

# Surveillance of Tuberculosis in Europe - EuroTB

Report on  
tuberculosis cases  
notified in 2003

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**European  
Commission**



**WHO Collaborating Centre  
for the Surveillance of Tuberculosis in Europe**



**INSTITUT DE  
VEILLE SANITAIRE**

EuroTB is a European network for surveillance of tuberculosis in Europe set up in 1996, based on the voluntary participation of the national tuberculosis surveillance institutions in the 52 countries of the WHO European Region. The network is coordinated at the Institut de Veille Sanitaire (InVS), France, and is financially supported by the European Commission (DG-SANCO). EuroTB aims to improve the contribution of surveillance to tuberculosis control in the WHO European region, through the provision of valid, comparable epidemiological information on tuberculosis.

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# TABLE OF CONTENTS

1. Summary	7
1.1. Summary	7
1.2. Резюме на русском Языке (Russian)	9
2. Commentary	11
2.1 European Union and West	12
2.1.1 TB case notification	12
2.1.2 Tuberculosis and HIV infection	12
2.1.3 Anti-tuberculosis drug resistance	13
2.1.4 Treatment outcome	14
2.2 Centre	14
2.2.1 TB case notification	14
2.2.2 Tuberculosis and HIV infection	15
2.2.3 Anti-tuberculosis drug resistance	15
2.2.4 Treatment outcome	15
2.3 East	15
2.3.1 TB case notification	16
2.3.2 Tuberculosis and HIV infection	16
2.3.3 Anti-tuberculosis drug resistance	16
2.3.4 Treatment outcome	16
2.4 Conclusion and recommendations	17
2.5 References	17
3. Tables	21
TB case notification	
Summary Table. Tuberculosis surveillance data by geographic area, 2003	21
Table 1. Tuberculosis cases and rates per 100,000 population, 1996-2003	22
Table 2. Tuberculosis cases by age group, 2003	24
Table 3. Tuberculosis cases by sex, 2003	26
Table 4. Tuberculosis cases by geographic origin, 2003	27
Table 5. Tuberculosis cases by geographic origin, EU & West, 1996-2003	28
Table 6. Tuberculosis cases of foreign origin by area of origin, 2003	29
Table 7. Tuberculosis cases by previous history of anti-TB treatment or TB diagnosis, 2003	30
Table 8. Tuberculosis cases by site of disease, 2003	31
Table 9. Tuberculosis cases by detailed site of disease and age group, 2003	32
Table 10. Tuberculosis cases by culture result, 2003	33
Table 11. Tuberculosis cases by culture result and site of disease, 2003	34
Table 12. Tuberculosis cases by <i>M. tuberculosis</i> complex species, 2003	35
Table 13. Pulmonary tuberculosis cases by sputum smear result, 2003	36
Table 14. Tuberculosis cases with HIV co-infection, 1998-2003	37

Table 15.	AIDS cases and tuberculosis as initial AIDS-indicative disease, 2003	38
Table 16.	AIDS cases with tuberculosis as initial AIDS-indicative disease, 1997-2003	39
Anti-tuberculosis drug resistance		
Table 17.	Multidrug resistance by previous anti-TB treatment history, latest available year	40
Table 18.	Laboratory practices and quality assurance for anti-TB Drug Susceptibility Testing (DST), 2003	41
Table 19.	Characteristics of Drug Resistance Surveillance (DRS), 2003	42
Table 20.	Drug resistance, all tuberculosis cases (combined resistance), 2003	43
Table 21.	Drug resistance, tuberculosis cases never treated (primary resistance), 2003	44
Table 22.	Drug resistance, tuberculosis cases previously treated (acquired resistance), 2003	45
Table 23.	Resistance to isoniazid by previous anti-TB treatment history, 1998-2003	46
Table 24.	Multidrug resistance by previous anti-TB treatment history, 1998-2003	47
Table 25.	Combined drug resistance, tuberculosis cases in nationals, 2003	48
Table 26.	Combined drug resistance, tuberculosis cases in persons of foreign origin, 2003	49
Table 27.	Combined drug resistance by area of origin, EU & West, 2003	50
Treatment outcome		
Table 28.	Characteristics of treatment outcome monitoring (TOM) and treatment success, 2002	51
Table 29.	Treatment outcome, new definite pulmonary tuberculosis cases, 2002	52
Table 30.	Treatment outcome, retreated definite pulmonary tuberculosis cases, 2002	53
Table 31.	Treatment success and death by age group, new pulmonary culture positive tuberculosis cases, 2002	54
4.	Maps and figures	<b>55</b>
Map 1.	Tuberculosis notification rates per 100,000 population, 2003	55
Map 2.	Proportion of tuberculosis cases of foreign origin, 2003	55
Figure 3.	Tuberculosis notification rates by geographic area, 1996-2003	56
Figure 4.	Tuberculosis cases by geographic origin, EU & West, 1996-2003	56
Figure 5.	TB notification rates by age group and sex, 2003	57
Figure 6.	Mean annual percentage change in TB notification rates, 1999-2003	58
Figure 7.	Tuberculosis notification rates by age group, sex and geographic origin, EU & West, 2003	59
Figure 8.	Tuberculosis notification rates by age-group, EU & West, 1997-2003	59
Figure 9.	Drug resistance, all TB cases (combined resistance), 2003	60
Figure 10.	Treatment outcome by geographic area, all definite pulmonary tuberculosis cases, 2002	60
5.	Country profiles	<b>61</b>
6.	Technical note	<b>115</b>
6.1	Reporting of tuberculosis cases, drug resistance and treatment outcome	115
6.2	Data analysis and presentation	115
6.3	Definitions	118
6.4	References	120

# 1.1 SUMMARY

In 2003, 415,786 cases of tuberculosis (TB) were notified in the 52 countries of the WHO European Region. The overall notification rate was 47.2 cases per 100,000, with diverging levels and trends across three geographic areas.

## **European Union (EU) and West**

In the 25 countries of the EU, and in Andorra, Iceland, Israel, Monaco, Norway, San Marino and Switzerland (West), 64,434 TB cases were notified in 2003, an overall notification rate of 13.6 cases per 100,000, being highest in the Baltic States (47-82). Of all cases, 23% were over 64 years, 63% were men and at least 31% were of foreign origin. Seventy-seven percent of the cases had pulmonary TB, of which 43% had positive sputum smear. 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 1997 and 2003, rates decreased by 20%, but less in young adults (-5%) than in the other age-groups (-26%). Numbers of cases decreased less in persons of foreign origin (-2%) than in nationals (-34%). HIV prevalence among TB cases (19 countries) was below 0.5% in five new EU countries, increased to 2-3% in Estonia and Latvia, and was highest in Portugal (16%) and Spain (10%). Among 9,827 AIDS cases reported in 2003, 2,273 (23%) had TB as initial AIDS-indicative disease, representing 3% of notified TB cases. Multi-drug resistance (MDR) remained more frequent in the Baltic States (combined MDR: 19%) than in 15 other countries (2%; range: 0-6%), where MDR was present in 15% of cases from the former Soviet Union. In 23 countries with complete outcome data (2002), success was reported in 74% of new definite pulmonary cases, death in 7% and default or unknown outcome in 14%. Success ratio decreased with increasing age. 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**

In the Centre, 60,597 cases were notified in 2003 with incomplete data from Bosnia & Herzegovina. Rates (49 cases per 100,000 overall) were much higher in Romania (142) than in Albania, Bulgaria, Croatia, F.Y.R. of Macedonia, Romania, Serbia & Montenegro and Turkey (18 to 41). Age-specific rates peaked in the age group 45-54 years in Romania (226) and Bulgaria (54), and over 64 years in the other countries (61) (no data for Turkey). Pulmonary cases represented 81% of cases and half of them had positive sputum smear. Culture confirmation was not available for Serbia & Montenegro and Turkey and was reported in over 50% of cases in Bosnia & Herzegovina, Croatia and in Romania (2002). Since 1999, TB notification rates decreased only in Albania, Croatia and Turkey. The number of new AIDS cases remained low in 2003 (N=469). AIDS indicative diseases were missing for 52% of AIDS cases, and 15% had TB, representing 0.1% of total TB cases. Drug resistance data from Croatia and Bosnia & Herzegovina indicated low levels of drug resistance. Success ratios among new cases (2002) were higher than 78% in all five 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**

In 2003, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Rep. of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan reported 290,395 TB cases (104 cases per 100,000), of which 52% from the Russian Federation. Age specific rates (6 countries) peaked in the age group 25-34 years (208), indicating high levels of recent transmission. Positive sputum smear was reported in 39% of pulmonary cases. Culture results were rarely reported. Between 1999 and 2003, notification rates increased by 4.5% yearly, partly due to increased completeness of reporting. Of 2,097 AIDS cases notified in 2003 (89% from Ukraine; no data from the Russian Federation), 59% had TB as AIDS indicative disease, representing 2.7% of total TB cases in Ukraine and 0.6% or less in the other countries. Data on drug resistance in recent years suggest high levels of MDR in most countries. Seven of the 10 countries providing outcome data for 2002 reported 7-11% failures 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 2003 г., было зарегистрировано 415 786 случаев туберкулеза (ТБ) в 52 странах Европейского региона ВОЗ. Общий показатель зарегистрированных случаев составлял 47,2 случаев на 100 000 человек, с отличающимися уровнями и тенденциями в трех географических регионах.

### Европейский Союз (ЕС) и Запад

В 25 странах ЕС и в Андорре, Исландии, Израиле, Монако, Норвегии, Сан Марино и Швейцарии (Запад), в 2003 г. были зарегистрированы 64 434 случаи ТБ с средним показателем 13,6 случаев на 100 000 человек, который был самым высоким в прибалтийских странах (47-82). 23% всех случаев наблюдалось в возрастной группе выше 64 лет, 63% были мужчины и по крайней мере 31% были жители иностранного происхождения. Легочный ТБ составлял 77% всех случаев, и положительный мазок мокроты наблюдался у 43% случаев. Культура была положительна у 55% случаев, но результаты были недоступны у 22% случаев. Показатели были выше у жителей иностранного происхождения (57; достигавшие высшей степени в возрастной группе 25-34 лет) по сравнению с коренными жителями (5; достигавшие высшей степени в возрастной группе старше 64 лет). На протяжении 1997 - 2003 гг. показатели снизились на 20%, но менее в группе молодых взрослых (-5%), по сравнению с другими возрастными группами (-26%). Число случаев снизилось менее у жителей иностранного происхождения (-2%) по сравнению с коренными жителями (-34%). ВИЧ-превалентность у случаев ТБ (19 стран) была ниже 0,5% в 5 новых странах ЕС, повысилась на 2-3% в Эстонии и Латвии и была самой высокой в Португалии (16%) и в Испании (10%). Среди 9 827 зарегистрированных случаев СПИДа в 2003 г., у 2 273 случаев (23%) ТБ был первичным индикаторным заболеванием СПИДа и составлял 3% сообщенных случаев ТБ. Многолекарственная устойчивость (МЛУ) осталась выше в прибалтийских странах (глобальная МЛУ: 19%) по сравнению с 15 другими странами (2%; величина разности: 0-6%), в которых МЛУ наблюдалась у 15% случаев из бывшего Советского Союза. В 23 странах предоставивших полные данные по исходам лечения (2002 г.), лечение завершилось успешно у 74% новых конкретных случаев легочного ТБ, летальный исход наблюдался у 7% случаев и прерванное лечение или неизвестный исход лечения составили 14% случаев. Пропорция успеха лечения снижалась с повышением возраста. 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

В странах Центра в 2003 г. было зарегистрировано 60 597 случаев, данные из Боснии & Герцеговины неполны. Показатели (в общем 49 случаев на 100 000 человек) были гораздо выше в Румынии (142) по сравнению с Албанией, Болгарией, Хорватией, Бывшей Югославской Республикой Македонией, Сербией & Черногорией и Турцией (18 - 41). Показатели достигли высшей степени в возрастной группе 45-54 лет в Румынии (226) и в Болгарии (54), и в возрастных группах выше 64 лет в остальных странах (61) (данные из Турции отсутствуют). Легочный ТБ составляет 81% случаев и у половины случаев был положительный результат микроскопии мазка мокроты. Подтверждение культурального исследования было недоступно в Сербии & Черногории и Турции, но исследование проводилось у более чем 50% случаев в Боснии & Герцеговине, в Хорватии и в Румынии (2002). С 1999 г., показатели ТБ снизились только в Албании, Хорватии и Турции. Число больных СПИДом оставалось низким в 2003 г. (N=469). Данные по патологиям, которые являются первичными индикаторами заболевания СПИДом, отсутствовали у 52% случаев СПИДа, 15% были больными ТБ, которые составляли 0,1% из общего числа случаев ТБ. Данные по лекарственной устойчивости из Хорватии и Федерации Боснии свидетельствуют о низком уровне лекарственной устойчивости. Пропорция успешного лечения среди новых случаев (2002 г.) превышала 78% во всех 5 странах с полными когортами. Отсутствие снижения показателей в странах с высшей превалентностью и редкость данных по культуральному исследованию и лекарственной устойчивости вынуждают усилить программы по контролю туберкулеза.

#### Восток

В 2003 г., Армения, Азербайджан, Беларусь, Грузия, Казахстан, Кыргызстан, Республика Молдова, Российская Федерация, Таджикистан, Туркменистан, Украина и Узбекистан сообщили о 290 395 случаях ТБ (104 на 100 000), из которых 52% зарегистрировано в Российской Федерации. Специфические показатели (6 стран) достигли наивысшей степени в возрастной группе 25-34 лет (208), и свидетельствуют о высоком уровне недавней передачи. 39% легочных случаев имеют положительный мазок мокроты. О результатах культурального исследования сообщалось редко. На протяжении 1999 - 2003 г., показатели повышались ежегодно на 4,5%, частично из за более полных сообщенных данных. Среди 2 097 случаев СПИДа, зарегистрированных в 2003 г. (89% из Украины; данные из Российской Федерации отсутствуют), у 59% случаев ТБ был первичным индикатором заболевания СПИДом и представлял 2,7% из общего количества случаев ТБ на Украине и 0,6% или менее в остальных странах. Данные по лекарственной устойчивости свидетельствуют о высоком уровне МЛУ в большинстве стран. 7 из 10 стран предоставивших данные по исходам лечения в 2002 г., сообщили о 7-11% случаев с безуспешным лечением среди новых случаев с положительным мазком мокроты, что вероятно отражает высокую превалентность 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 ограничено.

## 2. COMMENTARY

In 2003, 415,786 tuberculosis (TB) cases were notified by the 52 countries of the WHO European Region, representing 8.7% of notifications made to WHO worldwide in the same year [1]. The overall notification rate was 47.2 per 100 000 population, with increasingly diverging trends across the three geographic areas (Map 1, Figure 3). In 2003, 70%

of all TB notifications derived from the East (overall notification rate: 103.6/100,000), 15% from the Centre (48.6 per 100,000) and 15% from the EU & West (13.6 per 100,000). TB surveillance data for 2003 and recent trends are presented and commented below according to three geographic areas (see technical note).

Summary table. Tuberculosis surveillance data by geographic area, WHO European Region, 2003 \*

	Table showing data by country	Geographic area							Total
		European Union and West		Centre		East			
		N <sup>†</sup>		N <sup>†</sup>		N <sup>†</sup>			
Total population (millions)	-	32	474.7	8	125.9	12	280.3	52	880.8
<b>TB case notification</b>									
Total number of cases	1	32	64 434	8	60 957	12	290 395	52	415 786
Notification rate per 100 000 population	1	32	13.6	7	48.6	12	103.6	51	47.2
Mean annual change in notification rate, 1999-2003	1	32	-3.8%	7	-0.2%	12	+4.5%	51	+2.1%
Median age group (years)	2	31	45-54	7	35-44	10	25-34	48	35-44
Age 0-14 years	2	31	4%	7	5%	10	7%	48	6%
Age over 64 years	2	31	23%	7	14%	10	7%	48	13%
Sex ratio (male to female)	3	31	1.7	7	2.0	11	2.2	49	2.1
Foreign origin	4	30	31%	7	0%	7	0%	44	6%
Previous history of anti-TB treatment or TB	7	31	10%	8	13%	11	20%	50	18%
Pulmonary disease ‡	8	29	77%	6	81%	9	94%	44	89%
Sputum smear positive among pulmonary	13	29	43%	6	50%	9	39%	44	42%
Culture positive	10	31	55%	6	21%	2	4%	39	18%
HIV co-infection §	14	19	4.4%	2	0.5%	4	0.6%	25	2.3%
AIDS cases with AIDS-defining TB / total TB cases	15	30	3.0%	8	0.1%	11	0.9%	49	1.2%
<b>Anti-TB drug resistance, 2003 ¶</b>									
Isoniazid resistance, new cases (median)	21	18	6.9%	2	1.7%	0	-	20	6.7%
Multi-drug resistance, new cases (median)	21	18	1.3%	2	0.3%	0	-	20	1.2%
Isoniazid resistance, retreated cases (median)	22	18	16.5%	2	8.8%	0	-	20	12.3%
Multi-drug resistance, retreated cases (median)	22	18	6.3%	2	2.5%	0	-	20	5.4%
<b>Outcome, new definite pulmonary cases, 2002 ¶¶</b>									
Success (cure or treatment completion)	29	23	74%	5	81%	4	75%	32	77%
Death	29	23	7%	5	4%	4	4%	32	5%
Failure	29	23	1%	5	5%	4	10%	32	5%
Still on treatment	29	23	3%	5	0%	4	0%	32	1%
Other (default, transfer, unknown)	29	23	14%	5	10%	4	13%	32	12%

\* 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

‡ Countries using the pulmonary classification (see technical note)

§ Latest available data point (1999-2003)

¶ Countries with representative nationwide data (see technical note)

¶¶ Countries with nationwide complete cohorts (see technical note); EU & West: culture positive; Centre: culture or smear positive see Table 28; East: smear positive

## 2.1 European Union and West (EU & West)

### 2.1.1 Tuberculosis case notification

In 2003, 64,434 TB cases were notified in the EU & West, for an overall rate of 13.6 cases per 100,000 population. Rates were lower than 10 per 100,000 in 16 countries and higher than 20 per 100,000 in the Baltic States - Lithuania (82), Latvia (75), Estonia (47) - Portugal (41), Hungary (28) and Poland (26) (Table 1, Map 1). Paediatric cases (0-14 years) 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 tended to be higher in countries with higher notification rate (Table 3). Geographic origin was not reported by Monaco and Poland. In the other countries, geographic origin was missing in 10% of cases while 59% were born in or citizens of the country of report (nationals) and 31% were of foreign origin, reaching 40% or more in 15 countries (Table 4, Map 2). Among them, 32% were from Africa, 30% from Asia (21% from the Indian subcontinent) and 25% from the Centre or East of the WHO European Region (Table 6, data from 25 countries).

In 13 countries providing recent population estimates by origin, the notification rate in the population of foreign origin was over tenfold that in nationals (57.0 versus 5.1 per 100,000), and the overall rate ratio ranged widely from 1.4 to 52.9 across countries. These variations reflect differences in migration patterns, but also the accuracy of demographic statistics by geographic origin which thus limits comparability. Age-specific notification rates in nationals increased progressively with age and were highest in cases aged over 64 years (11.1 per 100,000), while in the population of foreign origin rates peaked in the age-group 25-34 years (88.0 per 100,000) and then increased again in the elderly (Figure 7).

In 2003, 76% 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 14% were notified without information on previous TB history (Table 7). Excluding Spain (only respiratory or meningeal disease notifiable), 77% of the cases had pulmonary disease (range: 57 – 94%) (Table 8), and 43% of them were sputum smear positive (Table 13). Exclusive extra-pulmonary TB was more frequent in cases of foreign origin than in nationals (33% versus 20% respectively, individual data, not shown). In 20 countries with detailed site of disease, 2% of the cases had a meningeal

localisation or disseminated disease (Table 9). Culture confirmation (Table 10) varied widely across countries (mean: 55%; range: 33%-100%) and was more frequent among pulmonary cases (61%) than among extra-pulmonary cases (38%) (Table 11). No information on culture was given in 23% of cases notified, while 10 countries had 20% or more of cases reported as culture negative. Species identification (23 countries) showed *M. tuberculosis* in 80.1% of culture positive cases, *M. bovis* in 0.3% and *M. africanum* in 0.3%, while in 19.3% species was unknown (Table 12).

The overall notification rate in 2003 was 22.7% lower than in 1995. In 28 countries with uninterrupted data since 1991 (excluding Andorra, Greece, Monaco and San Marino), the average annual decrease in rates between 1999 and 2003 (-3.7%) was similar to that observed between 1995 and 1999 (-3.3%), but greater than that between 1991 and 1995 (-0.1%). Average annual rates decreased between 1999 and 2003 in all countries except Italy, Norway, and the United Kingdom (Figure 6). Most countries with decreasing notification rates had a decline in notification rates or stabilisation at low levels in the age group 0-14 years (country profiles), suggesting decreasing or low levels of transmission. Between 1997 and 2003, notification rates decreased by 5% between the ages 15 to 34 - where half the cases were of foreign origin in 2003 - but dropped much faster in the rest of the population (-26%) (Figure 8). The median age of cases in 2003 was substantially higher in nationals than in cases of foreign origin (54 and 32 years respectively).

In most countries, time-trends in the number of cases differed markedly by geographic origin (Table 5). In 15 countries with consistent data, between 1996 and 2003 the average annual decrease in the numbers of cases was more marked in nationals (-7.0%) than in cases of foreign origin (-0.5%), resulting in an increase in the proportion of cases of foreign origin from 29% to 39% (Figure 4).

### 2.1.2 Tuberculosis and HIV infection

Aggregate data on HIV sero-status of TB cases notified in recent years, were available for 19 countries (Table 14). Completeness of information varied widely due to differences in testing policies and in data collection (only HIV-positive cases being reported in some countries). The proportion of HIV-positive TB cases for the latest available year (1999-2003) was lower than 0.4% in Andorra, Czech Republic, Lithu-

ania, Poland, Slovakia and Slovenia, and highest in Spain (9.6%) and Portugal (16.2%), the European countries having the highest AIDS incidence rates (Table 15) and an adult HIV prevalence of 0.4% or more [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 2.9% in 2003) and Latvia (from 0.5% in 1999 to 2.3% in 2003), where the spread of HIV is more recent than in Western Europe [3]. An upward trend was also observed in Belgium and Israel ( $P < 0.05$ ).

TB was reported as initial AIDS-indicative disease in 2,273 (23%) of 9,827 AIDS cases notified in 2003 (Table 15). No data on AIDS-indicative TB were available from the Netherlands. AIDS cases with TB as initial AIDS-indicative disease represented 3% of all TB cases notified in 2003, with highest proportions in Portugal (10.4%). When adjusted for reporting delays, annual numbers of AIDS cases with TB as initial AIDS-indicative disease decreased from 3,238 in 1997 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 occurring after initial AIDS diagnosis is not reported to AIDS notification systems.

### *2.1.3 Anti-tuberculosis drug resistance*

Data on anti-TB drug resistance surveillance (DRS) for 2003 were available from 29 countries. Drug susceptibility testing (DST) was performed in one or two laboratories in seven countries, in 3-10 laboratories in eight countries, 11-20 in five countries, 70 in Germany, 120 in France and over 200 in Italy (Table 18). In 19 countries, more than one DST method was used. Non-radiometric method on Lowenstein-Jensen media and radiometric proportion method were used in 18 and 14 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 11 countries.

National external quality assurance (EQA) existed in 12 of the 21 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 179/185 participating laboratories overall (not shown). Apart

from Luxembourg and Greece, all national reference laboratories (NRL) had participated in international EQA for DST in the period 2002-2004. Concordance with the supranational laboratories was 100% for both INH and RMP in 12 countries, and lower for one drug (80-95%) in nine countries.

In 18 countries providing DRS data for 2003, culture confirmation was reported in more than 50% of TB cases (median: 76%; range: 57-100%) and DST results were available for over 80% of them (median: 99%; range: 82-100%) (group A, Table 19). Drug resistance was much higher in the Baltic States than in the other 15 countries (Table 20, Figure 9). Combined INH resistance and combined multi-drug resistance (MDR) were 34% (range: 31-36%) and 19% (15-23%) respectively in the Baltic States and 7% (1-18%) and 2% (0-6%) in the other countries excluding Iceland. In nearly all countries, proportions of resistant cases were higher in previously treated cases than in new cases (Tables 21-22) and in cases of foreign origin than in nationals (Tables 25-26). 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, drug resistance was highest in cases originating from the FSU (15.0%) - who accounted for 24% of MDR-TB cases - intermediate in Asians (2.8%) and Africans (1.7%), and lowest in cases originating from the Centre (1%) and the EU & West itself (0.5%) (Table 27).

Between 2000 and 2003, seven out of 18 countries reached their highest ever prevalence of primary MDR in 2003 (Table 24). Austria and Switzerland had a statistically significant increase in prevalence of both combined INH resistance and combined MDR (Tables 23-24, country profiles) ( $P < 0.05$ ), with an increase in cases of foreign origin. Latvia and Lithuania reported an increase in combined MDR due to inclusion of retreated cases other than relapses from 2002, while the United Kingdom had an increase in combined INH resistance associated with an outbreak in the area of London [4,5]. In Israel, both INH resistance and MDR decreased, after a peak in 2000 associated with large immigration flows from Eastern Europe [6,7].

DST data from 11 countries were classified in group B. In Andorra, Cyprus, Hungary, Ireland, Malta, Portugal, and Slovakia, DST results were matched to TB notifications but the proportion of culture posi-

tive cases was lower than 50% and/or DST result were available for less than 80% of these cases (Table 19). In France DST data from a well-established network of teaching hospital laboratories [8] showed low prevalence of primary MDR, albeit exhaustive surveys of laboratories showed an increase in combined MDR from 2002 [9]. In Greece, diagnostic DST data from the NRL and another laboratory were reported for selected cases. In Italy, data were collected from selected laboratories in several regions including a reference Centre for treatment of drug-resistant cases [10]. In Spain DST data for selected cases with isolates tested in the NRL showed levels of resistance comparable to recent regional surveys in the country (Table 17).

#### *2.1.4 Treatment outcome*

Data on treatment outcome monitoring (TOM) for 2002 were provided by 24 countries in the EU & West (Table 28). Apart from Italy, where data derived from a small group of clinical centres [11], TOM data consisted of complete cohorts of culture positive pulmonary cases notified in 2002, and were available in individual format from most countries. Among new cases (Table 29), 74% were reported as success, 7% died during treatment, 4% failed or continued treatment at 12 months and a total of 14% defaulted, were transferred or were reported as unknown. Among countries reporting over 20 new cases, success ratios ranged very widely from 59% in Hungary to 86% in the Netherlands. In countries with few unknowns (0-1%), success was over 80%, except in the Baltic States and Hungary. Success ratios decreased markedly with age as risk of dying increased (Table 31). In countries with percentage death exceeding 7%, mortality was correlated to mean age of cases. 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 (0-17%). Failures and still on treatment were numerous in Hungary (25%), probably due to definitional inconsistencies. In the Baltic States still on treatment (4-10% among new cases) and failures (1-4%) were frequent, reflecting the high MDR caseload. In the remaining countries, where the prevalence of MDR is low, still on treatment was reported in 0-6% of new cases and failures in 1%. In these countries, treatments longer than 12 months may reflect non-standard care practices, as in Portugal (A. Fonseca-Antunes, personal communication 2005) or preferential use of this category due to lack of follow-up bacteriology information needed to define failure.

Among retreated cases (Table 30), the overall success ratio was lower than among new cases (59%; range: 39-100%). Death (10%), failure (4%) 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 defaulters (10%) and of cases with missing outcome information (6%) contributed to lower success ratios.

## 2.2 Centre

### *2.2.1 TB case notification*

In the eight countries in the Centre, 60,957 TB cases were reported in 2003, of which 52% from Romania and 30% from Turkey (Table 1). Data from Bosnia & Herzegovina did not include those of Rep. Srpska. In the other countries the overall TB notification rate was 48.6 cases per 100,000 population, being much higher in Romania (142 per 100,000) than in the other countries (from 41 in Bulgaria to 18 in Albania). The case distribution by age and sex was not provided by Turkey. The proportion of paediatric TB cases was 5% 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 peaked at age group 45-54 years in Romania (226 per 100,000) and in Bulgaria (54) and were highest in the over 64 years in the other countries. 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.

The proportion of retreated patients was much higher in Romania (20%) than in the other countries (4-12%) (Table 7). In the six countries using the pulmonary classification, pulmonary cases represented 81% of cases (range: 65-89%), of which 50% were sputum smear positive (Tables 8,13). The proportion of extra-pulmonary cases was over 20% in Albania, F.Y.R. of Macedonia and Turkey, suggesting over-diagnosis of extra-pulmonary TB. Culture results were not available in Serbia & Montenegro and Turkey, while in the other countries, the proportion of culture positive cases ranged widely from 13% in the F.Y.R. of Macedonia to 59% in the Federation of Bosnia (Table 10). The proportion of culture confirmation in Romania in 2003 (15%) was much lower than in 2002 (55%) due to incomplete information at time of data collection.

Between 1999 and 2003, annual notification rates decreased on average by 4% or more in Albania,

Croatia and Turkey, were stable in Bulgaria, and increased in the F.Y.R. of Macedonia, Romania and Serbia & Montenegro (Figure 6). In Romania, rates decreased for the first time in 2003. In countries with decreasing total notification rates in recent years, rates also decreased in cases under-45 (country profiles, no data for Turkey).

### 2.2.2 Tuberculosis and HIV infection

HIV sero-status for TB cases was only available for Albania (2002) and Romania (2003), both reporting 0.5% of cases co-infected with HIV (Table 14), a finding in agreement 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 in 2003 (Table 15). Among the 469 AIDS cases notified, information on initial AIDS-indicative diseases was missing in 250 cases (53%; most from Romania) while TB was reported in 72 cases (15%), representing a mere 0.1% of all TB notifications in 2003. Numbers of AIDS cases with initial TB were relatively stable between 1997 and 2003 (Table 16).

### 2.2.3 Anti-tuberculosis drug resistance

Six countries in the Centre provided DRS data for 2003. Of these, three participated in international EQA for DST (Table 18) and two were classified in group A (Table 19). In Romania resistance data were last provided in 2001 (Table 17), from selected patients at a time when national quality assurance for DST was not yet implemented: the results of a recent nationwide representative drug resistance survey are expected shortly. Data on cases notified in Federation of Bosnia and Croatia showed low, stable drug resistance levels between 1999 and 2003 (Tables 23-24). Among countries in group B, data from Serbia & Montenegro showed low levels of resistance in the region of Belgrade. Data from Albania, Bulgaria and the FYR of Macedonia, where culture and/or DST are not routinely used for TB diagnosis, showed combined MDR levels between 1.4% and 5.5% (Table 20).

### 2.2.4 Treatment outcome

Outcome of definite TB cases notified in 2002 were reported by all countries, with five providing complete cohorts (group A, Table 28). Among new cases, success ratios ranged between 79% and 95% deaths between 1% and 4%, defaults between 1% and 15%, while failures were elevated in Bulgaria and Romania (5%) (Table 29). Success ratios for retreated cases were much lower than those for new cases (Table 30). In incomplete cohorts (group B), success

ratios among new cases were higher than 85% in Serbia & Montenegro (region of Belgrade) and lower in Turkey (79%; 10% of cases still on treatment) and in Croatia (72%; 14% defaulters, transferred or unknown).

## **2.3 East**

### 2.3.1 TB case notification

In 2003, 290,395 cases were reported from the East, of which 52% from the Russian Federation (Table 1), ranking as fifth country worldwide in absolute number of TB notifications in 2003 [1]. The overall TB notification rate in the East continued to increase, reaching 104 cases per 100,000 in 2003, with rates higher than average in Kazakhstan (208), Kyrgyzstan (137), Rep. of Moldova (118), Georgia (117) and the Russian Federation (106) (Table 1).

Paediatric TB cases represented 7% of the cases overall (Table 2). Higher overall rates in children 5-14 years than in younger children 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 208 per 100,000) – indicating high levels of transmission in recent years – and remained very high in older age groups in men while decreasing more rapidly in women (Figure 5). Sex ratios ranged very widely from 1.3 in four central Asian republics to over 2.5 in six other countries, suggesting possible sex-related differences in TB transmission, care or reporting between countries in the East (Table 3).

The proportion of retreated cases ranged widely from 4% to 32% (mean: 20%), reflecting differences in the definition of a notifiable case (Table 7). Notification of retreated cases was limited to relapses in Ukraine and to pulmonary, sputum-smear positive cases in Armenia, two countries with low proportion of retreated cases. In 2003, 94% of TB cases in the East had pulmonary localisation (range: 69-97%), and only 39% of them were sputum smear positive (32-54%) (Tables 8, 13). Culture results (Table 10) were rarely available as TB notification systems in this area do not collect this information or still combine positive results of direct microscopy and culture, reported together as 'BK+'. In the Russian Federation, only 2,990 (14%) out of 21,915 cases notified in DOTS areas were reported as culture positive. 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.

Notification rates increased by 50% overall between 1996 and 2003, contributing importantly to the lack of decline in TB notifications in recent years in the whole world [12]. The mean annual increase in rates was larger between 1995 and 1999 (11%) than between 1999 and 2003 (4.5%) (Figure 6), when annual increases in excess of 10% were only reported in the Rep. of Moldova, Tajikistan and Uzbekistan, countries where DOTS implementation has been expanded during the period. Between 1999 and 2003 overall notification rates decreased in Azerbaijan, Belarus and Georgia, and stabilised in Kyrgyzstan.

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.

### 2.3.2 Tuberculosis and HIV infection

In the four countries reporting HIV sero-status of notified TB cases in 2002-2003 HIV prevalence ranged between 0.1% and 0.7% (Table 14). The Russian Federation did not report AIDS data in 2003, while the other 11 countries together reported 2,097 AIDS cases, of which 1,860 (89%) from Ukraine (Table 15). Among AIDS cases, 1,230 (59%) had TB as initial AIDS indicative disease representing 2.7% of total TB cases in Ukraine and less than 0.7% in the other countries. In 2003, numbers of AIDS cases with AIDS-indicative TB increased markedly in the Rep. of Moldova and Kazakhstan, as well as in Ukraine, where completeness of information on AIDS-indicative diseases improved (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 [13].

### 2.3.3 Anti-tuberculosis drug resistance

In the East, four countries provided DRS data for 2003, among which Armenia and Kyrgyzstan participated in international EQA activities (Table 18). Diagnostic DST results on selected TB cases in Armenia, Kazakhstan and Kyrgyzstan showed proportions of MDR between 11% and 13% among new cases, similar to those reported by the Baltic States (see above), and much higher than in Azerbaijan (1.3%) (Table 21). 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) [14-17]. Better documentation of the frequency of drug resistance remains a high priority and a prerequisite for proper control of MDR-TB.

### 2.3.4 Treatment outcome

Ten countries provided TOM data on 2002 cohorts of smear positive cases, four having complete nationwide cohorts (group A, Table 28). Data from Azerbaijan were nationwide but incomplete and five others reported outcome for DOTS areas alone (group B).

In group A, the success ratio among new cases was lowest in Georgia (65%; 18% defaulted and 13% transferred), while it was 74% in Turkmenistan (13% unknown), 76% in Kazakhstan (11% failures) and 82% in Kyrgyzstan (7% failures) (Table 29).

In data from group B countries, the success ratio among new cases was lowest in the Rep. of Moldova (61%; 16% cases defaulted) and in the Russian Federation (67%; 13% deaths) and higher (79-81%) in the remaining four countries. Proportions of failures were low in Armenia (3%) and Azerbaijan (1%) but higher in other countries (8-11%), indicating poor compliance (not qualifying as default) or low effectiveness of initial regimens due to primary MDR.

Among retreated cases in groups A and B (Table 30), success was lower than 65% in all countries except Kyrgyzstan, and lower than 50% in four countries, while failures ranged between 8% and 26%. Nineteen percent of cases (range: 9-52%) were classified as default, transfer or unknown.

## 2.4. Conclusions and recommendations

European TB surveillance data depict an increasingly diversified picture of TB epidemiology which clearly identifies the East as the priority area for TB control in Europe. In the East, TB notification rates continue to increase in most countries and are highest in young adults indicating high and probably increasing levels of transmission in the past decade. Data on drug resistance and on TB/HIV co-infection are still lacking. Available outcome data depict poor effectiveness of treatment programmes, particularly for retreated patients. Even in DOTS areas, success ratios do not reach global targets and failure is worryingly frequent, probably associated with MDR. Moreover, laboratory capacity for culture is insufficient, which limits efforts for timely diagnosis and care of MDR cases.

In the EU and West, TB incidence continues to decrease in most countries, independently of incidence levels, but less so in young adults, a large proportion of whom are of foreign origin. Cases in migrants from high TB incidence countries represent an increasing proportion of cases and a large proportion of drug resistant cases. With the notable exception of the Baltic States, the proportions of drug resistant and MDR cases remain low, indicating that its emergence on a large scale has been prevented. HIV prevalence in TB patients correlates with HIV prevalence in the general population, and is increasing in the Baltic States where HIV spread is more recent. AIDS notification data do not capture all HIV-associated tuberculosis but indicate that it represents a non-negligible proportion of TB incidence. 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 and the elderly. The population of metropolitan areas, where risk factors for tuberculosis concentrate, experience a higher incidence than the national average [18].

European consensus recommendations [19-21] and collaborative actions have been instrumental in harmonising TB surveillance at European level. The number of countries reporting comparable information is increasing steadily over the years. MDR-TB surveillance is being initiated in 2005 to strengthen and complete the current approach to surveillance of drug resistance.

In spite of these achievements, huge efforts are still required to improve the quality of data, particularly in the East and in the Centre. Further national uptake of agreed European surveillance recommendations and definitions should be promoted throughout the Region, by:

- adopting the European definitions for TB surveillance;
- setting up a national, computerised individual TB case reporting data set, containing the recommended essential variables, and sharing individual data at the European level;
- promoting independent, laboratory-based reporting of TB cases, and establishing 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, in settings where culture is not routinely used by implementing prevalence surveys [22];
- implementing treatment outcome monitoring and developing additional intermediate targets for treatment results;
- monitoring 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 [23];
- 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 [24].

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## 3. TABLES

**Table 1. Tuberculosis cases and rates per 100 000 population, WHO European Region, 1996-2003**

Geographic area Country	1996		1997		1998		1999	
	N	Rate	N	Rate	N	Rate	N	Rate
<b>EU &amp; West</b>								
Austria	1 489	18.4	1 398	17.3	1 306	16.1	1 245	15.4
Belgium	1 352	13.3	1 263	12.4	1 203	11.8	1 270	12.4
Cyprus	24	3.2	47	6.2	45	5.8	39	5.0
Czech Republic	1 936	18.8	1 834	17.8	1 805	17.5	1 631	15.9
Denmark	484	9.2	554	10.5	529	10.0	536	10.1
Estonia	683	48.0	744	52.9	818	58.7	754	54.6
Finland	644	12.6	573	11.1	629	12.2	566	11.0
France	7 656	12.8	6 832	11.3	6 651	11.0	6 674	11.0
Germany	11 814	14.4	11 163	13.6	10 440	12.7	9 974	12.1
Greece	945 *	9.0	767 *	7.2	1 152	10.7	952	8.8
Hungary	4 278	42.0	4 240	41.8	3 999	39.6	3 914	38.9
Ireland	434	11.9	416	11.3	424	11.4	469	12.4
Italy	5 152	9.0	5 176	9.0	4 795	8.3	4 429	7.7
Latvia	1 761	71.5	2 003	82.3	2 182	90.4	1 968	82.2
Lithuania	2 608	73.7	2 926	83.0	3 016	85.7	2 903	82.7
Luxembourg	36	8.8	38	9.1	44	10.4	42	9.8
Malta	29	7.6	11	2.9	16	4.2	22	5.7
Netherlands	1 678	10.8	1 486	9.5	1 341	8.5	1 535	9.7
Poland	15 358	39.7	13 967	36.1	13 302	34.4	12 179	31.5
Portugal	5 248	52.8	5 112	51.4	5 260	52.7	5 160	51.6
Slovakia	1 499	27.9	1 298	24.1	1 282	23.8	1 218	22.6
Slovenia	563	28.2	481	24.1	449	22.5	438	22.0
Spain †	8 331	20.8	9 347	23.2	9 111	22.5	8 393	20.7
Sweden	493	5.6	456	5.1	446	5.0	493	5.6
United Kingdom	6 240	10.8	6 355	10.9	6 176	10.6	6 287	10.7
<b>Subtotal EU</b>	<b>80 735</b>	<b>17.9</b>	<b>78 487</b>	<b>17.4</b>	<b>76 421</b>	<b>16.9</b>	<b>73 091</b>	<b>16.1</b>
Andorra	17	26.2	19	29.1	8	12.2	9	13.7
Iceland	11	4.1	10	3.7	17	6.1	12	4.3
Israel	415	7.5	422	7.5	656	11.3	520	8.8
Monaco	0	0.0	0	0.0	0	0.0	3	9.1
Norway	217	5.0	205	4.7	244	5.5	273	6.1
San Marino	0	0.0	1	3.9	0	0.0	0	0.0
Switzerland	764	10.7	747	10.4	749	10.4	772	10.8
<b>Total EU &amp; West</b>	<b>82 159</b>	<b>17.6</b>	<b>79 891</b>	<b>17.0</b>	<b>78 095</b>	<b>16.6</b>	<b>74 680</b>	<b>15.9</b>
<b>Centre</b>								
Albania	707	22.4	655	20.9	694	22.2	765	24.6
Bosnia & Herzegovina	2 220	64.8	2 869	81.4	3 071	83.4	3 075	80.0
Bulgaria	3 109	37.3	3 437 ‡	41.5	4 117	50.1	3 530	43.2
Croatia	2 174	49.2	2 054	46.6	2 118	47.9	1 770	39.9
Macedonia, F.Y.R.	724	36.7	693	34.9	620	31.0	576	28.6
Romania	24 113	106.7	23 903	105.9	25 758	114.3	26 870	119.4
Serbia & Montenegro	4 541 §	42.9	4 062 §	38.4	3 028	28.6	2 646	25.0
Turkey	23 533	36.7	25 685	39.4	25 501	38.5	22 088	32.8
<b>Total Centre</b>	<b>61 121</b>	<b>51.5</b>	<b>63 358</b>	<b>52.9</b>	<b>64 907</b>	<b>53.7</b>	<b>61 320</b>	<b>50.3</b>
<b>East</b>								
Armenia	935	28.6	1 026	31.8	1 455	45.7	1 499	47.7
Azerbaijan	5 006	63.5	4 635 ‡	58.2	4 350	54.2	4 629	57.2
Belarus	5 619	55.0	5 985	58.8	5 595	55.2	7 339	72.8
Georgia	10 641	199.5	8 446	158.8	6 302	118.7	6 546	123.8
Kazakhstan	13 559 *	82.7	16 109	99.5	20 623	129.0	25 060	158.7
Kyrgyzstan	4 086	88.5	5 189	110.7	5 935	124.6	6 501	134.2
Moldova, Republic of	2 922	67.5	2 908	67.4	2 891	67.2	2 947	68.7
Russian Federation	110 897	75.0	119 123	80.8	121 917	83.0	135 054	92.3
Tajikistan	1 647	28.3	2 143	36.4	2 503	42.0	2 553	42.4
Turkmenistan	2 149	49.9	3 438	78.2	3 712 *	82.8	4 092	89.6
Ukraine	26 834	52.4	28 344	55.7	31 318	62.0	32 879	65.6
Uzbekistan	11 919	51.3	13 352	56.4	13 958	58.0	16 959	69.2
<b>Total East</b>	<b>196 214</b>	<b>69.0</b>	<b>210 698</b>	<b>74.2</b>	<b>220 559</b>	<b>77.8</b>	<b>246 058</b>	<b>86.9</b>
<b>Total WHO European Region</b>	<b>339 494</b>	<b>39.0</b>	<b>353 947</b>	<b>40.6</b>	<b>363 561</b>	<b>41.6</b>	<b>382 058</b>	<b>43.6</b>

\* New cases only

† 1996 new respiratory cases only; since 1997 new and recurrent respiratory and meningeal cases

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

§ Including Kosovo as part of former Yugoslavia

|| Excluding Abkhazia and Southern Ossetia

TABLES

Table 1 (cont). Tuberculosis cases and rates per 100 000 population, WHO European Region, 1996-2003

2000		2001		2002		2003		Geographic area Country
N	Rate	N	Rate	N	Rate	N	Rate	
<b>EU &amp; West</b>								
1 225	15.1	1 075	13.3	1 076	13.3	980	12.1	Austria
1 313	12.8	1 321	12.9	1 294	12.6	1 128	10.9	Belgium
33	4.2	40	5.1	20	2.5	35	4.4	Cyprus
1 442	14.0	1 350	13.2	1 185	11.6	1 153	11.3	Czech Republic
548	10.3	511	9.6	419	7.8	391	7.3	Denmark
791	57.9	812	60.0	713	53.3	623	47.1	Estonia
537	10.4	494	9.5	473	9.1	414	8.0	Finland
6 714	11.0	6 465	10.5	6 322	10.3	6 098	9.8	France
9 064	11.0	7 539 *	9.2 *	7 701	9.3	7 184	8.7	Germany
703	6.4	617	5.6	582	5.3	620	5.6	Greece
3 598	35.9	3 150	31.6	2 838	28.6	2 745	27.8	Hungary
403	10.6	406	10.5	408	10.4	421	10.6	Ireland
4 759	8.3	4 505	7.8	4 212	7.3	4 518	7.9	Italy
2 063	87.0	2 082	88.6	1 855	79.6	1 726	74.8	Latvia
2 981	85.2	2 989	85.8	2 844	82.1	2 821	81.9	Lithuania
44	10.1	32	7.3	32	7.2	54	11.9	Luxembourg
18	4.6	16	4.1	24	6.1	7	1.8	Malta
1 404	8.8	1 436	9.0	1 401	8.7	1 321	8.2	Netherlands
11 477	29.7	10 672	27.6	10 475	27.1	10 124	26.2	Poland
4 494	44.9	4 399	43.8	4 501	44.8	4 131	41.1	Portugal
1 111	20.6	1 076	19.9	1 053	19.5	983	18.2	Slovakia
380	19.1	371	18.7	350	17.6	293	14.8	Slovenia
8 395	20.6	7 453	18.2	7 626	18.6	7 467	18.2	Spain †
458	5.2	428	4.8	407	4.6	410	4.6	Sweden
6 792	11.5	7 017	11.9	7 263	12.3	7 278	12.3	United Kingdom
<b>70 747</b>	<b>15.6</b>	<b>66 256</b>	<b>14.6</b>	<b>65 074</b>	<b>14.3</b>	<b>62 925</b>	<b>13.8</b>	<b>Subtotal EU</b>
11	16.7	5	6.2	5	6.0	11	12.6	Andorra
13	4.6	13	4.6	8	2.8	5	1.7	Iceland
591	9.8	564	9.1	511	8.1	529	8.2	Israel
0	0.0	0	0.0	0	0.0	1	2.9	Monaco
237	5.3	288	6.4	251	5.6	339	7.5	Norway
1	3.8	0	0.0	1	3.7	1	3.7	San Marino
629	8.8	611	8.5	658	9.2	623	8.7	Switzerland
<b>72 229</b>	<b>15.3</b>	<b>67 737</b>	<b>14.3</b>	<b>66 508</b>	<b>14.0</b>	<b>64 434</b>	<b>13.6</b>	<b>Total EU &amp; West</b>
<b>Centre</b>								
631	20.3	572	18.3	612	19.5	561	17.7	Albania
2 606	65.5	2 551	62.7	2 551	61.8	1 780 ‡	-	Bosnia & Herzegovina
3 349	41.4	3 862	48.1	3 335	41.9	3 263	41.3	Bulgaria
1 630	36.7	1 505	33.9	1 470	33.1	1 494	33.7	Croatia
668	33.0	697	34.3	730	35.7	697	33.9	Macedonia, F.Y.R.
27 667	123.1	30 440	135.7	33 595	150.1	31 623	141.6	Romania
2 922	27.7	2 888	27.4	3 033	28.8	2 949	28.0	Serbia & Montenegro
18 038	26.4	18 890	27.3	19 028	27.1	18 590	26.1	Turkey
<b>57 511</b>	<b>46.8</b>	<b>61 405</b>	<b>49.5</b>	<b>64 354</b>	<b>51.5</b>	<b>60 957</b>	<b>48.6</b>	<b>Total Centre</b>
<b>East</b>								
1 344	43.2	1 401	45.4	1 455	47.4	1 570	51.3	Armenia
5 187	63.6	4 923	59.8	5 348	64.5	3 931	47.0	Azerbaijan
6 084 §	60.6	5 505 §	55.1	5 139	51.7	5 963	60.3	Belarus
6 436	122.3	5 876	112.5	6 345	122.6	5 993	116.9	Georgia
28 265	180.7	31 254	201.2	32 936	212.9	32 169	208.4	Kazakhstan
6 383	129.7	6 901	138.2	6 794	134.1	7 025	136.7	Kyrgyzstan
2 935	68.5	3 820	89.3	4 149	97.2	5 027	117.8	Moldova, Republic of
143 801	98.8	138 432	95.6	134 812	93.6	152 244	106.3	Russian Federation
2 779 §	45.6	3 508	57.1	4 052	65.4	4 883	78.2	Tajikistan
3 967	85.4	4 922	104.3	4 635	96.7	4 759	97.8	Turkmenistan
32 963	66.3	36 784	74.6	40 175	82.2	40 659	83.8	Ukraine
15 912	63.9	18 106	71.5	27 009	105.1	26 172	100.3	Uzbekistan
<b>256 056</b>	<b>90.7</b>	<b>261 432</b>	<b>92.8</b>	<b>272 849</b>	<b>97.1</b>	<b>290 395</b>	<b>103.6</b>	<b>Total East</b>
<b>385 796</b>	<b>44.0</b>	<b>390 574</b>	<b>44.5</b>	<b>403 711</b>	<b>45.9</b>	<b>415 786</b>	<b>47.2</b>	<b>Total WHO European Region</b>

