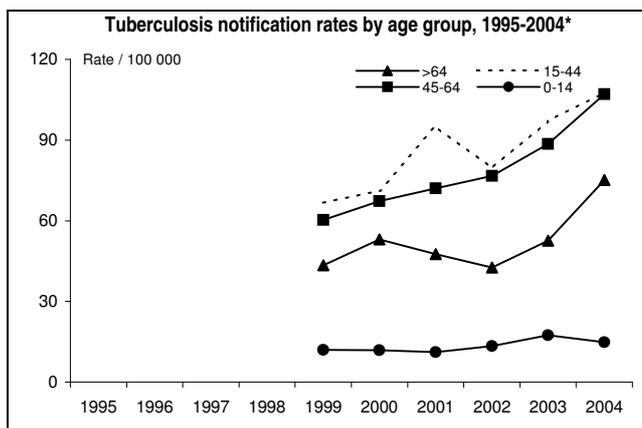
Treatment Outcome Monitoring, 2003

Geographic coverage	National	
Cohort	New pulmonary smear positive	
Included in TOM cohort	927	
Success	423	(46%)
Death	92	(10%)
Failure	68	(7%)
Default	56	(6%)
Transfer	10	(1%)
Still on treatment	0	(0%)
Unknown	278	(30%)

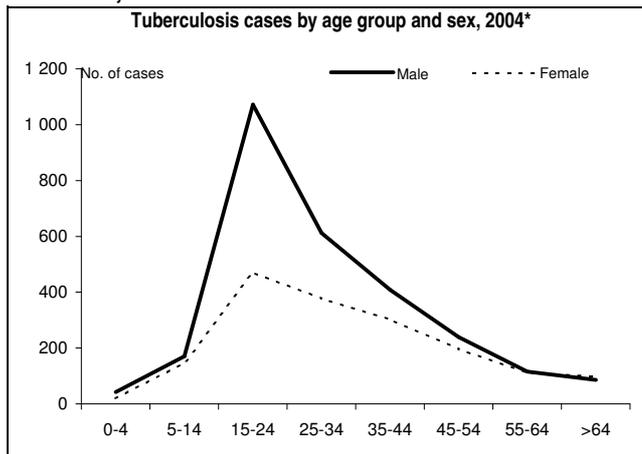
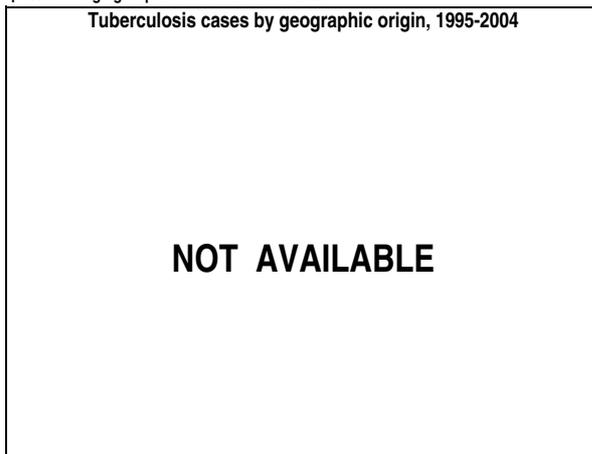
Data representativeness unknown



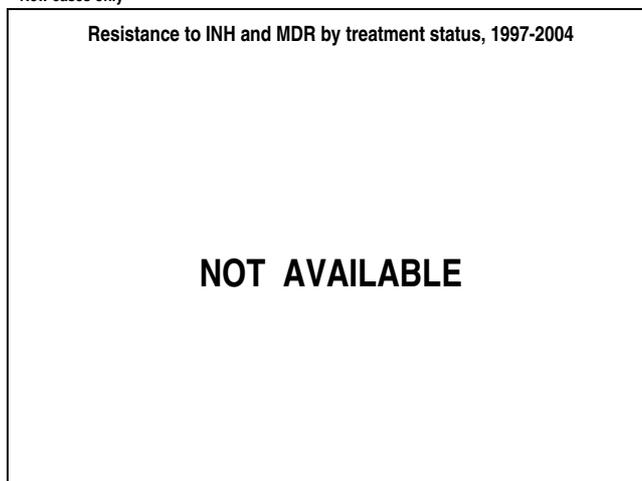
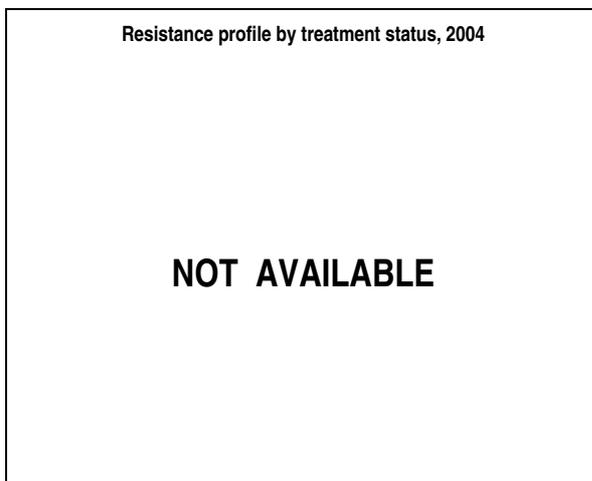
† 19% with age-group and sex unknown in 2003



* New cases only



* New cases only



Turkey

Drug Resistance Surveillance, 2004

Tuberculosis case notifications, 2004

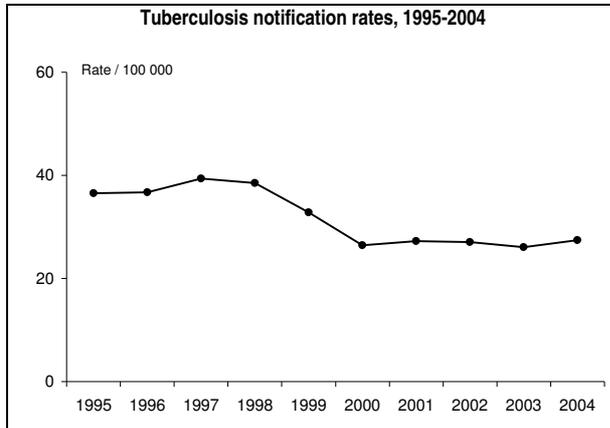
Type of data	Aggregate
Total number of cases	19 799
Notification rate per 100 000	27.4
Sex ratio (M:F)	-
Median age-group, all cases	-
Median age-group, non-nationals	-
Foreign born/citizens	-
New (never-treated)	17 510 (88.4%)
Culture positive	-
Pulmonary	-
of which sputum smear positive	-

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary smear positive
Included in TOM cohort	6 082
Success	4 372 (72%)
Death	103 (2%)
Failure	2 (0%)
Default	214 (4%)
Transfer	177 (3%)
Still on treatment	312 (5%)
Unknown	902 (15%)

Data representativeness unknown

NOT AVAILABLE



Tuberculosis notification rates by age group, 1995-2004

NOT AVAILABLE

Tuberculosis cases by geographic origin, 1995-2004

NOT AVAILABLE

Tuberculosis cases by age group and sex, 2004

NOT AVAILABLE

Resistance profile by treatment status (INH, RMP and EMB), 2004

NOT AVAILABLE

Resistance to INH and MDR by treatment status, 1997-2004

NOT AVAILABLE

Turkmenistan

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	4 172
Notification rate per 100 000	87.5
Sex ratio (M:F)	1.6
Median age-group, all cases	25-34 years
Median age-group, non-nationals	-
Foreign born	0 (0.0%)
New (never-treated)	3 328 (79.8%)
Culture positive	- -
Pulmonary	3 398 (81.4%)
of which sputum smear positive	1 491 (43.9%)

Drug Resistance Surveillance, 2001-2002

International proficiency testing	No
Geographic coverage	Partial
Linkage with TB case notification	-
Cases with DST results	105 *
Cases resistant to INH	16 (15.2%)
Cases resistant to RMP	4 (3.8%)
MDR cases	4 (3.8%)
Cases resistant to EMB	2 (1.9%)
Cases resistant to SM	26 (24.8%)

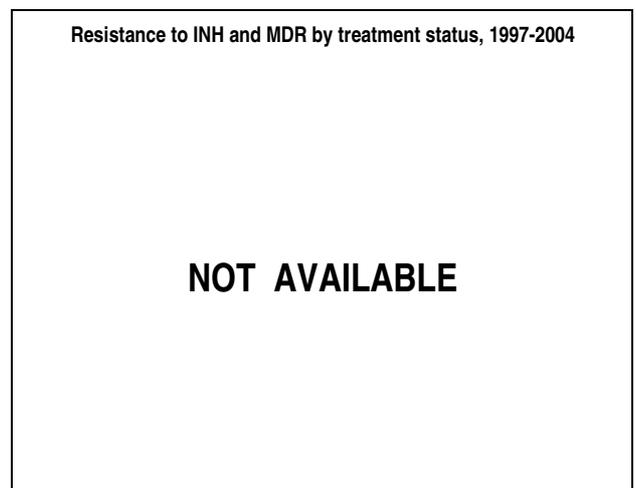
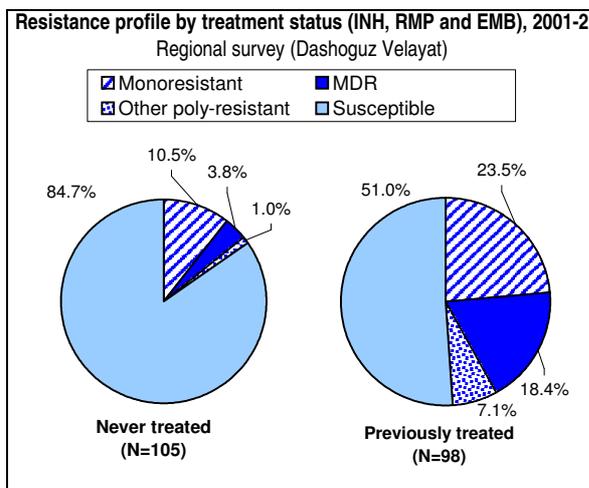
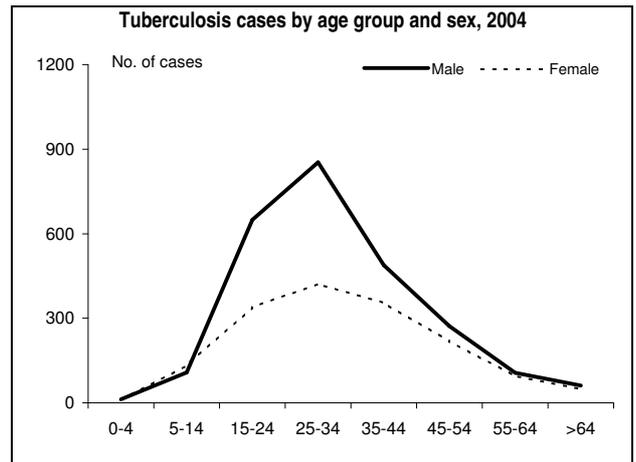
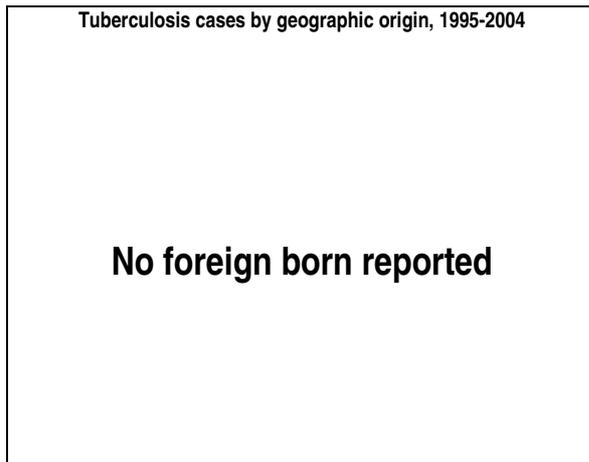
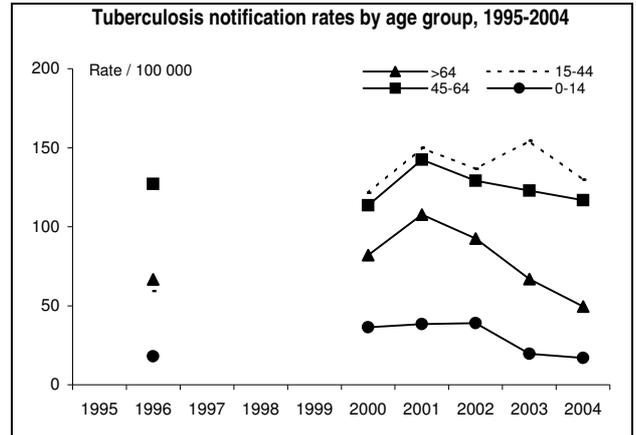
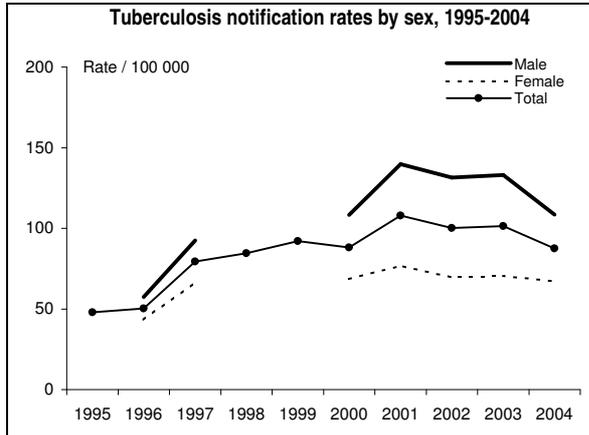
Data from regional survey (Dashoguz Velayat)