\* Incomplete notification owing to change in notification system

† 1996 new respiratory cases only; since 1997 new and recurrent respiratory and meningeal cases

‡ Excluding Republika Srpska

§ New cases only

|| Excluding Abkhazia and Southern Ossetia

Table 2. Tuberculosis cases by age group, WHO European Region, 2003

Geographic area Country	0-4		5-14		15-24		25-34		35-44	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>EU &amp; West</b>										
Austria	16	(2)	27	(3)	102	(10)	152	(16)	173	(18)
Belgium	37	(3)	33	(3)	153	(14)	239	(21)	168	(15)
Cyprus	0	(0)	0	(0)	5	(14)	11	(31)	6	(17)
Czech Republic	2	(0)	9	(1)	51	(4)	114	(10)	140	(12)
Denmark	12	(3)	21	(5)	46	(12)	97	(25)	81	(21)
Estonia	2	(0)	2	(0)	42	(7)	104	(17)	152	(24)
Finland	1	(0)	3	(1)	15	(4)	34	(8)	29	(7)
France	142	(2)	169	(3)	756	(12)	1 174	(19)	1 029	(17)
Germany	142	(2)	143	(2)	628	(9)	1 089	(15)	1 208	(17)
Greece	8	(1)	10	(2)	49	(8)	92	(15)	80	(13)
Hungary	4	(0)	6	(0)	95	(3)	227	(8)	441	(16)
Ireland	10	(2)	13	(3)	71	(17)	89	(21)	51	(12)
Italy	107	(2)	73	(2)	432	(10)	938	(21)	743	(16)
Latvia	59	(3)	51	(3)	173	(10)	309	(18)	415	(24)
Lithuania	24	(1)	107	(4)	223	(8)	408	(14)	591	(21)
Luxembourg	1	(2)	0	(0)	7	(13)	16	(30)	12	(22)
Malta	1	(14)	0	(0)	0	(0)	3	(43)	0	(0)
Netherlands	25	(2)	34	(3)	251	(19)	351	(27)	220	(17)
Poland	27	(0)	71	(1)	514	(5)	997	(10)	1 614	(16)
Portugal	25	(1)	58	(1)	437	(11)	978	(24)	942	(23)
Slovakia	6	(1)	14	(1)	45	(5)	80	(8)	127	(13)
Slovenia	5	(2)	4	(1)	11	(4)	30	(10)	54	(18)
Spain	265	(4)	214	(3)	966	(13)	1 740	(23)	1 467	(20)
Sweden	6	(1)	11	(3)	66	(16)	93	(23)	68	(17)
United Kingdom *	110	(2)	236	(3)	1 064	(16)	1 943	(28)	1 126	(16)
<b>Subtotal EU</b>	<b>1 037</b>	<b>(2)</b>	<b>1 309</b>	<b>(2)</b>	<b>6 202</b>	<b>(10)</b>	<b>11 308</b>	<b>(18)</b>	<b>10 937</b>	<b>(18)</b>
Andorra	0	(0)	0	(0)	2	(18)	2	(18)	4	(36)
Iceland	0	(0)	0	(0)	1	(20)	1	(20)	1	(20)
Israel	14	(3)	15	(3)	43	(8)	91	(17)	103	(19)
Monaco	-	-	-	-	-	-	-	-	-	-
Norway	5	(1)	13	(4)	70	(21)	85	(25)	63	(19)
San Marino	0	-	0	-	0	-	0	-	0	-
Switzerland	12	(2)	12	(2)	108	(17)	128	(21)	97	(16)
<b>Total EU &amp; West</b>	<b>1 068</b>	<b>(2)</b>	<b>1 349</b>	<b>(2)</b>	<b>6 426</b>	<b>(10)</b>	<b>11 615</b>	<b>(18)</b>	<b>11 205</b>	<b>(18)</b>
<b>Centre</b>										
Albania	8	(1)	27	(5)	85	(15)	74	(13)	92	(16)
Bosnia & Herzegovina †	5	(0)	29	(2)	206	(12)	209	(12)	262	(15)
Bulgaria	45	(1)	138	(4)	416	(13)	526	(16)	484	(15)
Croatia	6	(0)	58	(4)	90	(6)	135	(9)	242	(16)
Macedonia, F.Y.R.	39	(6)	53	(8)	104	(15)	103	(15)	113	(16)
Romania	539	(2)	1 069	(3)	4 269	(13)	6 033	(19)	5 958	(19)
Serbia & Montenegro	6	(0)	25	(1)	206	(7)	309	(10)	452	(15)
Turkey	-	-	-	-	-	-	-	-	-	-
<b>Total Centre</b>	<b>648</b>	<b>(2)</b>	<b>1 399</b>	<b>(3)</b>	<b>5 376</b>	<b>(13)</b>	<b>7 389</b>	<b>(17)</b>	<b>7 603</b>	<b>(18)</b>
<b>East</b>										
Armenia	10	(1)	61	(4)	344	(22)	442	(28)	248	(16)
Azerbaijan	30	(1)	199	(5)	1 057	(27)	974	(25)	759	(19)
Belarus ‡	24	(0)	37	(1)	588	(12)	975	(19)	1 250	(24)
Georgia	89	(1)	376	(6)	953	(16)	1 234	(21)	1 257	(21)
Kazakhstan	372	(1)	1 778	(6)	7 764	(24)	8 402	(26)	6 245	(19)
Kyrgyzstan ‡	218	(4) §	775	(13) §	1 360	(22)	1 403	(23)	1 002	(16)
Moldova, Republic of	-	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-	-
Tajikistan	83	(2)	365	(7)	1 286	(26)	982	(20)	606	(12)
Turkmenistan	31	(1)	279	(6)	1 133	(24)	1 417	(30)	1 059	(22)
Ukraine ‡	175	(0)	509	(1)	4 957	(13)	8 450	(23)	8 588	(23)
Uzbekistan ‡	295	(1)	2 701	(14)	3 775	(19)	5 034	(26)	3 160	(16)
<b>Total East</b>	<b>1 327</b>	<b>(1)</b>	<b>7 080</b>	<b>(6)</b>	<b>23 217</b>	<b>(19)</b>	<b>29 313</b>	<b>(24)</b>	<b>24 174</b>	<b>(20)</b>
<b>Total WHO European Region</b>	<b>3 043</b>	<b>(1)</b>	<b>9 828</b>	<b>(4)</b>	<b>35 019</b>	<b>(15)</b>	<b>48 317</b>	<b>(21)</b>	<b>42 982</b>	<b>(19)</b>

\* Excluding Scotland

† Excluding Republika Srpska

‡ Age groups only for new cases

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

Table 2 (cont.). Tuberculosis cases by age group, WHO European Region, 2003

45-54		55-64		>64		Unknown		Total	Geographic area Country
N	(%)	N	(%)	N	(%)	N	(%)		
<b>EU &amp; West</b>									
186	(19)	120	(12)	204	(21)	0	(0)	980	Austria
162	(14)	103	(9)	233	(21)	0	(0)	1 128	Belgium
3	(9)	4	(11)	6	(17)	0	(0)	35	Cyprus
243	(21)	207	(18)	387	(34)	0	(0)	1 153	Czech Republic
58	(15)	33	(8)	43	(11)	0	(0)	391	Denmark
150	(24)	94	(15)	77	(12)	0	(0)	623	Estonia
55	(13)	63	(15)	214	(52)	0	(0)	414	Finland
750	(12)	559	(9)	1 515	(25)	4	(0)	6 098	France
1 070	(15)	917	(13)	1 986	(28)	1	(0)	7 184	Germany
58	(9)	74	(12)	214	(35)	35	(6)	620	Greece
798	(29)	503	(18)	671	(24)	0	(0)	2 745	Hungary
50	(12)	33	(8)	101	(24)	3	(1)	421	Ireland
428	(9)	432	(10)	1 223	(27)	142	(3)	4 518	Italy
336	(19)	209	(12)	174	(10)	0	(0)	1 726	Latvia
610	(22)	408	(14)	450	(16)	0	(0)	2 821	Lithuania
4	(7)	6	(11)	8	(15)	0	(0)	54	Luxembourg
2	(29)	1	(14)	0	(0)	0	(0)	7	Malta
137	(10)	107	(8)	196	(15)	0	(0)	1 321	Netherlands
2 587	(26)	1 432	(14)	2 881	(28)	1	(0)	10 124	Poland
590	(14)	371	(9)	672	(16)	58	(1)	4 131	Portugal
192	(20)	130	(13)	389	(40)	0	(0)	983	Slovakia
59	(20)	25	(9)	105	(36)	0	(0)	293	Slovenia
847	(11)	553	(7)	1 302	(17)	113	(2)	7 467	Spain
33	(8)	31	(8)	102	(25)	0	(0)	410	Sweden
752	(11)	536	(8)	1 069	(16)	1	(0)	6 837	United Kingdom *
<b>10 160</b>	<b>(16)</b>	<b>6 951</b>	<b>(11)</b>	<b>14 222</b>	<b>(23)</b>	<b>358</b>	<b>(1)</b>	<b>62 484</b>	<b>Subtotal EU</b>
<b>EU &amp; West (continued)</b>									
2	(18)	1	(9)	0	(0)	0	(0)	11	Andorra
0	(0)	1	(20)	1	(20)	0	(0)	5	Iceland
57	(11)	58	(11)	148	(28)	0	(0)	529	Israel
-	-	-	-	-	-	-	-	-	Monaco
27	(8)	18	(5)	58	(17)	0	(0)	339	Norway
0	-	0	-	1	-	0	-	1	San Marino
72	(12)	46	(7)	148	(24)	0	(0)	623	Switzerland
<b>10 318</b>	<b>(16)</b>	<b>7 075</b>	<b>(11)</b>	<b>14 578</b>	<b>(23)</b>	<b>358</b>	<b>(1)</b>	<b>63 992</b>	<b>Total EU &amp; West</b>
<b>Centre</b>									
83	(15)	94	(17)	97	(17)	1	(0)	561	Albania
248	(14)	266	(15)	555	(31)	0	(0)	1 780	Bosnia & Herzegovina †
616	(19)	483	(15)	555	(17)	0	(0)	3 263	Bulgaria
291	(19)	199	(13)	472	(32)	1	(0)	1 494	Croatia
91	(13)	84	(12)	110	(16)	0	(0)	697	Macedonia, F.Y.R.
7 004	(22)	3 407	(11)	3 316	(10)	28	(0)	31 623	Romania
586	(20)	446	(15)	918	(31)	1	(0)	2 949	Serbia & Montenegro
-	-	-	-	-	-	-	-	-	Turkey
<b>8 919</b>	<b>(21)</b>	<b>4 979</b>	<b>(12)</b>	<b>6 023</b>	<b>(14)</b>	<b>31</b>	<b>(0)</b>	<b>42 367</b>	<b>Total Centre</b>
<b>East</b>									
235	(15)	171	(11)	59	(4)	0	(0)	1 570	Armenia
507	(13)	278	(7)	127	(3)	0	(0)	3 931	Azerbaijan
1 092	(21)	528	(10)	612	(12)	0	(0)	5 106	Belarus ‡
908	(15)	564	(9)	608	(10)	4	(0)	5 993	Georgia
4 264	(13)	1 969	(6)	1 375	(4)	0	(0)	32 169	Kazakhstan
620	(10)	323	(5)	471	(8)	0	(0)	6 172	Kyrgyzstan ‡
-	-	-	-	-	-	-	-	-	Moldova, Republic of
-	-	-	-	-	-	-	-	-	Russian Federation
338	(7)	188	(4)	124	(3)	911	(19)	4 883	Tajikistan
502	(11)	193	(4)	145	(3)	0	(0)	4 759	Turkmenistan
7 487	(20)	3 651	(10)	3 226	(9)	0	(0)	37 043	Ukraine ‡
2 042	(10)	1 305	(7)	1 413	(7)	0	(0)	19 725	Uzbekistan ‡
<b>17 995</b>	<b>(15)</b>	<b>9 170</b>	<b>(8)</b>	<b>8 160</b>	<b>(7)</b>	<b>915</b>	<b>(1)</b>	<b>121 351</b>	<b>Total East</b>
<b>37 232</b>	<b>(16)</b>	<b>21 224</b>	<b>(9)</b>	<b>28 761</b>	<b>(13)</b>	<b>1 304</b>	<b>(1)</b>	<b>227 710</b>	<b>Total WHO European Region</b>

\* Excluding Scotland

† Excluding Republika Srpska

‡ Age groups only for new cases

Table 3. Tuberculosis cases by sex, WHO European Region, 2003

Geographic area Country	Male		Female		Unknown		Total	Sex ratio
	N	(%)	N	(%)	N	(%)		
<b>EU &amp; West</b>								
Austria	622	(63)	358	(37)	0	(0)	980	1.7
Belgium	716	(63)	412	(37)	0	(0)	1 128	1.7
Cyprus	15	(43)	20	(57)	0	(0)	35	0.8
Czech Republic	736	(64)	417	(36)	0	(0)	1 153	1.8
Denmark	245	(63)	146	(37)	0	(0)	391	1.7
Estonia	437	(70)	186	(30)	0	(0)	623	2.3
Finland	225	(54)	189	(46)	0	(0)	414	1.2
France	3 746	(61)	2 346	(38)	6	(0)	6 098	1.6
Germany	4 426	(62)	2 758	(38)	0	(0)	7 184	1.6
Greece	432	(70)	187	(30)	1	(0)	620	2.3
Hungary	1 846	(67)	899	(33)	0	(0)	2 745	2.1
Ireland	261	(62)	156	(37)	4	(1)	421	1.7
Italy	2 715	(60)	1 782	(39)	21	(0)	4 518	1.5
Latvia	1 195	(69)	531	(31)	0	(0)	1 726	2.3
Lithuania	1 978	(70)	843	(30)	0	(0)	2 821	2.3
Luxembourg	39	(72)	12	(22)	3	(6)	54	3.3
Malta	4	(57)	3	(43)	0	(0)	7	1.3
Netherlands	769	(58)	552	(42)	0	(0)	1 321	1.4
Poland	6 670	(66)	3 454	(34)	0	(0)	10 124	1.9
Portugal	2 825	(68)	1 306	(32)	0	(0)	4 131	2.2
Slovakia	569	(58)	414	(42)	0	(0)	983	1.4
Slovenia	182	(62)	111	(38)	0	(0)	293	1.6
Spain	4 930	(66)	2 524	(34)	13	(0)	7 467	2.0
Sweden	202	(49)	208	(51)	0	(0)	410	1.0
United Kingdom *	3 807	(56)	3 028	(44)	2	(0)	6 837	1.3
<b>Subtotal EU</b>	<b>39 592</b>	<b>(63)</b>	<b>22 842</b>	<b>(37)</b>	<b>50</b>	<b>(0)</b>	<b>62 484</b>	<b>1.7</b>
Andorra	5	(45)	6	(55)	0	(0)	11	0.8
Iceland	3	(60)	2	(40)	0	(0)	5	1.5
Israel	278	(53)	251	(47)	0	(0)	529	1.1
Monaco	-	-	-	-	-	-	-	-
Norway	181	(53)	158	(47)	0	(0)	339	1.1
San Marino	1	(100)	0	(0)	0	(0)	1	-
Switzerland	354	(57)	269	(43)	0	(0)	623	1.3
<b>Total EU &amp; West</b>	<b>40 414</b>	<b>(63)</b>	<b>23 528</b>	<b>(37)</b>	<b>50</b>	<b>(0)</b>	<b>63 992</b>	<b>1.7</b>
<b>Centre</b>								
Albania	341	(61)	220	(39)	0	(0)	561	1.6
Bosnia & Herzegovina †	996	(56)	784	(44)	0	(0)	1 780	1.3
Bulgaria	2 146	(66)	1 117	(34)	0	(0)	3 263	1.9
Croatia	972	(65)	522	(35)	0	(0)	1 494	1.9
Macedonia, F.Y.R.	435	(62)	262	(38)	0	(0)	697	1.7
Romania	21 654	(68)	9 969	(32)	0	(0)	31 623	2.2
Serbia & Montenegro	1 837	(62)	1 112	(38)	0	(0)	2 949	1.7
Turkey	-	-	-	-	-	-	-	-
<b>Total Centre</b>	<b>28 381</b>	<b>(67)</b>	<b>13 986</b>	<b>(33)</b>	<b>0</b>	<b>(0)</b>	<b>42 367</b>	<b>2.0</b>
<b>East</b>								
Armenia	1 295	(82)	275	(18)	0	(0)	1 570	4.7
Azerbaijan	3 038	(77)	893	(23)	0	(0)	3 931	3.4
Belarus ‡	3 716	(73)	1 390	(27)	0	(0)	5 106	2.7
Georgia	4 317	(72)	1 671	(28)	5	(0)	5 993	2.6
Kazakhstan	18 249	(57)	13 920	(43)	0	(0)	32 169	1.3
Kyrgyzstan ‡	3 488	(57)	2 684	(43)	0	(0)	6 172	1.3
Moldova, Republic of	-	-	-	-	-	-	-	-
Russian Federation ‡	85 677	(72)	32 887	(28)	0	(0)	118 564	2.6
Tajikistan	2 272	(47)	1 700	(35)	911	(19)	4 883	1.3
Turkmenistan	3 081	(65)	1 678	(35)	0	(0)	4 759	1.8
Ukraine ‡	26 912	(73)	10 131	(27)	0	(0)	37 043	2.7
Uzbekistan ‡	11 305	(57)	8 420	(43)	0	(0)	19 725	1.3
<b>Total East</b>	<b>163 350</b>	<b>(68)</b>	<b>75 649</b>	<b>(32)</b>	<b>916</b>	<b>(0)</b>	<b>239 915</b>	<b>2.2</b>
<b>Total WHO European Region</b>	<b>232 145</b>	<b>(67)</b>	<b>113 163</b>	<b>(33)</b>	<b>966</b>	<b>(0)</b>	<b>346 274</b>	<b>2.1</b>

\* Excluding Scotland

† Excluding Republika Srpska

‡ New cases only

Table 4. Tuberculosis cases by geographic origin, WHO European Region, 2003

Geographic area Country	Classification	Native / national citizen		Foreign-born / foreign citizen		Unknown		Total
		N	(%)	N	(%)	N	(%)	
<b>EU &amp; West</b>								
Austria	citizenship	640	(65)	340	(35)	0	(0)	980
Belgium	citizenship	520	(46)	608	(54)	0	(0)	1 128
Cyprus	birthplace	13	(37)	22	(63)	0	(0)	35
Czech Republic	birthplace	1 028	(89)	125	(11)	0	(0)	1 153
Denmark	birthplace *	158	(40)	233	(60)	0	(0)	391
Estonia	birthplace	493	(79)	130	(21)	0	(0)	623
Finland	birthplace	361	(87)	38	(9)	15	(4)	414
France	birthplace	2 815	(46)	2 572	(42)	711	(12)	6 098
Germany	birthplace	3 818	(53)	3 001	(42)	365	(5)	7 184
Greece	birthplace	458	(74)	155	(25)	7	(1)	620
Hungary	birthplace	2 670	(97)	52	(2)	23	(1)	2 745
Ireland	birthplace	294	(70)	84	(20)	43	(10)	421
Italy	birthplace	2 846	(63)	1 459	(32)	213	(5)	4 518
Latvia	birthplace	1 606	(93)	92	(5)	28	(2)	1 726
Lithuania	birthplace	2 693	(95)	128	(5)	0	(0)	2 821
Luxembourg	birthplace	13	(24)	36	(67)	5	(9)	54
Malta	citizenship	3	(43)	4	(57)	0	(0)	7
Netherlands	citizenship	570	(43)	749	(57)	2	(0)	1 321
Poland	-	-	-	-	-	-	-	-
Portugal	birthplace	3 625	(88)	502	(12)	4	(0)	4 131
Slovakia	birthplace	967	(98)	16	(2)	0	(0)	983
Slovenia	birthplace	250	(85)	43	(15)	0	(0)	293
Spain	birthplace	3 758	(50)	603	(8)	3 106	(42)	7 467
Sweden	birthplace	104	(25)	306	(75)	0	(0)	410
United Kingdom †	birthplace	1 868	(27)	4 328	(63)	641	(9)	6 837
<b>Subtotal EU</b>		<b>31 571</b>	<b>(60)</b>	<b>15 626</b>	<b>(30)</b>	<b>5 163</b>	<b>(10)</b>	<b>52 360</b>
Andorra	citizenship	1	(9)	10	(91)	0	(0)	11
Iceland	birthplace	2	(40)	3	(60)	0	(0)	5
Israel	birthplace	94	(18)	435	(82)	0	(0)	529
Monaco	-	-	-	-	-	-	-	-
Norway	birthplace	70	(21)	269	(79)	0	(0)	339
San Marino	citizenship	1	(100)	0	(0)	0	(0)	1
Switzerland	birthplace	167	(27)	373	(60)	83	(13)	623
<b>Total EU &amp; West</b>		<b>31 906</b>	<b>(59)</b>	<b>16 716</b>	<b>(31)</b>	<b>5 246</b>	<b>(10)</b>	<b>53 868</b>
<b>Centre</b>								
Albania	birthplace	560	(100)	1	(0)	0	(0)	561
Bosnia & Herzegovina ‡	citizenship	1 777	(100)	3	(0)	0	(0)	1 780
Bulgaria	citizenship	3 263	(100)	0	(0)	0	(0)	3 263
Croatia	citizenship	818	(55)	161	(11)	515	(34)	1 494
Macedonia, F.Y.R.	birthplace	526	(75)	12	(2)	159	(23)	697
Romania	birthplace	31 623	(100)	0	(0)	0	(0)	31 623
Serbia & Montenegro	citizenship	2 949	(100)	0	(0)	0	(0)	2 949
Turkey	-	-	-	-	-	-	-	-
<b>Total Centre</b>		<b>41 516</b>	<b>(98)</b>	<b>177</b>	<b>(0)</b>	<b>674</b>	<b>(2)</b>	<b>42 367</b>
<b>East</b>								
Armenia	citizenship	1 570	(100)	0	(0)	0	(0)	1 570
Azerbaijan	citizenship	3 931	(100)	0	(0)	0	(0)	3 931
Belarus	-	-	-	-	-	-	-	-
Georgia	citizenship	5 993	(100)	0	(0)	0	(0)	5 993
Kazakhstan	citizenship	32 169	(100)	0	(0)	0	(0)	32 169
Kyrgyzstan	-	-	-	-	-	-	-	-
Moldova, Republic of	-	-	-	-	-	-	-	-
Russian Federation	birthplace	151 636	(100)	608	(0)	0	(0)	152 244
Tajikistan	citizenship	4 883	(100)	0	(0)	0	(0)	4 883
Turkmenistan	birthplace	4 759	(100)	0	(0)	0	(0)	4 759
Ukraine	-	-	-	-	-	-	-	-
Uzbekistan	-	-	-	-	-	-	-	-
<b>Total East</b>		<b>204 941</b>	<b>(100)</b>	<b>608</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>205 549</b>
<b>Total WHO European Region</b>		<b>278 363</b>	<b>(92)</b>	<b>17 501</b>	<b>(6)</b>	<b>5 920</b>	<b>(2)</b>	<b>301 784</b>

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

† Excluding Scotland

‡ Excluding Republika Srpska

Table 5. Tuberculosis cases by geographic origin, EU &amp; West\*, 1996-2003

Geographic area Country	Classification	1996	1997	1998	1999	2000	2001	2002	2003
<b>A. Native / national citizens</b>									
Austria	citizenship	1 138	1 052	1 014	926	890	804	769	640
Belgium	citizenship	906	849	776	809	758	714	637	520
Cyprus	birthplace	-	-	-	-	-	15	13	13
Czech Republic	birthplace	1 936	1 726	1 695	1 496	1 299	1 157	1 036	1 028
Denmark	birthplace †	195	174	184	164	198	174	154	158
Estonia	birthplace	681	716	704	587	608	630	573	493
Finland	birthplace	596	524	568	517	490	427	422	361
France	birthplace	-	-	-	-	3 198	2 870	2 657	2 815
Germany	birthplace	-	-	-	-	-	3 781	4 040	3 818
Hungary	birthplace	4 236	4 196	-	3 832	3 521	3 077	2 948	2 670
Ireland	birthplace	-	-	389	404	354	328	268	294
Italy	birthplace	-	-	-	3 346	3 511	3 063	2 890	2 846
Latvia	birthplace	-	1 889	2 087	1 614	1 893	1 931	1 714	1 606
Lithuania	birthplace	-	2 769	2 784	2 699	2 821	2 815	2 711	2 693
Malta	citizenship	-	-	-	-	13	13	15	3
Netherlands	citizenship	808	647	536	603	516	545	539	570
Portugal	birthplace	-	-	-	4 406	4 047	3 903	4 002	3 625
Slovakia	birthplace	1 497	1 298	1 281	1 214	1 103	1 063	1 041	967
Slovenia	birthplace	457	377	368	335	286	287	273	250
Sweden	birthplace	198	156	177	174	151	142	116	104
United Kingdom ‡	birthplace	-	-	2 353	2 087	1 957	2 106	1 999	1 868
<b>Subtotal EU</b>		-	-	-	-	-	<b>29 845</b>	<b>28 817</b>	<b>27 342</b>
Andorra	citizenship	-	-	-	-	-	5	5	1
Iceland	birthplace	7	8	9	4	8	6	5	2
Israel	birthplace	70	52	96	71	91	87	79	94
Norway	birthplace	115	95	115	93	70	82	61	70
San Marino	citizenship	0	1	0	0	1	0	-	1
Switzerland	birthplace	-	239	211	269	228	192	189	167
<b>Total EU &amp; West</b>		-	-	-	-	-	<b>30 217</b>	<b>29 156</b>	<b>27 677</b>
<b>B. Foreign-born / foreign citizens</b>									
Austria	citizenship	351	346	292	319	335	271	298	340
Belgium	citizenship	435	414	427	454	508	604	657	608
Cyprus	birthplace	-	-	-	-	-	25	7	22
Czech Republic	birthplace	0	108	110	135	143	193	164	125
Denmark	birthplace †	283	380	344	371	350	334	257	233
Estonia	birthplace	2	28	114	167	183	182	140	130
Finland	birthplace	34	41	49	49	47	58	43	38
France	birthplace	-	-	-	-	2 193	2 305	2 564	2 572
Germany	birthplace	-	-	-	-	-	2 741	2 924	3 001
Hungary	birthplace	42	44	-	64	56	57	47	52
Ireland	birthplace	-	-	35	65	49	65	107	84
Italy	birthplace	-	-	-	961	1 201	1 391	1 293	1 459
Latvia	birthplace	-	85	61	39	147	122	114	92
Lithuania	birthplace	-	157	231	146	160	174	133	128
Malta	citizenship	-	-	-	-	5	3	9	4
Netherlands	citizenship	833	817	805	898	879	881	854	749
Portugal	birthplace	-	-	-	325	434	491	584	502
Slovakia	birthplace	2	0	1	4	8	13	12	16
Slovenia	birthplace	106	101	81	103	94	84	77	43
Sweden	birthplace	291	300	269	319	305	286	296	306
United Kingdom ‡	birthplace	-	-	2 987	2 967	3 327	3 551	4 084	4 328
<b>Subtotal EU</b>		-	-	-	-	-	<b>13 831</b>	<b>14 664</b>	<b>14 832</b>
Andorra	citizenship	-	-	-	-	-	0	0	10
Iceland	birthplace	4	2	8	8	5	7	3	3
Israel	birthplace	345	370	560	449	500	477	432	435
Norway	birthplace	102	110	129	180	167	206	195	269
San Marino	citizenship	0	0	0	0	0	0	-	0
Switzerland	birthplace	-	403	411	469	341	338	399	373
<b>Total EU &amp; West</b>		-	-	-	-	-	<b>14 859</b>	<b>15 693</b>	<b>15 922</b>

\* Countries with at least three successive datapoints with 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

‡ Excluding Scotland

**Table 6. Tuberculosis cases of foreign origin by area of origin, WHO European Region\*, 2003**

Geographic area Country	Classification	Area of origin										Total
		WHO European Region				Rest of Asia		Africa		Other / unknown †		
		EU & West		Centre and East		N	(%)	N	(%)	N	(%)	
<b>EU &amp; West</b>												
Austria	citizenship	12	(4)	239	(70)	54	(16)	32	(9)	3	(1)	340
Belgium	citizenship	54	(9)	89	(15)	108	(18)	334	(55)	23	(4)	608
Cyprus	birthplace	4	(18)	7	(32)	10	(45)	1	(5)	0	(0)	22
Czech Republic	birthplace	25	(20)	53	(42)	42	(34)	2	(2)	3	(2)	125
Denmark	birthplace ‡	3	(1)	18	(8)	69	(30)	114	(49)	29	(12)	233
Estonia	birthplace	3	(2)	126	(97)	1	(1)	0	(0)	0	(0)	130
Finland	birthplace	0	(0)	8	(21)	16	(42)	14	(37)	0	(0)	38
Germany	birthplace	272	(9)	1 595	(53)	663	(22)	432	(14)	39	(1)	3 001
Greece	birthplace	3	(2)	79	(51)	36	(23)	15	(10)	22	(14)	155
Hungary	birthplace	2	(4)	39	(75)	8	(15)	3	(6)	0	(0)	52
Ireland	birthplace	8	(10)	12	(14)	29	(35)	18	(21)	17	(20)	84
Italy	birthplace	40	(3)	338	(23)	302	(21)	522	(36)	257	(18)	1 459
Latvia	birthplace	11	(12)	81	(88)	0	(0)	0	(0)	0	(0)	92
Lithuania	birthplace	6	(5)	120	(94)	2	(2)	0	(0)	0	(0)	128
Luxembourg	birthplace	25	(69)	7	(19)	1	(3)	2	(6)	1	(3)	36
Malta	citizenship	1	(25)	0	(0)	0	(0)	3	(75)	0	(0)	4
Netherlands	citizenship	31	(4)	100	(13)	162	(22)	414	(55)	42	(6)	749
Portugal	birthplace	25	(5)	43	(9)	28	(6)	363	(72)	43	(9)	502
Slovakia	birthplace	1	(6)	5	(31)	10	(63)	0	(0)	0	(0)	16
Slovenia	birthplace	2	(5)	40	(93)	0	(0)	1	(2)	0	(0)	43
Sweden	birthplace	17	(6)	66	(22)	82	(27)	134	(44)	7	(2)	306
United Kingdom §	birthplace	138	(3)	91	(2)	2 172	(50)	1 651	(38)	276	(6)	4 328
<b>Subtotal EU</b>		<b>683</b>	<b>(5)</b>	<b>3 156</b>	<b>(25)</b>	<b>3 795</b>	<b>(30)</b>	<b>4 055</b>	<b>(33)</b>	<b>762</b>	<b>(6)</b>	<b>12 451</b>
Andorra	birthplace	9	(90)	0	(0)	0	(0)	0	(0)	1	(10)	10
Iceland	birthplace	0	(0)	0	(0)	3	(100)	0	(0)	0	(0)	3
Switzerland	birthplace	54	(14)	95	(25)	93	(25)	104	(28)	27	(7)	373
<b>Total EU &amp; West</b>		<b>746</b>	<b>(6)</b>	<b>3 251</b>	<b>(25)</b>	<b>3 891</b>	<b>(30)</b>	<b>4 159</b>	<b>(32)</b>	<b>790</b>	<b>(6)</b>	<b>12 837</b>
<b>Centre</b>												
Albania	birthplace	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	1
Croatia	birthplace	3	(2)	156	(97)	1	(1)	0	(0)	1	(1)	161
Romania	birthplace	0	-	0	-	0	-	0	-	0	-	0

\* 28 countries with individual data including country of origin

† 552 cases from America and Oceania

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

§ Excluding Scotland

**Table 7. Tuberculosis cases by previous history of anti-TB treatment or TB diagnosis\*, WHO European Region, 2003**

Geographic area Country	Never treated		Previously treated for TB		Unknown TB treatment history				Total
	N	(%)	N	(%)	Previously diagnosed with TB		Unknown TB history		
					N	(%)	N	(%)	
<b>EU &amp; West</b>									
Austria	901	(92)	26	(3)	53	(5)	0	(0)	980
Belgium	699	(62)	-	-	97	(9)	332	(29)	1 128
Cyprus	34	(97)	0	(0)	0	(0)	1	(3)	35
Czech Republic	1 101	(95)	52	(5)	0	(0)	0	(0)	1 153
Denmark	367	(94)	-	-	24	(6)	0	(0)	391
Estonia	496	(80)	127	(20)	0	(0)	0	(0)	623
Finland	332	(80)	-	-	22	(5)	60	(14)	414
France	4 292	(70)	485	(8)	0	(0)	1 321	(22)	6 098
Germany	4 485	(62)	622	(9)	317	(4)	1 760	(24)	7 184
Greece	552	(89)	39	(6)	29	(5)	0	(0)	620
Hungary	2 278	(83)	423	(15)	44	(2)	0	(0)	2 745
Ireland	269	(64)	17	(4)	18	(4)	117	(28)	421
Italy	3 295	(73)	284	(6)	14	(0)	925	(20)	4 518
Latvia	1 481	(86)	245	(14)	0	(0)	0	(0)	1 726
Lithuania	2 247	(80)	553	(20)	21	(1)	0	(0)	2 821
Luxembourg	53	(98)	0	(0)	1	(2)	0	(0)	54
Malta	6	(86)	1	(14)	0	(0)	0	(0)	7
Netherlands	1 082	(82)	57	(4)	17	(1)	165	(12)	1 321
Poland	8 890	(88)	1 223	(12)	11	(0)	0	(0)	10 124
Portugal	3 684	(89)	447	(11)	0	(0)	0	(0)	4 131
Slovakia	845	(86)	129	(13)	9	(1)	0	(0)	983
Slovenia	254	(87)	37	(13)	2	(1)	0	(0)	293
Spain	4 594	(62)	330	(4)	0	(0)	2 543	(34)	7 467
Sweden	381	(93)	28	(7)	1	(0)	0	(0)	410
United Kingdom †	4 844	(71)	-	-	163	(2)	1 830	(27)	6 837
<b>Subtotal EU</b>	<b>47 462</b>	<b>(76)</b>	<b>5 125</b>	<b>(8)</b>	<b>843</b>	<b>(1)</b>	<b>9 054</b>	<b>(14)</b>	<b>62 484</b>
Andorra	8	(73)	1	(9)	0	(0)	2	(18)	11
Iceland	5	(100)	0	(0)	0	(0)	0	(0)	5
Israel	497	(94)	32	(6)	0	(0)	0	(0)	529
Monaco	-	-	-	-	-	-	-	-	-
Norway	269	(79)	18	(5)	0	(0)	52	(15)	339
San Marino	0	(0)	1	(100)	0	(0)	0	(0)	1
Switzerland	425	(68)	53	(9)	16	(3)	129	(21)	623
<b>Total EU &amp; West</b>	<b>48 666</b>	<b>(76)</b>	<b>5 230</b>	<b>(8)</b>	<b>859</b>	<b>(1)</b>	<b>9 237</b>	<b>(14)</b>	<b>63 992</b>
<b>Centre</b>									
Albania	529	(94)	32	(6)	0	(0)	0	(0)	561
Bosnia & Herzegovina ‡	1 649	(93)	131	(7)	0	(0)	0	(0)	1 780
Bulgaria	2 952	(90)	311	(10)	0	(0)	0	(0)	3 263
Croatia	1 347	(90)	138	(9)	9	(1)	0	(0)	1 494
Macedonia, F.Y.R.	611	(88)	86	(12)	0	(0)	0	(0)	697
Romania	25 168	(80)	6 455	(20)	0	(0)	0	(0)	31 623
Serbia & Montenegro	2 708	(92)	235	(8)	0	(0)	6	(0)	2 949
Turkey	17 923	(96)	667	(4)	0	(0)	0	(0)	18 590
<b>Total Centre</b>	<b>52 887</b>	<b>(87)</b>	<b>8 055</b>	<b>(13)</b>	<b>9</b>	<b>(0)</b>	<b>6</b>	<b>(0)</b>	<b>60 957</b>
<b>East</b>									
Armenia	1 437	(92)	133	(8)	0	(0)	0	(0)	1 570
Azerbaijan	3 767	(96)	164	(4)	0	(0)	0	(0)	3 931
Belarus	5 085	(85)	857	(14)	0	(0)	21	(0)	5 963
Georgia	4 070	(68)	1 923	(32)	0	(0)	0	(0)	5 993
Kazakhstan	23 918	(74)	8 251	(26)	0	(0)	0	(0)	32 169
Kyrgyzstan	6 145	(87)	853	(12)	0	(0)	27	(0)	7 025
Moldova, Republic of	3 619	(72)	1 408	(28)	0	(0)	0	(0)	5 027
Russian Federation	118 564	(78)	33 680	(22)	0	(0)	0	(0)	152 244
Tajikistan	-	-	-	-	-	-	-	-	-
Turkmenistan	3 661	(77)	1 098	(23)	0	(0)	0	(0)	4 759
Ukraine	37 043	(91)	3 616	(9)	0	(0)	0	(0)	40 659
Uzbekistan	19 725	(75)	6 447	(25)	0	(0)	0	(0)	26 172
<b>Total East</b>	<b>227 034</b>	<b>(80)</b>	<b>58 430</b>	<b>(20)</b>	<b>0</b>	<b>(0)</b>	<b>48</b>	<b>(0)</b>	<b>285 512</b>
<b>Total WHO European Region</b>	<b>328 587</b>	<b>(80)</b>	<b>71 715</b>	<b>(17)</b>	<b>868</b>	<b>(0)</b>	<b>9 291</b>	<b>(2)</b>	<b>410 461</b>

\* See technical note

† Excluding Scotland

‡ Excluding Republika Srpska

Table 8. Tuberculosis cases by site of disease, WHO European Region, 2003

Geographic area Country	Classification	Pulmonary / Respiratory		Extra-pulmonary / Extra-respiratory		Unknown		Total
		N	(%)	N	(%)	N	(%)	
<b>EU &amp; West</b>								
Austria	pulmonary	821	(84)	159	(16)	0	(0)	980
Belgium	pulmonary	847	(75)	280	(25)	1	(0)	1 128
Cyprus	pulmonary	29	(83)	6	(17)	0	(0)	35
Czech Republic	pulmonary	905	(78)	248	(22)	0	(0)	1 153
Denmark	pulmonary	288	(74)	103	(26)	0	(0)	391
Estonia	pulmonary	557	(89)	66	(11)	0	(0)	623
Finland	pulmonary	292	(71)	122	(29)	0	(0)	414
France	pulmonary	4 372	(72)	1 622	(27)	104	(2)	6 098
Germany	pulmonary	5 609	(78)	1 395	(19)	180	(3)	7 184
Greece	pulmonary	532	(86)	87	(14)	1	(0)	620
Hungary	pulmonary	2 554	(93)	191	(7)	0	(0)	2 745
Ireland	pulmonary	299	(71)	86	(20)	36	(9)	421
Italy	pulmonary	3 359	(74)	1 159	(26)	0	(0)	4 518
Latvia	pulmonary	1 543	(89)	183	(11)	0	(0)	1 726
Lithuania	pulmonary	2 392	(85)	429	(15)	0	(0)	2 821
Luxembourg	pulmonary	51	(94)	3	(6)	0	(0)	54
Malta	pulmonary	4	(57)	3	(43)	0	(0)	7
Netherlands	pulmonary	868	(66)	453	(34)	0	(0)	1 321
Poland	pulmonary	9 207	(91)	913	(9)	4	(0)	10 124
Portugal	pulmonary	2 992	(72)	1 128	(27)	11	(0)	4 131
Slovakia	pulmonary	777	(79)	206	(21)	0	(0)	983
Slovenia	pulmonary	249	(85)	44	(15)	0	(0)	293
Spain *	respiratory	7 330	(98)	137	(2)	0	(0)	7 467
Sweden	pulmonary	256	(62)	153	(37)	1	(0)	410
United Kingdom †	pulmonary	3 884	(57)	2 905	(42)	48	(1)	6 837
<b>Subtotal EU</b>		<b>50 017</b>	<b>(80)</b>	<b>12 081</b>	<b>(19)</b>	<b>386</b>	<b>(1)</b>	<b>62 484</b>
Andorra	pulmonary	9	(82)	2	(18)	0	(0)	11
Iceland	pulmonary	3	(60)	2	(40)	0	(0)	5
Israel	pulmonary	419	(79)	110	(21)	0	(0)	529
Monaco	pulmonary	-	-	-	-	-	-	-
Norway	pulmonary	213	(63)	125	(37)	1	(0)	339
San Marino	respiratory	1	(100)	0	(0)	0	(0)	1
Switzerland	pulmonary	465	(75)	158	(25)	0	(0)	623
<b>Total EU &amp; West</b>		<b>51 127</b>	<b>(80)</b>	<b>12 478</b>	<b>(19)</b>	<b>387</b>	<b>(1)</b>	<b>63 992</b>
<b>Centre</b>								
Albania	pulmonary	362	(65)	199	(35)	0	(0)	561
Bosnia & Herzegovina ‡	pulmonary	1 565	(88)	215	(12)	0	(0)	1 780
Bulgaria	respiratory	2 839	(87)	424	(13)	0	(0)	3 263
Croatia	pulmonary	1 325	(89)	169	(11)	0	(0)	1 494
Macedonia, F.Y.R.	pulmonary	529	(76)	168	(24)	0	(0)	697
Romania	pulmonary	27 449	(87)	4 171	(13)	3	(0)	31 623
Serbia & Montenegro	respiratory	2 766	(94)	183	(6)	0	(0)	2 949
Turkey	pulmonary	12 882	(69)	5 041	(27)	667	(4)	18 590
<b>Total Centre</b>		<b>49 717</b>	<b>(82)</b>	<b>10 570</b>	<b>(17)</b>	<b>670</b>	<b>(1)</b>	<b>60 957</b>
<b>East</b>								
Armenia	pulmonary	1 307	(83)	263	(17)	0	(0)	1 570
Azerbaijan	pulmonary	3 196	(81)	735	(19)	0	(0)	3 931
Belarus §	respiratory	4 728	(93)	378	(7)	0	(0)	5 106
Georgia	pulmonary	4 660	(78)	1 333	(22)	0	(0)	5 993
Kazakhstan	pulmonary	30 987	(96)	1 182	(4)	0	(0)	32 169
Kyrgyzstan	pulmonary	4 849	(69)	2 149	(31)	27	(0)	7 025
Moldova, Republic of	pulmonary	4 340	(86)	687	(14)	0	(0)	5 027
Russian Federation	pulmonary	147 310	(97)	4 934	(3)	0	(0)	152 244
Tajikistan	pulmonary	-	-	-	-	-	-	-
Turkmenistan	pulmonary	3 783	(79)	976	(21)	0	(0)	4 759
Ukraine	respiratory	-	-	-	-	-	-	-
Uzbekistan	pulmonary	23 912	(91)	2 260	(9)	0	(0)	26 172
<b>Total East</b>		<b>229 072</b>	<b>(94)</b>	<b>14 897</b>	<b>(6)</b>	<b>27</b>	<b>(0)</b>	<b>243 996</b>
<b>Total WHO European Region</b>		<b>329 916</b>	<b>(89)</b>	<b>37 945</b>	<b>(10)</b>	<b>1 084</b>	<b>(0)</b>	<b>368 945</b>

\* Respiratory and meningeal cases only

† Excluding Scotland (respiratory classification)

‡ Excluding Republika Srpska

§ New cases only

**Table 9. Tuberculosis cases by detailed site of disease and age group, WHO European Region, 2003 \***

Site of disease	Age group (years)							
	0-14 (Cases=977)		15-44 (Cases=12 617)		45 and over (Cases=15 749)		Total † (Cases=29 548)	
	Sites ‡	(%)§	Sites ‡	(%)§	Sites ‡	(%)§	Sites ‡	(%)§
<b>Pulmonary</b>	594	(60.8)	10 085	(79.9)	12 610	(80.1)	23 460	(79.4)
<b>Extrapulmonary</b>								
Pleura	43	(4.4)	912	(7.2)	914	(5.8)	1 875	(6.3)
Intrathoracic lymphnodes	235	(24.1)	248	(2.0)	240	(1.5)	723	(2.4)
Extrathoracic lymphnodes	84	(8.6)	790	(6.3)	631	(4.0)	1 508	(5.1)
Spine	10	(1.0)	134	(1.1)	248	(1.6)	392	(1.3)
Bone / joint other than spine	13	(1.3)	132	(1.0)	245	(1.6)	392	(1.3)
Meninges	19	(1.9)	64	(0.5)	73	(0.5)	158	(0.5)
CNS    other than meninges	1	(0.1)	24	(0.2)	20	(0.1)	45	(0.2)
Genito-urinary	4	(0.4)	217	(1.7)	570	(3.6)	798	(2.7)
Peritoneal / digestive	13	(1.3)	153	(1.2)	112	(0.7)	278	(0.9)
Disseminated ¶	10	(1.0)	217	(1.7)	213	(1.4)	443	(1.5)
Other	68	(7.0)	415	(3.3)	507	(3.2)	999	(3.4)
<b>Unknown</b>	8	(0.8)	69	(0.5)	150	(1.0)	229	(0.8)
<b>Total sites</b>	<b>1 094</b>		<b>13 391</b>		<b>16 383</b>		<b>31 071</b>	

\* 20 countries with individual data: Andorra, Austria, Belgium, Croatia, Cyprus, Czech Republic, Estonia, Germany, Hungary, Iceland, Ireland, Italy, Lithuania, Luxembourg, Malta, Norway, Portugal, Slovakia, Slovenia and Switzerland

† Includes 205 cases with unknown age

‡ Number of sites; can include up to two sites for the same case (see technical note)

§ 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, 2003\*

Geographic area Country	Routine use of culture †	Laboratories which report TB cases	Positive		Negative / not done / unknown		Total
			N	(%)	N	(%)	
<b>EU &amp; West</b>							
Austria	yes	some	631	(64)	349	(36)	980
Belgium	yes	all	878	(78)	250	(22)	1 128
Cyprus	yes	none	23	(66)	12	(34)	35
Czech Republic	yes	all	749	(65)	404	(35)	1 153
Denmark	yes	all	298	(76)	93	(24)	391
Estonia	yes	all	466	(75)	157	(25)	623
Finland	yes	all	347	(84)	67	(16)	414
France	yes	all	2 076	(34)	4 022	(66)	6 098
Germany	yes	all	4 657	(65)	2 527	(35)	7 184
Greece	no	all	229	(37)	391	(63)	620
Hungary	yes	all	901	(33)	1 844	(67)	2 745
Ireland	yes	none	183	(43)	238	(57)	421
Italy	no	none	2 554	(57)	1 964	(43)	4 518
Latvia	yes	some	1 263	(73)	463	(27)	1 726
Lithuania	yes	all	1 680	(60)	1 141	(40)	2 821
Luxembourg	yes	all	54	(100)	0	(0)	54
Malta	yes	all	3	(43)	4	(57)	7
Netherlands	yes	none	756	(57)	565	(43)	1 321
Poland	yes	all	5 553	(55)	4 571	(45)	10 124
Portugal	yes	some	2 016	(49)	2 115	(51)	4 131
Slovakia	yes	all	406	(41)	577	(59)	983
Slovenia	yes	all	259	(88)	34	(12)	293
Spain	yes	none	3 572	(48)	3 895	(52)	7 467
Sweden	yes	all	349	(85)	61	(15)	410
United Kingdom ‡	yes	none	4 084	(60)	2 753	(40)	6 837
<b>Subtotal EU</b>			<b>33 987</b>	<b>(54)</b>	<b>28 497</b>	<b>(46)</b>	<b>62 484</b>
Andorra	yes	some	6	(55)	5	(45)	11
Iceland	yes	all	4	(80)	1	(20)	5
Israel	yes	all	316	(60)	213	(40)	529
Monaco	-	-	-	-	-	-	-
Norway	yes	all	273	(81)	66	(19)	339
San Marino	yes	none	1	(100)	0	(0)	1
Switzerland	yes	all	483	(78)	140	(22)	623
<b>Total EU &amp; West</b>			<b>35 070</b>	<b>(55)</b>	<b>28 922</b>	<b>(45)</b>	<b>63 992</b>
<b>Centre</b>							
Albania	no	all	237	(42)	324	(58)	561
Bosnia & Herzegovina §	yes	some	1 042	(59)	738	(41)	1 780
Bulgaria	yes	all	1 377	(42)	1 886	(58)	3 263
Croatia	yes	all	838	(56)	656	(44)	1 494
Macedonia, F.Y.R.	no	some	88	(13)	609	(87)	697
Romania	no	some	4 609	(15)	27 014	(85)	31 623
Serbia & Montenegro	no	some	-	-	-	-	-
Turkey	no	some	-	-	-	-	-
<b>Total Centre</b>			<b>8 191</b>	<b>(21)</b>	<b>31 227</b>	<b>(79)</b>	<b>39 418</b>
<b>East</b>							
Armenia	no	some	-	-	-	-	-
Azerbaijan	no	all	-	-	-	-	-
Belarus	yes	none	-	-	-	-	-
Georgia	no	none	-	-	-	-	-
Kazakhstan	yes	all	4 362	(14)	27 807	(86)	32 169
Kyrgyzstan	no	all	-	-	-	-	-
Moldova, Republic of	no	none	-	-	-	-	-
Russian Federation ¶]	no	none	2 990	(2)	149 254	(98)	152 244
Tajikistan	no	some	-	-	-	-	-
Turkmenistan	no	all	-	-	-	-	-
Ukraine	-	none	-	-	-	-	-
Uzbekistan	no	all	-	-	-	-	-
<b>Total East</b>			<b>7 352</b>	<b>(4)</b>	<b>177 061</b>	<b>(96)</b>	<b>184 413</b>
<b>Total WHO European Region</b>			<b>50 613</b>	<b>(18)</b>	<b>237 210</b>	<b>(82)</b>	<b>287 823</b>

\* Culture results may be incomplete at time of data collection

† Routine use of culture nationwide for pulmonary cases

‡ Excluding Scotland

§ Excluding Republika Srpska

|| Preliminary data; 55% culture confirmed cases in 2002

¶] Culture results only provided for cases from selected DOTS areas (N=21 915)

**Table 11. Tuberculosis cases by culture result and site of disease, WHO European Region, 2003 \***

Geographic area	Culture done						Culture not done		No information		Total †
	Positive		Negative		Unknown		N	(%)	N	(%)	
Country	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
<b>A) Pulmonary cases</b>											
<b>EU &amp; West</b>											
Austria	544	(66)	150	(18)	0	(0)	127	(15)	0	(0)	821
Belgium	690	(81)	111	(13)	13	(2)	3	(0)	30	(4)	847
Cyprus	21	(72)	5	(17)	0	(0)	0	(0)	3	(10)	29
Czech Republic	639	(71)	266	(29)	0	(0)	0	(0)	0	(0)	905
Denmark	225	(78)	0	(0)	0	(0)	0	(0)	63	(22)	288
Estonia	430	(77)	122	(22)	0	(0)	5	(1)	0	(0)	557
Finland ‡	261	(89)	-	-	-	-	-	-	31	(11)	292
France	1 900	(43)	342	(8)	1 412	(32)	0	(0)	718	(16)	4 372
Germany	3 803	(68)	1 164	(21)	137	(2)	221	(4)	284	(5)	5 609
Greece	202	(38)	21	(4)	157	(30)	32	(6)	120	(23)	532
Hungary	869	(34)	1 147	(45)	102	(4)	357	(14)	79	(3)	2 554
Ireland	147	(49)	24	(8)	0	(0)	5	(2)	123	(41)	299
Italy	2 123	(63)	395	(12)	0	(0)	298	(9)	543	(16)	3 359
Latvia	1 209	(78)	301	(20)	0	(0)	33	(2)	0	(0)	1 543
Lithuania	1 610	(67)	727	(30)	0	(0)	55	(2)	0	(0)	2 392
Luxembourg	51	(100)	0	(0)	0	(0)	0	(0)	0	(0)	51
Malta	2	(50)	1	(25)	0	(0)	1	(25)	0	(0)	4
Netherlands	530	(61)	69	(8)	16	(2)	38	(4)	215	(25)	868
Poland	5 302	(58)	3 889	(42)	0	(0)	0	(0)	16	(0)	9 207
Portugal	1 840	(61)	274	(9)	60	(2)	0	(0)	818	(27)	2 992
Slovakia	372	(48)	400	(51)	0	(0)	5	(1)	0	(0)	777
Slovenia	233	(94)	9	(4)	0	(0)	7	(3)	0	(0)	249
Sweden	228	(89)	20	(8)	0	(0)	2	(1)	7	(3)	257
United Kingdom † §	2 651	(68)	-	-	-	-	-	-	1 233	(32)	3 884
<b>Subtotal EU</b>	<b>25 882</b>	<b>(61)</b>	<b>9 437</b>	<b>(22)</b>	<b>1 897</b>	<b>(4)</b>	<b>1 189</b>	<b>(3)</b>	<b>4 283</b>	<b>(10)</b>	<b>42 688</b>
Andorra	5	(56)	3	(33)	0	(0)	0	(0)	1	(11)	9
Iceland	2	(67)	1	(33)	0	(0)	0	(0)	0	(0)	3
Norway	171	(80)	22	(10)	0	(0)	0	(0)	20	(9)	213
Switzerland	358	(77)	-	-	-	-	81	(17)	26	(6)	465
<b>Total EU &amp; West</b>	<b>26 418</b>	<b>(61)</b>	<b>9 463</b>	<b>(22)</b>	<b>1 897</b>	<b>(4)</b>	<b>1 270</b>	<b>(3)</b>	<b>4 330</b>	<b>(10)</b>	<b>43 378</b>
<b>Centre</b>											
Albania	215	(59)	113	(31)	0	(0)	0	(0)	34	(9)	362
Croatia	789	(60)	225	(17)	0	(0)	2	(0)	309	(23)	1 325
Romania	4 609	(17)	1 311	(5)	20 631	(75)	853	(3)	45	(0)	27 449
<b>B) Extra-pulmonary cases</b>											
<b>EU &amp; West</b>											
Austria	87	(55)	27	(17)	0	(0)	45	(28)	0	(0)	159
Belgium	188	(67)	54	(19)	6	(2)	6	(2)	26	(9)	280
Cyprus	2	(33)	0	(0)	0	(0)	0	(0)	4	(67)	6
Czech Republic	110	(44)	138	(56)	0	(0)	0	(0)	0	(0)	248
Denmark	73	(71)	0	(0)	0	(0)	0	(0)	30	(29)	103
Estonia	36	(55)	17	(26)	0	(0)	13	(20)	0	(0)	66
Finland ‡	86	(70)	-	-	-	-	-	-	36	(30)	122
France	166	(10)	364	(22)	536	(33)	0	(0)	556	(34)	1 622
Germany	757	(54)	346	(25)	29	(2)	179	(13)	84	(6)	1 395
Greece	26	(30)	3	(3)	21	(24)	8	(9)	29	(33)	87
Hungary	32	(17)	59	(31)	9	(5)	78	(41)	13	(7)	191
Ireland	26	(30)	9	(10)	0	(0)	4	(5)	47	(55)	86
Italy	431	(37)	192	(17)	0	(0)	170	(15)	366	(32)	1 159
Latvia	54	(30)	128	(70)	0	(0)	1	(1)	0	(0)	183
Lithuania	70	(16)	233	(54)	0	(0)	126	(29)	0	(0)	429
Luxembourg	3	(100)	0	(0)	0	(0)	0	(0)	0	(0)	3
Malta	1	(33)	0	(0)	0	(0)	2	(67)	0	(0)	3
Netherlands	226	(50)	59	(13)	8	(2)	24	(5)	136	(30)	453
Poland	251	(27)	655	(72)	0	(0)	0	(0)	7	(1)	913
Portugal	171	(15)	92	(8)	36	(3)	0	(0)	829	(73)	1 128
Slovakia	34	(17)	161	(78)	0	(0)	11	(5)	0	(0)	206
Slovenia	26	(59)	12	(27)	0	(0)	6	(14)	0	(0)	44
Sweden	121	(79)	24	(16)	0	(0)	2	(1)	6	(4)	153
United Kingdom † §	1 427	(49)	-	-	-	-	-	-	1 478	(51)	2 905
<b>Subtotal EU</b>	<b>4 404</b>	<b>(37)</b>	<b>2 573</b>	<b>(22)</b>	<b>645</b>	<b>(5)</b>	<b>675</b>	<b>(6)</b>	<b>3 647</b>	<b>(31)</b>	<b>11 944</b>
Andorra	1	(50)	1	(50)	0	(0)	0	(0)	0	(0)	2
Iceland	2	(100)	0	(0)	0	(0)	0	(0)	0	(0)	2
Norway	102	(82)	6	(5)	0	(0)	0	(0)	17	(14)	125
Switzerland	125	(79)	-	-	-	-	27	(17)	6	(4)	158
<b>Total EU &amp; West</b>	<b>4 634</b>	<b>(38)</b>	<b>2 580</b>	<b>(21)</b>	<b>645</b>	<b>(5)</b>	<b>702</b>	<b>(6)</b>	<b>3 670</b>	<b>(30)</b>	<b>12 231</b>
<b>Centre</b>											
Albania	22	(11)	85	(43)	0	(0)	0	(0)	92	(46)	199
Croatia	49	(29)	72	(43)	0	(0)	1	(1)	47	(28)	169
Romania	-	-	-	-	-	-	-	-	-	-	-

\* 31 countries providing individual data

† Excluding 341 cases with site unknown

‡ Only positive results reported

§ Excluding Scotland

|| Preliminary data

**Table 12. Tuberculosis cases by *M. tuberculosis* complex species, WHO European Region, 2003\***

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	(%)	
<b>EU &amp; West</b>									
Austria	164	(26.0)	4	(0.6)	1	(0.2)	462	(73.2)	631
Belgium	876	(99.8)	1	(0.1)	1	(0.1)	0	(0.0)	878
Cyprus	19	(82.6)	0	(0.0)	0	(0.0)	4	(17.4)	23
Czech Republic	731	(97.6)	1	(0.1)	0	(0.0)	17	(2.3)	749
Denmark	296	(99.3)	2	(0.7)	0	(0.0)	0	(0.0)	298
Finland	347	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	347
Hungary	901	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	901
Ireland	147	(80.3)	6	(3.3)	0	(0.0)	30	(16.4)	183
Italy	1 761	(69.0)	4	(0.2)	11	(0.4)	778	(30.5)	2 554
Latvia	1 188	(94.1)	0	(0.0)	0	(0.0)	75	(5.9)	1 263
Lithuania	1 680	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	1 680
Luxembourg	54	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	54
Malta	2	(66.7)	0	(0.0)	0	(0.0)	1	(33.3)	3
Netherlands	727	(96.2)	11	(1.5)	0	(0.0)	18	(2.4)	756
Portugal	14	(0.7)	1	(0.0)	0	(0.0)	2 001	(99.3)	2 016
Slovakia	406	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	406
Slovenia	259	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	259
Sweden	343	(98.3)	5	(1.4)	1	(0.3)	0	(0.0)	349
United Kingdom †	3 970	(97.2)	15	(0.4)	17	(0.4)	82	(2.0)	4 084
<b>Subtotal EU</b>	<b>13 885</b>	<b>(79.6)</b>	<b>50</b>	<b>(0.3)</b>	<b>31</b>	<b>(0.2)</b>	<b>3 468</b>	<b>(19.9)</b>	<b>17 434</b>
Andorra	4	(66.7)	0	(0.0)	0	(0.0)	2	(33.3)	6
Iceland	4	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	4
Norway	272	(99.6)	0	(0.0)	1	(0.4)	0	(0.0)	273
Switzerland	415	(85.9)	7	(1.4)	16	(3.3)	45	(9.3)	483
<b>Total EU &amp; West</b>	<b>14 580</b>	<b>(80.1)</b>	<b>57</b>	<b>(0.3)</b>	<b>48</b>	<b>(0.3)</b>	<b>3 515</b>	<b>(19.3)</b>	<b>18 200</b>
<b>Centre</b>									
Croatia ‡	838	(100.0)	-	-	-	-	-	-	838
Romania §	4 609	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	4 609

\* Countries providing individual data

† Excluding Scotland

‡ Species other than *M. tuberculosis* not reported

§ Preliminary data

**Table 13. Pulmonary tuberculosis cases by sputum smear result, WHO European Region, 2003**

Geographic area Country	Classification of site	Routine use of sputum smear nationwide	Positive		Negative / unknown		Total
			N	(%)	N	(%)	
<b>EU &amp; West</b>							
Austria	pulmonary	yes	276	(34)	545	(66)	821
Belgium	pulmonary	yes	402	(47)	445	(53)	847
Cyprus	pulmonary	yes	14	(48)	15	(52)	29
Czech Republic	pulmonary	yes	351	(39)	554	(61)	905
Denmark	pulmonary	yes	152	(53)	136	(47)	288
Estonia	pulmonary	yes	263	(47)	294	(53)	557
Finland	pulmonary	yes	148	(51)	144	(49)	292
France	pulmonary	yes	2 440	(56)	1 932	(44)	4 372
Germany	pulmonary	yes	1 850	(33)	3 759	(67)	5 609
Greece	pulmonary	no	250	(47)	282	(53)	532
Hungary	pulmonary	yes	644	(25)	1 910	(75)	2 554
Ireland	pulmonary	yes	154	(52)	145	(48)	299
Italy	pulmonary	no	1 579	(47)	1 780	(53)	3 359
Latvia	pulmonary	yes	815	(53)	728	(47)	1 543
Lithuania	pulmonary	yes	1 334	(56)	1 058	(44)	2 392
Luxembourg	pulmonary	yes	31	(61)	20	(39)	51
Malta	pulmonary	yes	2	(50)	2	(50)	4
Netherlands	pulmonary	yes	299	(34)	569	(66)	868
Poland	pulmonary	yes	3 501	(38)	5 706	(62)	9 207
Portugal	pulmonary	yes	1 990	(67)	1 002	(33)	2 992
Slovakia	pulmonary	yes	227	(29)	550	(71)	777
Slovenia	pulmonary	yes	132	(53)	117	(47)	249
Spain	respiratory	yes	3 027	(41)	4 303	(59)	7 330
Sweden	pulmonary	no	121	(47)	135	(53)	256
United Kingdom *	pulmonary	yes	1 699	(44)	2 185	(56)	3 884
<b>Subtotal EU</b>			<b>21 701</b>	<b>(43)</b>	<b>28 306</b>	<b>(57)</b>	<b>50 017</b>
Andorra	pulmonary	yes	7	(78)	2	(22)	9
Iceland	pulmonary	yes	1	(33)	2	(67)	3
Israel	pulmonary	yes	158	(38)	261	(62)	419
Monaco	pulmonary	-	-	-	-	-	-
Norway	pulmonary	no	56	(26)	157	(74)	213
San Marino	respiratory	yes	1	-	0	-	1
Switzerland	pulmonary	no	122	(26)	343	(74)	465
<b>Total EU &amp; West</b>			<b>22 046</b>	<b>(43)</b>	<b>29 071</b>	<b>(57)</b>	<b>51 127</b>
<b>Centre</b>							
Albania	pulmonary	no	232	(64)	130	(36)	362
Bosnia & Herzegovina †	pulmonary	yes	542	(35)	1 023	(65)	1 565
Bulgaria	respiratory	yes	1 371	(48)	1 468	(52)	2 839
Croatia	pulmonary	yes	504	(38)	821	(62)	1 325
Macedonia, F.Y.R.	pulmonary	yes	241	(46)	288	(54)	529
Romania	pulmonary	yes	14 812	(54)	12 637	(46)	27 449
Serbia & Montenegro	respiratory	yes	-	-	-	-	-
Turkey	pulmonary	yes	5 816	(45)	7 066	(55)	12 882
<b>Total Centre</b>			<b>23 518</b>	<b>(50)</b>	<b>23 436</b>	<b>(50)</b>	<b>46 951</b>
<b>East</b>							
Armenia	pulmonary	no	708	(54)	599	(46)	1 307
Azerbaijan	pulmonary	no	1 320	(41)	1 876	(59)	3 196
Belarus	respiratory	yes	-	-	-	-	-
Georgia	pulmonary	yes	1 740	(37)	2 920	(63)	4 660
Kazakhstan	pulmonary	yes	14 058	(45)	16 929	(55)	30 987
Kyrgyzstan	pulmonary	yes	2 286	(47)	2 563	(53)	4 849
Moldova, Republic of	pulmonary	no	2 188	(50)	2 152	(50)	4 340
Russian Federation	pulmonary	no	56 857	(39)	90 453	(61)	147 310
Tajikistan	pulmonary	no	-	-	-	-	-
Turkmenistan	pulmonary	yes	1 737	(46)	2 046	(54)	3 783
Ukraine	respiratory	-	-	-	-	-	-
Uzbekistan	pulmonary	no	7 652	(32)	16 260	(68)	23 912
<b>Total East</b>			<b>88 546</b>	<b>(39)</b>	<b>135 798</b>	<b>(61)</b>	<b>224 344</b>
<b>Total WHO European Region</b>			<b>134 110</b>	<b>(42)</b>	<b>188 305</b>	<b>(58)</b>	<b>322 422</b>

\* Excluding Scotland (respiratory classification)

† Excluding Republika Srpska

**Table 14. Tuberculosis cases with HIV co-infection, WHO European Region\*, 1998-2003**

Geographic area Country	Cases with unknown HIV status (2003)	1998			1999			2000			2001			2002			2003		
		TB cases	HIV + N (%)		TB cases	HIV + N (%)		TB cases	HIV + N (%)		TB cases	HIV + N (%)		TB cases	HIV + N (%)		TB cases	HIV + N (%)	
<b>EU &amp; West</b>																			
Belgium	43%	-	-	-	-	-	-	1 313	52	(4.0)	1 321	60	(4.5)	1 320	51	(3.9)	1 128	70	(6.2)
Czech Rep.	>99%	-	-	-	-	-	-	1 200	2	(0.2)	1 350	2	(0.1)	1 442	0	(0.0)	1 153	2	(0.2)
Denmark	97%	-	-	-	537	13	(2.4)	548	11	(2.0)	511	11	(2.2)	-	-	-	391	11	(2.8)
Estonia	32%	820	0	(0.0)	754	1	(0.1)	791	1	(0.1)	812	7	(0.9)	713	20	(2.8)	623	18	(2.9)
France	59% †	6 651	282	(4.2)	6 674	264	(4.0)	6 714	327	(4.9)	6 465	364	(5.6)	-	-	-	-	-	-
Ireland	-	424	2	(0.5)	469	6	(1.3)	395	7	(1.8)	-	-	-	-	-	-	-	-	-
Latvia	0%	-	-	-	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)
Lithuania ‡	-	-	-	-	-	-	-	2 668	2	(0.1)	2 606	3	(0.1)	2 420	1	(0.0)	-	-	-
Malta	14%	16	0	(0.0)	22	2	(9.1)	18	0	(0.0)	16	0	(0.0)	24	0	(0.0)	7	1	(14.3)
Netherlands	96%	1 341	35	(2.6)	1 535	53	(3.5)	-	-	-	-	-	-	-	-	-	1 321	51	(3.9)
Poland	>99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10 124	6	(0.1)
Portugal	53%	-	-	-	-	-	-	4 494	700	(15.6)	4 387	680	(15.5)	4 431	727	(16.4)	4 131	669	(16.2)
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)
Slovenia	78%	449	1	(0.2)	438	2	(0.5)	380	2	(0.5)	372	2	(0.5)	349	1	(0.3)	293	1	(0.3)
Spain	58%	-	-	-	-	-	-	8 395	815	(9.7)	7 453	599	(8.0)	7 626	926	(12.1)	7 467	714	(9.6)
United Kingdom ‡	-	-	-	-	17 633	479	(2.7)§	-	-	-	-	-	-	-	-	-	-	-	-
<b>Andorra</b>																			
Andorra	27%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	0	(0.0)
Iceland	20%	17	0	(0.0)	12	0	(0.0)	13	0	(0.0)	13	0	(0.0)	8	1	(12.5)	5	1	(20.0)
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)
<b>Centre</b>																			
Albania	84%	694	0	(0.0)	765	2	(0.3)	631	1	(0.2)	572	3	(0.5)	612	3	(0.5)	-	-	-
Romania	>99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31 623	161	(0.5)
<b>East</b>																			
Armenia	3%	-	-	-	-	-	-	-	-	-	1 343	0	(0.0)	1 393	3	(0.2)	1 570	1	(0.1)
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)

\* 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

† 2001

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

§ TB cases >15 years notified in 1998-2000

Table 15. AIDS cases with tuberculosis as initial AIDS-indicative disease, WHO European Region, 2003 \*

Geographic area Country	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	(%)	
<b>EU &amp; West</b>											
Austria	51	0.6	6	(12)	4	(8)	0	(0)	4	(8)	0.4 %
Belgium	154	1.5	0	(0)	38	(25)	20	(13)	58	(38)	5.1 %
Cyprus	n/a	-	-	-	-	-	-	-	-	-	-
Czech Republic	9	0.1	0	(0)	0	(0)	0	(0)	0	(0)	0.0 %
Denmark	39	0.7	0	(0)	11	(28)	2	(5)	13	(33)	3.3 %
Estonia	11	0.8	0	(0)	6	(55)	2	(18)	8	(73)	1.3 %
Finland	25	0.5	0	(0)	3	(12)	0	(0)	3	(12)	0.7 %
France	1 432	2.3	2	(0)	181	(13)	133	(9)	314	(22)	5.1 %
Germany	807	1.0	0	(0)	26	(3)	39	(5)	65	(8)	0.9 %
Greece	81	0.7	0	(0)	18	(22)	4	(5)	22	(27)	3.5 %
Hungary	27	0.3	3	(11)	2	(7)	1	(4)	3	(11)	0.1 %
Ireland	44	1.1	0	(0)	4	(9)	1	(2)	5	(11)	1.2 %
Italy	1 721	3.0	0	(0)	103	(6)	67	(4)	170	(10)	3.8 %
Latvia	58	2.5	18	(31)	21	(36)	0	(0)	21	(36)	1.2 %
Lithuania	10	0.3	0	(0)	2	(20)	0	(0)	2	(20)	0.1 %
Luxembourg	8	1.8	2	(25)	0	(0)	0	(0)	0	(0)	0.0 %
Malta	2	0.5	0	(0)	0	(0)	0	(0)	0	(0)	0.0 %
Netherlands	256	1.6	256	(100)	-	-	-	-	-	-	-
Poland	125	0.3	5	(4)	24	(19)	4	(3)	28	(22)	0.3 %
Portugal	988	9.8	88	(9)	259	(26)	171	(17)	430	(44)	10.4 %
Slovakia	2	0.04	0	(0)	0	(0)	0	(0)	0	(0)	0.0 %
Slovenia	6	0.3	0	(0)	1	(17)	0	(0)	1	(17)	0.3 %
Spain	2 593	6.3	0	(0)	398	(15)	377	(15)	775	(30)	5.3 %
Sweden	60	0.7	10	(17)	7	(12)	3	(5)	10	(17)	2.4 %
United Kingdom	905	1.5	0	(0)	204	(23)	71	(8)	275	(30)	3.7 %
<b>Subtotal EU</b>	<b>9 414</b>	<b>2.1</b>	<b>390</b>	<b>(4)</b>	<b>1 312</b>	<b>(14)</b>	<b>895</b>	<b>(10)</b>	<b>2 207</b>	<b>(23)</b>	<b>3.0 %</b>
Andorra	n/a	-	-	-	-	-	-	-	-	-	-
Iceland	1	0.3	0	-	1	-	0	-	1	-	20.0 %
Israel	91	1.4	10	(11)	22	(24)	9	(10)	31	(34)	5.9 %
Monaco	0	0.0	0	-	0	-	0	-	0	-	-
Norway	39	0.9	0	(0)	12	(31)	0	(0)	12	(31)	3.5 %
San Marino ¶	0	0.0	0	-	0	-	0	-	0	-	-
Switzerland	282	3.9	0	(0)	17	(6)	5	(2)	22	(8)	3.5 %
<b>Total EU &amp; West</b>	<b>9 827</b>	<b>2.1</b>	<b>400</b>	<b>(4)</b>	<b>1 364</b>	<b>(14)</b>	<b>909</b>	<b>(9)</b>	<b>2 273</b>	<b>(23)</b>	<b>3.0 %</b>
<b>Centre</b>											
Albania	5	0.2	0	(0)	0	(0)	0	(0)	0	(0)	0.0 %
Bosnia & Herzegovina	6	0.1	0	(0)	1	(17)	1	(17)	2	(33)	0.1 %**
Bulgaria ¶	5	0.1	0	(0)	0	(0)	2	(40)	2	(40)	0.1 %
Croatia	17	0.4	0	(0)	2	(12)	0	(0)	2	(12)	0.1 %
Macedonia, F.Y.R.	0	0.0	0	-	0	-	0	-	0	-	0.0 %
Romania	321	1.4	248	(77)	37	(12)	1	(0)	38	(12)	0.1 %
Serbia & Montenegro	63	0.6	2	(3)	7	(11)	5	(8)	12	(19)	0.4 %
Turkey	52	0.1	0	(0)	16	(31)	0	(0)	16	(31)	0.1 %
<b>Total Centre</b>	<b>469</b>	<b>0.4</b>	<b>250</b>	<b>(53)</b>	<b>63</b>	<b>(13)</b>	<b>9</b>	<b>(2)</b>	<b>72</b>	<b>(15)</b>	<b>0.1 %</b>
<b>East</b>											
Armenia	13	0.4	1	(8)	8	(62)	0	(0)	8	(62)	0.5 %
Azerbaijan	20	0.2	0	(0)	17	(85)	0	(0)	17	(85)	0.4 %
Belarus	35	0.4	1	(3)	12	(34)	0	(0)	12	(34)	0.2 %
Georgia	43	0.8	8	(19)	2	(5)	13	(30)	15	(35)	0.3 %
Kazakhstan	64	0.4	0	(0)	56	(88)	2	(3)	58	(91)	0.2 %
Kyrgyzstan	8	0.2	0	(0)	7	(88)	0	(0)	7	(88)	0.1 %
Moldova, Republic of	46	1.1	0	(0)	30	(65)	0	(0)	30	(65)	0.6 %
Russian Federation	n/a	-	-	-	-	-	-	-	-	-	-
Tajikistan	0	0.0	0	-	0	-	0	-	0	-	0.0 %
Turkmenistan	0	0.0	0	-	0	-	0	-	0	-	0.0 %
Ukraine	1 860	3.8	89	(5)	1 060	(57)	18	(1)	1 078	(58)	2.7 %
Uzbekistan ¶	8	0.03	0	(0)	4	(50)	1	(13)	5	(63)	0.0 %
<b>Total East</b>	<b>2 097</b>	<b>1.5</b>	<b>99</b>	<b>(5)</b>	<b>1 196</b>	<b>(57)</b>	<b>34</b>	<b>(2)</b>	<b>1 230</b>	<b>(59)</b>	<b>0.9 %</b>
<b>Total WHO European Region</b>	<b>12 393</b>	<b>1.7</b>	<b>749</b>	<b>(6)</b>	<b>2 623</b>	<b>(21)</b>	<b>952</b>	<b>(8)</b>	<b>3 575</b>	<b>(29)</b>	<b>1.2 %   </b>

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

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

‡ At all ages

§ Total TB cases reported in 2003 (see Table 1)

|| For Spain, the numerator only includes pulmonary AIDS-indicative TB, as extrapulmonary TB cases are incompletely notified

¶ Incomplete 2003 data (cases reported from January to June)

\*\* TB notifications only from Fed. of Bosnia

n/a = not available

**Table 16. AIDS cases with TB as initial AIDS-indicative disease, by year of diagnosis, WHO European Region, 1997-2003\***

Geographic area Country	Year of diagnosis						
	1997	1998	1999	2000	2001	2002	2003
<b>EU &amp; West</b>							
Austria	19	16	8	6	15	17	10
Belgium	34	30	30	46	43	52	49
Cyprus	-	-	-	-	-	-	-
Czech Republic	0	1	1	1	0	0	0
Denmark	12	5	9	11	16	10	11
Estonia	0	1	1	0	1	2	7
Finland	2	1	1	3	3	9	3
France	299	279	286	295	315	341	319
Germany	97	88	69	65	61	58	54
Greece	17	18	22	22	15	7	23
Hungary	3	4	8	3	0	1	3
Ireland	1	1	1	0	2	7	3
Italy	310	236	208	171	178	168	171
Latvia	0	2	9	10	23	23	31
Lithuania	0	0	1	1	3	1	2
Luxembourg	1	1	0	1	1	0	0
Malta	0	0	0	0	0	0	0
Netherlands	44	23	25	-	-	-	-
Poland	21	25	17	27	32	26	28
Portugal	524	552	560	519	472	460	373
Slovakia	0	0	0	0	0	0	0
Slovenia	1	1	2	2	1	1	1
Spain	1 711	1 219	1 020	895	725	644	675
Sweden	8	12	14	9	7	11	5
United Kingdom	125	117	100	151	183	254	279
<b>Subtotal EU</b>	<b>3 229</b>	<b>2 632</b>	<b>2 392</b>	<b>2 238</b>	<b>2 096</b>	<b>2 091</b>	<b>2 046</b>
Andorra	-	-	-	-	-	-	-
Iceland	0	0	0	0	0	0	1
Israel	15	25	13	31	27	29	37
Monaco	0	0	0	0	0	0	0
Norway	2	8	2	9	6	10	12
San Marino	0	0	0	0	0	0	0 †
Switzerland	36	31	34	21	25	24	14
<b>Total EU &amp; West</b>	<b>3 282</b>	<b>2 696</b>	<b>2 441</b>	<b>2 299</b>	<b>2 155</b>	<b>2 154</b>	<b>2 109</b>
<b>Centre</b>							
Albania	0	0	0	0	0	0	0
Bosnia & Herzegovina	2	1	3	2	0	1	2
Bulgaria	2	2	5	9	5	3	2 †
Croatia	1	4	4	0	2	6	0
Macedonia, F.Y.R.	0	0	0	0	0	0	0
Romania	47	51	70	75	87	74	38 ‡
Serbia & Montenegro	14	14	9	11	8	9	12
Turkey	6	9	2	9	9	13	14
<b>Total Centre</b>	<b>72</b>	<b>81</b>	<b>93</b>	<b>106</b>	<b>111</b>	<b>106</b>	<b>68</b>
<b>East</b>							
Armenia	1	1	2	1	0	2	6
Azerbaijan	0	2	4	8	10	12	16
Belarus	1	1	0	0	1	7	11
Georgia	0	0	2	7	5	24	16
Kazakhstan	5	6	3	7	15	24	58
Kyrgyzstan	0	0	1	0	1	9	5
Moldova, Republic of	4	1	1	0	7	2	31
Russian Federation	6	16	9	5	-	-	-
Tajikistan	0	0	0	0	1	0	0
Turkmenistan	0	0	0	0	0	1	0
Ukraine	80	172	435	532	266	434	1 079
Uzbekistan	0	0	0	1	4	0	5 †
<b>Total East</b>	<b>97</b>	<b>199</b>	<b>457</b>	<b>561</b>	<b>310</b>	<b>515</b>	<b>1 227</b>
<b>Total WHO European Region</b>	<b>3 451</b>	<b>2 976</b>	<b>2 991</b>	<b>2 966</b>	<b>2 576</b>	<b>2 775</b>	<b>3 405</b>

\* Source: EuroHIV, European Non Aggregate AIDS Data Set, update December 2004; data adjusted for reporting delays, methodology described in EuroHIV reports

† Incomplete 2003 data (cases reported from January to June)

‡ Incomplete information on AIDS-indicative diseases in 2003

**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	(%)
<b>Group A) Culture and DST done routinely; complete DST results for all / nationwide sample of TB cases</b>								
<b>EU &amp; West</b>								
Austria	TB case notification	2003	554	8	(1.4)	14	1	(7.1)
Belgium †	TB case notification	2003	513	3	(0.6)	65	1	(1.5)
Czech Republic	TB case notification	2003	605	1	(0.2)	19	1	(5.3)
Denmark	TB case notification	2003	282	0	(0.0)	16	0	(0.0)
Estonia	TB case notification	2003	361	51	(14.1)	103	55	(53.4)
Finland	TB case notification	2003	268	2	(0.7)	20	1	(5.0)
Germany †	TB case notification	2003	2 919	35	(1.2)	308	32	(10.4)
Latvia	TB case notification	2003	962	80	(8.3)	226	96	(42.5)
Lithuania	TB case notification	2003	955	86	(9.0)	432	221	(51.2)
Luxembourg	TB case notification	2003	53	1	(1.9)	0	0	-
Netherlands	TB case notification	2003	518	6	(1.2)	22	2	(9.1)
Poland	Survey	2001	3 037	35	(1.2)	668	57	(8.5)
Slovenia	TB case notification	2003	226	1	(0.4)	31	0	(0.0)
Sweden	TB case notification	2003	322	6	(1.9)	24	1	(4.2)
United Kingdom ‡	TB case notification	2003	2 706	28	(1.0)	76	3	(3.9)
Iceland	TB case notification	2003	4	1	(25.0)	0	0	-
Israel	TB case notification	2003	296	16	(5.4)	20	4	(20.0)
Norway	TB case notification	2003	220	0	(0.0)	10	2	(20.0)
Switzerland	TB case notification	2003	336	8	(2.4)	36	2	(5.6)
<b>Centre</b>								
Bosnia & Herzegovina §	TB case notification	2003	951	1	(0.1)	91	1	(1.1)
Croatia	TB case notification	2003	733	4	(0.5)	105	4	(3.8)
<b>East</b>								
Kazakhstan	Survey	2001	359	51	(14.2)	319	180	(56.4)
<b>Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)</b>								
<b>EU &amp; West</b>								
Cyprus †	TB case notification	2003	13	2	(0.0)	0	0	-
France	Sentinel hospital network	2003	1 485	13	(0.9)	118	9	(7.6)
Greece	NRL and one other lab	2003	605	22	(3.6)	-	-	-
Hungary	TB case notification	2003	473	8	(1.7)	96	15	(15.6)
Ireland †	TB case notification	2003	94	1	(1.1)	11	0	(0.0)
Italy	Selected labs	2003	390	11	(2.8)	76	24	(31.6)
Malta †	TB case notification	2003	2	0	(0.0)	0	0	-
Portugal	TB case notification	2003	892	12	(1.3)	116	5	(4.3)
Slovakia	TB case notification	2003	350	4	(1.1)	52	2	(3.8)
Spain	NRL	2003	1 236	14	(1.1)	138	10	(7.2)
	Survey, Barcelona	2001	133	1	(0.8)	32	4	(12.5)
	Survey, Galicia	2001-2002	360	5	(1.4)	40	3	(7.5)
Andorra	TB case notification	2003	2	0	(0.0)	0	0	-
<b>Centre</b>								
Albania	TB case notification	2003	206	2	(1.0)	15	1	(6.7)
Bulgaria	TB case notification	2003	452	18	(4.0)	341	26	(7.6)
Macedonia, FYR	TB case notification	2003	106	0	(0.0)	24	3	(12.5)
Romania	TB case notification	2001	2 386	107	(4.5)	664	91	(13.7)
Serbia & Montenegro	TB case notification, Belgrade	2003	292	3	(1.0)	42	0	(0.0)
<b>East</b>								
Armenia	NRL (coverage unknown)	2003	335	37	(11.0)	138	69	(50.0)
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	2003	8 723	1 090	(12.5)	6 755	2 493	(36.9)
Kyrgyzstan	NRL (coverage unknown)	2003	560	68	(12.1)	110	49	(44.5)
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 TB history (see technical note)

‡ Excluding Scotland

§ Federation of Bosnia

|| 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

**Table 18. Laboratory practices and quality assurance for anti-TB Drug Susceptibility Testing (DST), WHO European Region, 2003**

Geographic area Country	No. labs performing:		DST methods					External quality assurance for DST						
	Culture	DST	non-					National *	International					
			radiometric proportion	radiometric proportion	resistance ratio	absolute concentr.	other		No. labs	Year	% agreement of results for:			
											INH	RMP		
<b>EU &amp; West</b>														
Austria	11	9	•	-	-	-	-	no	-	yes	2003	100	100	
Belgium	158	-20	•	•	-	-	•	yes	14	yes	2003	100	90	
Cyprus	2	0 †	-	-	-	-	-	-	-	-	-	-	-	
Czech Republic	46	14	•	-	-	-	•	yes	14	yes	2004	100	100	
Denmark	1	1	-	•	-	-	-	-	-	yes	2004	95	100	
Estonia	3	2	•	-	-	-	-	yes	2	yes	2002	n/a	n/a	
Finland	15	2	•	-	-	-	•	no	-	yes	2004	95	100	
France	320	120	•	•	-	-	•	yes	28	yes	2003	-	-	
Germany	200	70	•	•	-	-	•	yes	70	yes	2003	100	100	
Greece	25-30	4-5	•	-	-	-	-	no	-	no	-	-	-	
Hungary	20	13	•	-	-	-	•	no	-	yes	2003	100	95	
Ireland	13	4	-	•	-	-	•	no	-	yes	2003	100	80	
Italy	>200	>200	•	•	•	•	•	yes	20	yes	2004	100	100	
Latvia	8	1	-	•	-	-	-	-	-	yes	2003	89	100	
Lithuania	5	5	•	•	-	-	-	yes	5	yes	2004	95	100	
Luxembourg	1	1	•	•	-	-	-	-	-	no	-	-	-	
Malta	1	0 ‡	-	-	-	-	-	-	-	-	-	-	-	
Netherlands	43	n/a	•	-	-	-	•	no	-	yes	2003	100	100	
Portugal	60	14	•	•	-	-	-	no	-	yes	2003	100	100	
Slovakia	15	6	•	-	-	-	-	yes	6	yes	2003	100	100	
Slovenia	6	1	•	-	-	-	•	-	-	yes	2003	100	100	
Spain	200	n/a	•	•	-	-	-	n/a	-	yes	2003	100	100	
Sweden	5	5	-	•	-	-	•	yes	5	yes	2003	95	100	
United Kingdom	250	7	•	-	•	-	-	yes	7	yes	2004	100	100	
<b>Andorra</b>														
Andorra	1	0 §	-	-	-	-	-	-	-	-	-	-	-	
<b>Iceland</b>														
Iceland	1	0	-	-	-	-	-	-	-	-	-	-	-	
Israel	18	2	-	-	•	-	•	yes	2	yes	2003	100	89	
Norway	12	4	-	•	-	-	•	no	-	yes	2002	100	100	
Switzerland	30	12	-	•	-	-	-	yes	12	yes	2003	100	100	
<b>Centre</b>														
Albania	3	1	•	-	-	-	-	no	-	no	-	-	-	
Bosnia & Herzegovina ¶	5	5	•	•	-	-	-	yes	5	yes	2003	n/a	n/a	
Bulgaria	28	15	•	•	-	-	-	no	-	no	-	-	-	
Croatia	16	11	•	-	-	-	•	yes	10	yes	2004	100	100	
Macedonia, FYR of	3	1	•	-	-	-	-	no	-	no	-	-	-	
Romania	122	66	-	-	-	-	•	yes	-	yes	2004	100	99	
Serbia & Montenegro	34	12	•	-	-	-	-	yes	5	yes	2003	100	100	
<b>East</b>														
Armenia	1	1	•	-	-	-	-	no	-	yes	2003	100	100	
Azerbaijan	12	12	-	-	-	-	•	no	-	no	-	-	-	
Kazakhstan	21	21	-	-	-	-	•	yes	21	no	-	-	-	
Kyrgyzstan	5	1	-	-	-	-	•	no	-	yes	2003	100	100	

\* For countries with more than one laboratory performing DST

† DST done in Germany

‡ DST done in the United Kingdom

§ DST done in Spain

|| DST done in Denmark

¶| Excluding Rep. Srpska

n/a = not available

INH = isoniazid; RMP = rifampicin

**Table 19. Characteristics of Drug Resistance Surveillance (DRS), WHO European Region, 2003**

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	(%)
<b>Group A) Culture and DST done routinely; complete DST results for all / nationwide sample of TB cases</b>							
<b>EU &amp; West</b>							
Austria	yes	TB case notif	national	64%	631	596	(94)
Belgium	yes	TB case notif	national	78%	878	805	(92)
Czech Republic	yes	TB case notif	national	65%	749	624	(83)
Denmark	yes	TB case notif	national	76%	298	298	(100)
Estonia	yes	TB case notif	national	75%	466	464	(100)
Finland	yes	TB case notif	national	84%	347	340	(98)
Germany	yes	TB case notif	national	65%	4 657	4 366	(94)
Latvia	yes	TB case notif	national	73%	1 263	1 188	(94)
Lithuania	yes	TB case notif	national	60%	1 680	1 398	(83)
Luxembourg	yes	TB case notif	national	100%	54	54	(100)
Netherlands	yes	TB case notif	national	57%	756	619	(82)
Slovenia	yes	TB case notif	national	88%	259	257	(99)
Sweden	yes	TB case notif	national	85%	349	347	(99)
United Kingdom	yes	TB case notif	national †	60%	4 084	3 758	(92)
Iceland	yes	TB case notif	national	80%	4	4	(100)
Israel	yes	TB case notif	national	60%	316	316	(100)
Norway	yes	TB case notif	national	81%	273	272	(100)
Switzerland	yes	TB case notif	national	78%	483	481	(100)
<b>Centre</b>							
Bosnia & Herzegovina	yes	TB case notif	national ‡	59%	1 042	1 042	(100)
Croatia	yes	TB case notif	national	56%	838	838	(100)
<b>Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)</b>							
<b>EU &amp; West</b>							
Cyprus	yes	TB case notif	national	66%	23	13	(57)
France	yes	Lab. network	national	-	1 751	1 727	(99)
Greece	no	NRL & one other lab.	partial	-	605	605	(100)
Hungary	yes	TB case notif	national	33%	901	578	(64)
Ireland	yes	TB case notif	national	43%	183	134	(73)
Italy	yes	Lab. network	national	-	788	788	(100)
Malta	yes	TB case notif	national	43%	3	2	(67)
Portugal	yes	TB case notif	national	49%	2 016	1 008	(50)
Slovakia	yes	TB case notif	national	41%	406	406	(100)
Spain	yes	NRL	partial	-	1 888	1 786	(95)
Andorra	yes	TB case notif	national	55%	6	2	(33)
<b>Centre</b>							
Albania	no	TB case notif	national	42%	237	221	(93)
Bulgaria	no	All labs doing DST	partial	42%	793	793	(100)
Macedonia, FYR	no	TB case notif	national	13%	145	145	(100)
Serbia & Montenegro	no	TB case notif	Belgrade region	63%	334	334	(100)
<b>East</b>							
Armenia	no	NRL	partial	-	587	514	(88)
Azerbaijan	no	all labs doing DST	national	-	600	600	(100)
Kazakhstan	no	all labs doing DST	national	-	-	15 478	-
Kyrgyzstan	no	NRL	partial	-	670	670	(100)