Culture and DST not routinely performed

* New cases only

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary smear positive
Included in TOM cohort	1 197
Success	844 (71%)
Death	105 (9%)
Failure	147 (12%)
Default	97 (8%)
Transfer	4 (0%)
Still on treatment	0 (0%)
Unknown	0 (0%)



Ukraine

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases*	38 403
Notification rate per 100 000	81.7
Sex ratio (M:F)*	2.6
Median age-group, all cases *	35-44 years
Median age-group, non-nationals	-
Foreign born/citizens	-
New (never-treated)	38 403 (100.0%)
Culture positive	-
Respiratory	-
of which sputum smear positive	-

* New cases only

Drug Resistance Surveillance, 1999

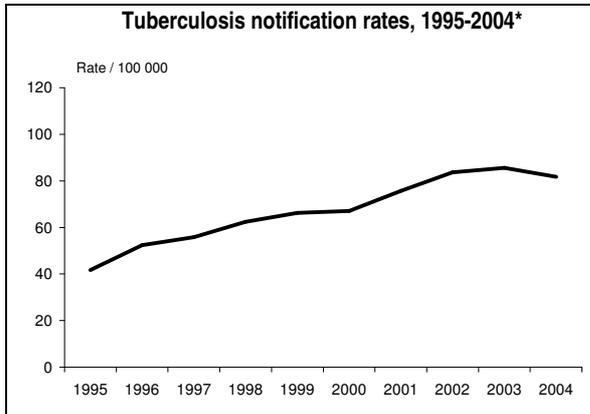
International proficiency testing	No
Geographic coverage	Kiev
Linkage with TB case notification	No †
Cases with DST results	245 *
Cases resistant to INH	30 (12.2%)
Cases resistant to RMP	27 (11.0%)
MDR cases	19 (7.8%)
Cases resistant to EMB	1 (0.4%)
Cases resistant to SM	32 (13.1%)