\* In areas included in DRS

† Excluding Scotland

‡ Excluding Rep. Srpska

NRL = National Reference Laboratory

**Table 20. Drug resistance, all tuberculosis cases (combined resistance), WHO European Region, 2003**

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	(%)
<b>Group A) Culture and DST done routinely; complete DST results for all / nationwide sample of TB cases</b>											
<b>EU &amp; West</b>											
Austria	596	36	(6.0)	16	(2.7)	12	(2.0)	10	(1.7)	31	(5.2)
Belgium	805	60	(7.5)	10	(1.2)	9	(1.1)	14	(1.7)	-	-
Czech Republic	624	25	(4.0)	3	(0.5)	2	(0.3)	3	(0.5)	17	(2.7)
Denmark	298	18	(6.0)	0	(0.0)	0	(0.0)	2	(0.7)	-	-
Estonia	464	152	(32.8)	106	(22.8)	106	(22.8)	104	(22.4)	154	(33.2)
Finland	340	10	(2.9)	3	(0.9)	3	(0.9)	5	(1.5)	9	(2.6)
Germany	4 366	341	(7.8)	106	(2.4)	92	(2.1)	76	(1.7)	334	(7.7)
Latvia	1 188	374	(31.5)	176	(14.8)	176	(14.8)	123	(10.4)	341	(28.7)
Lithuania	1 398	508	(36.3)	318	(22.7)	312	(22.3)	192	(13.7)	441	(31.5)
Luxembourg	54	3	(5.6)	1	(1.9)	1	(1.9)	2	(3.7)	4	(7.4)
Netherlands	619	45	(7.3)	9	(1.5)	8	(1.3)	4	(0.6)	29	(4.7)
Slovenia	257	3	(1.2)	1	(0.4)	1	(0.4)	1	(0.4)	9	(3.5)
Sweden	347	25	(7.2)	9	(2.6)	7	(2.0)	4	(1.2)	21	(6.1)
United Kingdom †	3 758	271	(7.2)	67	(1.8)	49	(1.3)	19	(0.5)	-	-
Iceland	4	1	(25.0)	1	(25.0)	1	(25.0)	0	(0.0)	-	-
Israel	316	56	(17.7)	22	(7.0)	20	(6.3)	11	(3.5)	50	(15.8)
Norway	272	23	(8.5)	5	(1.8)	3	(1.1)	2	(0.7)	35	(12.9)
Switzerland	481	38	(7.9)	12	(2.5)	12	(2.5)	6	(1.2)	-	-
<b>Centre</b>											
Bosnia & Herzegovina ‡	1 042	18	(1.7)	11	(1.1)	2	(0.2)	-	-	-	-
Croatia	838	26	(3.1)	12	(1.4)	8	(1.0)	4	(0.5)	21	(2.5)
<b>Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)</b>											
<b>EU &amp; West</b>											
Cyprus	13	2	(15.4)	2	(15.4)	2	(15.4)	1	(7.7)	2	(15.4)
France	1 727	109	(6.3)	31	(1.8)	25	(1.4)	13	(0.8)	114	(6.6)
Greece §	-	-	-	-	-	-	-	-	-	-	-
Hungary	578	61	(10.6)	28	(4.8)	23	(4.0)	31	(5.4)	50	(8.7)
Ireland	134	7	(5.2)	1	(0.7)	1	(0.7)	2	(1.5)	-	-
Italy	788	78	(9.9)	48	(6.1)	42	(5.3)	19	(2.4)	75	(9.5)
Malta	2	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Portugal	1 008	59	(5.9)	17	(1.7)	17	(1.7)	14	(1.4)	92	(9.1)
Slovakia	406	23	(5.7)	8	(2.0)	6	(1.5)	0	(0.0)	9	(2.2)
Spain	1 786	111	(6.2)	60	(3.4)	47	(2.6)	11	(0.6)	43	(2.4)
Andorra	2	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
<b>Centre</b>											
Albania	221	11	(5.0)	8	(3.6)	3	(1.4)	1	(0.5)	14	(6.3)
Bulgaria	793	116	(14.6)	85	(10.7)	44	(5.5)	97	(12.2)	80	(10.1)
Macedonia, FYR	145	8	(5.5)	6	(4.1)	3	(2.1)	0	(0.0)	10	(6.9)
Serbia & Montenegro	334	4	(1.2)	3	(0.9)	3	(0.9)	3	(0.9)	22	(6.6)
<b>East</b>											
Armenia	514	220	(42.8)	125	(24.3)	117	(22.8)	-	-	-	-
Azerbaijan §	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	15 478	7 138	(46.1)	4 033	(26.1)	3 583	(23.1)	4 284	(27.7)	7 578	(49.0)
Kyrgyzstan	670	278	(41.5)	131	(19.6)	117	(17.5)	-	-	-	-

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

† Excluding Scotland

‡ Excluding Rep. Srpska

§ New cases only (not shown)

**Table 21. Drug resistance, tuberculosis cases never treated (primary resistance), WHO European Region, 2003**

Geographic area Country	Cases with DST result	Cases resistant to at least:									
		Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol *		Streptomycin *	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>Group A) Culture and DST done routinely; complete DST results for all / nationwide sample of TB cases</b>											
<b>EU &amp; West</b>											
Austria	554	28	(5.1)	10	(1.8)	8	(1.4)	8	(1.4)	25	(4.5)
Belgium †	513	34	(6.6)	3	(0.6)	3	(0.6)	7	(1.4)	-	-
Czech Republic	605	23	(3.8)	2	(0.3)	1	(0.2)	2	(0.3)	16	(2.6)
Denmark	282	18	(6.4)	0	(0.0)	0	(0.0)	2	(0.7)	-	-
Estonia	361	88	(24.4)	51	(14.1)	51	(14.1)	48	(13.3)	93	(25.8)
Finland	268	8	(3.0)	2	(0.7)	2	(0.7)	4	(1.5)	5	(1.9)
Germany †	2 919	195	(6.7)	45	(1.5)	35	(1.2)	30	(1.0)	196	(6.7)
Latvia	962	235	(24.4)	80	(8.3)	80	(8.3)	57	(5.9)	214	(22.2)
Lithuania	955	225	(23.6)	87	(9.1)	86	(9.0)	47	(4.9)	185	(19.4)
Luxembourg	53	3	(5.7)	1	(1.9)	1	(1.9)	2	(3.8)	4	(7.5)
Netherlands	518	38	(7.3)	7	(1.4)	6	(1.2)	4	(0.8)	24	(4.6)
Slovenia	226	2	(0.9)	1	(0.4)	1	(0.4)	1	(0.4)	8	(3.5)
Sweden	322	23	(7.1)	7	(2.2)	6	(1.9)	4	(1.2)	20	(6.2)
United Kingdom ‡	2 706	190	(7.0)	41	(1.5)	28	(1.0)	12	(0.4)	-	-
Iceland	4	1	(25.0)	1	(25.0)	1	(25.0)	0	(0.0)	-	-
Israel	296	48	(16.2)	17	(5.7)	16	(5.4)	7	(2.4)	45	(15.2)
Norway	220	15	(6.8)	1	(0.5)	0	(0.0)	1	(0.5)	28	(12.7)
Switzerland	336	24	(7.1)	8	(2.4)	8	(2.4)	3	(0.9)	-	-
<b>Centre</b>											
Bosnia & Herzegovina §	951	8	(0.8)	5	(0.5)	1	(0.1)	-	-	-	-
Croatia	733	19	(2.6)	7	(1.0)	4	(0.5)	2	(0.3)	14	(1.9)
<b>Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)</b>											
<b>EU &amp; West</b>											
Cyprus †	13	2	(0.0)	2	(0.0)	2	(0.0)	1	(0.0)	2	(15.4)
France	1 485	80	(5.4)	15	(1.0)	13	(0.9)	11	(0.7)	95	(6.4)
Greece	605	80	(13.2)	32	(5.3)	22	(3.6)	18	(3.0)	71	(11.7)
Hungary	473	36	(7.6)	11	(2.3)	8	(1.7)	16	(3.4)	30	(6.3)
Ireland †	94	3	(3.2)	1	(1.1)	1	(1.1)	2	(2.1)	-	-
Italy	390	32	(8.2)	14	(3.6)	11	(2.8)	2	(0.5)	41	(10.5)
Malta †	2	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Portugal	892	46	(5.2)	12	(1.3)	12	(1.3)	13	(1.5)	77	(8.6)
Slovakia	350	17	(4.9)	5	(1.4)	4	(1.1)	0	(0.0)	6	(1.7)
Spain	1 236	50	(4.0)	21	(1.7)	14	(1.1)	2	(0.2)	24	(1.9)
Andorra	2	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
<b>Centre</b>											
Albania	206	10	(4.9)	6	(2.9)	2	(1.0)	1	(0.5)	13	(6.3)
Bulgaria	452	67	(14.8)	46	(10.2)	18	(4.0)	58	(12.8)	51	(11.3)
Macedonia, FYR	106	3	(2.8)	1	(0.9)	0	(0.0)	0	(0.0)	8	(7.5)
Serbia & Montenegro	292	3	(1.0)	3	(1.0)	3	(1.0)	3	(1.0)	19	(6.5)
<b>East</b>											
Armenia	335	91	(27.2)	40	(11.9)	37	(11.0)	-	-	-	-
Azerbaijan	600	37	(6.2)	35	(5.8)	8	(1.3)	26	(4.3)	113	(18.8)
Kazakhstan	8 723	2 931	(33.6)	1 318	(15.1)	1 090	(12.5)	1 613	(18.5)	3 272	(37.5)
Kyrgyzstan	560	201	(35.9)	77	(13.8)	68	(12.1)	50	(8.9)	274	(48.9)

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

† Information on previous TB treatment history not available or incomplete; classified according to TB history (See technical note)

‡ Excluding Scotland

§ Excluding Rep. Srpska

**Table 22. Drug resistance, tuberculosis cases previously treated (acquired resistance), WHO European Region, 2003**

Geographic area Country	Cases with DST results	Cases resistant to at least:									
		Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol *		Streptomycin *	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>Group A) Culture and DST done routinely; complete DST results for all / nationwide sample of TB cases</b>											
<b>EU &amp; West</b>											
Austria	14	4	(28.6)	3	(21.4)	1	(7.1)	0	(0.0)	1	(7.1)
Belgium †	65	5	(7.7)	1	(1.5)	1	(1.5)	2	(3.1)	-	-
Czech Republic	19	2	(10.5)	1	(5.3)	1	(5.3)	1	(5.3)	1	(5.3)
Denmark	16	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Estonia	103	64	(62.1)	55	(53.4)	55	(53.4)	56	(54.4)	61	(59.2)
Finland	20	2	(10.0)	1	(5.0)	1	(5.0)	1	(5.0)	4	(20.0)
Germany †	308	61	(19.8)	36	(11.7)	32	(10.4)	18	(5.8)	49	(15.9)
Latvia	226	139	(61.5)	96	(42.5)	96	(42.5)	66	(29.2)	127	(56.2)
Lithuania	432	277	(64.1)	226	(52.3)	221	(51.2)	142	(32.9)	250	(57.9)
Luxembourg	0	0	-	0	-	0	-	0	-	0	-
Netherlands	22	3	(13.6)	2	(9.1)	2	(9.1)	0	(0.0)	1	(4.5)
Slovenia	31	1	(3.2)	0	(0.0)	0	(0.0)	0	(0.0)	1	(3.2)
Sweden	24	2	(8.3)	2	(8.3)	1	(4.2)	0	(0.0)	1	(4.2)
United Kingdom ‡	76	7	(9.2)	4	(5.3)	3	(3.9)	2	(2.6)	-	-
Iceland	0	0	-	0	-	0	-	0	-	-	-
Israel	20	8	(40.0)	5	(25.0)	4	(20.0)	4	(20.0)	5	(25.0)
Norway	10	3	(30.0)	2	(20.0)	2	(20.0)	1	(10.0)	3	(30.0)
Switzerland	36	7	(19.4)	2	(5.6)	2	(5.6)	2	(5.6)	-	-
<b>Centre</b>											
Bosnia & Herzegovina §	91	10	(11.0)	6	(6.6)	1	(1.1)	-	-	-	-
Croatia	105	7	(6.7)	5	(4.8)	4	(3.8)	2	(1.9)	7	(6.7)
<b>Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)</b>											
<b>EU &amp; West</b>											
Cyprus †	0	0	-	0	-	0	-	0	-	0	-
France	118	16	(13.6)	13	(11.0)	9	(7.6)	2	(1.7)	11	(9.3)
Greece	-	-	-	-	-	-	-	-	-	-	-
Hungary	96	24	(25.0)	17	(17.7)	15	(15.6)	15	(15.6)	20	(20.8)
Ireland †	11	1	(9.1)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Italy	76	27	(35.5)	26	(34.2)	24	(31.6)	16	(21.1)	19	(25.0)
Malta †	0	0	-	0	-	0	-	0	-	0	-
Portugal	116	13	(11.2)	5	(4.3)	5	(4.3)	1	(0.9)	15	(12.9)
Slovakia	52	6	(11.5)	3	(5.8)	2	(3.8)	0	(0.0)	3	(5.8)
Spain	138	20	(14.5)	12	(8.7)	10	(7.2)	2	(1.4)	6	(4.3)
Andorra	0	0	-	0	-	0	-	0	-	0	-
<b>Centre</b>											
Albania	15	1	(6.7)	2	(13.3)	1	(6.7)	0	(0.0)	1	(6.7)
Bulgaria	341	49	(14.4)	39	(11.4)	26	(7.6)	39	(11.4)	29	(8.5)
Macedonia, FYR	24	5	(20.8)	4	(16.7)	3	(12.5)	0	(0.0)	1	(4.2)
Serbia & Montenegro	42	1	(2.4)	0	(0.0)	0	(0.0)	0	(0.0)	3	(7.1)
<b>East</b>											
Armenia	138	100	(72.5)	72	(52.2)	69	(50.0)	44	(31.9)	104	(75.4)
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	6 755	4 207	(62.3)	2 715	(40.2)	2 493	(36.9)	2 671	(39.5)	4 306	(63.7)
Kyrgyzstan	110	77	(70.0)	54	(49.1)	49	(44.5)	-	-	-	-

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

† Information on previous TB treatment history not available or incomplete; classified according to TB history (See technical note)

‡ Excluding Scotland

§ Excluding Rep. Srpska

**Table 23. Resistance to isoniazid by previous anti-TB treatment history, WHO European Region, 1998-2003 \***

Geographic area Country	1998		1999		2000		2001		2002		2003	
	Total †	Resistant to INH (%)										
<b>A) Cases never treated (primary resistance)</b>												
<b>EU &amp; West</b>												
Austria	669	(3.0)	703	(4.3)	694	(2.9)	589	(3.3)	633	(2.5)	554	(5.1)
Belgium	-	-	-	-	562	(5.3)	562	(6.4)	632	(7.0)	513	(6.6)
Czech Republic	-	-	628	(1.6)	616	(3.4)	663	(3.2)	494	(3.6)	605	(3.8)
Denmark	412	(6.1)	392	(7.4)	392	(7.4)	356	(5.6)	283	(5.3)	282	(6.4)
Estonia	433	(25.4)	428	(27.3)	410	(22.9)	375	(24.0)	373	(25.0)	361	(24.4)
Finland	-	-	371	(0.5)	374	(2.7)	348	(3.4)	325	(3.1)	268	(3.0)
Germany	-	-	-	-	-	-	2 354	(5.3)	3 013	(7.2)	2 919	(6.7)
Latvia	789	(28.1)	825	(27.8)	897	(29.0)	911	(29.4)	953	(27.0)	962	(24.4)
Lithuania	1 181	(12.2)	819	(21.7)	701	(21.8)	972	(20.6)	925	(23.5)	955	(23.6)
Luxembourg	40	(7.5)	-	-	39	(5.1)	28	(3.6)	30	(0.0)	53	(5.7)
Netherlands	570	(3.1)	899	(5.8)	768	(5.6)	484	(5.0)	636	(2.8)	518	(6.8)
Slovenia	287	(0.7)	364	(2.3)	282	(2.1)	281	(3.2)	262	(1.9)	226	(0.9)
Sweden	335	(4.8)	377	(9.0)	322	(10.9)	338	(8.0)	308	(8.8)	322	(7.1)
United Kingdom ‡	2 515	(3.9)	2 138	(6.2)	2 312	(5.9)	2 494	(6.9)	2 748	(6.6)	2 706	(7.0)
Iceland	10	(0.0)	7	(0.0)	8	(0.0)	11	(9.1)	0	(0.0)	4	(25.0)
Israel	-	-	-	-	253	(25.7)	294	(18.0)	305	(13.1)	296	(16.2)
Norway	158	(7.0)	144	(7.6)	160	(13.1)	182	(8.2)	181	(11.1)	220	(6.8)
Switzerland	405	(5.4)	428	(5.6)	330	(5.5)	342	(4.4)	368	(3.5)	336	(7.1)
<b>Centre</b>												
Bosnia & Herzegovina	-	-	1 154	(0.6)	993	(0.5)	1 132	(0.0)	936	(0.7) §	951	(0.8) §
Croatia	-	-	761	(1.8)	780	(1.0)	713	(1.4)	747	(1.5)	733	(2.6)
<b>B) Cases previously treated (acquired resistance)</b>												
<b>EU &amp; West</b>												
Austria	64	(6.8)	53	(13.2)	67	(3.0)	41	(12.2)	44	(6.8)	14	(28.6)
Belgium	-	-	-	-	78	(12.8)	74	(4.1)	58	(14.0)	65	(7.7)
Czech Republic	-	-	70	(8.6)	22	(9.1)	15	(6.7)	16	(12.5)	19	(10.5)
Denmark	32	(12.5)	24	(8.3)	33	(24.2)	24	(4.2)	24	(4.2)	16	(0.0)
Estonia	93	(49.5)	89	(53.9)	117	(54.7)	205	(62.0)	159	(54.1)	103	(62.1)
Finland	-	-	27	(3.7)	29	(13.8)	26	(11.5)	18	(0.0)	20	(10.0)
Germany	-	-	-	-	-	-	499	(15.2)	331	(18.7)	308	(19.8)
Latvia	224	(29.0)	190	(31.9)	247	(35.2)	187	(31.6)	289	(63.5)	226	(61.5)
Lithuania	288	(16.7)	167	(53.9)	220	(56.4)	480	(53.1)	418	(60.8)	432	(64.1)
Luxembourg	4	(0.0)	-	-	5	(0.0)	1	(0.0)	2	(0.0)	0	-
Netherlands	50	(8.0)	42	(7.1)	95	(8.4)	14	(0.0)	34	(8.8)	22	(13.6)
Slovenia	28	(3.6)	35	(5.7)	38	(7.9)	26	(11.5)	30	(20.0)	31	(3.2)
Sweden	30	(20.0)	31	(25.8)	42	(4.8)	21	(19.0)	46	(13.0)	24	(8.3)
United Kingdom ‡	238	(8.8)	220	(4.5)	237	(10.1)	209	(7.7)	259	(8.5)	76	(9.2)
Iceland	1	(0.0)	1	(0.0)	1	(0.0)	1	(0.0)	0	(0.0)	0	-
Israel	-	-	-	-	24	(37.5)	23	(47.8)	39	(41.0)	20	(40.0)
Norway	17	(17.6)	40	(0.0)	10	(0.0)	32	(9.4)	8	(25.0)	10	(30.0)
Switzerland	53	(15.1)	57	(21.1)	57	(3.5)	59	(6.8)	45	(26.7)	36	(19.4)
<b>Centre</b>												
Bosnia & Herzegovina	-	-	121	(5.0)	153	(3.3)	154	(1.3)	100	(2.0) §	91	(11.0) §
Croatia	-	-	93	(4.3)	99	(4.0)	93	(5.4)	97	(6.2)	105	(6.7)

\* Countries in group A in 2003 (see Table 19 and technical note); for trends in other countries, see country profiles

† Cases with DST results for INH and RMP

‡ Excluding Scotland

§ Excluding Rep. Srpska (no data)

**Table 24. Multidrug resistance by previous anti-TB treatment history, WHO European Region, 1998-2003 \***

Geographic area Country	1998		1999		2000		2001		2002		2003	
	Total †	MDR	Total †	MDR								
<b>A) Cases never treated (primary resistance)</b>												
<b>EU &amp; West</b>												
Austria	669	(0.3)	703	(0.3)	694	(0.4)	589	(0.7)	633	(0.3)	554	(1.4)
Belgium	-	-	-	-	562	(1.2)	562	(2.3)	632	(2.4)	513	(0.6)
Czech Republic	-	-	628	(0.3)	616	(1.1)	663	(1.2)	494	(1.8)	605	(0.2)
Denmark	412	(0.5)	392	(0.0)	392	(0.3)	356	(0.0)	283	(0.4)	282	(0.0)
Estonia	433	(14.5)	428	(17.5)	410	(12.2)	375	(14.1)	374	(17.1)	361	(14.1)
Finland	-	-	371	(0.0)	374	(0.3)	348	(0.9)	325	(0.9)	268	(0.7)
Germany	-	-	-	-	-	-	2 354	(1.8)	3 013	(1.4)	2 919	(1.2)
Latvia	789	(9.0)	825	(10.4)	897	(9.3)	911	(10.9)	953	(9.5)	962	(8.3)
Lithuania	1 181	(4.7)	819	(7.8)	701	(8.7)	972	(7.7)	925	(9.1)	955	(9.0)
Luxembourg	40	(2.5)	-	-	39	(0.0)	28	(0.0)	30	(0.0)	53	(1.9)
Netherlands	570	(0.2)	899	(0.4)	768	(0.9)	484	(0.4)	636	(0.3)	518	(1.2)
Slovenia	287	(0.0)	364	(0.0)	282	(0.0)	281	(1.1)	262	(0.4)	226	(0.4)
Sweden	335	(0.6)	377	(0.8)	322	(1.2)	338	(0.6)	308	(1.3)	322	(1.9)
United Kingdom ‡	2 515	(0.3)	2 138	(0.5)	2 312	(0.9)	2 494	(0.8)	2 748	(0.7)	2 706	(1.0)
Iceland	10	(0.0)	7	(0.0)	8	(0.0)	11	(0.0)	6	(0.0)	4	(25.0)
Israel	-	-	-	-	253	(14.2)	294	(5.8)	305	(2.0)	296	(5.4)
Norway	158	(0.6)	144	(2.1)	160	(1.9)	182	(1.1)	181	(3.9)	220	(0.0)
Switzerland	405	(0.5)	428	(0.7)	330	(0.0)	342	(0.9)	368	(0.8)	336	(2.4)
<b>Centre</b>												
Bosnia & Herzegovina	-	-	1 154	(0.3)	993	(0.1)	1 132	(0.0)	936	(0.4) §	951	(0.1) §
Croatia	-	-	761	(0.3)	780	(0.1)	713	(0.3)	747	(0.5)	733	(0.5)
<b>B) Cases previously treated (acquired resistance)</b>												
<b>EU &amp; West</b>												
Austria	64	(4.7)	53	(5.7)	67	(1.5)	41	(2.4)	44	(2.3)	14	(7.1)
Belgium	-	-	-	-	78	(5.1)	74	(1.4)	58	(6.9)	65	(1.5)
Czech Republic	-	-	70	(2.9)	22	(9.1)	15	(6.7)	16	(6.3)	19	(5.3)
Denmark	32	(3.1)	24	(0.0)	33	(3.0)	24	(0.0)	24	(0.0)	16	(0.0)
Estonia	93	(36.6)	89	(48.3)	117	(45.3)	205	(51.2)	159	(47.2)	103	(53.4)
Finland	-	-	27	(0.0)	29	(3.4)	26	(3.8)	18	(0.0)	20	(5.0)
Germany	-	-	-	-	-	-	499	(7.4)	331	(8.8)	308	(10.4)
Latvia	224	(23.7)	190	(26.8)	247	(27.1)	187	(27.3)	289	(46.9)	226	(42.5)
Lithuania	288	(10.8)	167	(42.5)	220	(43.2)	480	(39.8)	418	(51.0)	432	(51.2)
Luxembourg	4	(0.0)	-	-	5	(0.0)	1	(0.0)	2	(0.0)	0	-
Netherlands	50	(6.0)	42	(0.0)	95	(1.1)	14	(0.0)	34	(0.0)	22	(9.1)
Slovenia	28	(0.0)	35	(5.7)	38	(0.0)	26	(0.0)	30	(3.3)	31	(0.0)
Sweden	30	(10.0)	31	(12.9)	42	(2.4)	21	(9.5)	46	(0.0)	24	(4.2)
United Kingdom ‡	238	(3.8)	220	(2.7)	237	(4.2)	209	(2.4)	259	(2.3)	76	(3.9)
Iceland	1	(0.0)	1	(0.0)	1	(0.0)	1	(0.0)	0	-	0	-
Israel	-	-	-	-	24	(20.8)	23	(21.7)	39	(28.2)	20	(20.0)
Norway	17	(5.9)	40	(0.0)	10	(0.0)	32	(9.4)	8	(0.0)	10	(20.0)
Switzerland	53	(1.9)	57	(10.5)	57	(1.8)	59	(3.4)	45	(15.6)	36	(5.6)
<b>Centre</b>												
Bosnia & Herzegovina	-	-	121	(2.5)	153	(2.0)	154	(1.3)	100	(9.0) §	91	(1.1) §
Croatia	-	-	93	(3.2)	99	(1.0)	93	(3.2)	97	(2.1)	105	(3.8)

\* Countries in group A in 2003 (see Table 19 and technical note); for trends in other countries, see country profiles

† Cases with DST results for INH and RMP

‡ Excluding Scotland

§ Excluding Rep. Srpska

**Table 25. Combined drug resistance, tuberculosis cases in nationals, WHO European Region, 2003**

Geographic area Country	Classification	Cases with DST results	Cases resistant to at least:									
			Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol *		Streptomycin *	
			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>Group A) Culture and DST done routinely; complete DST results for all/nationwide sample of TB cases</b>												
<b>EU &amp; West</b>												
Austria	citizenship	393	13	(3.3)	4	(1.0)	2	(0.5)	3	(0.8)	11	(2.8)
Belgium	citizenship	370	17	(4.6)	2	(0.5)	2	(0.5)	5	(1.4)	-	-
Czech Republic	birthplace	577	15	(2.6)	2	(0.3)	1	(0.2)	3	(0.5)	10	(1.7)
Denmark †	birthplace	126	6	(4.8)	0	(0.0)	0	(0.0)	1	(0.8)	-	-
Estonia	birthplace	369	120	(32.5)	82	(22.2)	82	(22.2)	81	(22.0)	118	(32.0)
Finland	birthplace	291	4	(1.4)	1	(0.3)	1	(0.3)	2	(0.7)	3	(1.0)
Germany	birthplace	2 303	85	(3.7)	20	(0.9)	12	(0.5)	13	(0.6)	76	(3.3)
Latvia	birthplace	1 116	354	(31.7)	164	(14.7)	164	(14.7)	116	(10.4)	320	(28.7)
Lithuania	birthplace	1 324	469	(35.4)	291	(22.0)	285	(21.5)	176	(13.3)	404	(30.5)
Luxembourg	birthplace	13	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Netherlands	citizenship	250	12	(4.8)	3	(1.2)	3	(1.2)	1	(0.4)	9	(3.6)
Slovenia	birthplace	219	2	(0.9)	1	(0.5)	1	(0.5)	1	(0.5)	7	(3.2)
Sweden	birthplace	89	1	(1.1)	2	(2.2)	1	(1.1)	0	(0.0)	1	(1.1)
United Kingdom ‡	birthplace	933	48	(5.1)	12	(1.3)	6	(0.6)	4	(0.4)	-	-
Iceland	birthplace	2	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Israel	birthplace	40	5	(12.5)	1	(2.5)	1	(2.5)	0	(0.0)	3	(7.5)
Norway	birthplace	46	2	(4.3)	0	(0.0)	0	(0.0)	0	(0.0)	1	(2.2)
Switzerland	birthplace	123	4	(3.3)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
<b>Centre</b>												
Bosnia & Herzegovina §	birthplace	1 042	18	(1.7)	11	(1.1)	2	(0.2)	-	-	-	-
Croatia	birthplace	571	18	(3.2)	8	(1.4)	5	(0.9)	3	(0.5)	16	(2.8)
<b>Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)</b>												
<b>EU &amp; West</b>												
Cyprus	citizenship	4	1	(25.0)	1	(25.0)	1	(25.0)	0	(0.0)	1	(25.0)
France	birthplace	726	35	(4.8)	8	(1.1)	6	(0.8)	3	(0.4)	42	(5.8)
Hungary	birthplace	565	60	(10.6)	27	(4.8)	22	(3.9)	31	(5.5)	48	(8.5)
Ireland	birthplace	97	4	(4.1)	0	(0.0)	0	(0.0)	1	(1.0)	-	-
Italy	birthplace	396	31	(7.8)	22	(5.6)	20	(5.1)	11	(2.8)	36	(9.1)
Malta	citizenship	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Portugal	birthplace	859	46	(5.4)	12	(1.4)	12	(1.4)	11	(1.3)	72	(8.4)
Slovakia	birthplace	401	22	(5.5)	7	(1.7)	5	(1.2)	0	(0.0)	8	(2.0)
Spain	birthplace	1 508	75	(5.0)	37	(2.5)	28	(1.9)	8	(0.5)	27	(1.8)
Andorra	citizenship	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
<b>Centre</b>												
Albania	-	220	10	(4.5)	7	(3.2)	2	(0.9)	1	(0.5)	14	(6.4)
Bulgaria	citizenship	793	116	(14.6)	85	(10.7)	44	(5.5)	97	(12.2)	80	(10.1)
Macedonia, FYR	-	0	0	-	0	-	0	-	0	-	0	-
Serbia & Montenegro	-	334	4	(1.2)	3	(0.9)	3	(0.9)	3	(0.9)	22	(6.6)
<b>East</b>												
Armenia	birthplace	514	220	(42.8)	125	(24.3)	117	(22.8)	-	-	-	-
Azerbaijan	citizenship	600	37	(6.2)	35	(5.8)	8	(1.3)	26	(4.3)	113	(18.8)
Kazakhstan	-	-	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	citizenship	670	278	(41.5)	131	(19.6)	117	(17.5)	78	(11.6)	355	(53.0)

\* 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

§ Excluding Rep. Srpska

**Table 26. Combined drug resistance, tuberculosis cases in persons of foreign origin, WHO European Region, 2003**

Geographic area Country	Classification	Cases with DST results	Cases resistant to at least:									
			Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol *		Streptomycin *	
			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>Group A) Culture and DST done routinely; complete DST results for all / nationwide sample of TB cases</b>												
<b>EU &amp; West</b>												
Austria	citizenship	203	23	(11.3)	12	(5.9)	10	(4.9)	7	(3.4)	20	(9.9)
Belgium	citizenship	435	43	(9.9)	8	(1.8)	7	(1.6)	9	(2.1)	-	-
Czech Republic	birthplace	47	10	(21.3)	1	(2.1)	1	(2.1)	0	(0.0)	7	(14.9)
Denmark †	birthplace	172	12	(7.0)	0	(0.0)	0	(0.0)	1	(0.6)	-	-
Estonia	birthplace	95	32	(33.7)	24	(25.3)	24	(25.3)	23	(24.2)	36	(37.9)
Finland	birthplace	36	4	(11.1)	1	(2.8)	1	(2.8)	1	(2.8)	3	(8.3)
Germany	birthplace	1 895	239	(12.6)	82	(4.3)	77	(4.1)	61	(3.2)	246	(13.0)
Latvia	birthplace	72	20	(27.8)	12	(16.7)	12	(16.7)	7	(9.7)	21	(29.2)
Lithuania	birthplace	74	39	(52.7)	27	(36.5)	27	(36.5)	16	(21.6)	37	(50.0)
Luxembourg	birthplace	36	3	(8.3)	1	(2.8)	1	(2.8)	2	(5.6)	4	(11.1)
Netherlands	citizenship	367	33	(9.0)	6	(1.6)	5	(1.4)	3	(0.8)	20	(5.4)
Slovenia	birthplace	38	1	(2.6)	0	(0.0)	0	(0.0)	0	(0.0)	2	(5.3)
Sweden	birthplace	258	24	(9.3)	7	(2.7)	6	(2.3)	4	(1.6)	20	(7.8)
United Kingdom ‡	birthplace	2 496	201	(8.1)	49	(2.0)	37	(1.5)	14	(0.6)	-	-
Iceland	birthplace	2	1	(50.0)	1	(50.0)	1	(50.0)	0	(0.0)	1	(50.0)
Israel	birthplace	276	51	(18.5)	21	(7.6)	19	(6.9)	11	(4.0)	47	(17.0)
Norway	birthplace	226	21	(9.3)	5	(2.2)	3	(1.3)	2	(0.9)	34	(15.0)
Switzerland	birthplace	295	31	(10.5)	11	(3.7)	11	(3.7)	5	(1.7)	-	-
<b>Centre</b>												
Bosnia & Herzegovina §	birthplace	0	0	-	0	-	0	-	-	-	-	-
Croatia	birthplace	132	4	(3.0)	1	(0.8)	0	(0.0)	0	(0.0)	1	(0.8)
<b>Group B) Culture or DST not routinely performed; DST results incomplete (selected cases / areas)</b>												
<b>EU &amp; West</b>												
Cyprus	citizenship	9	1	(11.1)	1	(11.1)	1	(11.1)	1	(11.1)	1	(11.1)
France	birthplace	855	62	(7.3)	21	(2.5)	17	(2.0)	8	(0.9)	63	(7.4)
Hungary	birthplace	12	1	(8.3)	1	(8.3)	1	(8.3)	0	(0.0)	2	(16.7)
Ireland	birthplace	23	3	(13.0)	1	(4.3)	1	(4.3)	1	(4.3)	-	-
Italy	birthplace	385	43	(11.2)	24	(6.2)	20	(5.2)	8	(2.1)	39	(10.1)
Malta	citizenship	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Portugal	birthplace	148	13	(8.8)	5	(3.4)	5	(3.4)	3	(2.0)	20	(13.5)
Slovakia	birthplace	5	1	(20.0)	1	(20.0)	1	(20.0)	0	(0.0)	1	(20.0)
Spain	birthplace	278	36	(12.9)	23	(8.3)	19	(6.8)	3	(1.1)	16	(5.8)
Andorra	citizenship	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
<b>Centre</b>												
Albania	-	1	1	(100.0)	1	(100.0)	1	(100.0)	0	(0.0)	0	(0.0)
Bulgaria	citizenship	0	0	-	0	-	0	-	0	-	0	-
Macedonia, FYR	-	0	0	-	0	-	0	-	0	-	0	-
Serbia & Montenegro	-	0	0	-	0	-	0	-	0	-	0	-
<b>East</b>												
Armenia	birthplace	0	0	-	0	-	0	-	-	-	-	-
Azerbaijan	citizenship	0	0	-	0	-	0	-	0	-	0	-
Kazakhstan	-	0	0	-	0	-	0	-	0	-	0	-
Kyrgyzstan	citizenship	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

§ Excluding Rep. Srpska

Table 27. Combined drug resistance by area of origin, EU &amp; West, 2003

Area of report Area of origin	Cases with DST results	Cases resistant to at least:					
		Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)	
		N	(%)	N	(%)	N	(%)
<b>A) Baltic States</b>							
EU & West *	0	0	-	0	-	0	-
Centre	0	0	-	0	-	0	-
Former Soviet Union †	3 034	1 030	(33.9)	597	(19.7)	591	(19.5)
Rest of Asia	16	4	(25.0)	3	(18.8)	3	(18.8)
Africa	0	0	-	0	-	0	-
Other	0	0	-	0	-	0	-
Unknown	0	0	-	0	-	0	-
<b>Subtotal Baltic States</b>	<b>3 050</b>	<b>1 034</b>	<b>(33.9)</b>	<b>600</b>	<b>(19.7)</b>	<b>594</b>	<b>(19.5)</b>
<b>B) Other countries ‡</b>							
EU & West *	6 121	225	(3.7)	48	(0.8)	29	(0.5)
Centre	931	60	(6.4)	12	(1.3)	9	(1.0)
Former Soviet Union †	321	93	(29.0)	48	(15.0)	48	(15.0)
Rest of Asia	2 224	242	(10.9)	67	(3.0)	62	(2.8)
Africa	2 061	183	(8.9)	45	(2.2)	36	(1.7)
Other	197	21	(10.7)	4	(2.0)	1	(0.5)
Unknown	694	50	(7.2)	14	(2.0)	12	(1.7)
<b>Subtotal other countries</b>	<b>12 549</b>	<b>874</b>	<b>(7.0)</b>	<b>238</b>	<b>(1.9)</b>	<b>197</b>	<b>(1.6)</b>
<b>Total EU &amp; West</b>	<b>15 599</b>	<b>1 908</b>	<b>(12.2)</b>	<b>838</b>	<b>(5.4)</b>	<b>791</b>	<b>(5.1)</b>

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

† The 12 countries in the East plus the Baltic States

‡ 14 countries with individual data on drug resistance (group A): Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Iceland, Luxembourg, Netherlands, Slovenia, Sweden, Switzerland and United Kingdom

**Table 28. Characteristics of treatment outcome monitoring (TOM) and treatment success, WHO European Region, 2002**

Geographic area Country	Geographic coverage	Type of data	Type of cohort	Total definite pulmonary cases			
				Notified in TOM areas *	Included in TOM cohorts		Treatment success (%)
					N	(%) †	
<b>Group A) Complete cohorts with nationwide coverage</b>							
<b>EU &amp; West</b>							
Austria	national	individual	culture	597	597	-	77%
Belgium	national	individual	culture	818	818	-	64%
Cyprus	national	individual	culture	13	13	-	85%
Czech Republic	national	individual	culture	622	622	-	68%
Denmark	national	individual	culture	234	234	-	78%
Estonia	national	individual	culture	500	500	-	59%
Germany	national	individual	culture	4 040	4 040	-	67%
Hungary	national	individual	culture	904	904	-	57%
Ireland	national	individual	culture	205	205	-	73%
Latvia	national	individual	culture	1 241	1 241	-	70%
Lithuania	national	aggregate	culture	1 487	1 487	100%	63%
Malta	national	individual	culture	12	12	-	92%
Netherlands	national	individual	culture	526	526	-	84%
Poland	national	individual	culture	5 372	5 372	-	75%
Portugal	national	individual	culture	2 375	2 375	-	84%
Slovakia	national	individual	culture	450	450	-	84%
Slovenia	national	individual	culture	261	261	-	81%
Sweden	national	individual	culture	230	230	-	79%
United Kingdom	national ‡	aggregate	culture	2 729	2 717	100%	62%
Andorra	national	individual	culture	2	2	-	100%
Iceland	national	individual	culture	5	5	-	100%
Israel	national	aggregate	culture	275	275	100%	81%
Norway	national	individual	culture	119	119	-	82%
<b>Centre</b>							
Albania	national	aggregate	smear	253	253	100%	83%
Bosnia & Herzegovina	Fed. of Bosnia	aggregate	culture	1 030	1 135	110%	94%
Bulgaria	national	aggregate	mixed §	1 380	1 380	100%	82%
Macedonia, FYR	national	aggregate	smear	240	240	100%	78%
Romania	national	individual	culture	18 547	18 547	-	70%
<b>East</b>							
Georgia	national	aggregate	smear	1 638	1 638	100%	54%
Kazakhstan	national	aggregate	smear	12 507	12 507	100%	72%
Kyrgyzstan	national	aggregate	smear	1 945	2 103	108%	79%
Turkmenistan	national	aggregate	smear	1 796	1 783	99%	71%
<b>Group B) Incomplete cohorts or partial geographic coverage</b>							
<b>EU &amp; West</b>							
Italy	selected Centres	aggregate	culture	-	270	-	84%
<b>Centre</b>							
Croatia	national	individual	culture	785	372	47%	70%
Serbia & Montenegro	Belgrade region	aggregate	culture	-	372	-	87%
Turkey ¶	national	aggregate	smear	5 214	4 245	81%	79%
<b>East</b>							
Armenia	DOTS areas	aggregate	smear	573	357	62%	71%
Azerbaijan	national	aggregate	smear	1 981	1 236	62%	80%
Moldova, Rep. of	DOTS areas	aggregate	smear	-	1 009	-	50%
Russian Federation	DOTS areas	aggregate	smear	6 142	6 133	100%	63%
Tajikistan ¶	DOTS areas	aggregate	smear	100	107	107%	79%
Uzbekistan	DOTS areas	aggregate	smear	3 211	3 063	95%	77%

\* Notifications in 2002 may differ from those shown elsewhere in this report

† Not shown for countries providing complete individual datasets with outcome data (100% by definition); may exceed 100% in countries providing aggregate data, due to updated information on culture or smear results

‡ Excluding Scotland

§ Smear and/or culture positive

|| Retreated cases other than relapses not included

¶| New cases only

**Table 29. Treatment outcome, new definite pulmonary tuberculosis cases, WHO European Region, 2002**

Geographic area Country	Cohort	Total included		Success			Died		Failed	Defaulted	Transferred	Still on	
				Cured	Treatment completed	Subtotal success						treatment	Unknown
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
<b>Group A) Complete cohorts with nationwide coverage</b>													
<b>EU &amp; West</b>													
Austria	culture	550	0 (0)	419 (76)	419 (76)	64 (12)	0 (0)	36 (7)	0 (0)	0 (0)	0 (0)	31 (6)	
Belgium	culture	617	133 (22)	269 (44)	402 (65)	64 (10)	3 (0)	11 (2)	0 (0)	17 (3)	120 (19)		
Cyprus	culture	11	6 (55)	3 (27)	9 (82)	1 (9)	0 (0)	0 (0)	1 (9)	0 (0)	0 (0)		
Czech Republic	culture	601	331 (55)	83 (14)	414 (69)	34 (6)	1 (0)	11 (2)	9 (1)	18 (3)	114 (19)		
Denmark	culture	217	85 (39)	84 (39)	169 (78)	16 (7)	1 (0)	8 (4)	8 (4)	0 (0)	15 (7)		
Estonia	culture	346	226 (65)	9 (3)	235 (68)	30 (9)	4 (1)	43 (12)	1 (0)	33 (10)	0 (0)		
Germany	culture	2 607	1 066 (41)	786 (30)	1 852 (71)	267 (10)	5 (0)	51 (2)	0 (0)	138 (5)	294 (11)		
Hungary	culture	734	308 (42)	125 (17)	433 (59)	54 (7)	63 (9)	40 (5)	23 (3)	119 (16)	2 (0)		
Ireland	culture	161	5 (3)	116 (72)	121 (75)	13 (8)	2 (1)	0 (0)	0 (0)	2 (1)	23 (14)		
Latvia	culture	943	718 (76)	24 (3)	742 (79)	64 (7)	10 (1)	48 (5)	2 (0)	77 (8)	0 (0)		
Lithuania	culture	1 001	738 (74)	0 (0)	738 (74)	91 (9)	39 (4)	95 (9)	2 (0)	36 (4)	0 (0)		
Malta	culture	12	0 (0)	11 (92)	11 (92)	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)		
Netherlands	culture	442	69 (16)	312 (71)	381 (86)	21 (5)	0 (0)	31 (7)	9 (2)	0 (0)	0 (0)		
Poland	culture	4 587	3 046 (66)	425 (9)	3 471 (76)	236 (5)	41 (1)	294 (6)	27 (1)	26 (1)	492 (11)		
Portugal	culture	2 114	207 (10)	1 587 (75)	1 794 (85)	106 (5)	1 (0)	86 (4)	77 (4)	50 (2)	0 (0)		
Slovakia	culture	361	139 (39)	160 (44)	299 (83)	61 (17)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)		
Slovenia	culture	231	56 (24)	132 (57)	188 (81)	27 (12)	0 (0)	15 (6)	1 (0)	0 (0)	0 (0)		
Sweden	culture	208	0 (0)	166 (80)	166 (80)	16 (8)	0 (0)	4 (2)	6 (3)	13 (6)	3 (1)		
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	2	2 (100)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)		
Iceland	culture	5	1 (20)	4 (80)	5 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)		
Israel	culture	257	184 (72)	23 (9)	207 (81)	27 (11)	1 (0)	5 (2)	14 (5)	3 (1)	0 (0)		
Norway	culture	110	62 (56)	30 (27)	92 (84)	6 (5)	0 (0)	6 (5)	6 (5)	0 (0)	0 (0)		
<b>Centre</b>													
Albania	smear	225	98 (44)	91 (40)	189 (84)	3 (1)	2 (1)	15 (7)	1 (0)	0 (0)	15 (7)		
Bosnia & Herzegovina *	culture	1 036	919 (89)	69 (7)	988 (95)	8 (1)	16 (2)	9 (1)	10 (1)	5 (0)	0 (0)		
Bulgaria	mixed †	1 007	846 (84)	0 (0)	846 (84)	42 (4)	50 (5)	49 (5)	20 (2)	0 (0)	0 (0)		
Macedonia, FYR	smear	200	114 (57)	47 (24)	161 (81)	3 (2)	1 (1)	29 (15)	1 (1)	0 (0)	5 (3)		
Romania	culture	13 116	7 785 (59)	2 578 (20)	10 363 (79)	548 (4)	701 (5)	981 (7)	98 (1)	52 (0)	373 (3)		
<b>East</b>													
Georgia	smear	987	347 (35)	296 (30)	643 (65)	15 (2)	29 (3)	173 (18)	127 (13)	0 (0)	0 (0)		
Kazakhstan	smear	9 440	7 014 (74)	123 (1)	7 137 (76)	438 (5)	1 030 (11)	582 (6)	193 (2)	0 (0)	60 (1)		
Kyrgyzstan	smear	1 476	1 158 (78)	51 (3)	1 209 (82)	65 (4)	106 (7)	69 (5)	27 (2)	0 (0)	0 (0)		
Turkmenistan	smear	1 254	875 (70)	50 (4)	925 (74)	38 (3)	93 (7)	28 (2)	8 (1)	0 (0)	162 (13)		
<b>Group B) Incomplete cohorts or partial geographic coverage</b>													
<b>EU &amp; West</b>													
Italy	culture	249	70 (28)	145 (58)	215 (86)	3 (1)	0 (0)	17 (7)	8 (3)	0 (0)	6 (2)		
<b>Centre</b>													
Croatia	culture	327	203 (62)	31 (9)	234 (72)	36 (11)	3 (1)	26 (8)	10 (3)	9 (3)	9 (3)		
Serbia & Montenegro	culture	335	254 (76)	43 (13)	297 (89)	19 (6)	2 (1)	13 (4)	1 (0)	1 (0)	2 (1)		
Turkey	smear	4 245	0 (0)	3 348 (79)	3 348 (79)	123 (3)	0 (0)	179 (4)	173 (4)	422 (10)	0 (0)		
<b>East</b>													
Armenia	smear	295	206 (70)	27 (9)	233 (79)	12 (4)	9 (3)	7 (2)	10 (3)	0 (0)	24 (8)		
Azerbaijan	smear	1 169	925 (79)	25 (2)	950 (81)	23 (2)	13 (1)	108 (9)	39 (3)	36 (3)	0 (0)		
Moldova, Rep. of	smear	556	294 (53)	46 (8)	340 (61)	46 (8)	58 (10)	87 (16)	21 (4)	2 (0)	2 (0)		
Russian Federation	smear	5 171	3 305 (64)	142 (3)	3 447 (67)	668 (13)	469 (9)	374 (7)	213 (4)	0 (0)	0 (0)		
Tajikistan	smear	107	84 (79)	0 (0)	84 (79)	5 (5)	12 (11)	5 (5)	1 (1)	0 (0)	0 (0)		
Uzbekistan	smear	2 544	1 667 (66)	363 (14)	2 030 (80)	127 (5)	203 (8)	184 (7)	0 (0)	0 (0)	0 (0)		

\* Excluding Rep. Srpska (no data)

† Smear and/or culture positive

**Table 30. Treatment outcome, retreated definite pulmonary tuberculosis cases, WHO European Region, 2002**

Geographic area Country	Cohort	Total included	Success			Died N (%)	Failed N (%)	Defaulted N (%)	Transferred N (%)	Still on	
			Cured N (%)	Treatment completed N (%)	Subtotal success N (%)					treatment N (%)	Unknown N (%)
<b>Group A) Complete cohorts with nationwide coverage</b>											
Austria	culture	46	0 (0)	38 (83)	38 (83)	3 (7)	0 (0)	3 (7)	0 (0)	0 (0)	2 (4)
Belgium	culture	67	21 (31)	28 (42)	49 (73)	5 (7)	0 (0)	0 (0)	0 (0)	4 (6)	9 (13)
Cyprus	culture	2	2 (100)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Czech Republic	culture	21	8 (38)	2 (10)	10 (48)	3 (14)	0 (0)	1 (5)	2 (10)	2 (10)	3 (14)
Denmark	culture	17	3 (18)	11 (65)	14 (82)	1 (6)	0 (0)	1 (6)	0 (0)	0 (0)	1 (6)
Estonia	culture	154	56 (36)	4 (3)	60 (39)	11 (7)	10 (6)	26 (17)	0 (0)	47 (31)	0 (0)
Germany	culture	293	112 (38)	76 (26)	188 (64)	32 (11)	1 (0)	10 (3)	0 (0)	22 (8)	40 (14)
Hungary	culture	157	59 (38)	14 (9)	73 (46)	19 (12)	30 (19)	7 (4)	4 (3)	23 (15)	1 (1)
Ireland	culture	17	0 (0)	10 (59)	10 (59)	2 (12)	0 (0)	0 (0)	0 (0)	0 (0)	5 (29)
Latvia	culture	298	116 (39)	5 (2)	121 (41)	36 (12)	6 (2)	19 (6)	1 (0)	115 (39)	0 (0)
Lithuania	culture	486	204 (42)	0 (0)	204 (42)	75 (15)	44 (9)	107 (22)	0 (0)	56 (12)	0 (0)
Malta	culture	0	-	-	-	-	-	-	-	-	-
Netherlands	culture	25	7 (28)	11 (44)	18 (72)	1 (4)	0 (0)	6 (24)	0 (0)	0 (0)	0 (0)
Poland	culture	724	432 (60)	55 (8)	487 (67)	59 (8)	11 (2)	77 (11)	6 (1)	16 (2)	68 (9)
Portugal	culture	261	26 (10)	175 (67)	201 (77)	17 (7)	0 (0)	23 (9)	6 (2)	14 (5)	0 (0)
Slovakia	culture	89	48 (54)	32 (36)	80 (90)	8 (9)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
Slovenia	culture	30	9 (30)	14 (47)	23 (77)	4 (13)	0 (0)	2 (7)	0 (0)	1 (3)	0 (0)
Sweden	culture	22	0 (0)	15 (68)	15 (68)	1 (5)	0 (0)	0 (0)	1 (5)	5 (23)	0 (0)
United Kingdom	culture	229	0 (0)	124 (54)	124 (54)	25 (11)	2 (1)	18 (8)	2 (1)	9 (4)	49 (21)
Andorra	culture	0	-	-	-	-	-	-	-	-	-
Iceland	culture	0	-	-	-	-	-	-	-	-	-
Israel	culture	18	13 (72)	2 (11)	15 (83)	1 (6)	0 (0)	0 (0)	2 (11)	0 (0)	0 (0)
Norway	culture	8	4 (50)	2 (25)	6 (75)	1 (13)	0 (0)	1 (13)	0 (0)	0 (0)	0 (0)
<b>Centre</b>											
Albania	smear	28	10 (36)	11 (39)	21 (75)	1 (4)	0 (0)	4 (14)	0 (0)	0 (0)	2 (7)
Bosnia & Herzegovina *	culture	99	61 (62)	19 (19)	80 (81)	2 (2)	2 (2)	1 (1)	3 (3)	11 (11)	0 (0)
Bulgaria	mixed †	373	240 (64)	45 (12)	285 (76)	14 (4)	34 (9)	33 (9)	7 (2)	0 (0)	0 (0)
Macedonia, FYR	smear	40	13 (33)	13 (33)	26 (65)	3 (8)	1 (3)	8 (20)	0 (0)	2 (5)	0 (0)
Romania	culture	5 431	1 695 (31)	848 (16)	2 543 (47)	457 (8)	750 (14)	880 (16)	43 (1)	372 (7)	386 (7)
<b>East</b>											
Georgia	smear	651	160 (25)	73 (11)	233 (36)	30 (5)	49 (8)	132 (20)	58 (9)	0 (0)	149 (23)
Kazakhstan	smear	3 067	1 836 (60)	58 (2)	1 894 (62)	320 (10)	431 (14)	312 (10)	86 (3)	0 (0)	24 (1)
Kyrgyzstan	smear	627	275 (44)	169 (27)	444 (71)	48 (8)	67 (11)	57 (9)	11 (2)	0 (0)	0 (0)
Turkmenistan	smear	529	221 (42)	112 (21)	333 (63)	63 (12)	87 (16)	43 (8)	3 (1)	0 (0)	0 (0)
<b>Group B) Incomplete cohorts or partial geographic coverage</b>											
<b>EU &amp; West</b>											
Italy	culture	21	6 (29)	7 (33)	13 (62)	0 (0)	0 (0)	4 (19)	3 (14)	0 (0)	1 (5)
<b>Centre</b>											
Croatia	culture	45	23 (51)	4 (9)	27 (60)	4 (9)	1 (2)	7 (16)	1 (2)	3 (7)	2 (4)
Serbia & Montenegro	culture	37	21 (57)	4 (11)	25 (68)	8 (22)	0 (0)	4 (11)	0 (0)	0 (0)	0 (0)
Turkey	-	-	-	-	-	-	-	-	-	-	-
<b>East</b>											
Armenia	smear	62	16 (26)	3 (5)	19 (31)	4 (6)	12 (19)	2 (3)	2 (3)	0 (0)	23 (37)
Azerbaijan	smear	67	38 (57)	5 (7)	43 (64)	5 (7)	9 (13)	10 (15)	0 (0)	0 (0)	0 (0)
Moldova, Rep. of	smear	453	138 (30)	29 (6)	167 (37)	60 (13)	92 (20)	99 (22)	21 (5)	10 (2)	4 (1)
Russian Federation	smear	962	354 (37)	90 (9)	444 (46)	111 (12)	246 (26)	83 (9)	78 (8)	0 (0)	0 (0)
Tajikistan	-	-	-	-	-	-	-	-	-	-	-
Uzbekistan	smear	519	198 (38)	120 (23)	318 (61)	51 (10)	60 (12)	90 (17)	0 (0)	0 (0)	0 (0)

\* Excluding Rep. Srpska (no data)

† Smear and/or culture positive

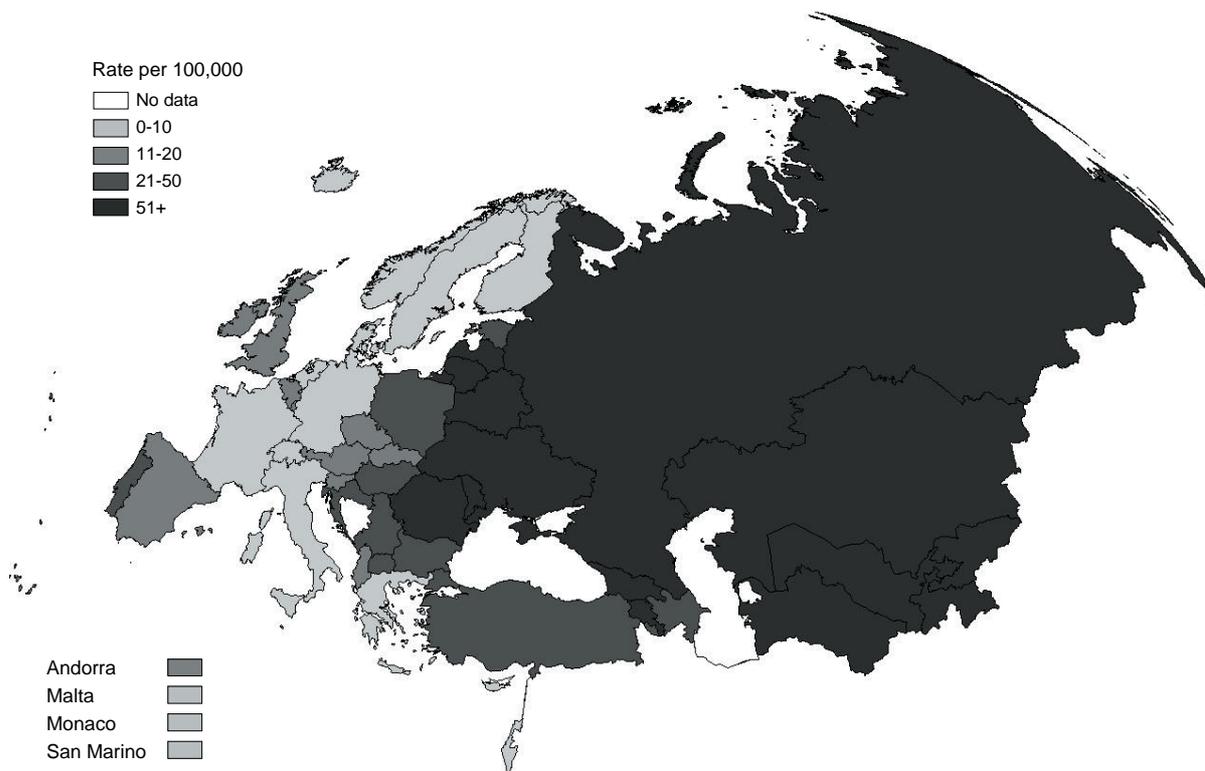
**Table 31. Treatment success and death by age group, new pulmonary culture positive tuberculosis cases, WHO European Region, 2002\***

Geographic area Country	0-14 years			15-44 years			45-64 years			65+ years		
	Total included	Success		Total included	Success		Total included	Success		Total included	Success	
		N	(%)		N	(%)		N	(%)		N	(%)
<b>A) Treatment success</b>												
<b>EU &amp; West</b>												
Austria	15	12	(80)	251	200	(80)	172	130	(76)	112	77	(69)
Belgium	25	20	(80)	313	224	(72)	117	79	(68)	162	79	(49)
Cyprus	0	0	-	6	5	(83)	2	2	(100)	3	2	(67)
Czech Republic	0	0	-	177	138	(78)	227	166	(73)	197	110	(56)
Denmark	13	9	(69)	133	110	(83)	50	37	(74)	21	13	(62)
Estonia	0	0	-	188	129	(69)	123	85	(69)	35	21	(60)
Germany	69	53	(77)	1 195	934	(78)	697	492	(71)	644	372	(58)
Hungary	4	3	(75)	282	168	(60)	313	178	(57)	135	84	(62)
Ireland	3	2	(67)	89	74	(83)	39	28	(72)	30	17	(57)
Latvia	4	4	(100)	559	452	(81)	302	227	(75)	78	59	(76)
Malta	0	0	-	7	7	(100)	4	3	(75)	1	1	(100)
Netherlands	12	12	(100)	301	266	(88)	76	66	(87)	53	37	(70)
Poland	19	16	(84)	1 701	1351	(79)	1 699	1242	(73)	1 167	861	(74)
Portugal	19	17	(89)	1 326	1130	(85)	473	417	(88)	286	223	(78)
Slovakia	0	0	-	116	107	(92)	123	99	(80)	122	93	(76)
Slovenia	1	1	(100)	95	82	(86)	73	59	(81)	62	46	(74)
Sweden	6	6	(100)	107	91	(85)	39	29	(74)	56	40	(71)
Andorra	0	0	-	2	2	(100)	0	0	-	0	0	-
Iceland	0	0	-	4	4	(100)	1	1	(100)	0	0	-
Norway	0	0	-	73	63	(86)	17	12	(71)	20	17	(85)
<b>Total EU &amp; West</b>	<b>190</b>	<b>155</b>	<b>(82)</b>	<b>6 925</b>	<b>5 537</b>	<b>(80)</b>	<b>4 547</b>	<b>3 352</b>	<b>(74)</b>	<b>3 184</b>	<b>2 152</b>	<b>(68)</b>
<b>Centre</b>												
Romania	208	174	(84)	7 539	6149	(82)	4 172	3181	(76)	1 174	844	(72)
<b>B) Death</b>												
<b>EU &amp; West</b>												
Austria	15	0	(0)	251	5	(2)	172	25	(15)	112	34	(30)
Belgium	25	1	(4)	313	2	(1)	117	8	(7)	162	53	(33)
Cyprus	0	0	-	6	0	(0)	2	0	(0)	3	1	(33)
Czech Republic	0	0	-	177	1	(1)	227	14	(6)	197	19	(10)
Denmark	13	0	(0)	133	2	(2)	50	8	(16)	21	6	(29)
Estonia	0	0	-	188	8	(4)	123	11	(9)	35	11	(31)
Germany	69	1	(1)	1 195	28	(2)	697	67	(10)	644	171	(27)
Hungary	4	0	(0)	282	8	(3)	313	18	(6)	135	28	(21)
Ireland	3	0	(0)	89	3	(3)	39	3	(8)	30	7	(23)
Latvia	4	0	(0)	559	13	(2)	302	34	(11)	78	17	(22)
Malta	0	0	-	7	0	(0)	4	1	(25)	1	0	(0)
Netherlands	12	0	(0)	301	1	(0)	76	7	(9)	53	13	(25)
Poland	19	0	(0)	1 701	18	(1)	1 699	82	(5)	1 167	136	(12)
Portugal	19	0	(0)	1 326	38	(3)	473	22	(5)	286	46	(16)
Slovakia	0	0	-	116	8	(7)	123	24	(20)	122	29	(24)
Slovenia	1	0	(0)	95	5	(5)	73	7	(10)	62	15	(24)
Sweden	6	0	(0)	107	0	(0)	39	4	(10)	56	12	(21)
Andorra	0	0	-	2	0	(0)	0	0	-	0	0	-
Iceland	0	0	-	4	0	(0)	1	0	(0)	0	0	-
Norway	0	0	-	73	2	(3)	17	1	(6)	20	3	(15)
<b>Total EU &amp; West</b>	<b>190</b>	<b>2</b>	<b>(1)</b>	<b>6 925</b>	<b>142</b>	<b>(2)</b>	<b>4 547</b>	<b>336</b>	<b>(7)</b>	<b>3 184</b>	<b>601</b>	<b>(19)</b>
<b>Centre</b>												
Romania	208	5	(2)	7 539	129	(2)	4 172	268	(6)	1 174	143	(12)

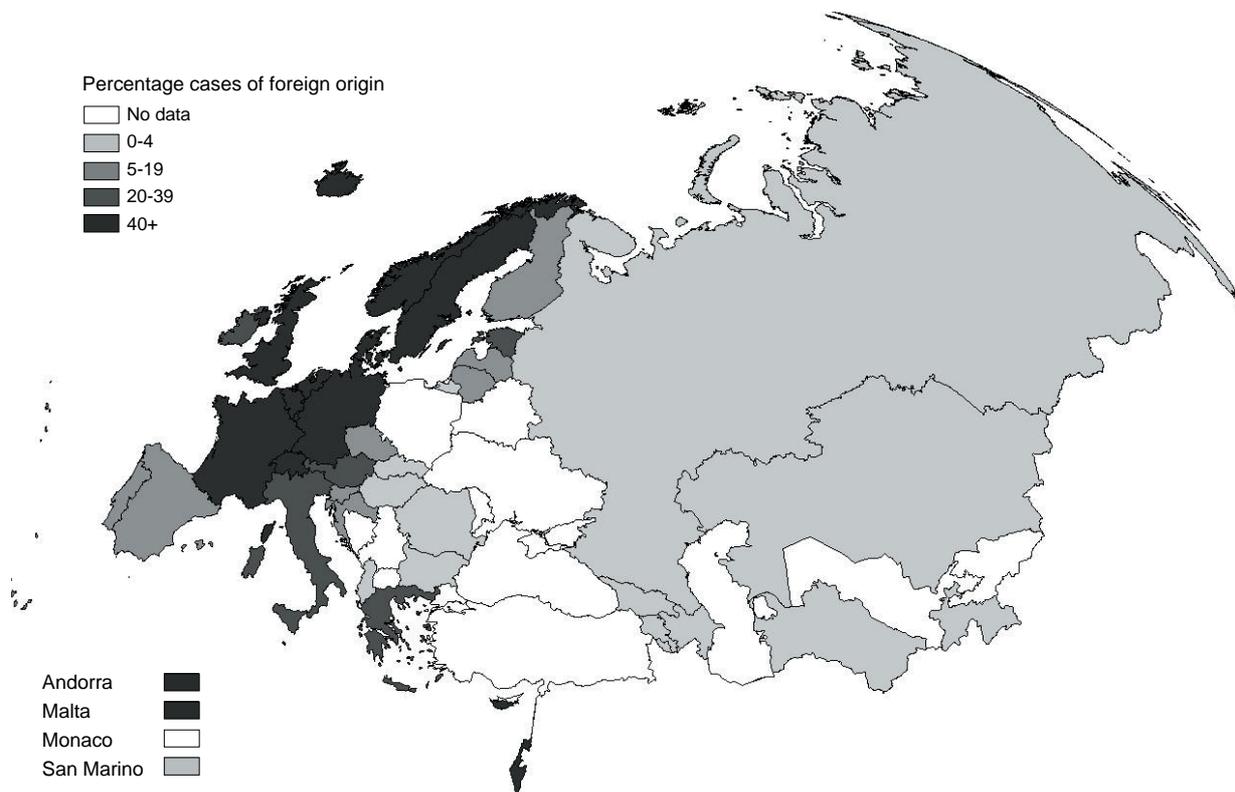
\* Countries in group A providing individual data (excluding 36 cases with age unknown)

## 4. MAPS AND FIGURES

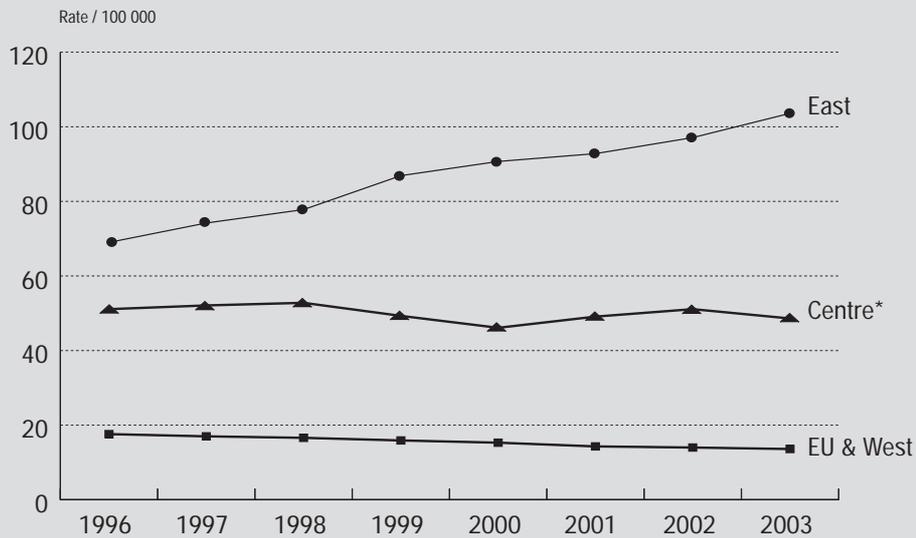
Map 1. Tuberculosis notification rates per 100 000 population, WHO European Region, 2003



Map 2. Proportion of tuberculosis cases of foreign origin, WHO European Region, 2003

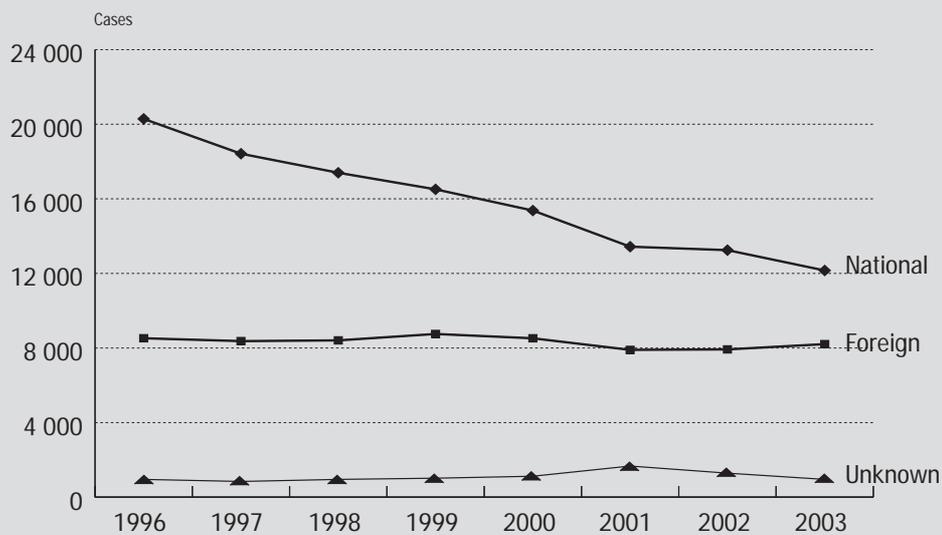


**Figure 3. Tuberculosis notification rates by geographic area, WHO European Region, 1996-2003**



\* excluding Bosnia & Herzegovina

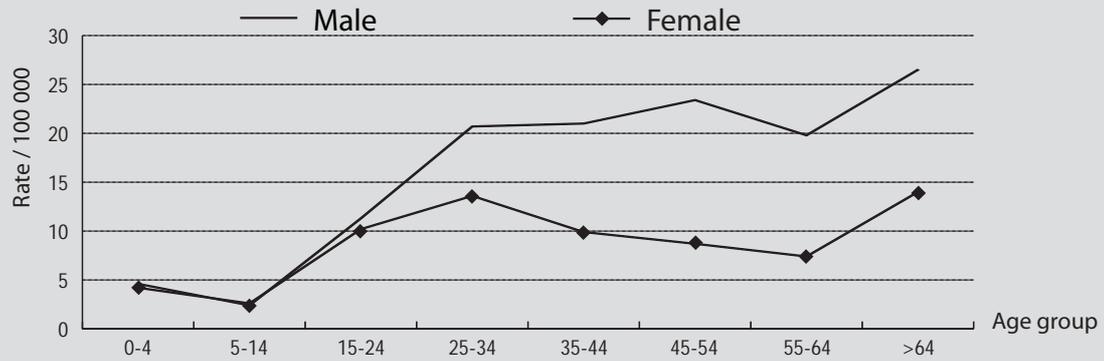
**Figure 4. Tuberculosis cases by geographic origin, EU & West\*, 1996-2003**



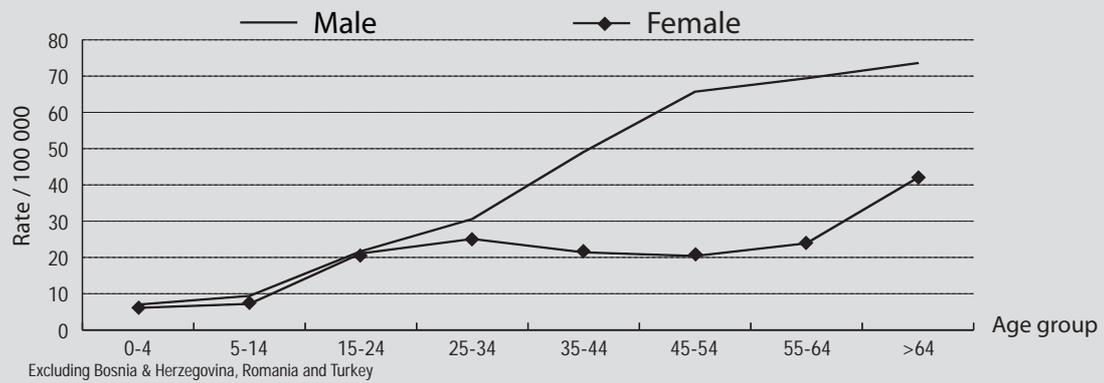
\* Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Iceland, Israel, Netherlands, Norway, Slovakia, Slovenia, Sweden and Switzerland

Figure 5. TB notification rates by age group and sex, WHO European Region, 2003

EU & West



Centre



East

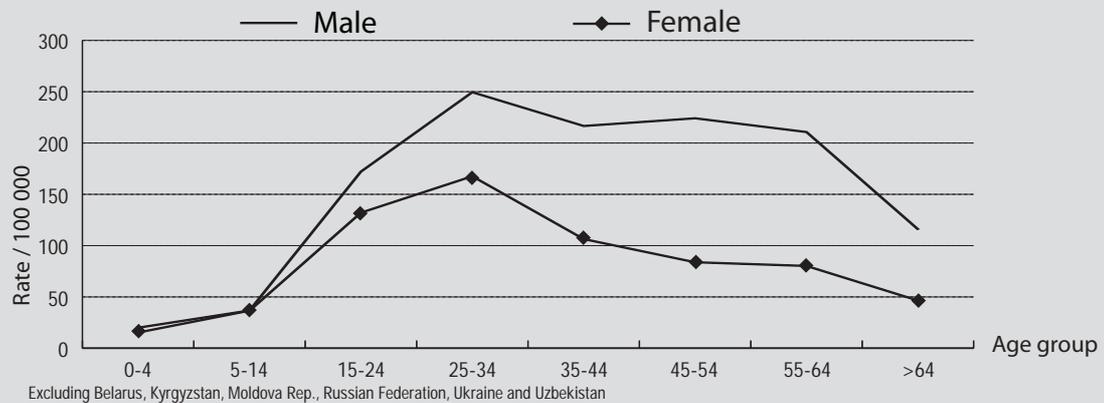
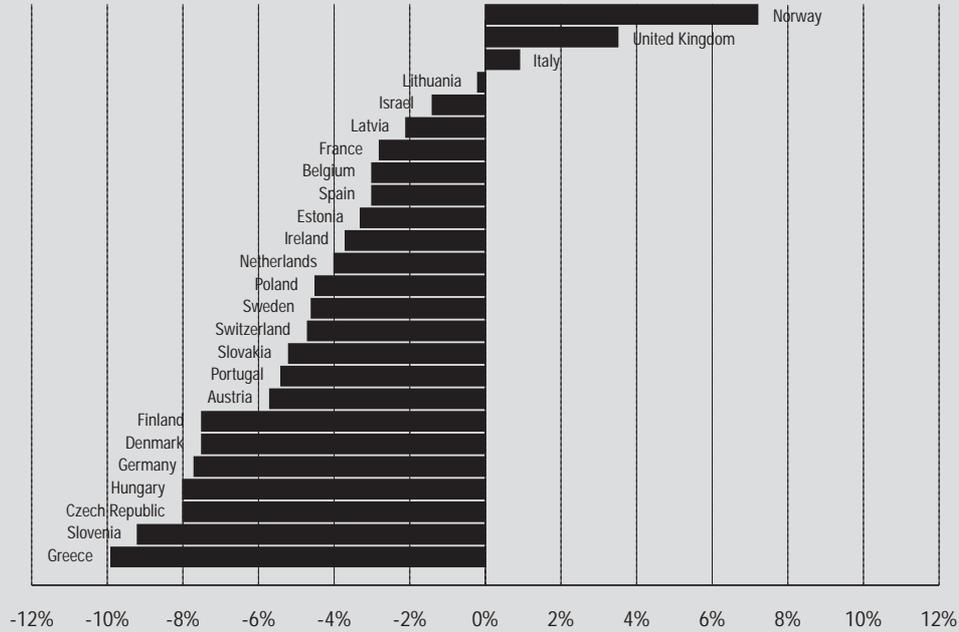
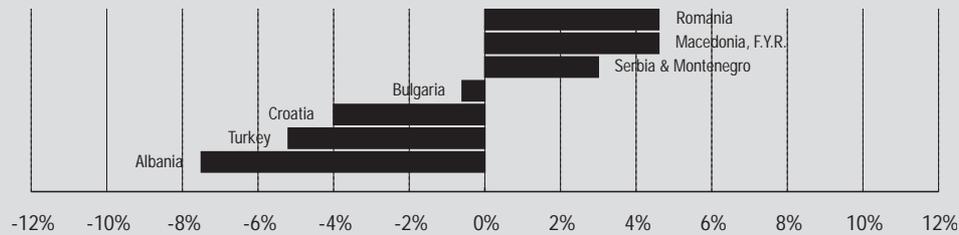


Figure 6. Mean annual percentage change in TB notification rates, 1999-2003

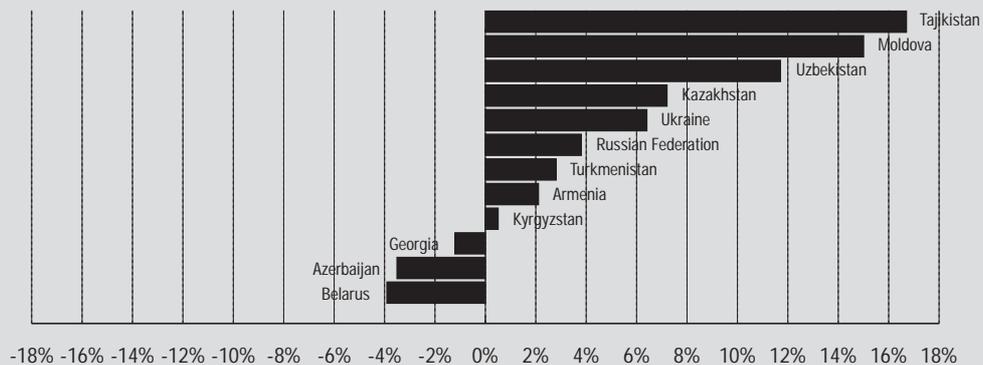
EU & West



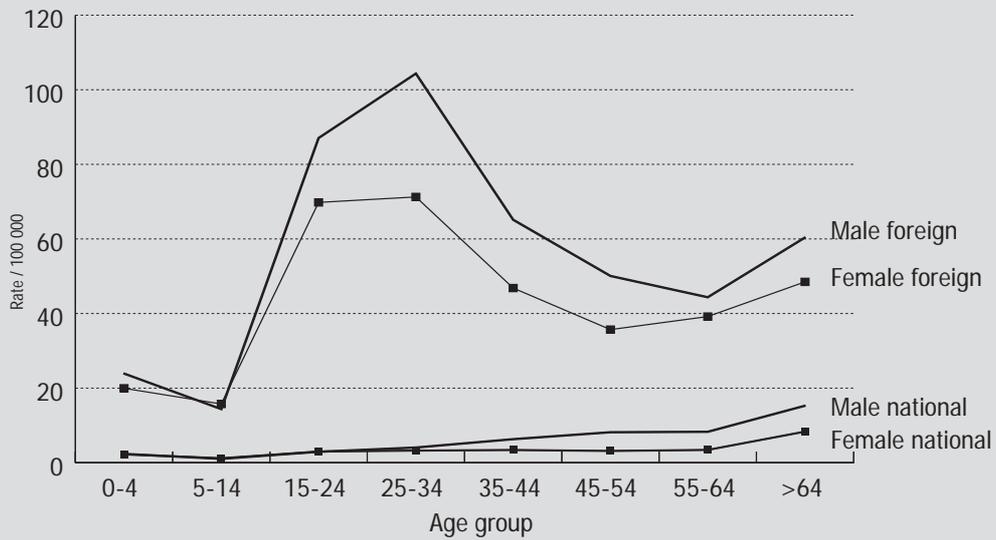
Centre



East

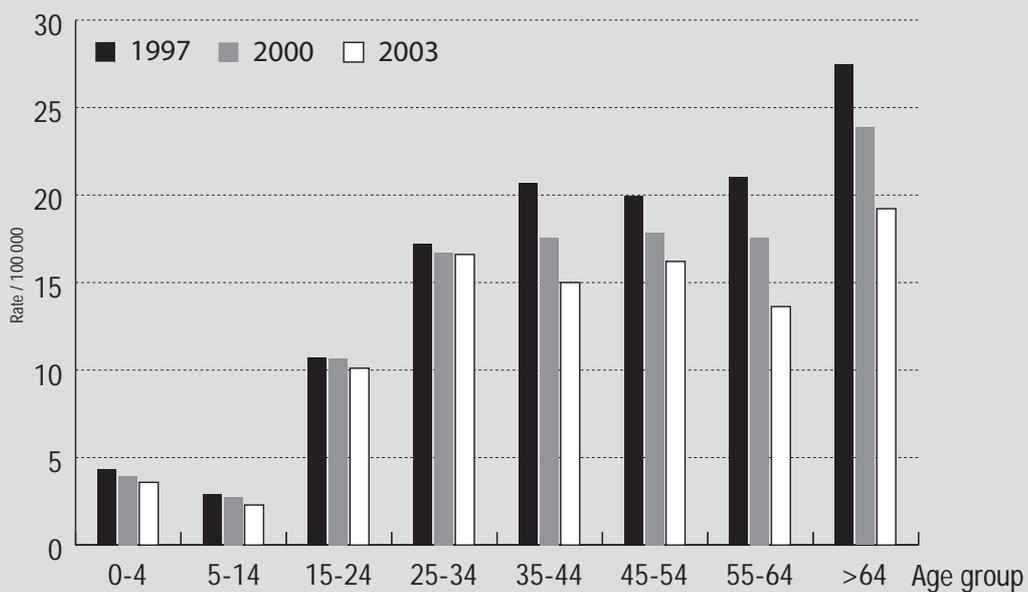


**Figure 7. Tuberculosis notification rates by age group, sex and geographic origin, EU & West\*, 2003**



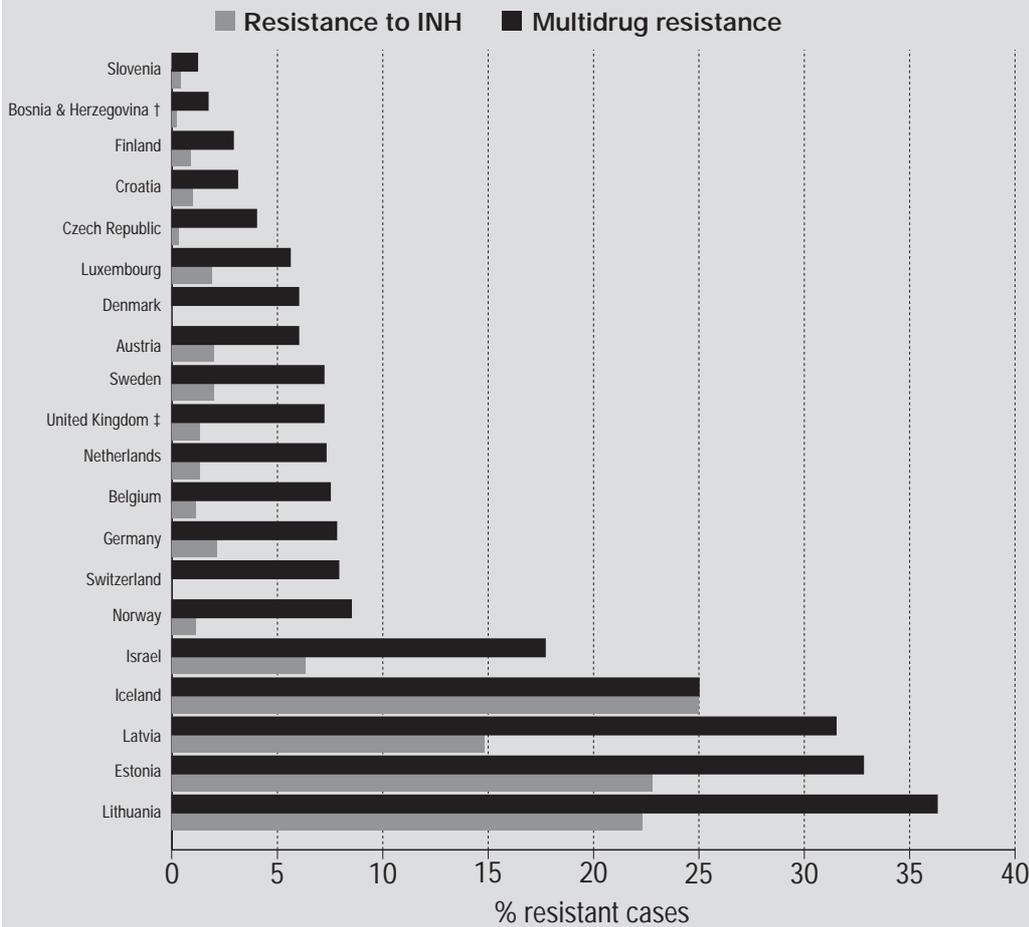
\* Countries with population estimates available by geographic origin: Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Netherlands, Norway, Slovenia, Sweden, Switzerland, United Kingdom

**Figure 8. Tuberculosis notification rates by age group, EU & West\*, 1997- 2003**



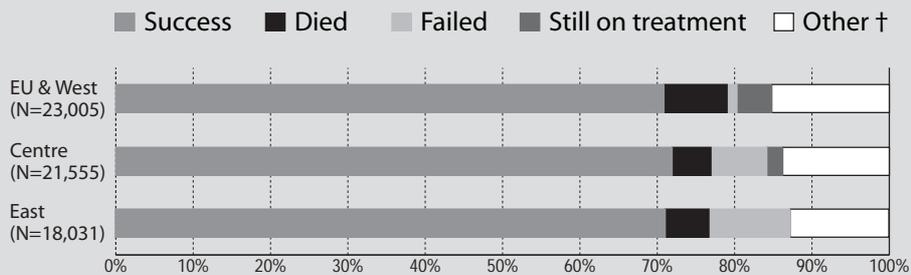
\* Excluding Andorra, Cyprus, Greece, Ireland, Monaco, San Marino and Spain, and 1,190 cases without data on age

**Figure 9. Drug resistance, all TB cases (combined resistance), WHO European Region, 2003\***



\* countries providing nationwide representative data (group A)  
 † excluding Republika Srpska  
 ‡ excluding Scotland

**Figure 10. Treatment outcome by geographic area, all definite pulmonary tuberculosis cases, WHO European Region, 2002\***



23 countries in the EU & West, 5 in the Centre and 4 in the East with complete, nationwide cohorts  
 † Defaulted, transferred, unknown

## 5. COUNTRY PROFILES

Albania	63	Latvia	89
Andorra	64	Lithuania	90
Armenia	65	Luxembourg	91
Austria	66	Macedonia, F.Y.R. of	92
Azerbaijan	67	Malta	93
Belarus	68	Moldova, Republic of	94
Belgium	69	Monaco	95
Bosnia & Herzegovina	70	The Netherlands	96
Bulgaria	71	Norway	97
Croatia	72	Poland	98
Cyprus	73	Portugal	99
Czech Republic	74	Romania	100
Denmark	75	Russian Federation	101
Estonia	76	San Marino	102
Finland	77	Serbia & Montenegro	103
France	78	Slovakia	104
Georgia	79	Slovenia	105
Germany	80	Spain	106
Greece	81	Sweden	107
Hungary	82	Switzerland	108
Iceland	83	Tajikistan	109
Ireland	84	Turkey	110
Israel	85	Turkmenistan	111
Italy	86	Ukraine	112
Kazakhstan	87	United Kingdom	113
Kyrgyzstan	88	Uzbekistan	114



### Tuberculosis case notifications, 2003

Type of data provided	Individual
Total number of cases	561
Notification rate per 100 000	17.7
Sex ratio (M:F)	1.6
Median age-group, nationals	35-44 years
Median age-group, non-nationals	25-34 years
Foreign born	1 (0.2%)
New (never-treated)	529 (94.3%)
Culture positive	237 (42.2%)
Pulmonary	362 (64.5%)
of which sputum smear positive	232 (64.1%)

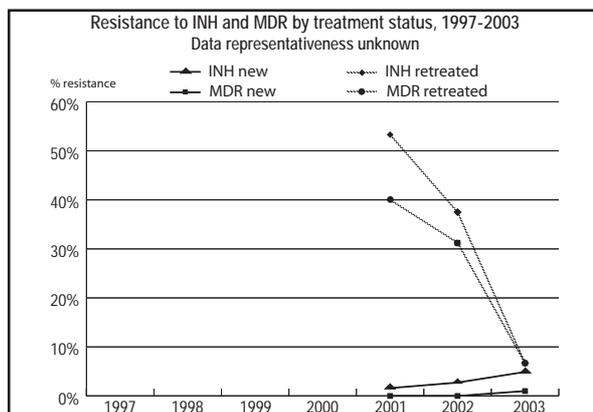
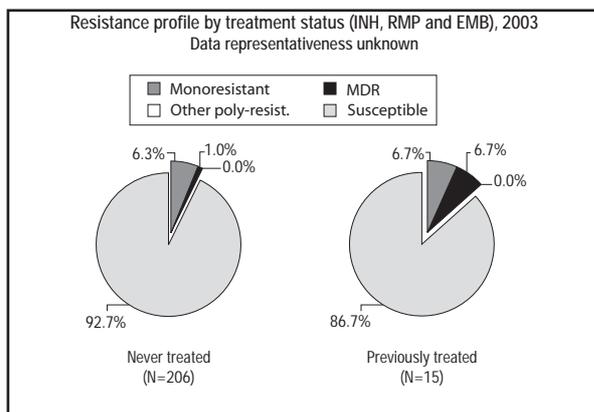
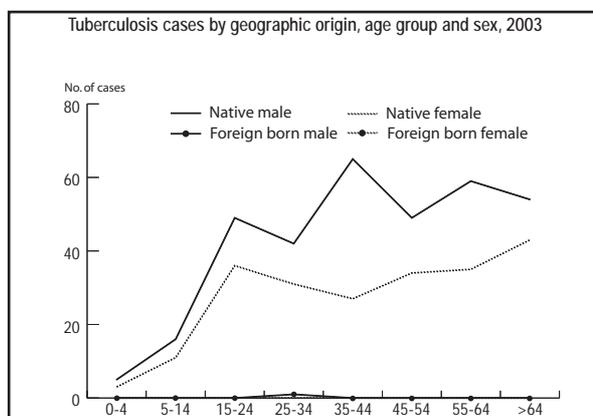
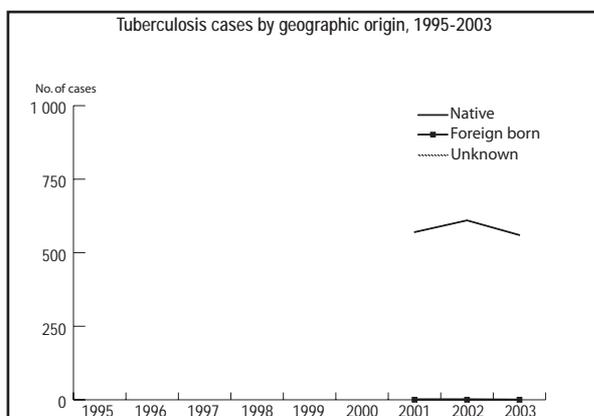
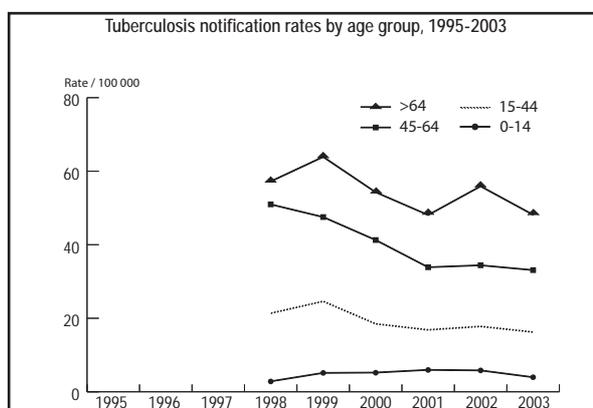
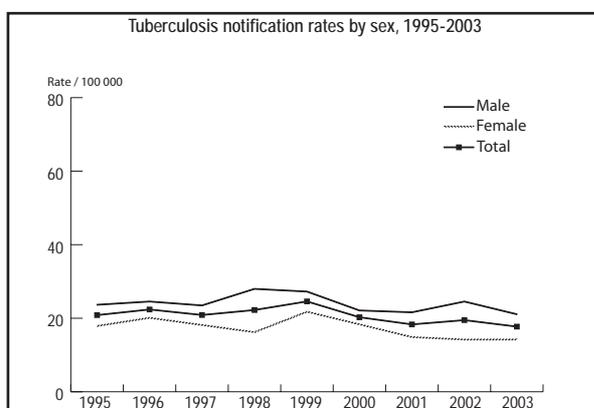
### Drug Resistance Surveillance, 2003

International proficiency testing	No \$
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	221
Cases resistant to INH	11 (5.0%)
Cases resistant to RMP	8 (3.6%)
MDR cases	3 (1.4%)
Cases resistant to EMB	1 (0.5%)
Cases resistant to SM	14 (6.3%)

**Data representativeness unknown**  
**Culture and DST not routinely performed**

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary smear positive
Included in TOM cohort	225
Success	189 (84%)
Death	3 (1%)
Failure	2 (1%)
Default	15 (7%)
Transfer	1 (0%)
Still on treatment	0 (0%)
Unknown	15 (7%)



### Tuberculosis case notifications, 2003

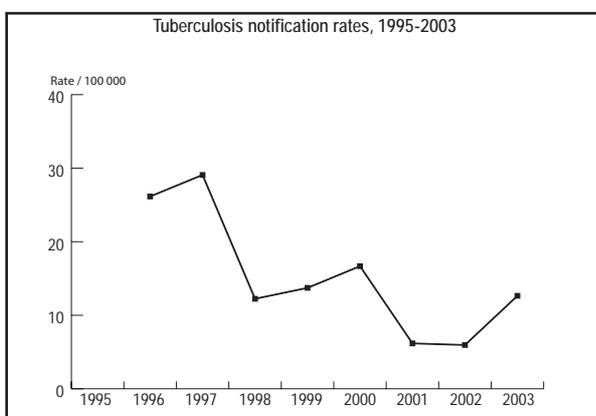
Type of data provided	Individual
Total number of cases	11
Notification rate per 100 000	12.6
Sex ratio (M:F)	0.8
Median age-group, nationals	45-54 years
Median age-group, non-nationals	35-44 years
Individuals born abroad	10 (90.9%)
New (never-treated)	8 (72.7%)
Culture positive	6 (54.5%)
Pulmonary	9 (81.8%)
of which sputum smear positive	7 (77.8%)

### Drug Resistance Surveillance, 2003

International proficiency testing	No §
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	2
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%)
<b>Data representativeness unknown</b>	
<b>§ DST done in Spain</b>	

### Treatment Outcome Monitoring, 2002

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 notification rates by age group, 1995-2003

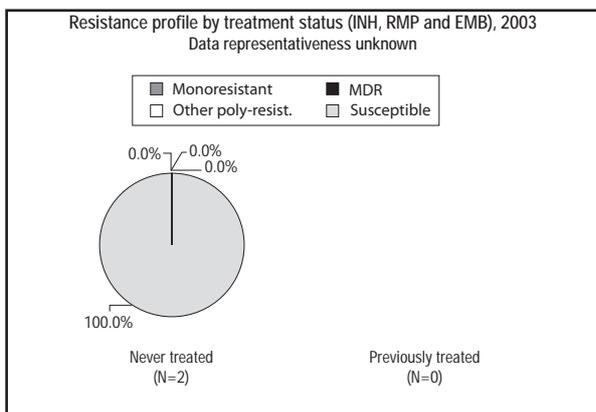
**Insufficient number of cases for graphic presentation**

Tuberculosis cases by geographic origin, 1995-2003

**Insufficient number of cases for graphic presentation**

Tuberculosis cases by geographic origin, age group and sex, 2003

**Insufficient number of cases for graphic presentation**



Resistance to INH and MDR by treatment status, 1997-2003

**No resistance reported**

**Tuberculosis case notifications, 2003**

Type of data provided	Aggregate
Total number of cases	1 570
Notification rate per 100 000	51.3
Sex ratio (M:F)	4.7
Median age-group, nationals	25-34 years
Median age-group, non-nationals	-
Foreign citizens	0 (0.0%)
New (never-treated)	1 437 (91.5%)
Culture positive	-
Pulmonary	1 307 (83.2%)
of which sputum smear positive	708 (54.2%)