† Data from a single laboratory

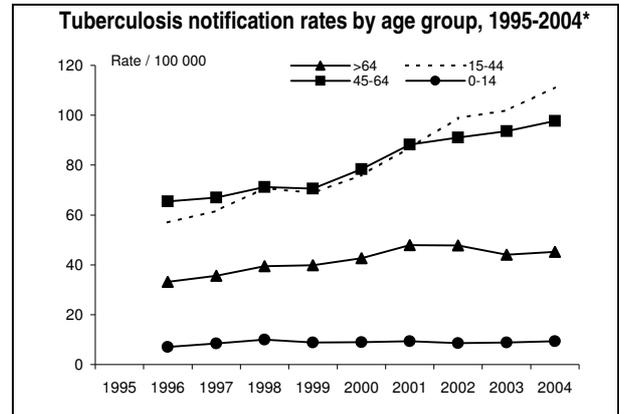
* New cases only

Treatment Outcome Monitoring, 2003

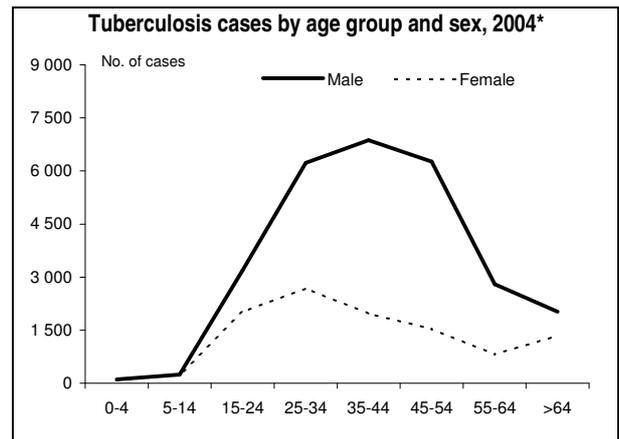
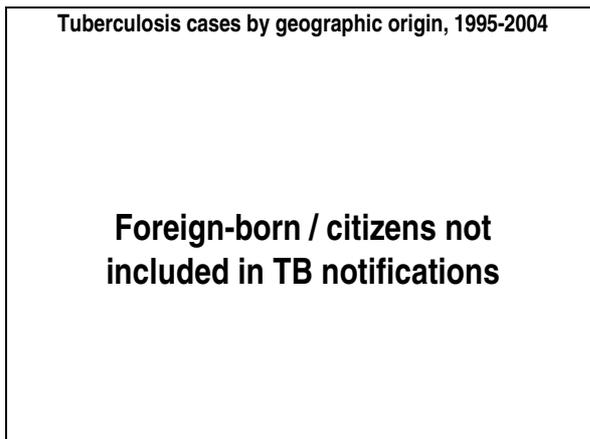
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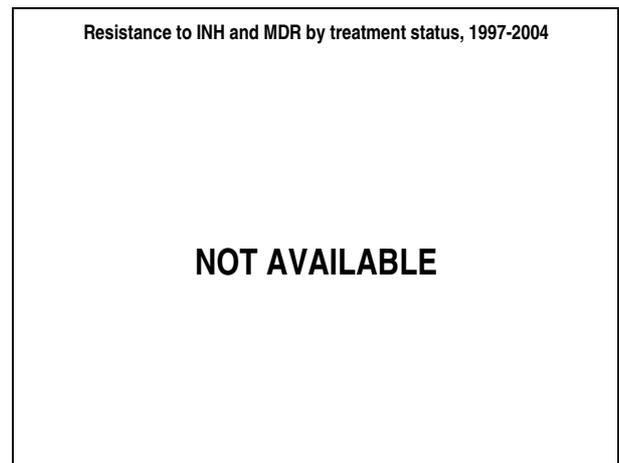
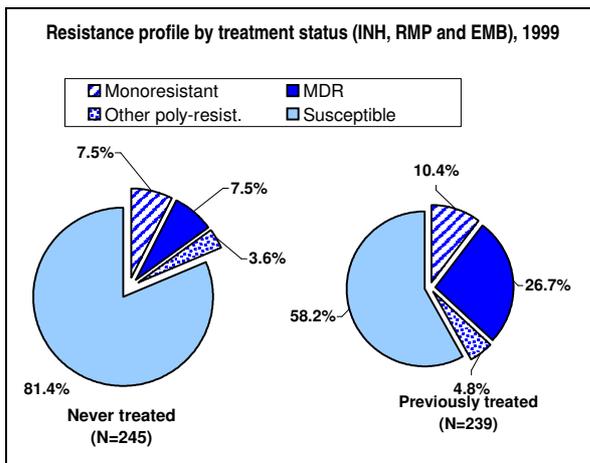
* New cases only in 2004



* New cases only



* New cases only



United Kingdom

Tuberculosis case notifications, 2004

Type of data	Aggregate (provisional)
Total number of cases	7 584 (provisional)
Notification rate per 100 000	12.7
Sex ratio (M:F)	1.2
Median age-group, all cases	35-44 years
Median age-group, non-nationals	25-34 years
Foreign born *	4 631 (61.1%)
New (never-treated)	5 246 (69.2%)
Culture positive	4 514 (59.5%)
Pulmonary	4 238 (55.9%)
of which sputum smear positive	1 843 (43.5%)