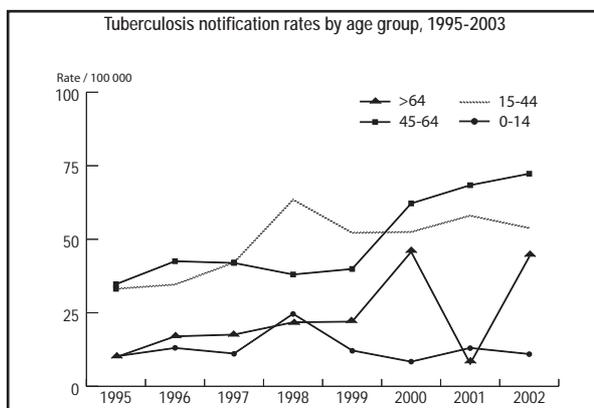
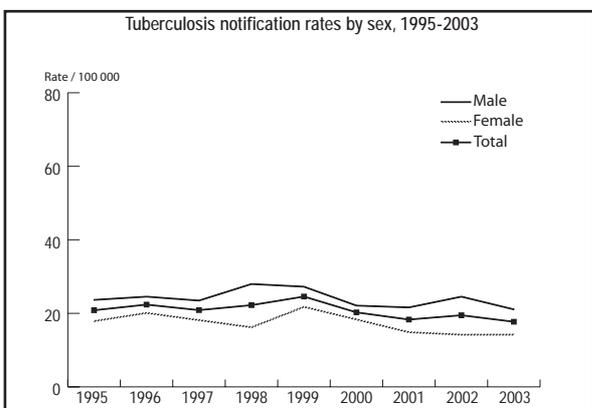
**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	Partial
Linkage with TB case notification	No §
Cases with DST results	514
Cases resistant to INH	220 (42.8%)
Cases resistant to RMP	125 (24.3%)
MDR cases	117 (22.8%)
Cases resistant to EMB	96 (18.7%)
Cases resistant to SM	307 (59.7%)

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

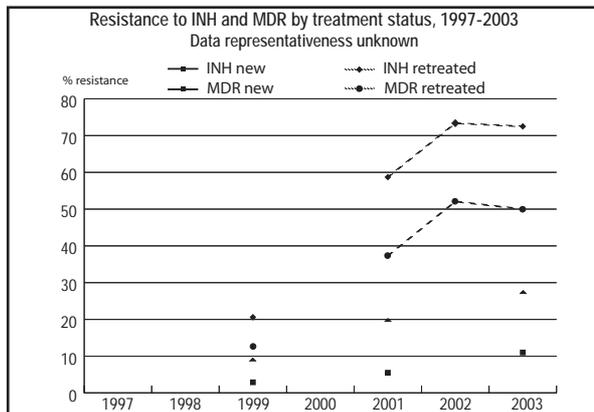
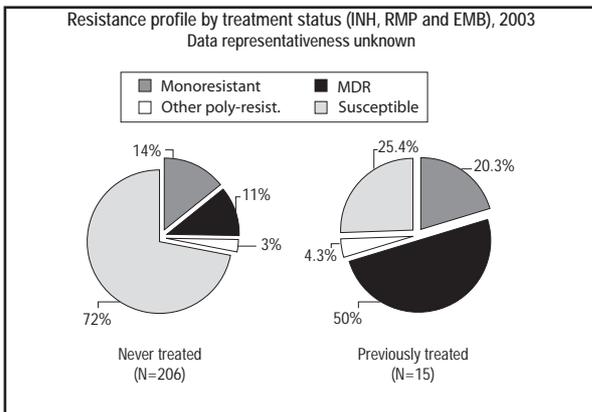
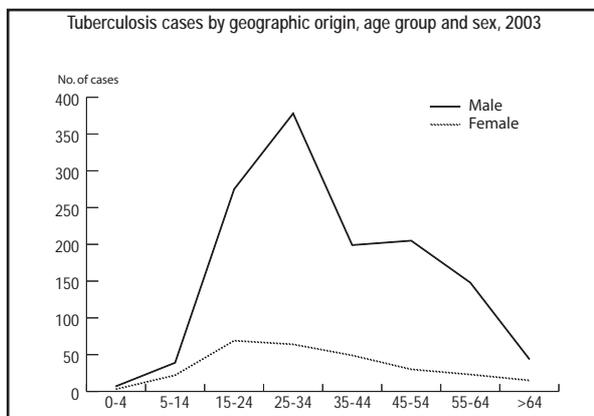
**Treatment Outcome Monitoring, 2002**

Geographic coverage	selected DOTS areas
Cohort	new pulmonary smear positive
Included in TOM cohort	295
Success	233 (79%)
Death	12 (4%)
Failure	9 (3%)
Default	7 (2%)
Transfer	10 (3%)
Still on treatment	0 (0%)
Unknown	24 (8%)



**Tuberculosis cases by geographic origin, 1995-2003**

No cases of foreign origin reported



### Tuberculosis case notifications, 2003

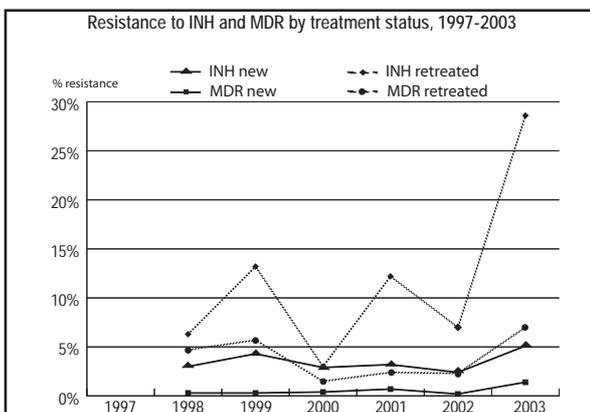
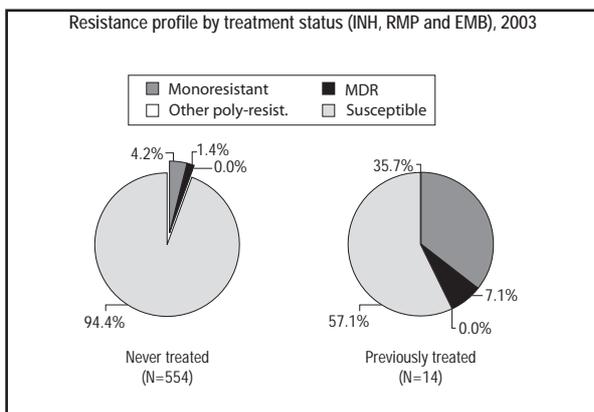
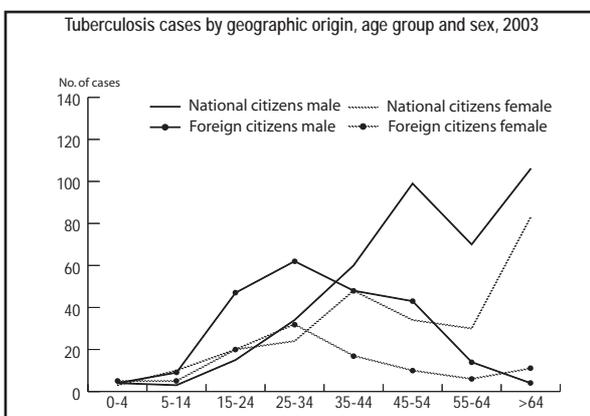
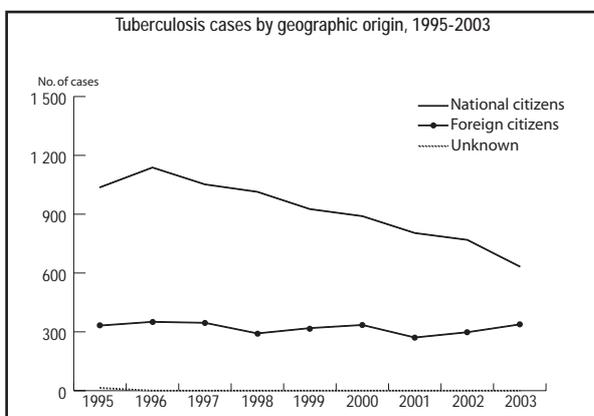
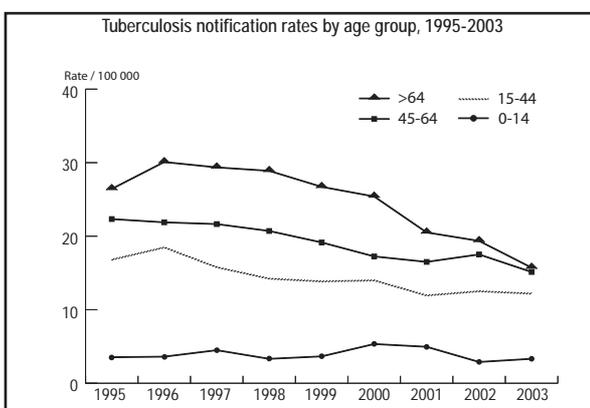
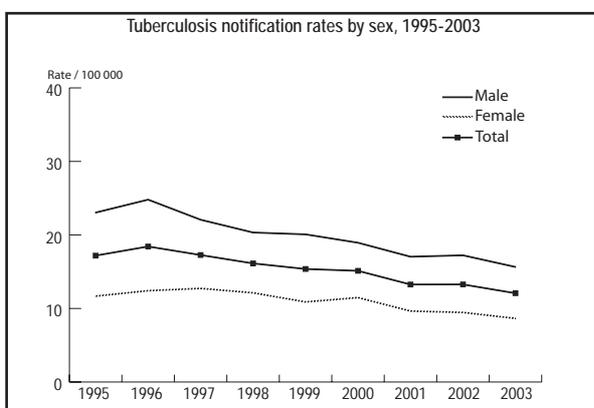
Type of data provided	Individual
Total number of cases	980
Notification rate per 100 000	12.1
Sex ratio (M:F)	1.7
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Foreign citizens	340 (34.7%)
New (never-treated)	901 (91.9%)
Culture positive	631 (64.4%)
Pulmonary	812 (82.9%)
of which sputum smear positive	277 (34.1%)

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	596
Cases resistant to INH	36 (6.0%)
Cases resistant to RMP	16 (2.7%)
MDR cases	12 (2.0%)
Cases resistant to EMB	10 (1.7%)
Cases resistant to SM	31 (5.2%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	550
Success	419 (76%)
Death	64 (12%)
Failure	0 (0%)
Default	36 (7%)
Transfer	0 (0%)
Still on treatment	0 (0%)
Unknown	31 (6%)



### Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	3 931
Notification rate per 100 000	47.0
Sex ratio (M:F)	3.4
Median age-group, nationals	25-34 years
Median age-group, non-nationals	-
Foreign born/citizens	0 (0.0%)
New (never-treated)	3 767 (95.8%)
Culture positive	-
Pulmonary	3 196 (81.3%)
of which sputum smear positive	1 320 (41.3%)

### Drug Resistance Surveillance, 2003

International proficiency testing	No
Geographic coverage	National
Linkage with TB case notification	No §
Cases with DST results	600 †
Cases resistant to INH	37 (6.2%)
Cases resistant to RMP	35 (5.8%)
MDR cases	8 (1.3%)
Cases resistant to EMB	26 (4.3%)
Cases resistant to SM	113 (18.8%)

Data representativeness unknown

Culture and DST not routinely performed

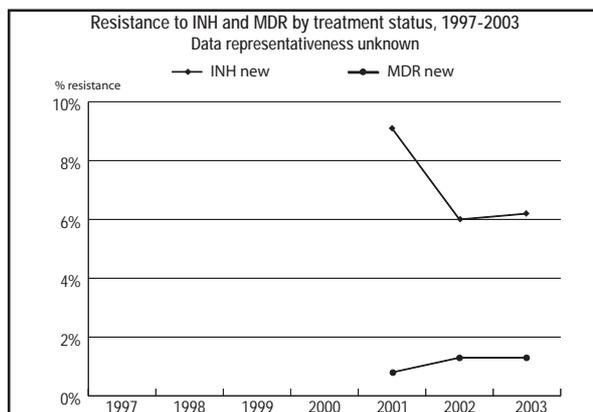
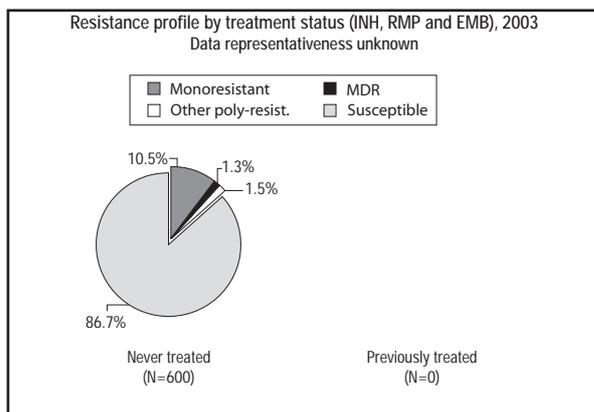
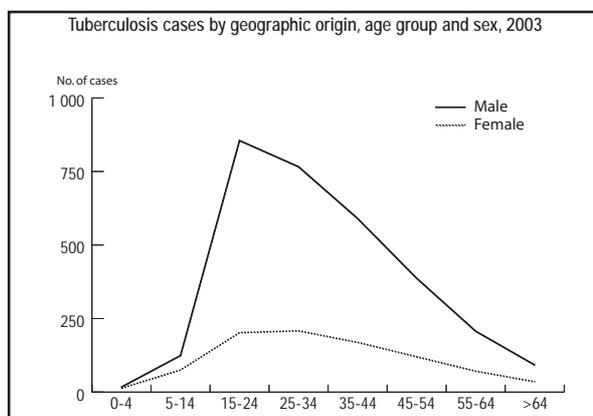
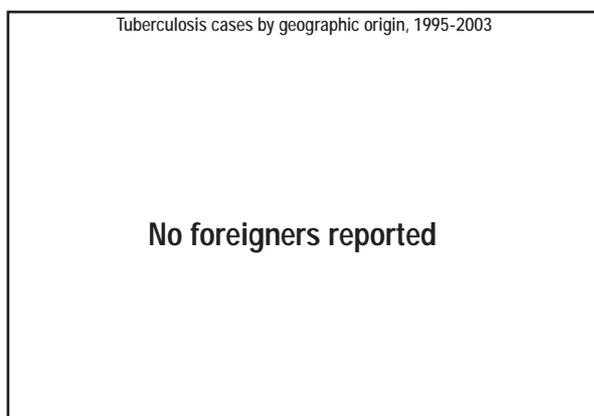
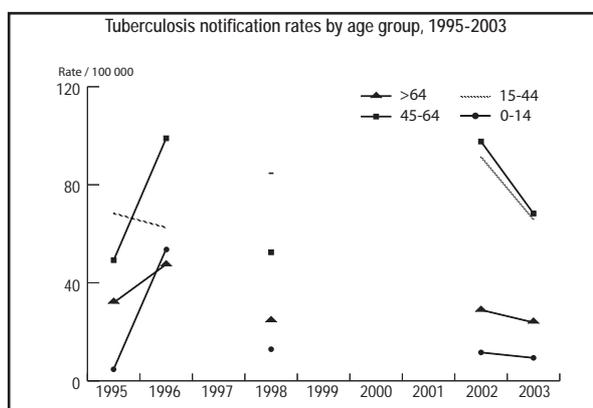
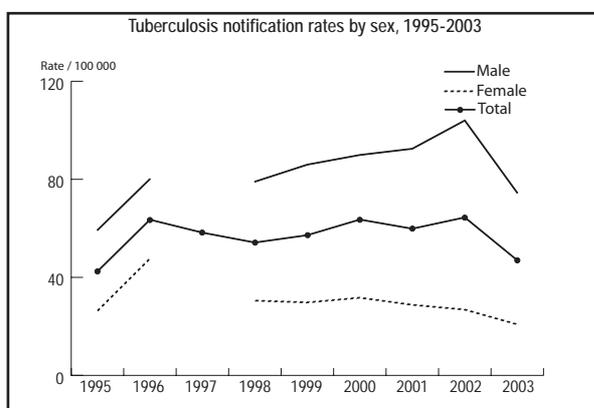
§ Diagnostic data from all labs doing DST

† New cases only

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	1 169 §
Success	950 (81%)
Death	23 (2%)
Failure	13 (1%)
Default	108 (9%)
Transfer	39 (3%)
Still on treatment	36 (3%)
Unknown	0 (0%)

§ Incomplete cohort (62% of cases)



### Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	5 963
Notification rate per 100 000	60.3
Sex ratio (M:F)*	2.7
Median age-group, nationals*	35-44 years
Median age-group, non-nationals	-
Foreign born/citizens	-
New (never-treated)	5 106 (85.6%)
Culture positive	-
Respiratory*	4 728 (79.3%)
of which sputum smear positive*	1 018 (21.5%)

\* New cases only

### Drug Resistance Surveillance, 2000

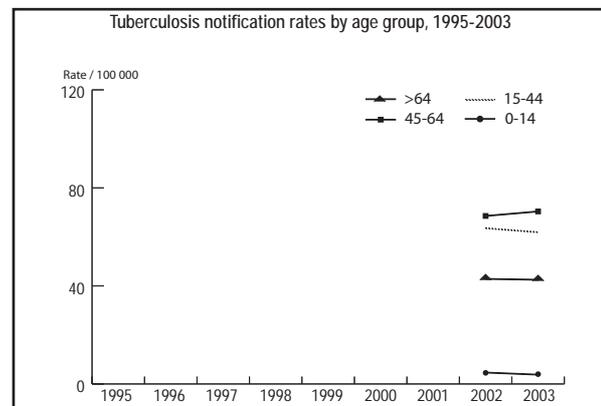
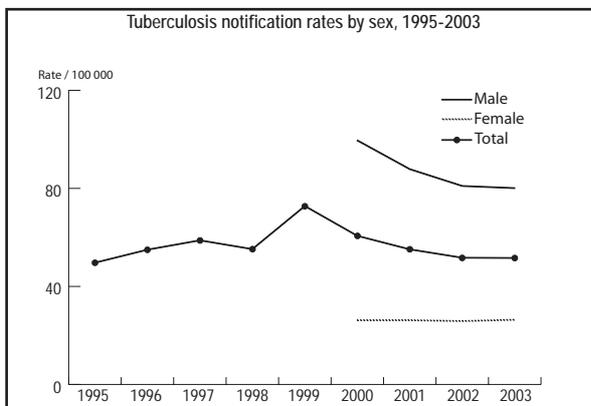
International proficiency testing	No
Geographic coverage	National
Linkage with notification	yes §
Cases with DST results	2 060 / 2 550 (81%)
Cases resistant to INH	-
Cases resistant to RMP	-
MDR cases	220 § (10.7%)
Cases resistant to EMB	-
Cases resistant to SM	-

Culture not routinely performed

§ New cases notified to MoH (prisons not included)

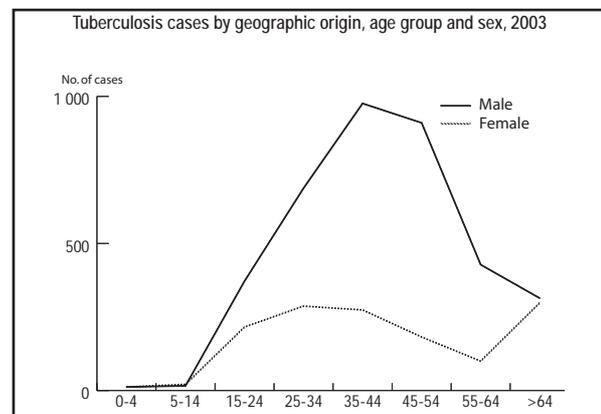
### Treatment Outcome Monitoring, 2002

Not available



Tuberculosis cases by geographic origin, 1995-2003

**Foreigners not included  
in TB notifications**



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

**NOT AVAILABLE**

Resistance to INH and MDR by treatment status, 1997-2003

**NOT AVAILABLE**

**Tuberculosis case notifications, 2003**

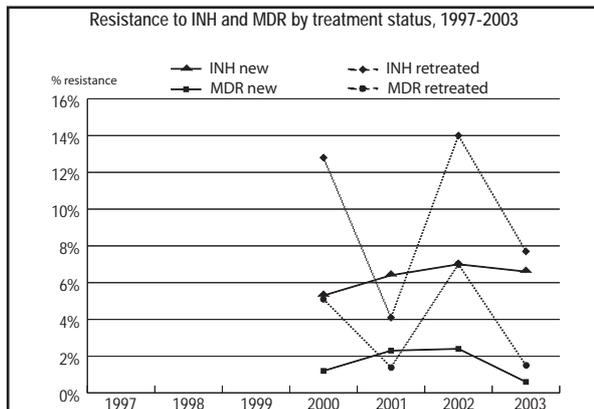
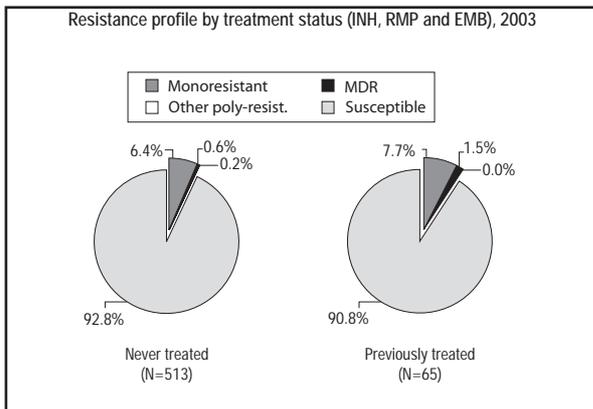
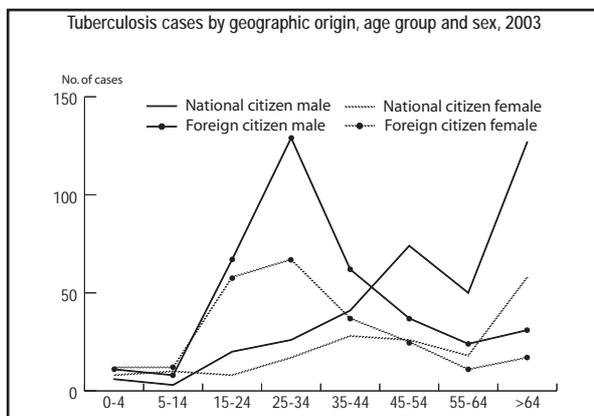
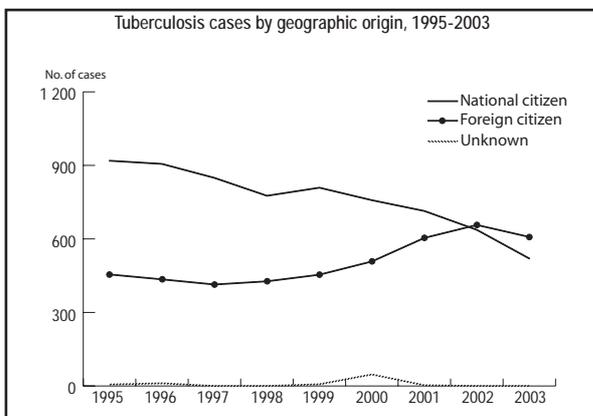
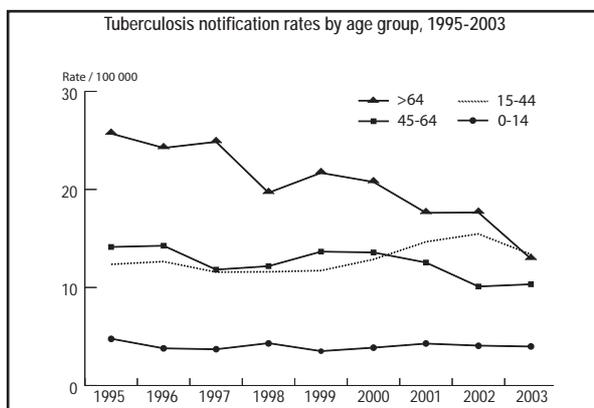
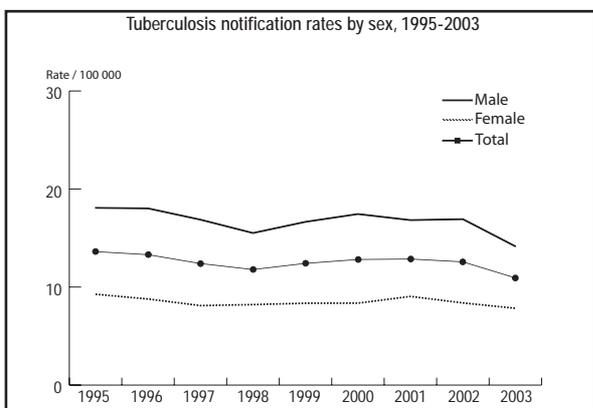
Type of data provided	Individual
Total number of cases	1 128
Notification rate per 100 000	10.9
Sex ratio (M:F)	1.7
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Foreign citizens	608 (53.9%)
New (never-treated)	699 (62.0%)
Culture positive	878 (77.8%)
Pulmonary	847 (75.1%)
of which sputum smear positive	402 (47.5%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	805
Cases resistant to INH	60 (7.5%)
Cases resistant to RMP	10 (1.2%)
MDR cases	9 (1.1%)
Cases resistant to EMB	14 (1.7%)
Cases resistant to SM	-

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	617
Success	402 (65%)
Death	64 (10%)
Failure	3 (0%)
Default	11 (2%)
Transfer	0 (0%)
Still on treatment	17 (3%)
Unknown	120 (19%)



## Tuberculosis case notifications, 2003\*

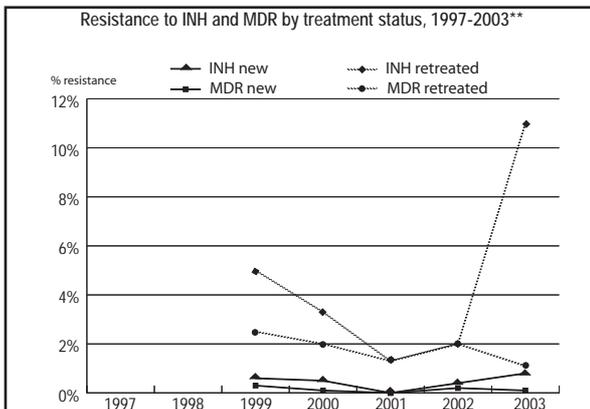
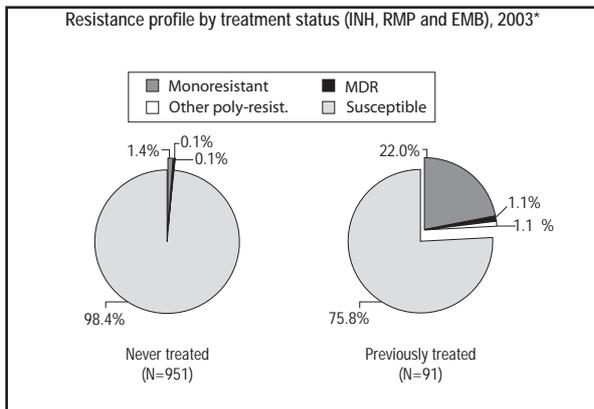
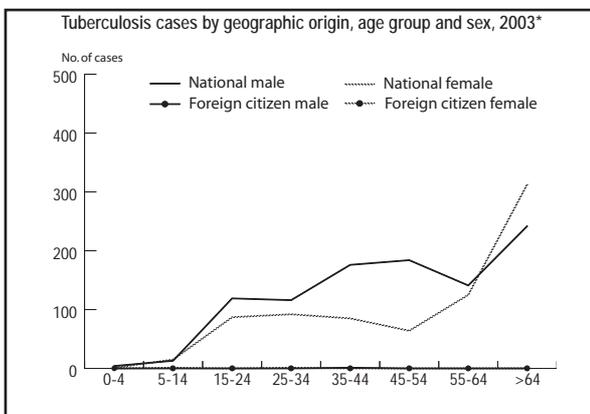
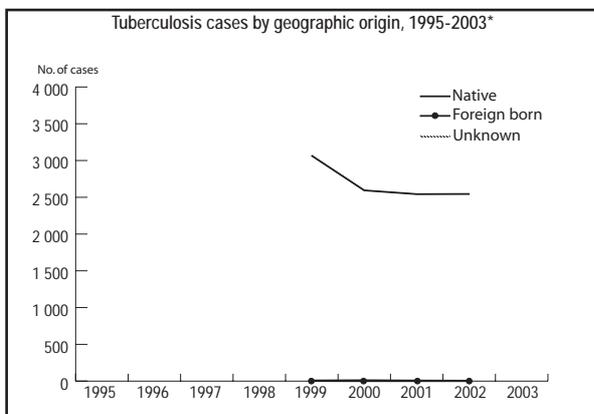
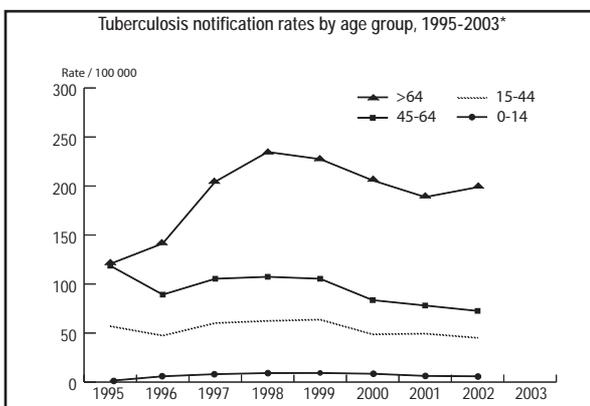
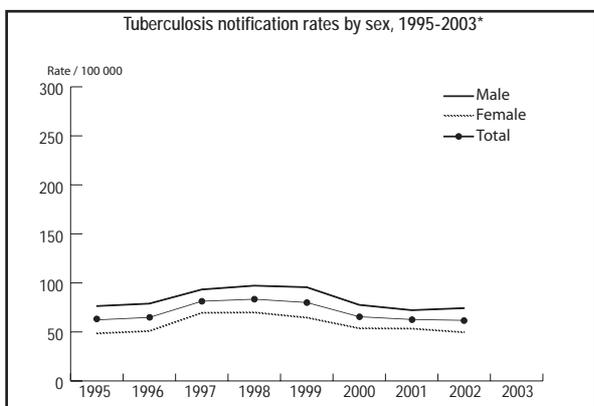
Type of data provided	Aggregate
Total number of cases	1 780
Notification rate per 100 000	-
Sex ratio (M:F)	1.3
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Foreign citizens	3 (0.2%)
New (never-treated)	1 649 (92.6%)
Culture positive	1 042 (58.5%)
Pulmonary	1 565 (87.9%)
of which sputum smear positive	542 (34.6%)

## Drug Resistance Surveillance, 2003\*

International proficiency testing	Yes
Geographic coverage	National*
Linkage with TB case notification	yes
Cases with DST results	1 042
Cases resistant to INH	18 (1.7%)
Cases resistant to RMP	11 (1.1%)
MDR cases	2 (0.2%)
Cases resistant to EMB	14 (1.3%)
Cases resistant to SM	11 (1.1%)

## Treatment Outcome Monitoring, 2002\*

Geographic coverage	partial*
Cohort	new pulmonary culture positive
Included in TOM cohort	1 036
Success	988 (95%)
Death	8 (1%)
Failure	16 (2%)
Default	9 (1%)
Transfer	10 (1%)
Still on treatment	5 (0%)
Unknown	0 (0%)



\* 2003 data (2002 outcomes) only include Federation of Bosnia; trends shown only up to 2002

\*\* Federation of Bosnia only in 2002-3

**Tuberculosis case notifications, 2003**

Type of data provided	Aggregate
Total number of cases	3 263
Notification rate per 100 000	41.3
Sex ratio (M:F)	1.9
Median age-group (all cases)	45-54 years
Median age-group, non-nationals	-
Foreign born/citizens	-
New (never-treated)	2 952 (90.5%)
Culture positive	1 377 (42.2%)
Respiratory	2 839 (87.0%)
of which sputum smear positive	1 371 (48.3%)

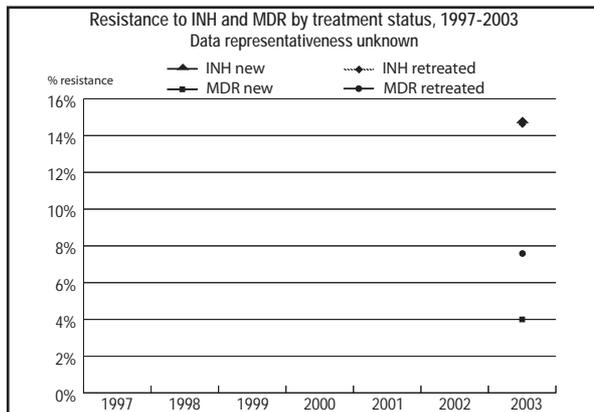
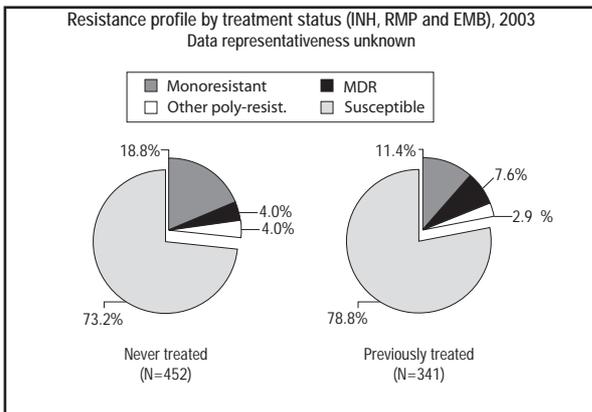
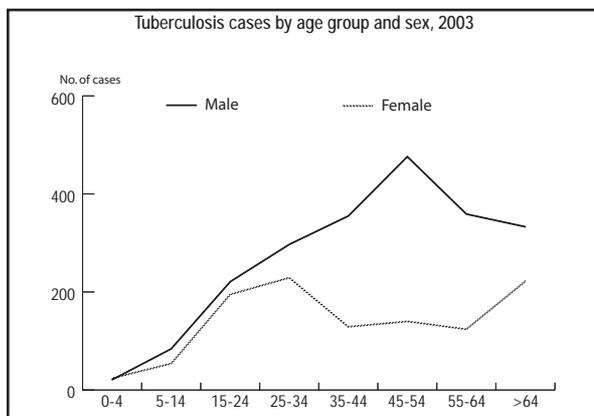
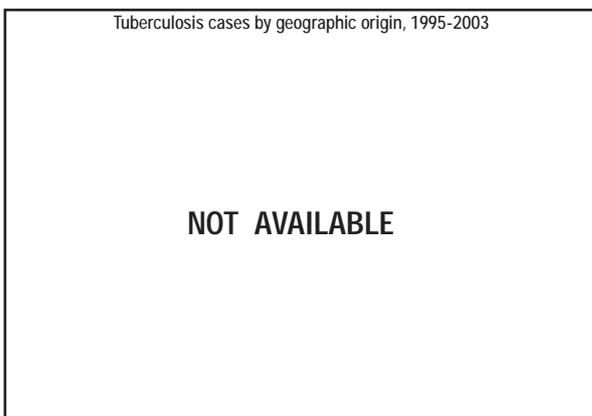
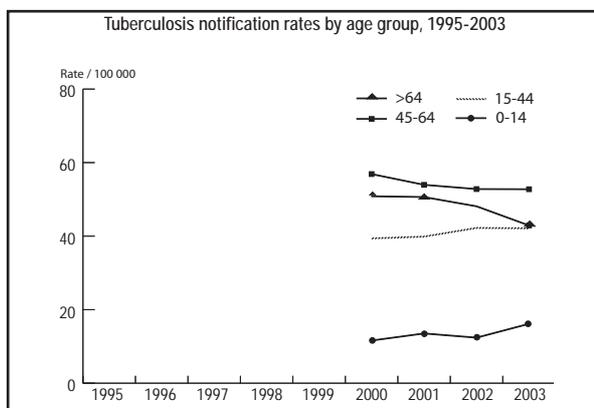
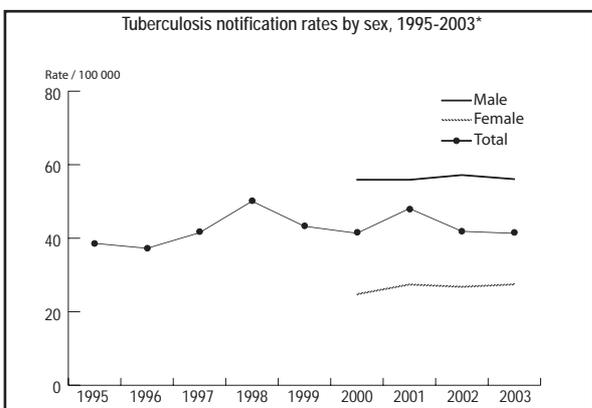
**Drug Resistance Surveillance, 2003**

International proficiency testing	No
Geographic coverage	Partial †
Linkage with TB case notification	Yes
Cases with DST results	793
Cases resistant to INH	116 (14.6%)
Cases resistant to RMP	85 (10.7%)
MDR cases	44 (5.5%)
Cases resistant to EMB	97 (12.2%)
Cases resistant to SM	80 (10.1%)
<b>Data representativeness unknown</b>	
† All labs doing DST	

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new §
Included in TOM cohort	1 007
Success	846 (84%)
Death	42 (4%)
Failure	50 (5%)
Default	49 (5%)
Transfer	20 (2%)
Still on treatment	0 (0%)
Unknown	0 (0%)

§ smear positive and/or culture positive cases



\* 14% with sex unknown in 2001

### Tuberculosis case notifications, 2003

Type of data provided	Individual
Total number of cases	1 494
Notification rate per 100 000	33.7
Sex ratio (M:F)	1.9
Median age-group, nationals	45-54 years
Median age-group, non-nationals	45-54 years
Individuals born abroad*	161 (10.8%)
New (never-treated)	1 347 (90.2%)
Culture positive	838 (56.1%)
Pulmonary	1 325 (88.7%)
of which sputum smear positive	504 (38.0%)

\* 34% of cases with unknown origin

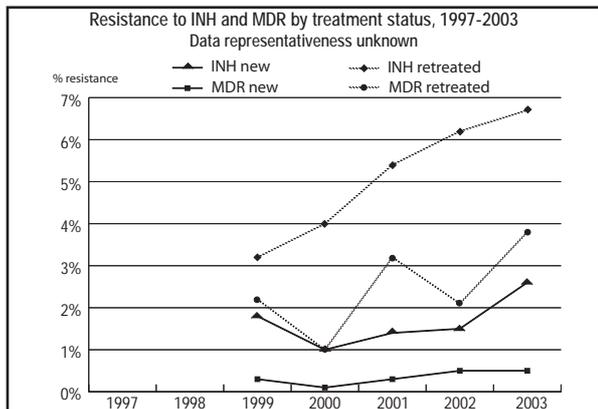
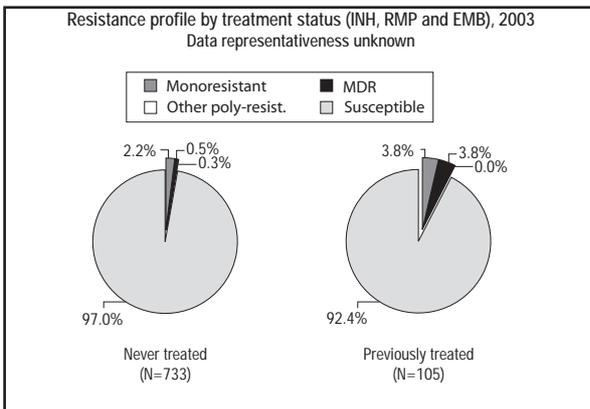
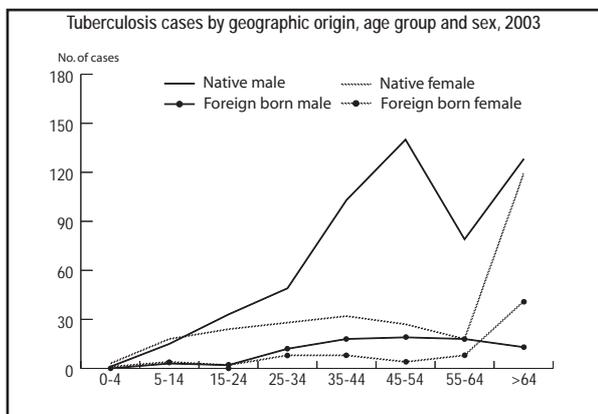
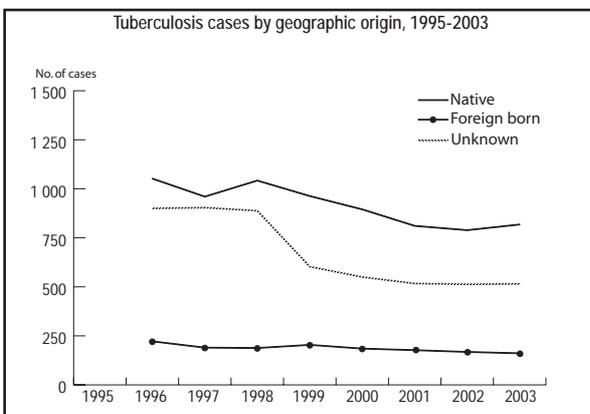
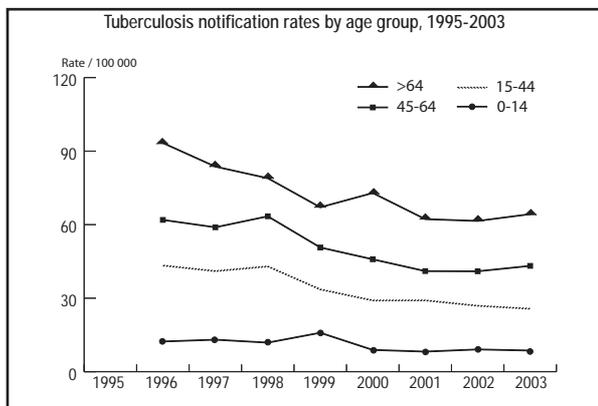
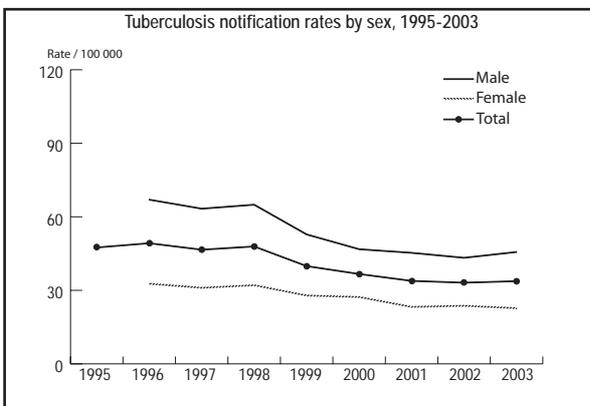
### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	838
Cases resistant to INH	26 (3.1%)
Cases resistant to RMP	12 (1.4%)
MDR cases	8 (1.0%)
Cases resistant to EMB	4 (0.5%)
Cases resistant to SM	21 (2.5%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	327 §
Success	234 (72%)
Death	36 (11%)
Failure	3 (1%)
Default	26 (8%)
Transfer	10 (3%)
Still on treatment	9 (3%)
Unknown	9 (3%)

§ Incomplete cohort (47% of cases)



**Tuberculosis case notifications, 2003**

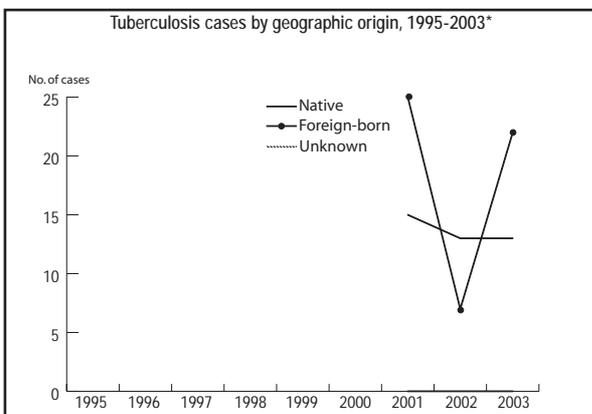
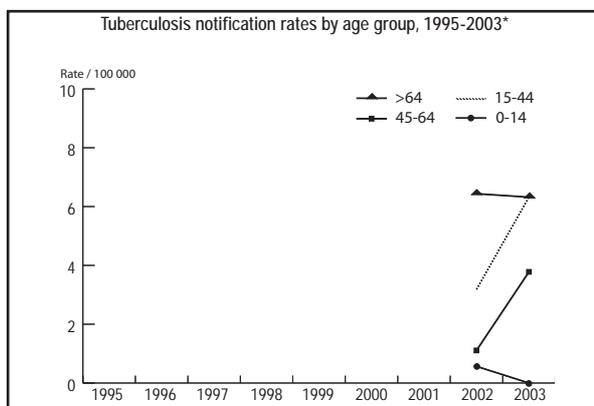
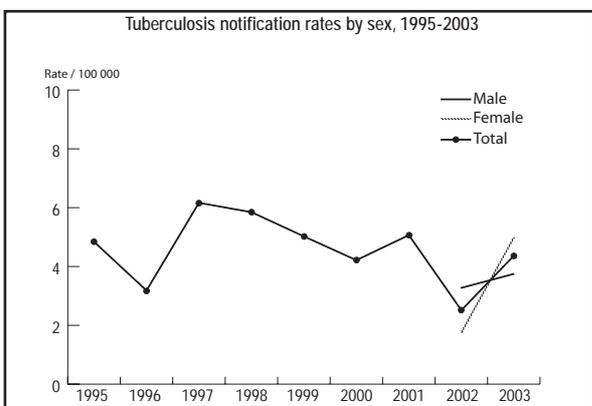
Type of data provided	Individual
Total number of cases	35
Notification rate per 100 000	4.4
Sex ratio (M:F)	0.8
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	22 (62.9%)
New (never-treated)	34 (97.1%)
Culture positive	23 (65.7%)
Pulmonary	29 (82.9%)
of which sputum smear positive	14 (48.3%)

**Drug Resistance Surveillance, 2003**

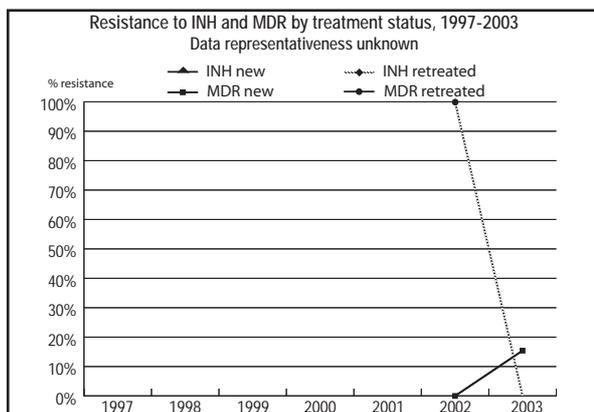
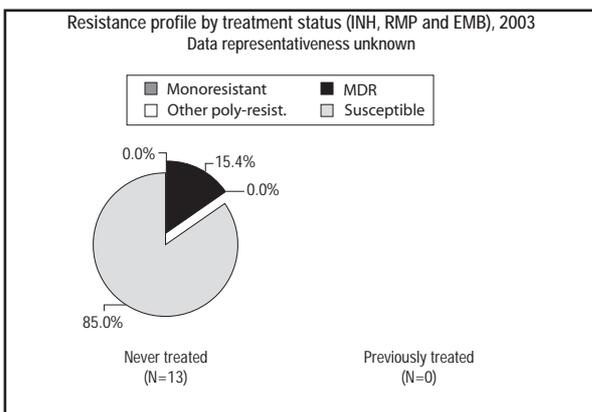
International proficiency testing	-
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	13
Cases resistant to INH	2 (15.4%)
Cases resistant to RMP	2 (15.4%)
MDR cases	2 (15.4%)
Cases resistant to EMB	1 (7.7%)
Cases resistant to SM	2 (15.4%)
Data representativeness unknown	

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	11
Success	9 (82%)
Death	1 (9%)
Failure	0 (0%)
Default	0 (0%)
Transfer	1 (9%)
Still on treatment	0 (0%)
Unknown	0 (0%)



**Insufficient number of cases for graphic presentation**



\* included in WHO European Region in 2003

### Tuberculosis case notifications, 2003

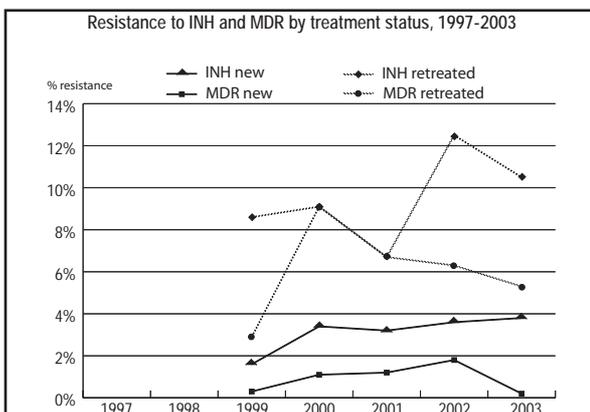
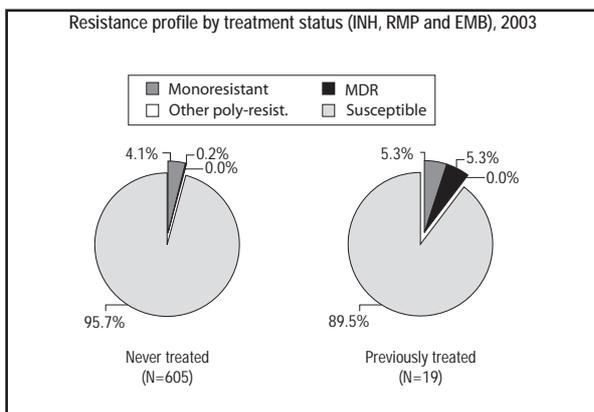
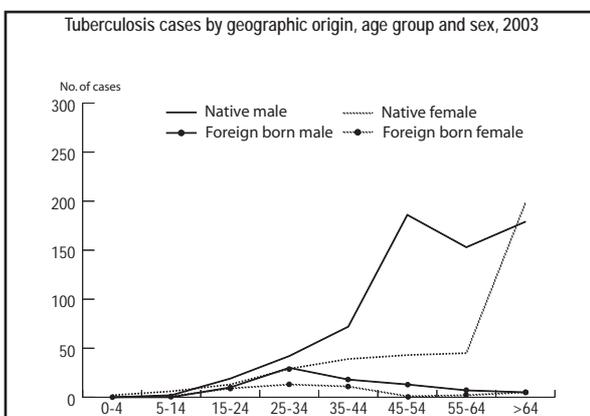
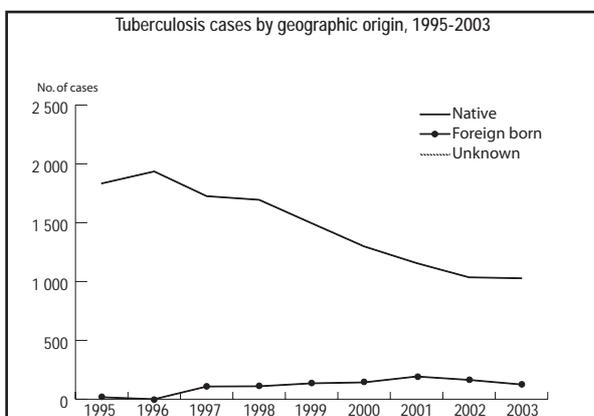
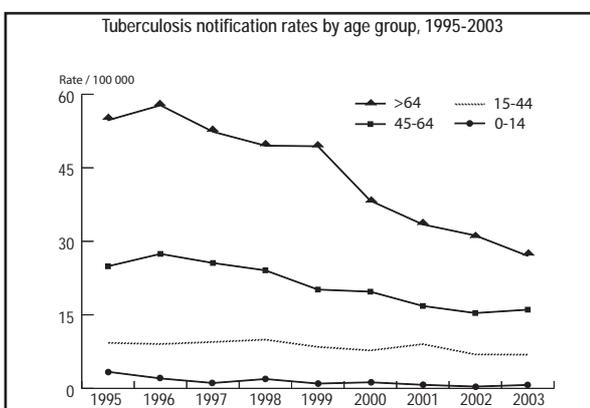
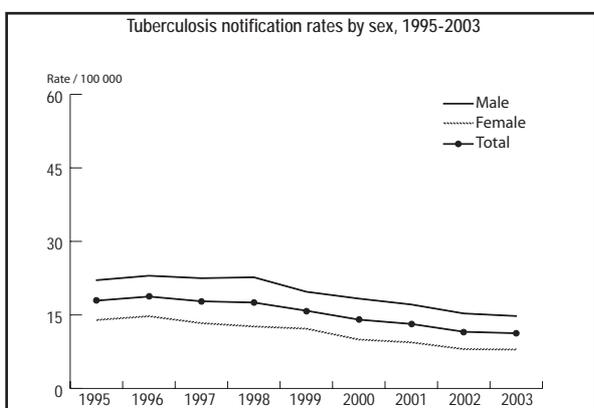
Type of data provided	Individual
Total number of cases	1 153
Notification rate per 100 000	11.3
Sex ratio (M:F)	1.8
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	125 (10.8%)
New (never-treated)	1 101 (95.5%)
Culture positive	749 (65.0%)
Pulmonary	905 (78.5%)
of which sputum smear positive	351 (38.8%)

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	624
Cases resistant to INH	25 (4.0%)
Cases resistant to RMP	3 (0.5%)
MDR cases	2 (0.3%)
Cases resistant to EMB	3 (0.5%)
Cases resistant to SM	17 (2.7%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	601
Success	414 (69%)
Death	34 (6%)
Failure	1 (0%)
Default	11 (2%)
Transfer	9 (1%)
Still on treatment	18 (3%)
Unknown	114 (19%)



**Tuberculosis case notifications, 2003**

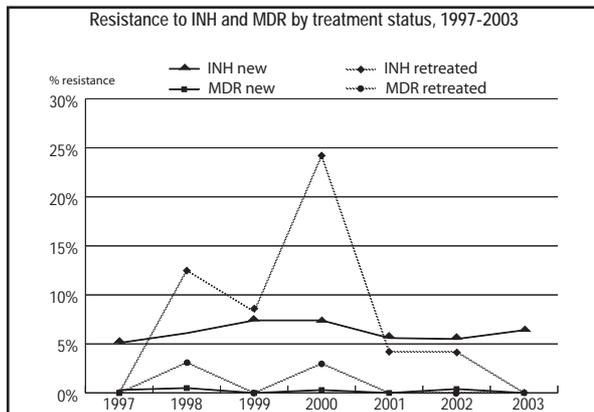
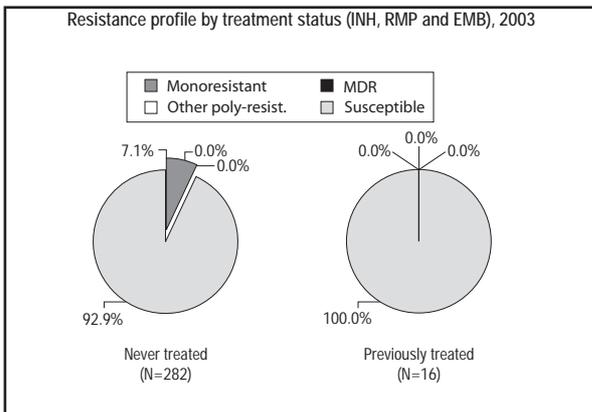
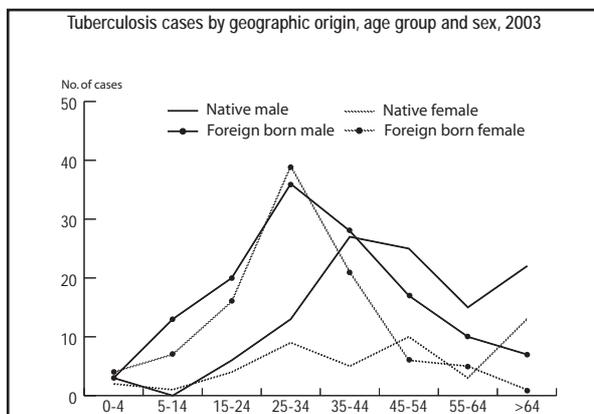
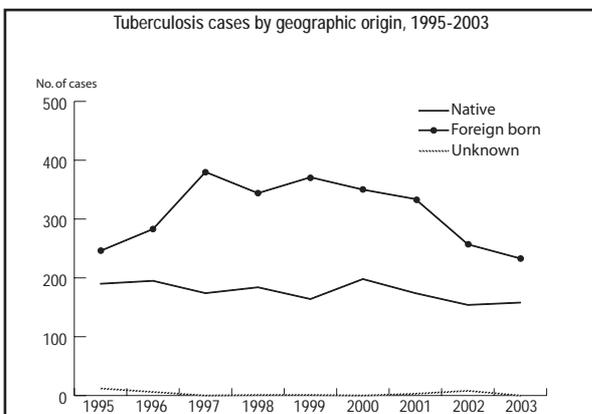
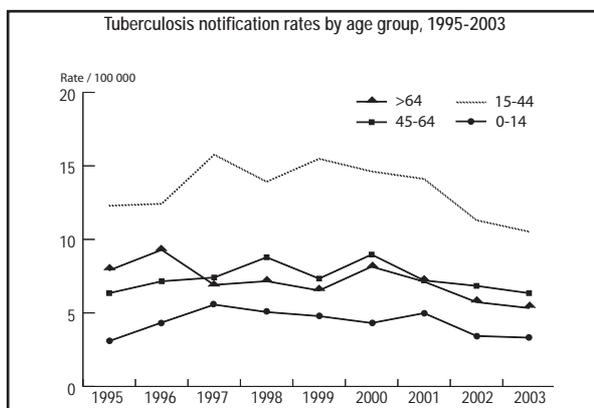
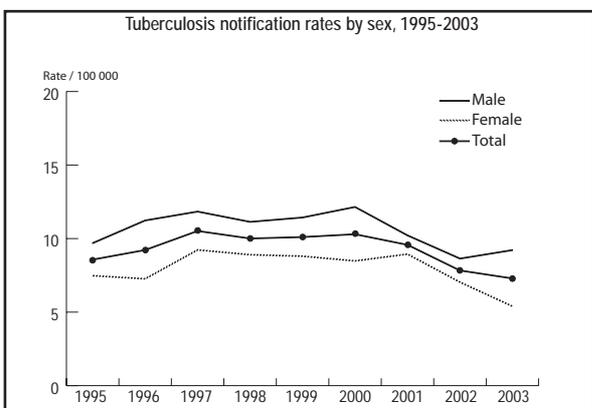
Type of data provided	Individual
Total number of cases	391
Notification rate per 100 000	7.3
Sex ratio (M:F)	1.7
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	233 (59.6%)
New (never-treated)	367 (93.9%)
Culture positive	298 (76.2%)
Pulmonary	288 (73.7%)
of which sputum smear positive	152 (52.8%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	298
Cases resistant to INH	18 (6.0%)
Cases resistant to RMP	0 (0.0%)
MDR cases	0 (0.0%)
Cases resistant to EMB	2 (0.7%)
Cases resistant to SM	9 (3.0%)

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	217
Success	169 (78%)
Death	16 (7%)
Failure	1 (0%)
Default	8 (4%)
Transfer	8 (4%)
Still on treatment	0 (0%)
Unknown	15 (7%)



### Tuberculosis case notifications, 2003

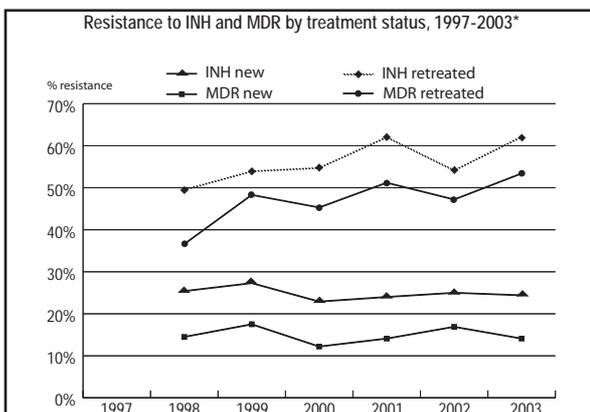
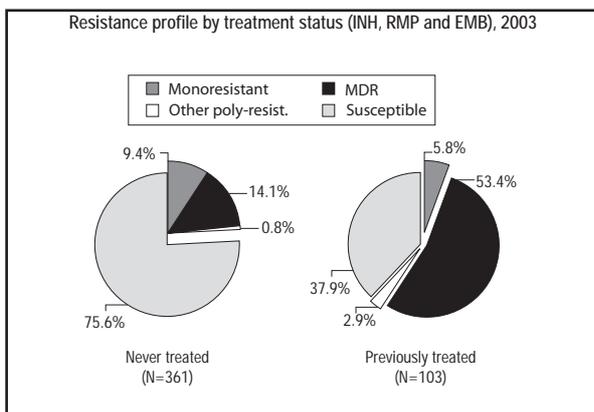
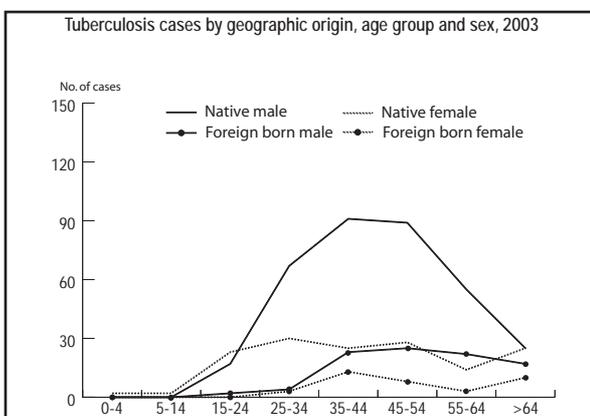
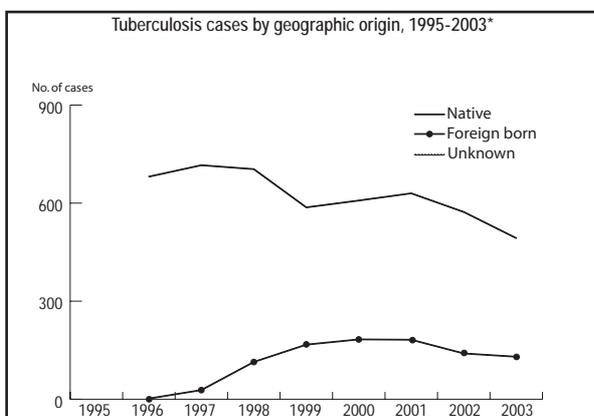
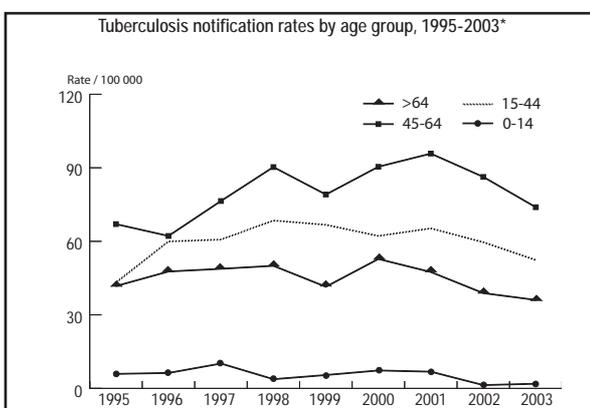
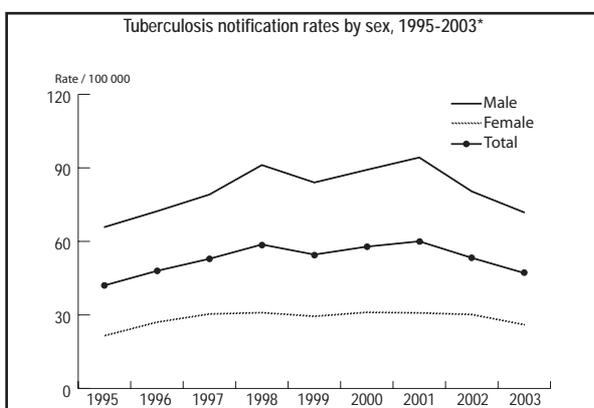
Type of data provided	Individual
Total number of cases	623
Notification rate per 100 000	47.1
Sex ratio (M:F)	2.3
Median age-group, nationals	35-44 years
Median age-group, non-nationals	45-54 years
Individuals born abroad	130 (20.9%)
New (never-treated)	496 (79.6%)
Culture positive	466 (74.8%)
Pulmonary	557 (89.4%)
of which sputum smear positive	263 (47.2%)

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	464
Cases resistant to INH	152 (32.8%)
Cases resistant to RMP	106 (22.8%)
MDR cases	106 (22.8%)
Cases resistant to EMB	104 (22.4%)
Cases resistant to SM	154 (33.2%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	346
Success	235 (68%)
Death	30 (9%)
Failure	4 (1%)
Default	43 (12%)
Transfer	1 (0%)
Still on treatment	33 (10%)
Unknown	0 (0%)



\* retreated cases other than relapses included since 2001

**Tuberculosis case notifications, 2003**

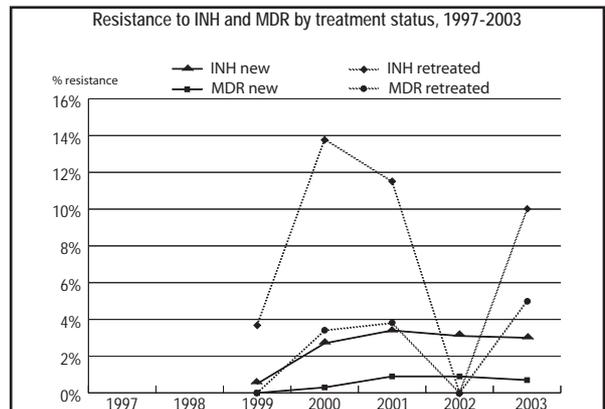
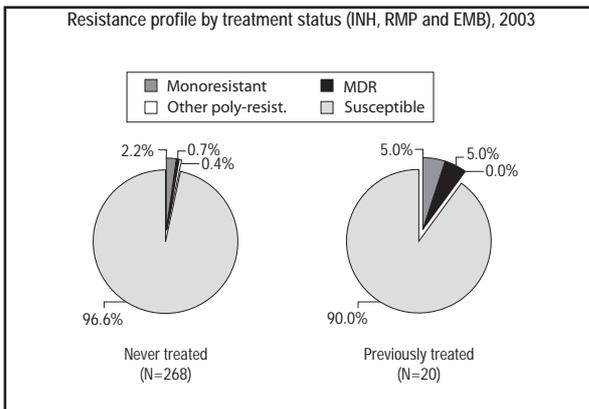
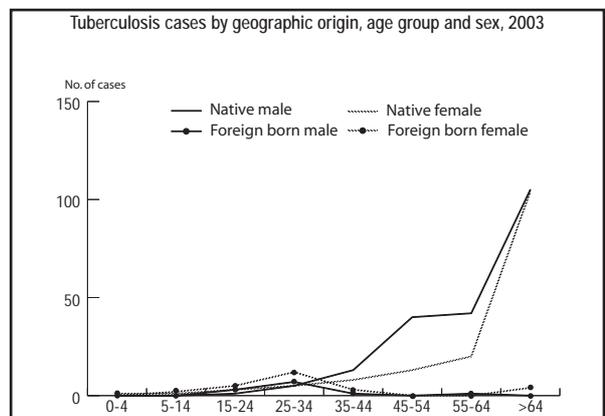
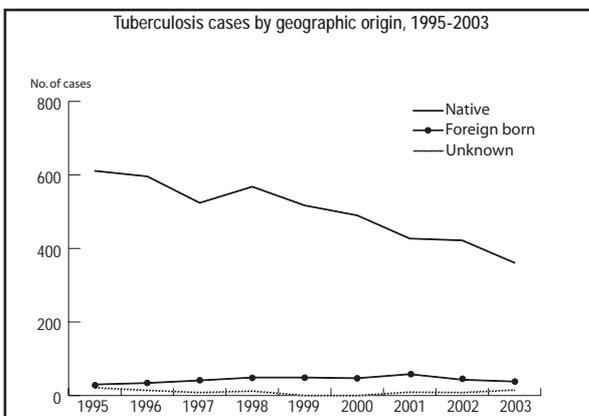
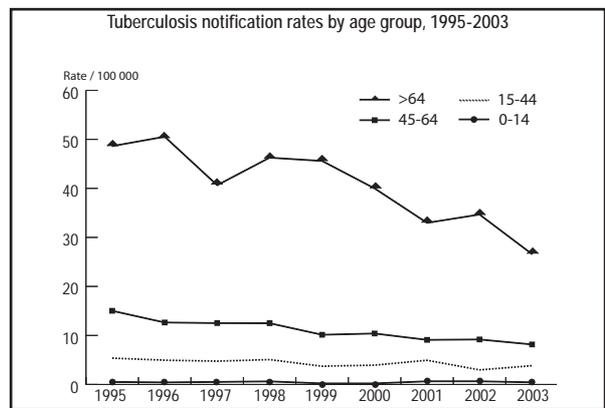
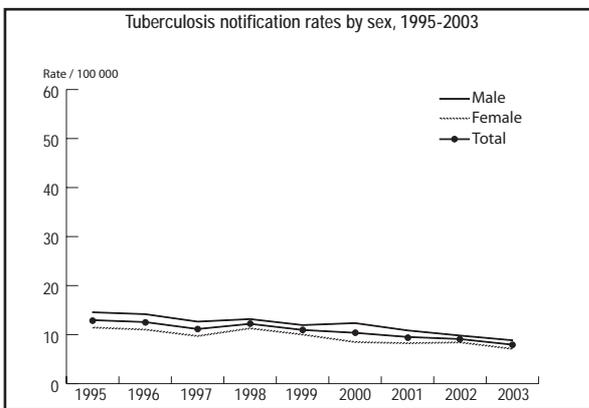
Type of data provided	Individual
Total number of cases	414
Notification rate per 100 000	8.0
Sex ratio (M:F)	1.2
Median age-group, nationals	65+ years
Median age-group, non-nationals	25-34 years
Individuals born abroad	38 (9.2%)
New (never-treated)	332 (80.2%)
Culture positive	347 (83.8%)
Pulmonary	292 (70.5%)
of which sputum smear positive	148 (50.7%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	340
Cases resistant to INH	10 (2.9%)
Cases resistant to RMP	3 (0.9%)
MDR cases	3 (0.9%)
Cases resistant to EMB	5 (1.5%)
Cases resistant to SM	9 (2.6%)

**Treatment Outcome Monitoring, 2002**

NOT AVAILABLE



### Tuberculosis case notifications, 2003

Type of data provided	Individual *
Total number of cases	6 098
Notification rate per 100 000	10.3
Sex ratio (M:F)	1.6
Median age-group, nationals	45-54 years
Median age-group, non-nationals	35-44 years
Individuals born abroad §	2 572 (42.2%)
New (never-treated)	4 292 (70.4%)
Culture positive**	2 076 (34.0%)
Pulmonary	4 372 (71.7%)
of which sputum smear positive	2 440 (55.8%)

\* except DST results

§ 12% of cases with missing information

\*\* 54% of cases with culture result not available

### Drug Resistance Surveillance, 2003

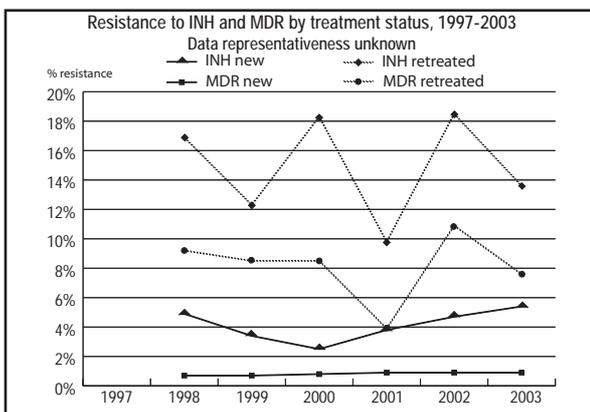
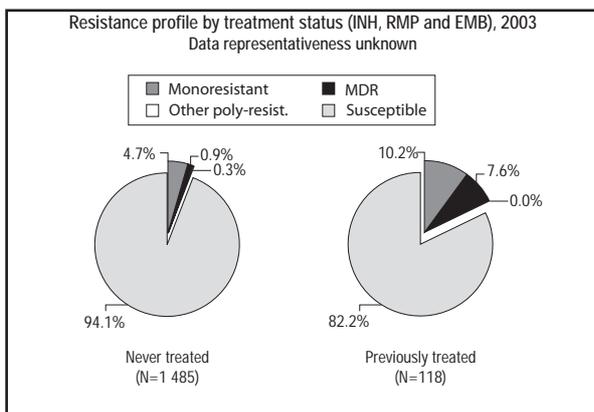
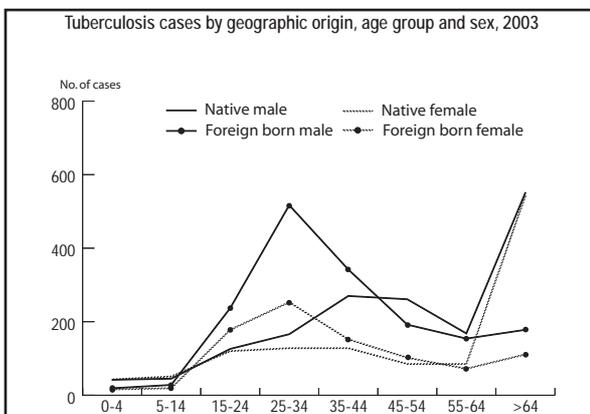
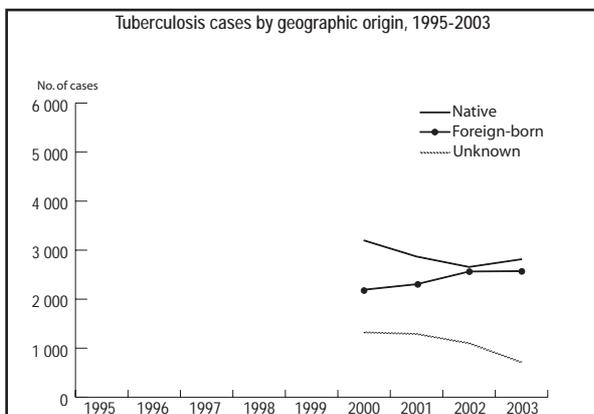
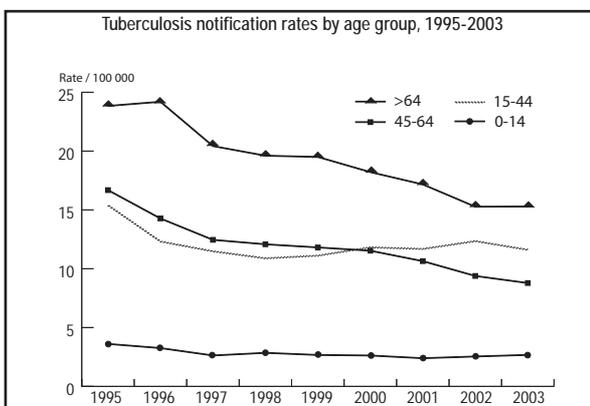
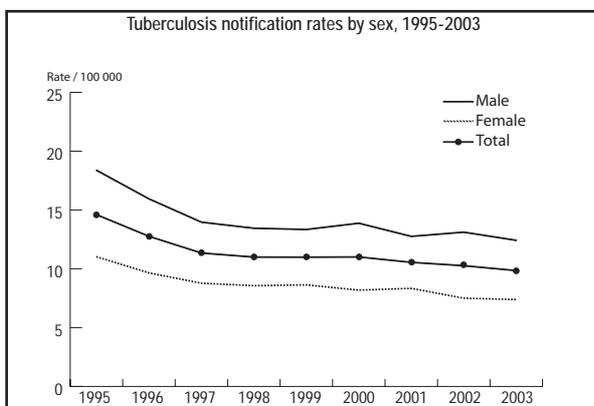
International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	No †
Cases with DST results	1 727
Cases resistant to INH	109 (6.3%)
Cases resistant to RMP	31 (1.8%)
MDR cases	25 (1.4%)
Cases resistant to EMB	13 (0.8%)
Cases resistant to SM	114 (6.6%)

Data representativeness unknown

† Data from sentinel network of laboratories

### Treatment Outcome Monitoring, 2002

NOT AVAILABLE



**Tuberculosis case notifications, 2003**

Type of data provided	Aggregate
Total number of cases	5 993
Notification rate per 100 000	116.9
Sex ratio (M:F)	2.6
Median age-group, nationals	35-44 years
Median age-group, non-nationals	-
Individuals born abroad	0 (0.0%)
New (never-treated)	4 070 (67.9%)
Culture positive	-
Pulmonary	4 660 (77.8%)
of which sputum smear positive	1 740 (37.3%)

**Drug Resistance Surveillance, 2001**

International proficiency testing	No
Geographic coverage	Tbilisi
Linkage with TB case notification	No \$
Cases with DST results	424
Cases resistant to INH	230 (54.2%)
Cases resistant to RMP	109 (25.7%)
MDR cases	105 (24.8%)
Cases resistant to EMB	129 (30.4%)
Cases resistant to SM	303 (71.5%)

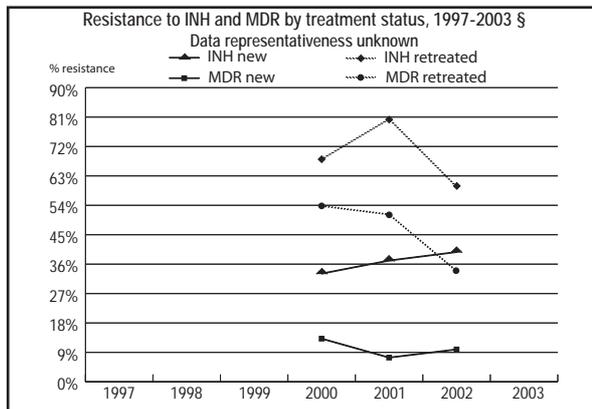
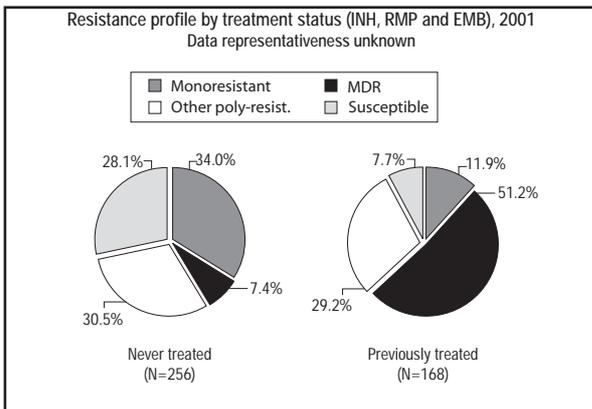
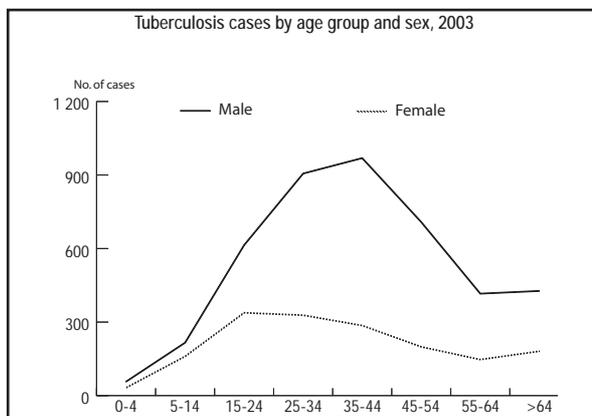
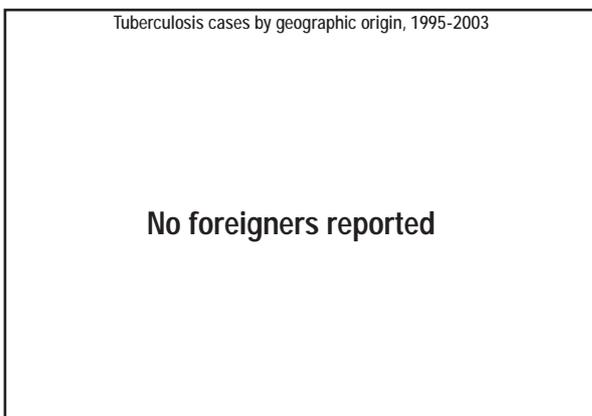
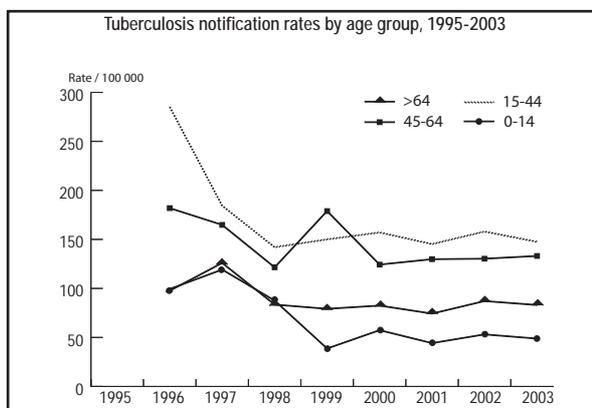
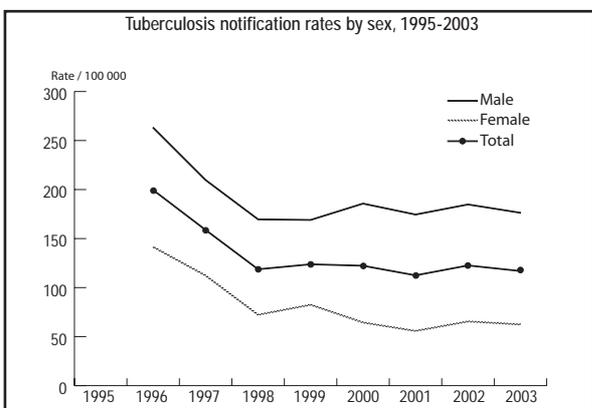
Data representativeness unknown

Culture and DST not routinely performed

\$ Data from all laboratories performing DST

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary smear positive
Included in TOM cohort	987
Success	643 (65%)
Death	15 (2%)
Failure	29 (3%)
Default	173 (18%)
Transfer	127 (13%)
Still on treatment	0 (0%)
Unknown	0 (0%)



\$ In 2002, only cases in prisoners

### Tuberculosis case notifications, 2003

Type of data provided	Individual
Total number of cases	7 184
Notification rate per 100 000	8.7
Sex ratio (M:F)	1.6
Median age-group, nationals	55-64 years
Median age-group, non-nationals	35-44 years
Individuals born abroad*	3 001 (41.8%)
New (never-treated)	4 485 (62.4%)
Culture positive	4 657 (64.8%)
Pulmonary	5 609 (78.1%)
of which sputum smear positive	1 850 (33.0%)

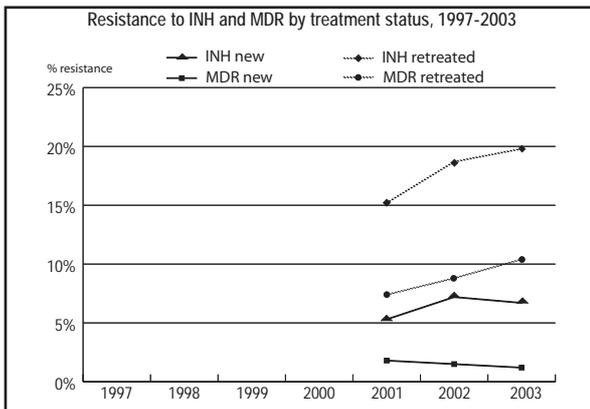
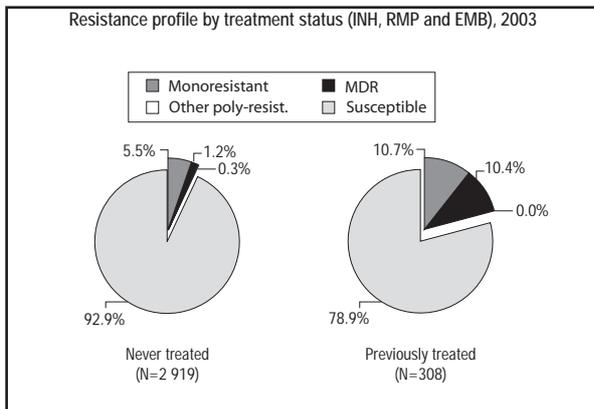
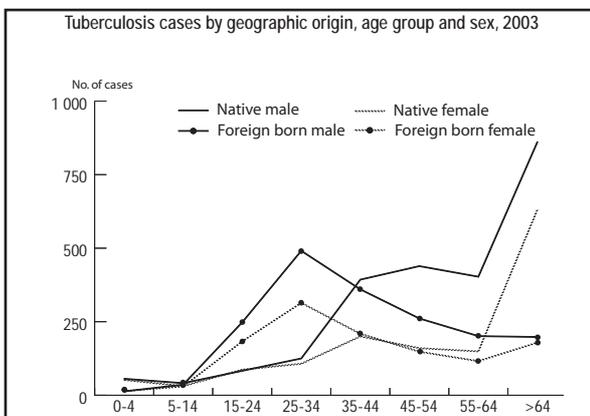
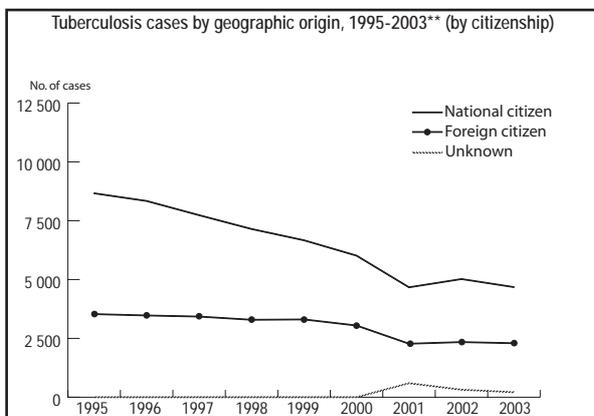
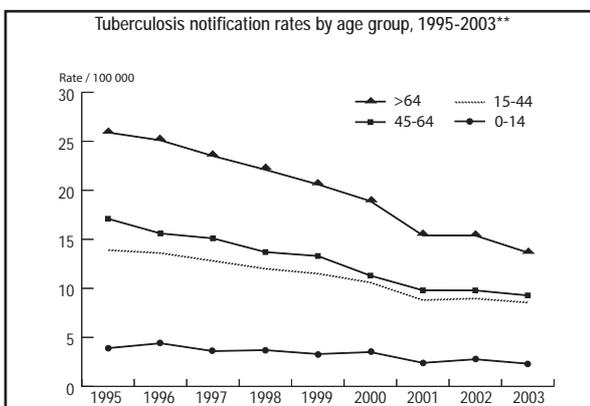
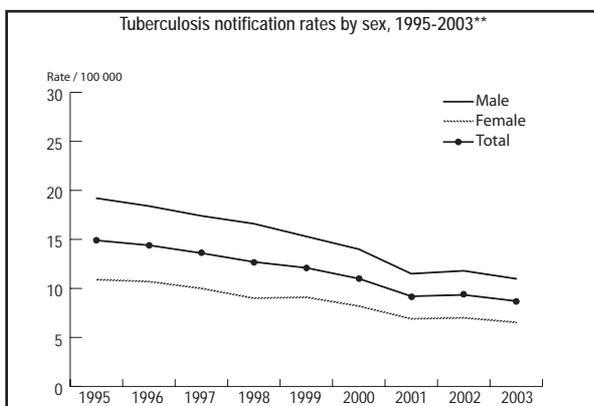
\* 5% with geographic origin unknown

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	4 366
Cases resistant to INH	341 (7.8%)
Cases resistant to RMP	106 (2.4%)
MDR cases	92 (2.1%)
Cases resistant to EMB	76 (1.7%)
Cases resistant to SM	334 (7.7%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	2 607
Success	1 852 (71%)
Death	267 (10%)
Failure	5 (0%)
Default	51 (2%)
Transfer	0 (0%)
Still on treatment	138 (5%)
Unknown	294 (11%)



\*\* Incomplete data in 2001

**Tuberculosis case notifications, 2003**

Type of data provided	Individual*
Total number of cases	620
Notification rate per 100 000	5.6
Sex ratio (M:F)	2.3
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	155 (25.0%)
New (never-treated)	552 (89.0%)
Culture positive	229 (36.9%)
Pulmonary	532 (85.8%)
of which sputum smear positive	250 (47.0%)

\* except for DST results

**Drug Resistance Surveillance, 2003**

International proficiency testing	No
Geographic coverage	Partial
Linkage with TB case notification	No §
Cases with DST results	605 #
Cases resistant to INH	80 (13.2%)
Cases resistant to RMP	32 (5.3%)
MDR cases	22 (3.6%)
Cases resistant to EMB	18 (3.0%)
Cases resistant to SM	71 (11.7%)

Data representativeness unknown

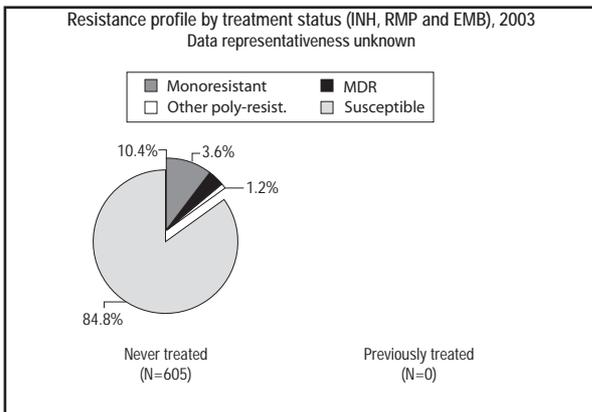
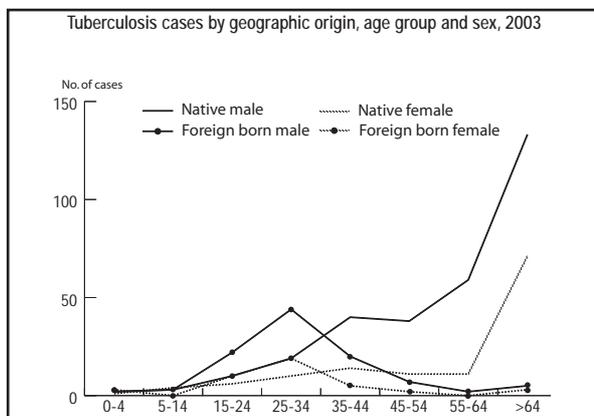
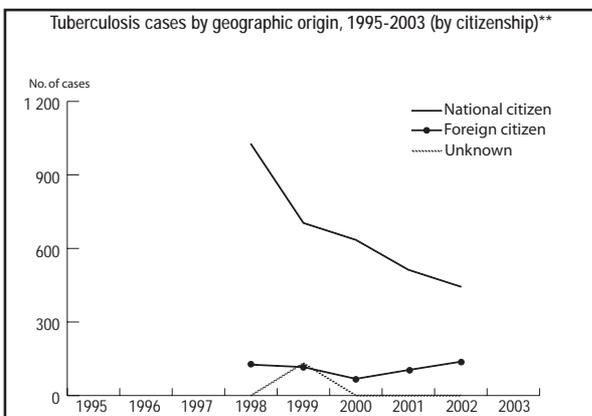
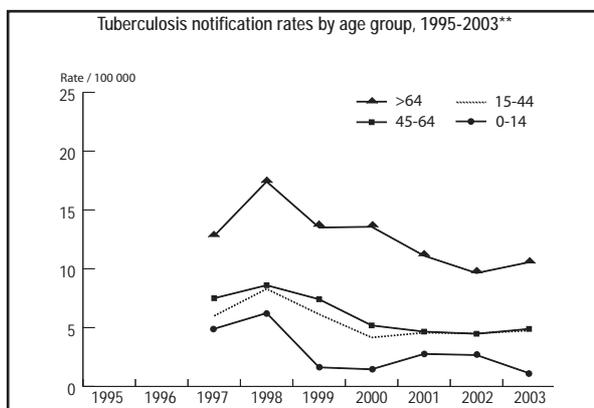
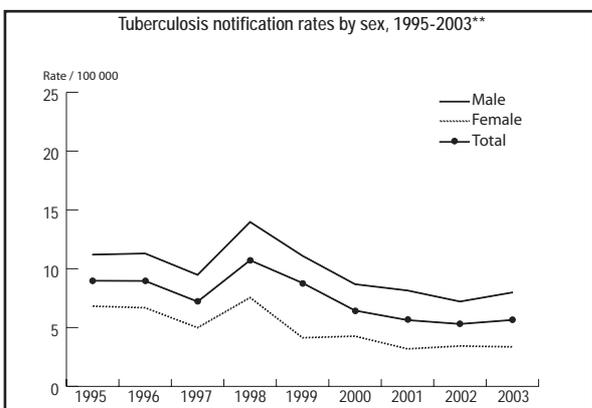
Culture not routinely performed