* 11% of cases missing information on origin

Drug Resistance Surveillance, 2004

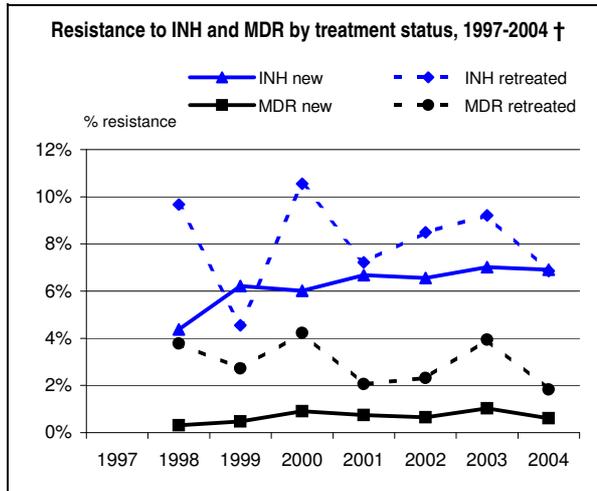
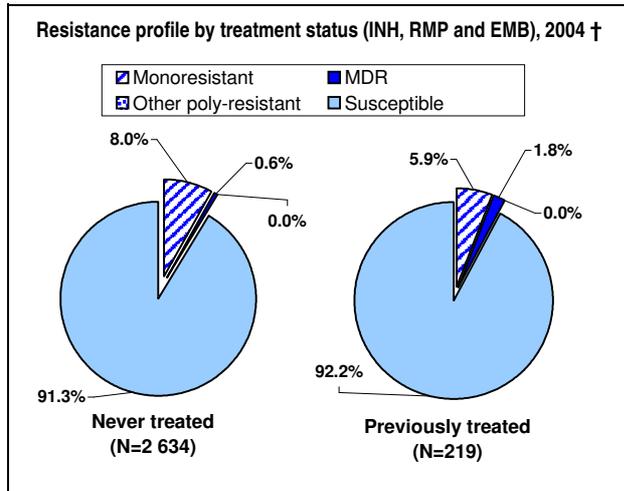
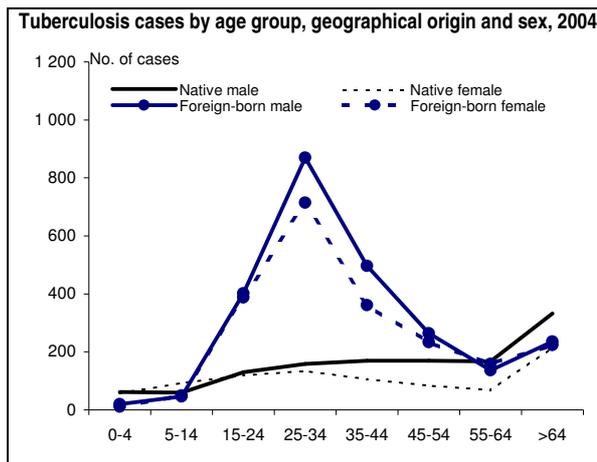
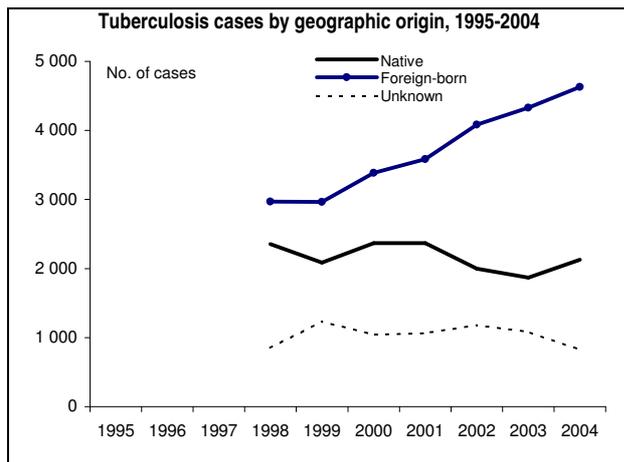
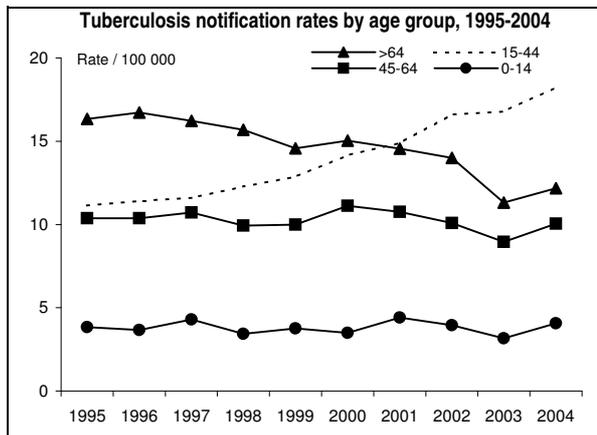
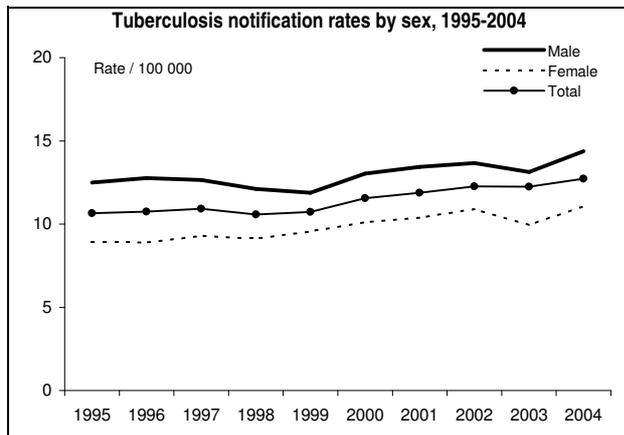
International proficiency testing	Yes
Geographic coverage	National †
Linkage with notification	Yes
Cases with DST results	3 793
Cases resistant to INH	264 (7.0%)
Cases resistant to RMP	97 (2.6%)
MDR cases	35 (0.9%)
Cases resistant to EMB	16 (0.4%)
Cases resistant to SM	-

† Excluding Scotland

Treatment Outcome Monitoring, 2002

Geographic coverage	National †
Cohort	New pulmonary culture positive
Included in TOM cohort	1 995
Success	1 299 (65%)
Death	120 (6%)
Failure	9 (0%)
Default	109 (5%)
Transfer	19 (1%)
Still on treatment	67 (3%)
Unknown	372 (19%)

† Excluding Scotland



† Excluding Scotland

† Excluding Scotland

Uzbekistan

Tuberculosis case notifications, 2004

Type of data	Aggregate
Total number of cases	25 714
Notification rate per 100 000	98.1
Sex ratio (M:F)*	1.4
Median age-group, all cases*	25-34 years
Median age-group, non-nationals	-
Foreign citizens	-
New (never-treated)	19 507 (75.9%)
Culture positive	-
Pulmonary	19 019 (74.0%)
of which sputum smear positive	8 512 (44.8%)

Drug Resistance Surveillance, 2001-2002

International proficiency testing	No
Geographic coverage	Partial
Linkage with TB case notification	Yes
Cases with DST results	106 *
Cases resistant to INH	39 (36.8%)
Cases resistant to RMP	14 (13.2%)
MDR cases	14 (13.2%)
Cases resistant to EMB	16 (15.1%)
Cases resistant to SM	47 (44.3%)

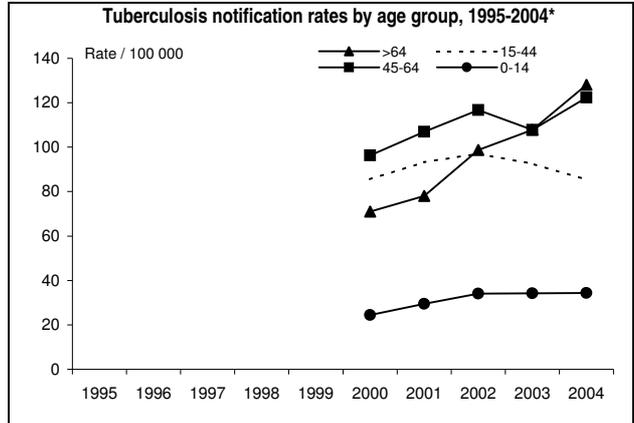
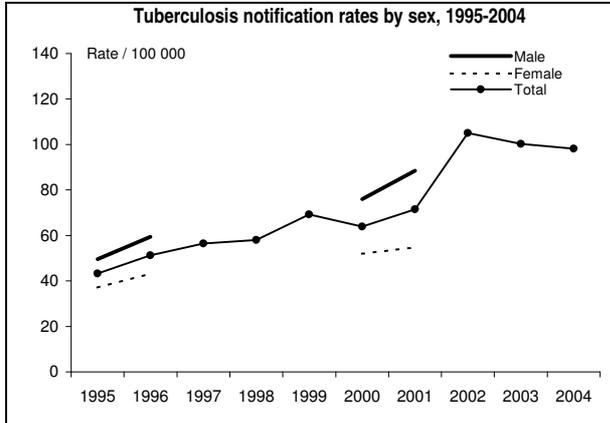
Data from regional survey (Karakalpakstan)
Culture and DST not routinely performed

Treatment Outcome Monitoring, 2003

Geographic coverage	National
Cohort	New pulmonary smear positive
Included in TOM cohort	4 674
Success	3 971 (85%)
Death	327 (7%)
Failure	172 (4%)
Default	204 (4%)
Transfer	0 (0%)
Still on treatment	0 (0%)
Unknown	0 (0%)

Data representativeness unknown

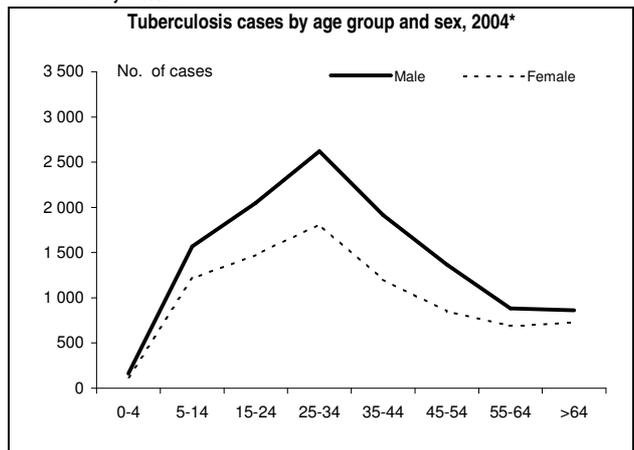
* New cases only



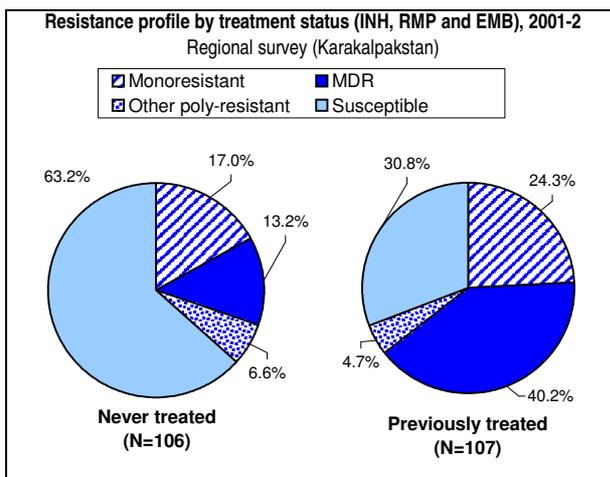
* New cases only in 2002-4

Tuberculosis cases by geographic origin, 1995-2004

Foreign citizens not included in TB notifications



* New cases only



Resistance to INH and MDR by treatment status, 1997-2004

NOT AVAILABLE

6. Technical Note

All the 52 countries of the WHO European Region participate in the tuberculosis surveillance activities co-ordinated by EuroTB (see list of national correspondents at the end). National surveillance institutions are responsible for the quality of data provided. Country participation is on a voluntary basis. The principles, methods and definitions guiding EuroTB activities are those recommended by working groups including European experts, WHO and the International Union against Tuberculosis and Lung Disease (UNION) [1-4].

6.1 Reporting of tuberculosis cases, drug resistance and treatment outcome

TB case surveillance

Since 1996 (reporting year 1995), data on TB notification for the previous calendar year have been collected annually, some months after the end of the year of report, in order to allow for validation at national level. Data are preferably submitted in individual, anonymous format according to standardised definitions and specifications. Since the reporting year 2003, individual data are requested for the last two years to allow for belated updating of certain data, including the treatment outcome information. Countries may otherwise report notifications in standard, aggregate tables by age-group, sex, geographic origin, previous history of anti-TB treatment, site of disease, culture and sputum smear results. Following reception, the EuroTB team validates data in collaboration with the respective country. Since 1999, aggregate TB notification and outcome data have been collected and validated in collaboration with the TB staff in WHO European Regional office, using a web-based information system (Computerised Information System for Infectious Diseases or CISID, <http://data.euro.who.int>).

TB/HIV surveillance

Information on HIV sero-status of notified TB cases is collected in aggregate form only. Information on TB morbidity at AIDS diagnosis is derived from European AIDS reporting data (European Non Aggregate AIDS Data Set, ENAADS, produced by the EuroHIV project). The ENAADS dataset includes information on initial AIDS-indicative diseases, which include TB [5]. TB episodes occurring in a patient after initial AIDS diagnosis are not reported to AIDS notification systems.

Drug resistance surveillance (DRS)

Since the reporting year 1998, the results of drug susceptibility testing (DST) of initial isolates of *M. tuberculosis* have been collected for isoniazid, rifampicin, ethambutol and streptomycin. In countries where DST results are matched with TB case notifications, DST information is collected as part of the individual data. When this is not possible, or when DRS data are not matched with TB case notifications (e.g. surveys), data are collected as aggregate Tables by previous history of anti-TB treatment and by geographic origin. Information on the organisation of DRS and on laboratory practices for DST is also collected using a standard form. Data from drug resistance surveys published by WHO are also included in this report [6].

Treatment outcome monitoring

Since the reporting year 2002, outcome data are collected for all cases in individual format by resubmission of an updated individual data set for the year before the last (thus in 2005, data were collected for TB cases notified in 2003). Alternatively, treatment outcome data are reported separately in tabular format for definite pulmonary cases by prior treatment history (new, re-treated and unknown).

6.2 Data analysis and presentation

TB case notification

Updates to information presented in this report were accepted until 21 December 2005. Notification data are not adjusted for under-reporting or over-reporting. The incomplete geographic coverage of notification data from certain countries is noted in the report. For calculation of notification rates, country population denominators by age and sex are taken from United Nations estimates in 2004 [7]. The national correspondent of Serbia & Montenegro supplied population data for the period 1998-2004 for that country. Population estimates by geographic origin for 13 countries were forwarded by the respective national correspondents (Figure 7).

TB/HIV surveillance

Information on HIV sero-status of TB cases is incomplete in many countries. HIV prevalence is calculated as the percentage of all TB cases reported known to have a positive test, which may thus result in an under-estimated HIV prevalence. AIDS data for the latest year are presented by year of report. The number of

AIDS cases with TB as initial AIDS indicative disease, expressed as a proportion of total TB cases notified in the same year, is used to give a conservative estimate of HIV-associated TB. Time trends in numbers of AIDS-defining TB cases are presented by year of diagnosis, adjusted for reporting delays [8].

Drug resistance surveillance

Data on the result of DST for isoniazid, rifampicin, ethambutol and streptomycin at the start of treatment are reported as “susceptible” or “resistant”. Proportions of drug-resistant cases are calculated using as a denominator cases with available DST results for at least isoniazid and rifampicin. The results for ethambutol and streptomycin are only presented if DST results are available for at least 90% of the cases tested for isoniazid and rifampicin. DRS methodology varies across countries. 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. Geographic coverage of DRS is partial in some countries. The representativeness of diagnostic DST data depends on the routine use of culture and DST at TB diagnosis. On the basis of differences in geographic coverage and on underlying laboratory practices, DRS data are analysed and presented in two groups:

group A:

- nationwide data matched with TB case notification in countries where culture is routinely used (at least 50% of cases reported as culture positive in 2004) and DST results for INH and RMP are available for the majority of culture positive cases (at least 80% in 2004) or
- data from national surveys using representative sampling methodology;

group B:

- data with incomplete or undefined geographic coverage; diagnostic DST data from countries where:
- culture and DST are routinely used but conditions for being in group A above are not met (<50% culture confirmation or < 80% cases with DST results) or
- diagnostic DST results are provided from selected laboratories or areas

Data in group A are considered representative of the national situation and comparable across countries, whereas data in group B are not considered representative. Time-trends are only shown for countries with representative data and considered statistically

significant if Chi-squared test for linear trend has a P-value under 0.05.

Treatment outcome monitoring

Treatment outcome information is collected for all cases in individual data and for definite (culture positive or sputum smear positive) pulmonary cases in aggregate data. Cases eligible for outcome analysis (cohorts) are expected to include all definite pulmonary TB cases notified in the calendar year of interest, after exclusion of cases with final diagnosis other than TB as well as cases found to have been reported more than once. In countries reporting individual data, the cohort is defined on the basis of the new data set updated since initial notification (see above). In countries reporting aggregate outcome data, completeness of cohorts is assessed by comparing the total number of cases initially notified with the sum of new cases, retreatment cases or cases with unknown treatment history included in TOM cohorts.

On the basis of available information, TOM data are classified in two groups for data presentation:

- **group A**, cohorts including at least 90% of definite pulmonary TB cases notified, considered as country-representative and complete
- **group B**, cohorts including less than 90% of TB cases initially notified, or from selected areas, or for which data for assessing completeness of TOM cohorts were not available.

Geographic areas

Based on epidemiological and geo-political considerations, the 52 countries of the WHO European Region have been grouped into three geographic areas (Table 1, map on cover page of Country Profiles):

- the European Union and West (EU & West): the 25 Member States of the EU plus Andorra, Iceland, Israel, Monaco, Norway, San Marino and Switzerland.
- the Centre: Balkan countries (Albania, Bosnia & Herzegovina, Bulgaria, Croatia, the F.Y.R. of Macedonia, Romania, Serbia & Montenegro and Turkey).
- the East: 12 countries of the former Soviet Union (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan).

The respective total populations of the three areas were 479, 124 and 278 million in 2004.

Data for 2004 notifications from Greenland and Kosovo are noted in Table 1 and in the Country Profiles of Denmark and Serbia & Montenegro respectively, but are not included in the totals of the latter countries or for the WHO European Region. Data for Northern Cyprus, Abkhazia and Southern Ossetia were not available.

The template for maps included in this report were adapted from the map of the WHO European Region located on WHO EURO website (www.who.dk), using the Vertical Near-side perspective, central meridian: 45, reference latitude: 35, height of viewpoint: 20000000-.

6.3 Definitions

TB case definition for surveillance

Definite 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*, *M. africanum* or *M. bovis* (excluding *M. bovis* BCG).
- in countries where routine culturing of specimens is not feasible, patients with sputum smear positive for acid-fast bacilli (AFB) are also considered as definite cases.

Other-than-definite TB case

A patient meeting the two following 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 case

A case who never received a drug treatment for active TB in the past or who received anti-TB drugs for less than one month.

Previously treated case (retreated case)

A case who was diagnosed with TB and received treatment with anti-TB drugs

(excluding preventive therapy) for at least one month.

Site of disease

Pulmonary case

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

Extra-pulmonary case

A case with TB affecting any site other than pulmonary as defined above. Pleural TB and intra-thoracic lymphatic TB without involvement of the lung parenchyma are classified as extra-pulmonary.

Note

- The above definitions conform to the European Commission's definitions for tuberculosis surveillance [4]. Laryngeal disease is enumerated with pulmonary for the scopes of surveillance;
- All definite and other-than-definite TB cases notified in the calendar year of interest should be reported to EuroTB and are included in the totals presented in this report. Cases should be notified only once in a given calendar year;
- 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 retreated cases, relapses (cases having bacteriologically positive TB who had previously completed treatment for tuberculosis) are included in notifications in all countries whereas cases retreated after failure or after default or chronic cases are variably included in notifications across countries. In countries where information on previous anti-TB treatment is incomplete or not available, previous treatment status is classified according to whether or not TB had been previously diagnosed;
- Cases with disseminated tuberculosis (i.e. tuberculosis involving more than two organ systems or the isolation of *M. tuberculosis* complex from blood) are classified as pulmonary if the lung parenchyma, larynx or tracheo-bronchial tree are involved, and as extra-pulmonary otherwise. Miliary tuberculosis is thus classified as pulmonary. In individual data, detailed information is collected on the major site and one minor site of disease. The pulmonary localisation when present is always classified as the major site. In countries using the respiratory classification of disease - in contrast to the

recommended pulmonary classification - cases with pleural and intra-thoracic lymphatic TB are classified as 'respiratory' cases, and cases with disease of any other site as 'extra-respiratory'.

Geographic origin

The geographic origin of TB cases is classified according to place of birth (born in the country / foreign born) or, if unavailable, citizenship (citizen / non citizen). 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

Mono-resistance: resistance to a single first-line anti-TB drug (isoniazid, rifampicin, ethambutol or streptomycin).

Poly-resistance: resistance to at least two of the first line anti-TB drugs listed above.

Multi-drug resistance: resistance to at least isoniazid and rifampicin.

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

Resistance among cases previously treated: it 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.

Combined resistance: overall resistance in the population regardless of prior treatment [6].

Treatment outcome

Cohort

All definite pulmonary TB cases notified in the calendar year of interest, after exclusion of cases with final diagnosis other than TB and of cases found to have been reported more than once.

Note: in countries having individual outcome information, outcome is collected for all TB cases notified.

Period of observation

Cases are observed until meeting the first outcome, for a maximum of 12 months after the start of treatment.

Outcome categories

Since 2001 cohorts, outcome categories are those internationally recommended [3] - with two additional categories "still on treatment at 12 months", and "unknown".

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 cases* sputum microscopy becoming negative for AFB at the end of treatment and on at least one previous occasion.

Completed: Treatment completion and does not meet the criteria to be classified as cure or treatment failure

Failed: Culture or sputum smear remaining positive or becoming positive again at 5 months or later during the course of treatment.

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

Defaulted: Treatment interrupted for 2 months or more, not resulting from a decision of the care provider or patient lost to follow-up for 2 months or more before the end of treatment, except transferred.

Transferred: Patient referral to another clinical unit for treatment and information on outcome not available

Still on treatment: Patient still on treatment at 12 months and who did not meet any other outcome during treatment. It includes patients with:

- initial treatment changed due to polyresistance (ie. resistance to at least two first line drugs) on the isolate taken at the start of treatment.
- treatment prolonged because of side effects / complications, initial regimen planned for > 12 months
- information on the reasons for being still on treatment not available

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.

6.4 References

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Surveillance of Tuberculosis in Europe (EuroTB): participating correspondents and institutions (2005-2006)

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