§ Data from NRL and another laboratory

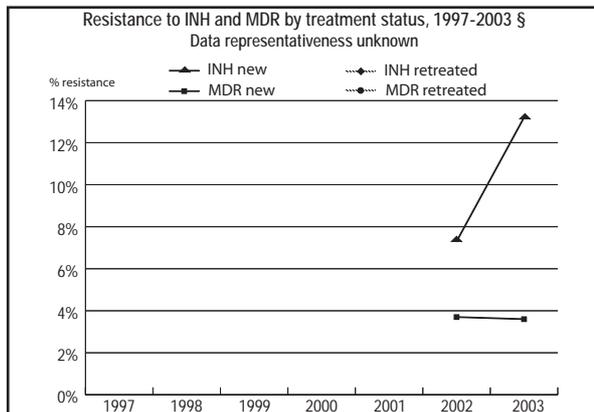
# new cases only

**Treatment Outcome Monitoring, 2002**

NOT AVAILABLE



\*\* TB case definition changed in 1998



§ New cases only

### Tuberculosis case notifications, 2003

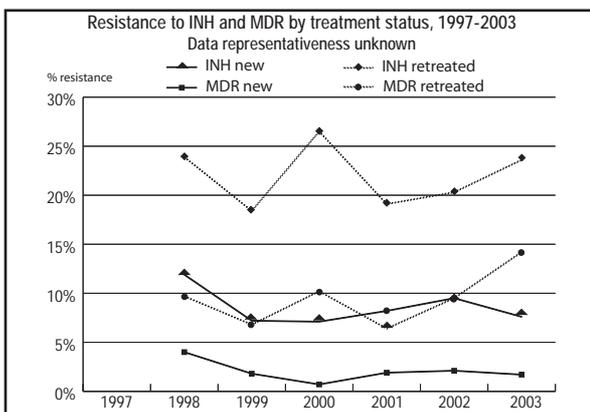
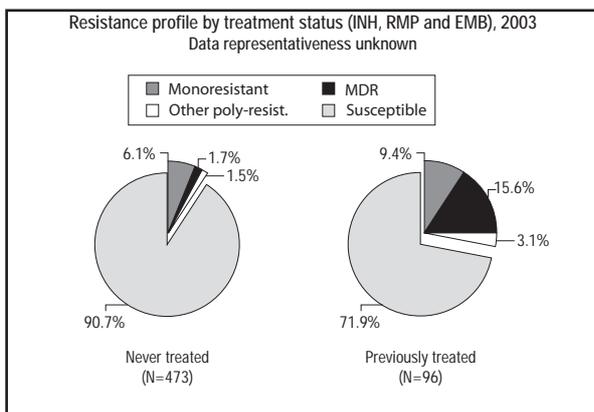
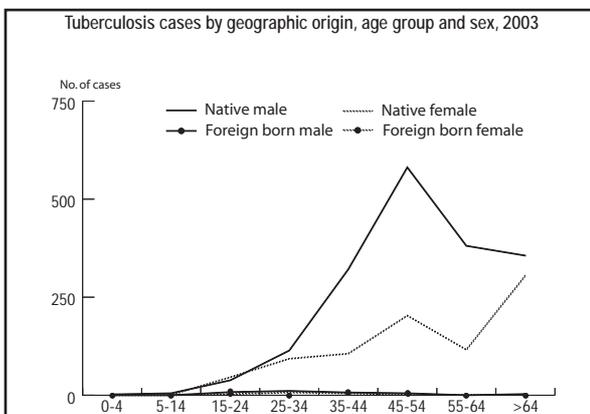
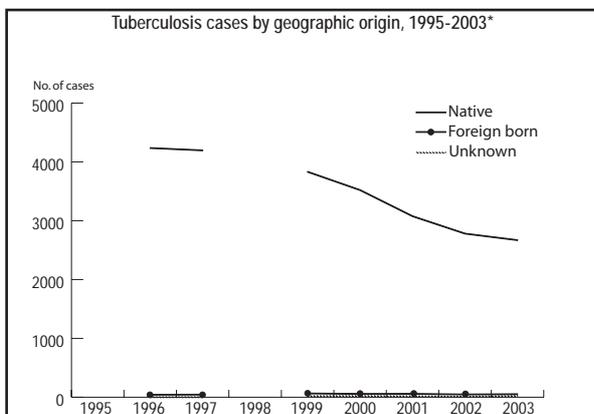
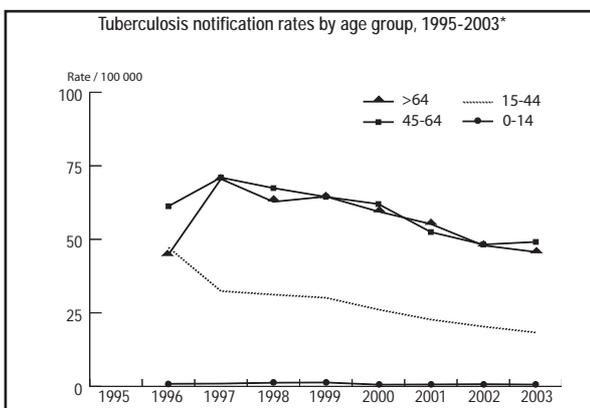
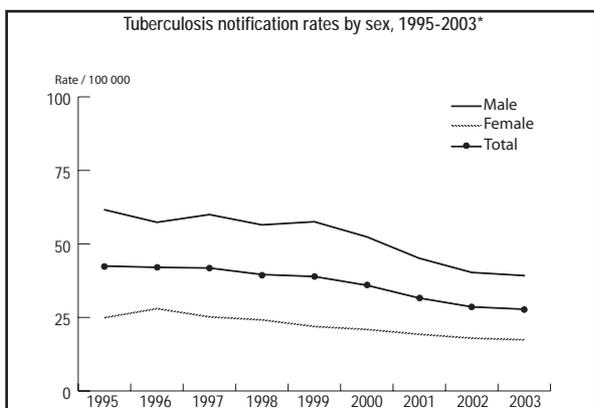
Type of data provided	Individual
Total number of cases	2 745
Notification rate per 100 000	27.8
Sex ratio (M:F)	2.1
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	52 (1.9%)
New (never-treated)	2 278 (83.0%)
Culture positive	901 (32.8%)
Pulmonary	2 554 (93.0%)
of which sputum smear positive	644 (25.2%)

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	578
Cases resistant to INH	61 (10.6%)
Cases resistant to RMP	28 (4.8%)
MDR cases	23 (4.0%)
Cases resistant to EMB	31 (5.4%)
Cases resistant to SM	50 (8.7%)
Data representativeness unknown	
Culture and DST not routinely performed	

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	734
Success	433 (59%)
Death	54 (7%)
Failure	63 (9%)
Default	40 (5%)
Transfer	23 (3%)
Still on treatment	119 (16%)
Unknown	2 (0%)



\* TB case definition changed in 1997

**Tuberculosis case notifications, 2003**

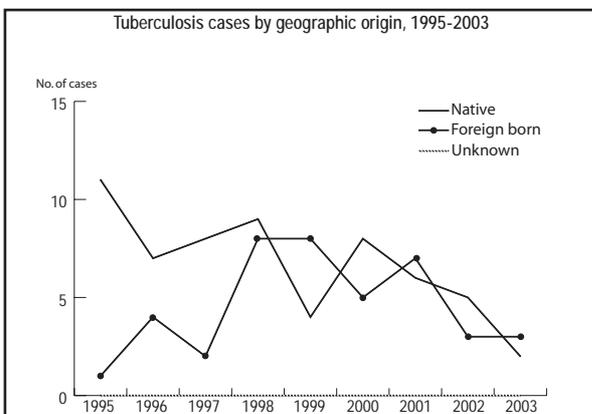
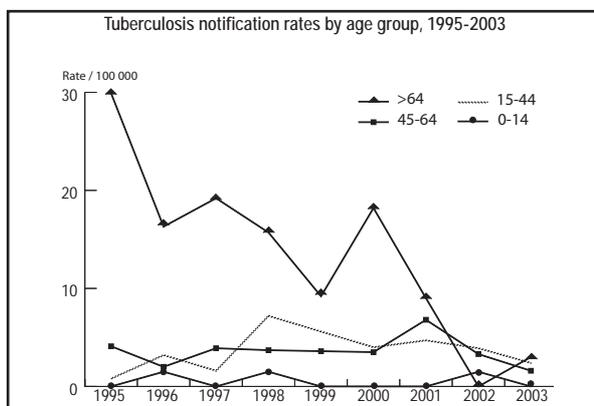
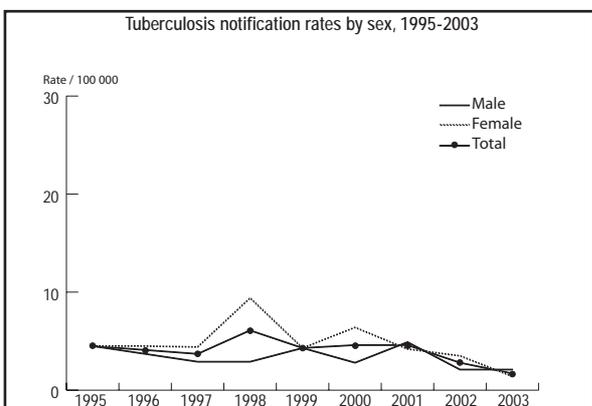
Type of data provided	Individual
Total number of cases	5
Notification rate per 100 000	1.7
Sex ratio (M:F)	1.5
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	3 (60.0%)
New (never-treated)	5 (100.0%)
Culture positive	4 (80.0%)
Pulmonary	3 (60.0%)
of which sputum smear positive	1 (33.3%)

**Drug Resistance Surveillance, 2003**

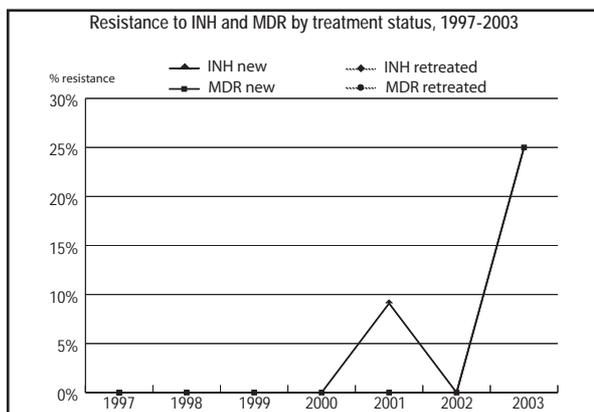
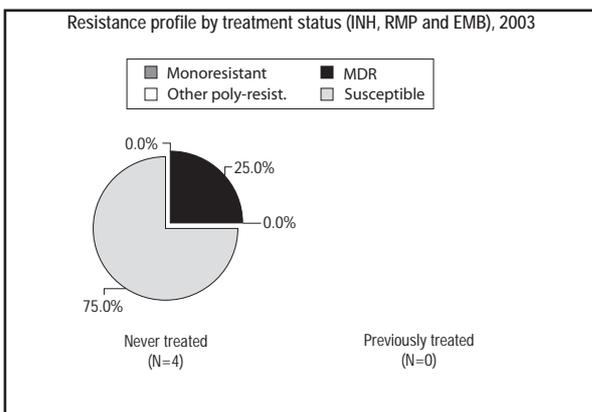
International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	6
Cases resistant to INH	0 (0.0%)
Cases resistant to RMP	0 (0.0%)
MDR cases	0 (0.0%)
Cases resistant to EMB	0 (0.0%)
Cases resistant to SM	0 (0.0%)

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	5
Success	5 (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**



### Tuberculosis case notifications, 2003

Type of data provided	Individual
Total number of cases	421
Notification rate per 100 000	10,6
Sex ratio (M:F)	1.7
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Individuals born abroad*	84 (20.0%)
New (never-treated)	269 (63.9%)
Culture positive §	183 (43.5%)
Pulmonary	299 (71.0%)
of which sputum smear positive	154 (51.5%)

\* 10% with geographic origin unknown

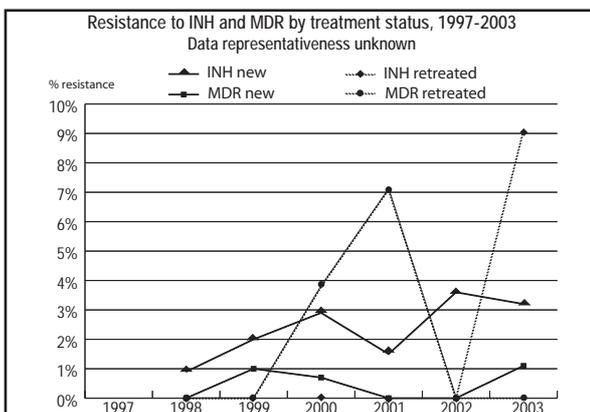
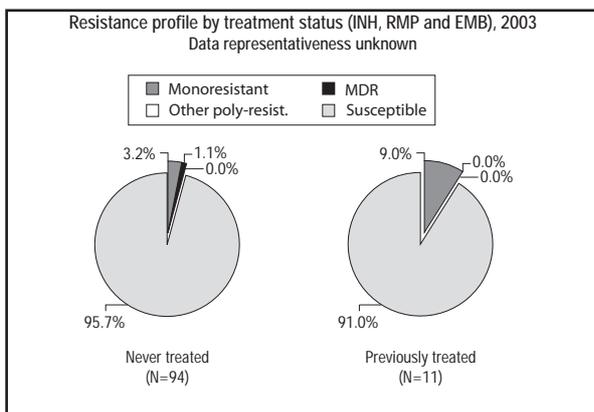
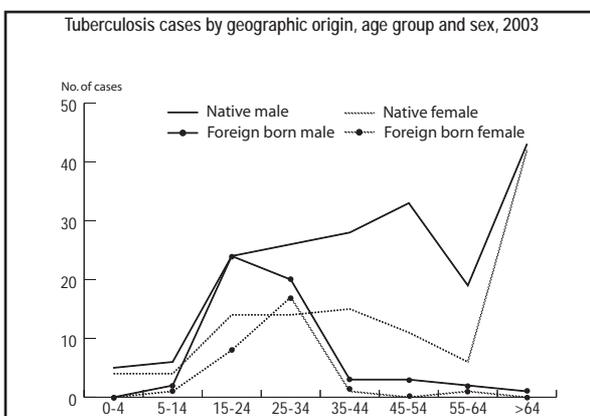
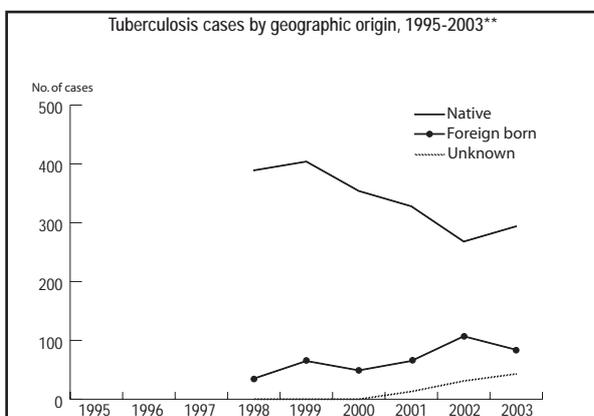
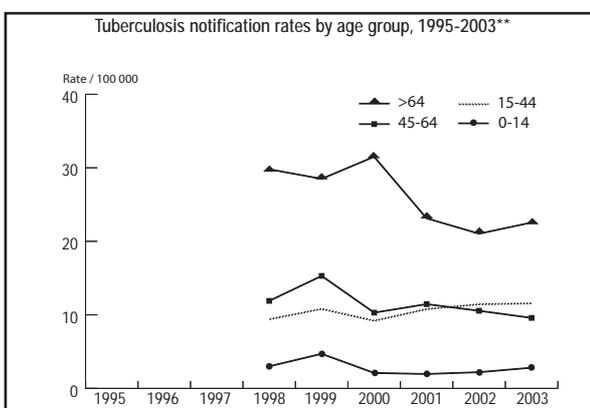
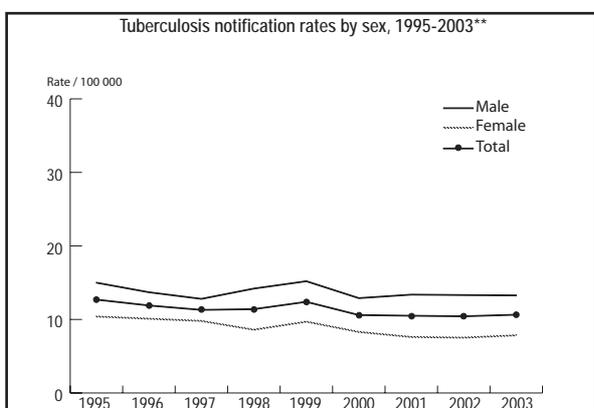
§ 48% with culture result unknown

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	134
Cases resistant to INH	7 (5.2%)
Cases resistant to RMP	1 (0.7%)
MDR cases	1 (0.7%)
Cases resistant to EMB	2 (1.5%)
Cases resistant to SM	2 (1.5%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	161
Success	121 (75%)
Death	13 (8%)
Failure	2 (1%)
Default	0 (0%)
Transfer	0 (0%)
Still on treatment	2 (1%)
Unknown	23 (14%)



\*\* Notification system reorganised in 1998

**Tuberculosis case notifications, 2003**

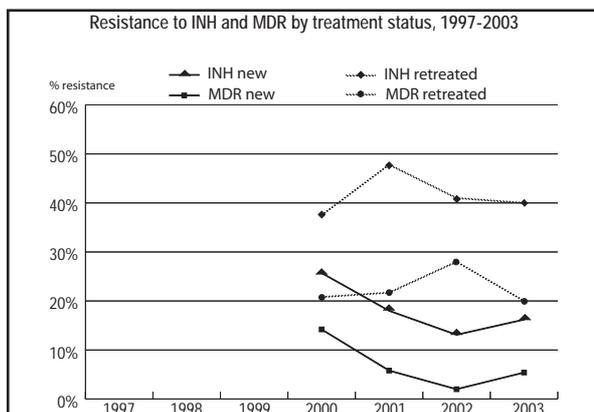
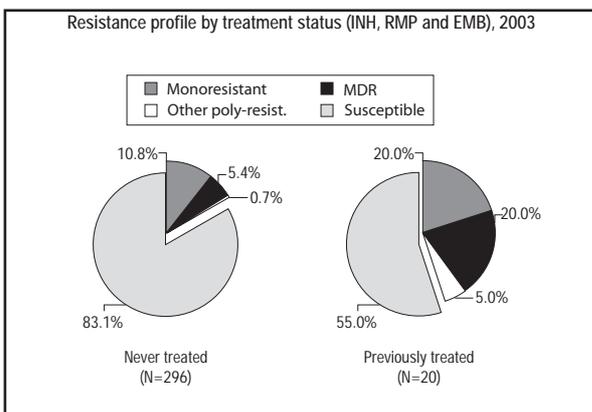
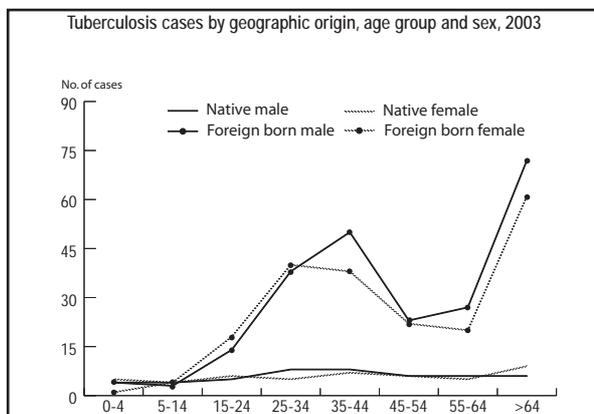
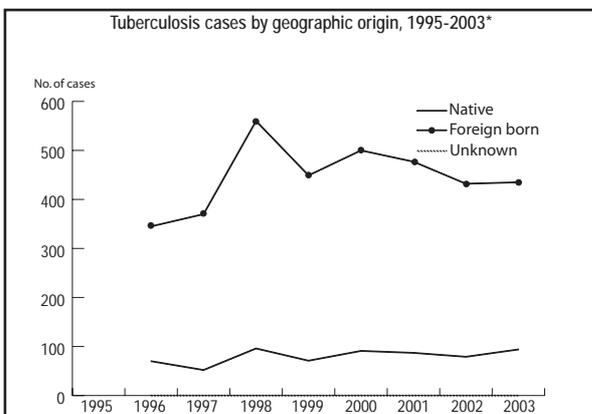
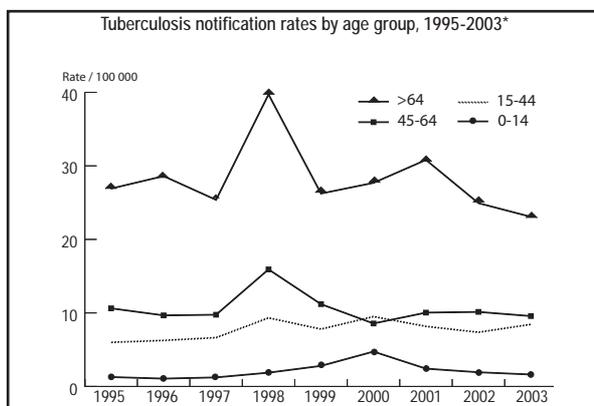
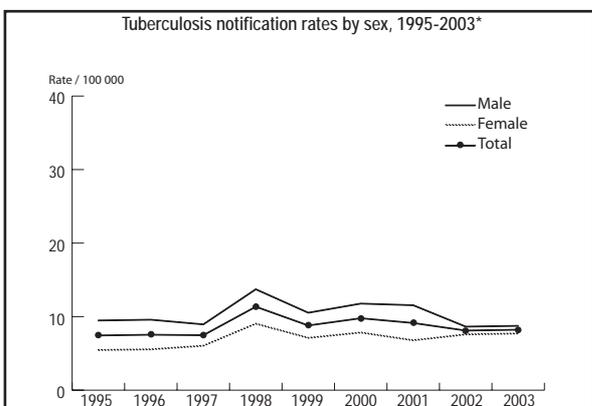
Type of data provided	Aggregate
Total number of cases	529
Notification rate per 100 000	8.2
Sex ratio (M:F)	1.1
Median age-group, nationals	35-44 years
Median age-group, non-nationals	45-54 years
Individuals born abroad	435 (82.2%)
New (never-treated)	497 (94.0%)
Culture positive	316 (59.7%)
Pulmonary	419 (79.2%)
of which sputum smear positive	158 (37.7%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	316
Cases resistant to INH	56 (17.7%)
Cases resistant to RMP	22 (7.0%)
MDR cases	20 (6.3%)
Cases resistant to EMB	11 (3.5%)
Cases resistant to SM	50 (15.8%)

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	257
Success	207 (81%)
Death	27 (11%)
Failure	1 (0%)
Default	5 (2%)
Transfer	14 (5%)
Still on treatment	3 (1%)
Unknown	0 (0%)



\* Notification system reorganised in 1998

### Tuberculosis case notifications, 2003

Type of data provided	Individual*
Total number of cases	4 518
Notification rate per 100 000	7.9
Sex ratio (M:F)	1.5
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	1 459 (32.3%)
New (never-treated)	3 295 (72.9%)
Culture positive	2 554 (56.5%)
Pulmonary	3 359 (74.3%)
of which sputum smear positive	1 579 (47.0%)

\* except for DRS

\*\* 31% of cases with culture result unknown

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	8 / 21 regions
Linkage with TB case notification	No §
Cases with DST results	788
Cases resistant to INH	78 (9.9%)
Cases resistant to RMP	48 (6.1%)
MDR cases	42 (5.3%)
Cases resistant to EMB	19 (2.4%)
Cases resistant to SM	75 (9.5%)

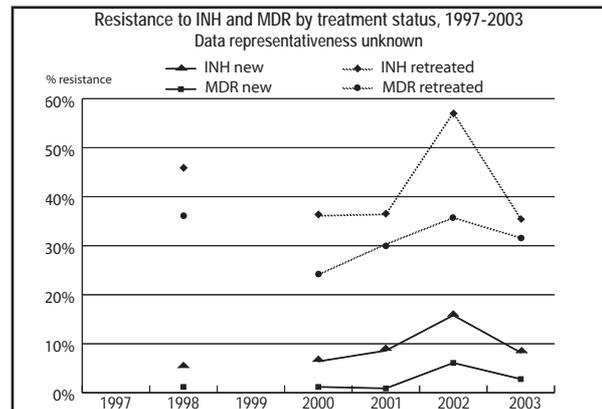
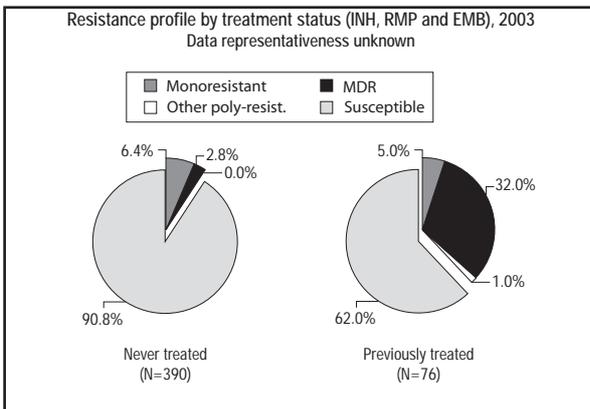
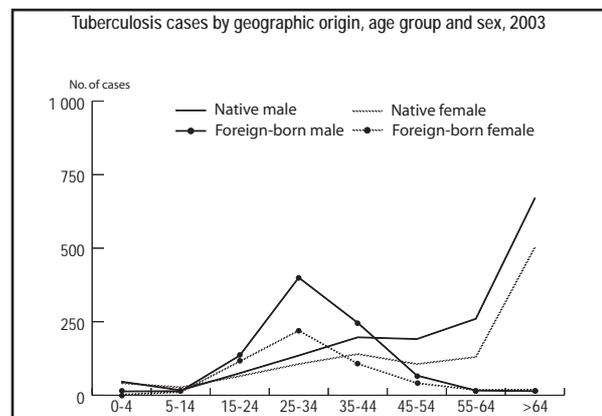
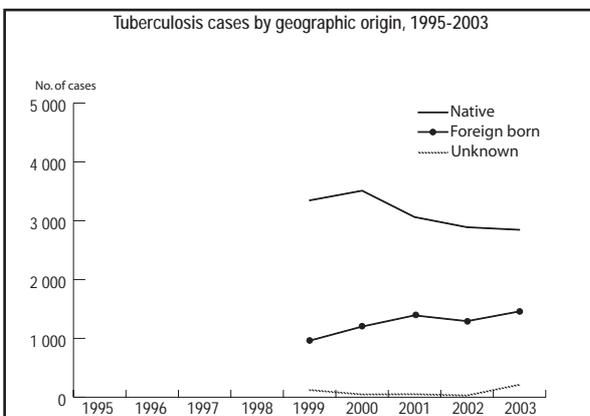
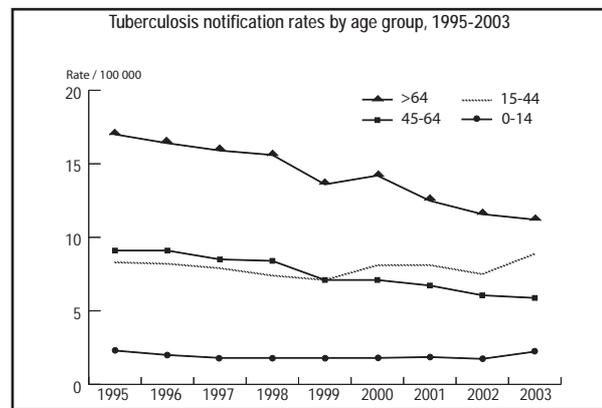
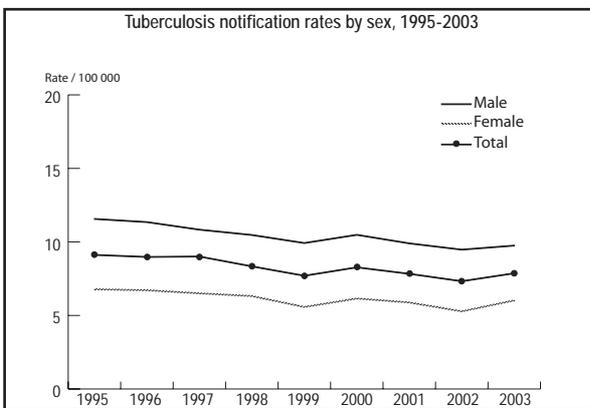
Data representativeness unknown

§ Data from a network of 20 laboratories

### Treatment Outcome Monitoring, 2002

Geographic coverage	selected regions
Cohort	new pulmonary culture positive
Included in TOM cohort	249
Success	215 (86%)
Death	3 (1%)
Failure	0 (0%)
Default	17 (7%)
Transfer	8 (3%)
Still on treatment	0 (0%)
Unknown	6 (2%)

Data from selected centres, representativeness unknown



### Tuberculosis case notifications, 2003

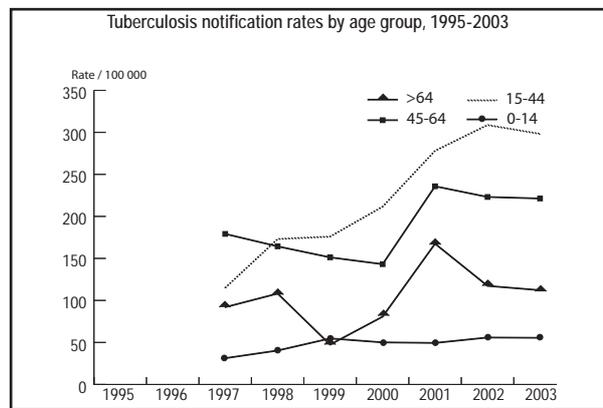
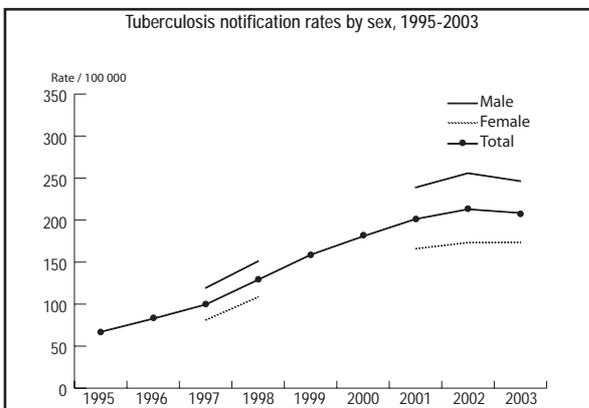
Type of data provided	Aggregate
Total number of cases	32 169
Notification rate per 100 000	208.4
Sex ratio (M:F)	1.3
Median age-group, nationals	25-34 years
Median age-group, non-nationals	-
Individuals born abroad	0 (0.0%)
New (never-treated)	23 918 (74.4%)
Culture positive	4 362 (13.6%)
Pulmonary	30 987 (96.3%)
of which sputum smear positive	14 058 (45.4%)

### Drug Resistance Surveillance, 2003

International proficiency testing	No
Geographic coverage	National
Linkage with TB case notification	No §
Cases with DST results	15 478
Cases resistant to INH	7 138 (46.1%)
Cases resistant to RMP	4 033 (26.1%)
MDR cases	3 583 (23.1%)
Cases resistant to EMB	4 284 (27.7%)
Cases resistant to SM	7 578 (49.0%)
Data representativeness unknown	
§ Data from all labs doing DST	

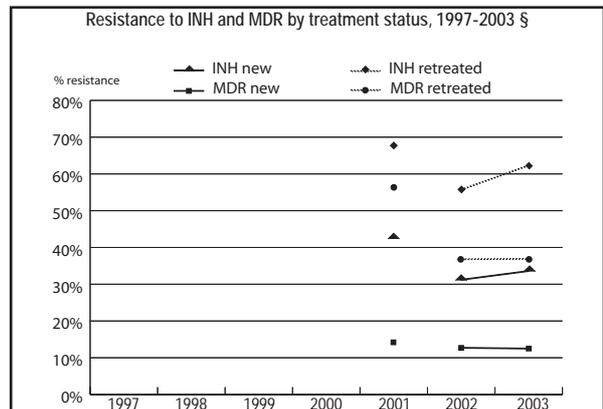
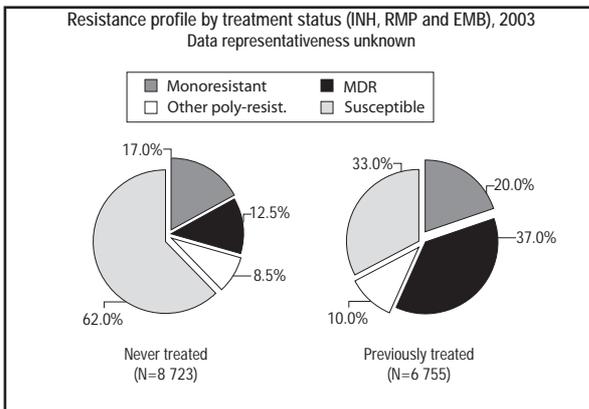
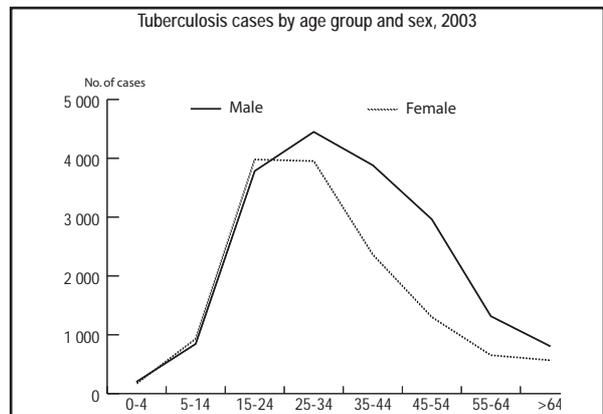
### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary smear positive
Included in TOM cohort	9 440
Success	7 137 (76%)
Death	438 (5%)
Failure	1 030 (11%)
Default	582 (6%)
Transfer	193 (2%)
Still on treatment	0 (0%)
Unknown	60 (1%)



Tuberculosis cases by geographic origin, 1995-2003

**No foreigners reported**



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

### Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	7 025
Notification rate per 100 000	136.7
Sex ratio (M:F)	1.3
Median age-group, nationals*	25-34 years
Median age-group, non-nationals	-
Individuals born abroad	-
New (never-treated)	6 172 (87.9%)
Culture positive	-
Pulmonary	4 849 (69.0%)
of which sputum smear positive	2 286 (47.1%)

\* new cases only

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	partial
Linkage with TB case notification	No §
Cases with DST results	670
Cases resistant to INH	278 (41.5%)
Cases resistant to RMP	131 (19.6%)
MDR cases	117 (17.5%)
Cases resistant to EMB	78 (11.6%)
Cases resistant to SM	355 (53.0%)

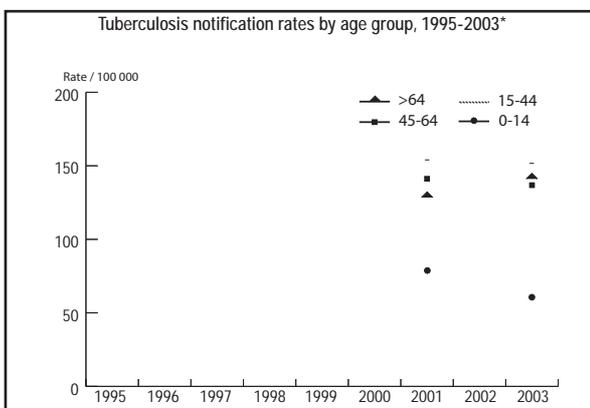
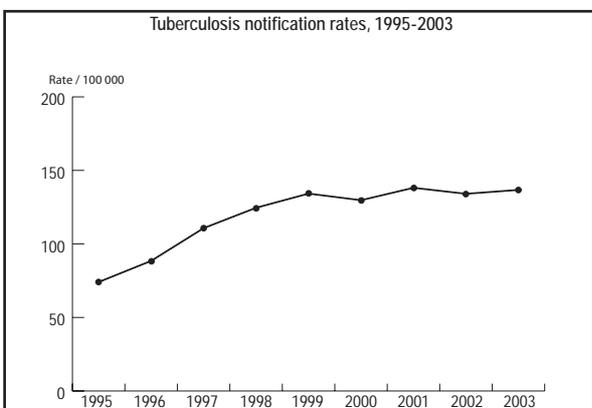
Data representativeness unknown

Culture and DST not routinely performed

§ Data from NRL

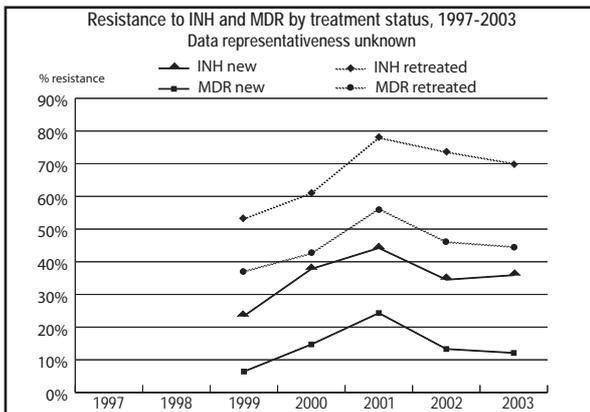
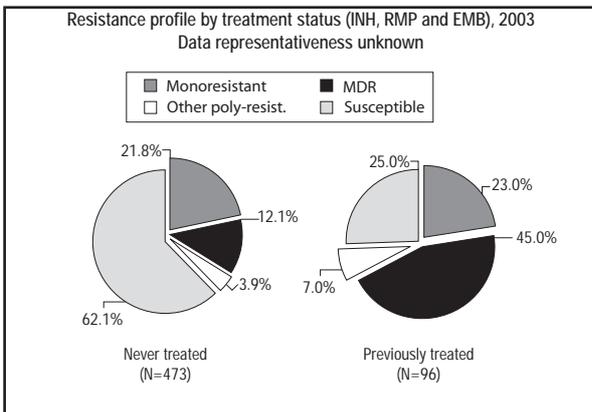
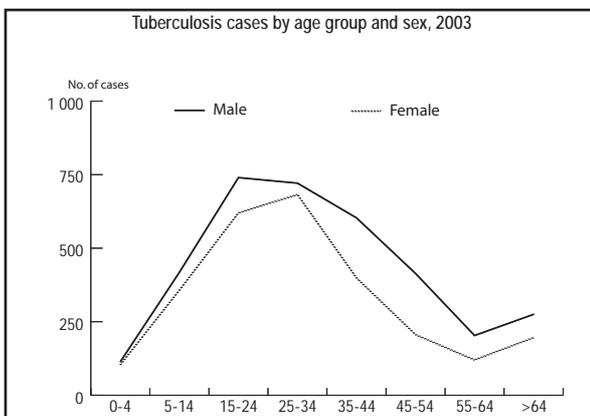
### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary smear positive
Included in TOM cohort	1 476
Success	1 209 (82%)
Death	65 (4%)
Failure	106 (7%)
Default	69 (5%)
Transfer	27 (2%)
Still on treatment	0 (0%)
Unknown	0 (0%)



Tuberculosis cases by geographic origin, 1995-2003

**Foreigners not included in TB notifications**



\* New cases only

**Tuberculosis case notifications, 2003**

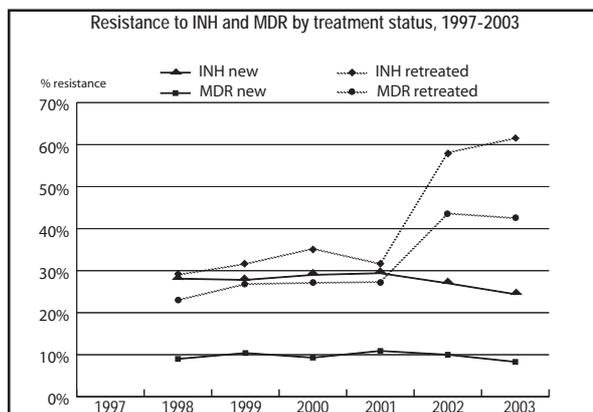
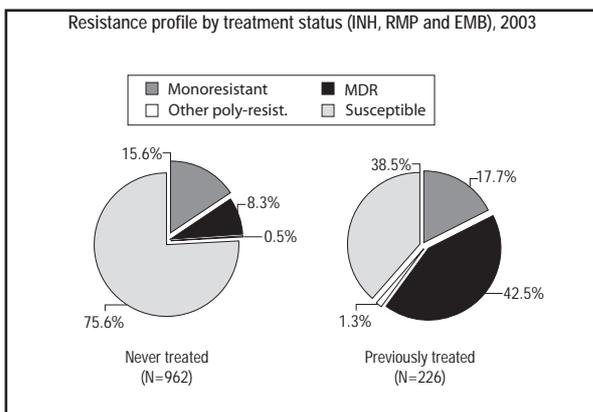
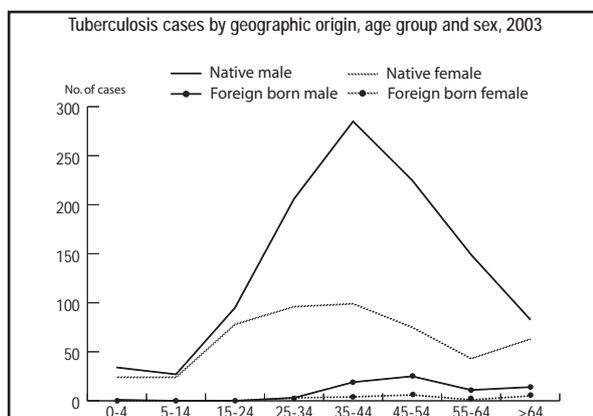
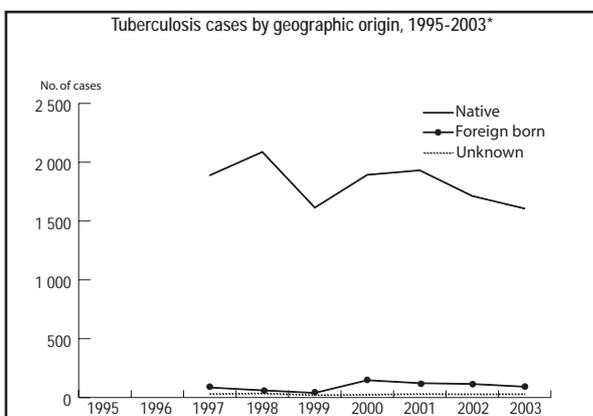
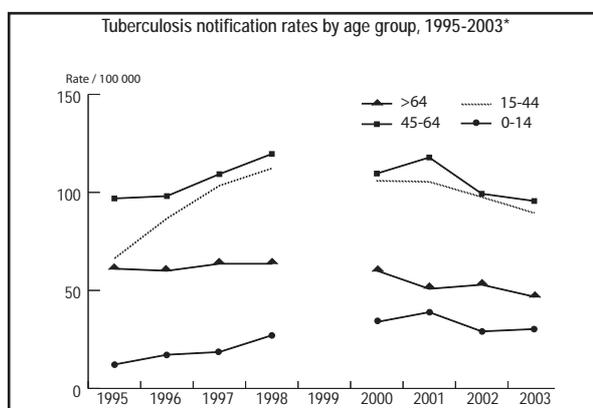
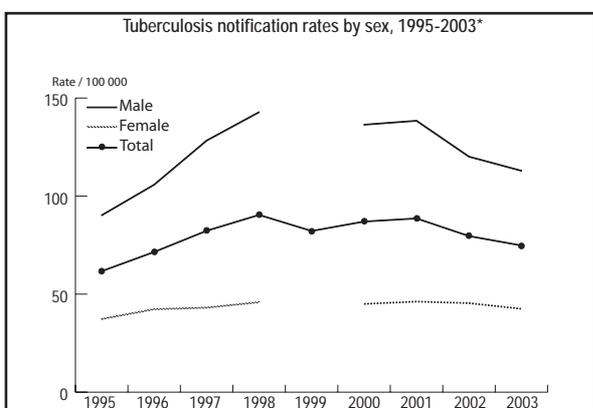
Type of data provided	Individual
Total number of cases	1 726
Notification rate per 100 000	74.8
Sex ratio (M:F)	2.3
Median age-group, nationals	35-44 years
Median age-group, non-nationals	45-54 years
Individuals born abroad	92 (5.3%)
New (never-treated)	1 481 (85.8%)
Culture positive	1 263 (73.2%)
Pulmonary	1 543 (89.4%)
of which sputum smear positive	815 (52.8%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	1 188
Cases resistant to INH	374 (31.5%)
Cases resistant to RMP	176 (14.8%)
MDR cases	176 (14.8%)
Cases resistant to EMB	123 (10.4%)
Cases resistant to SM	341 (28.7%)

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	943
Success	742 (79%)
Death	64 (7%)
Failure	10 (1%)
Default	48 (5%)
Transfer	2 (0%)
Still on treatment	77 (8%)
Unknown	0 (0%)



\* retreated cases other than relapses included since 2001

### Tuberculosis case notifications, 2003

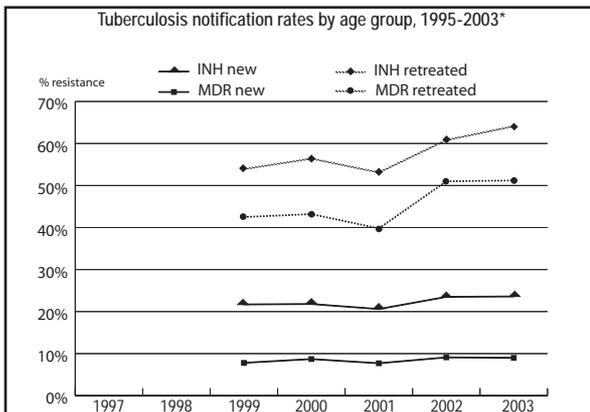
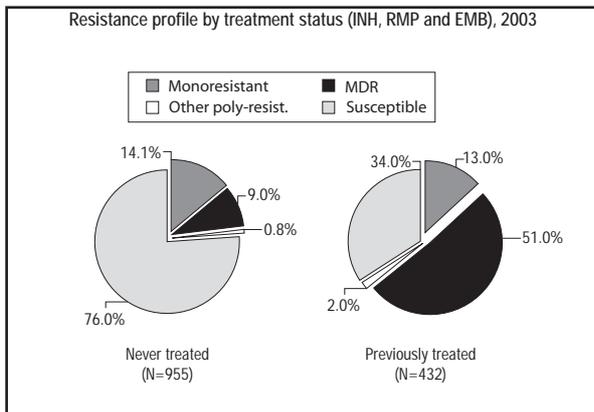
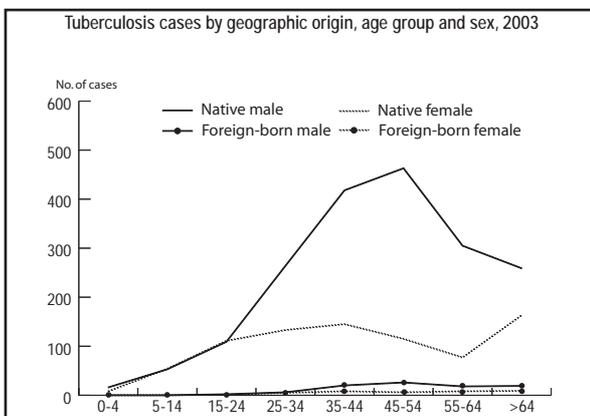
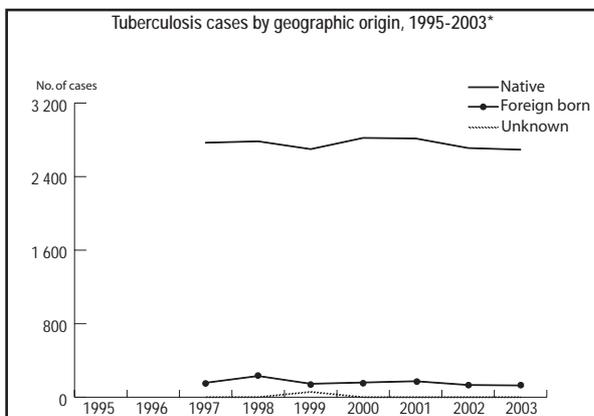
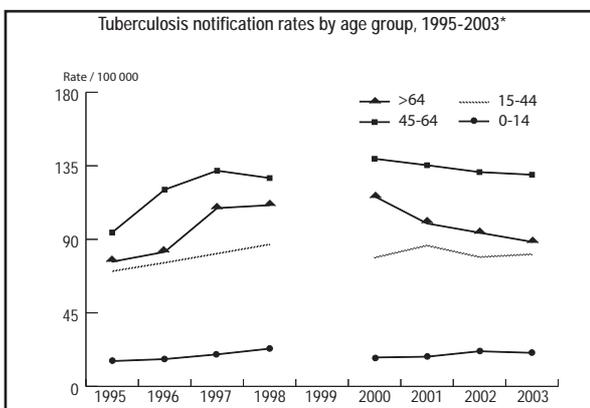
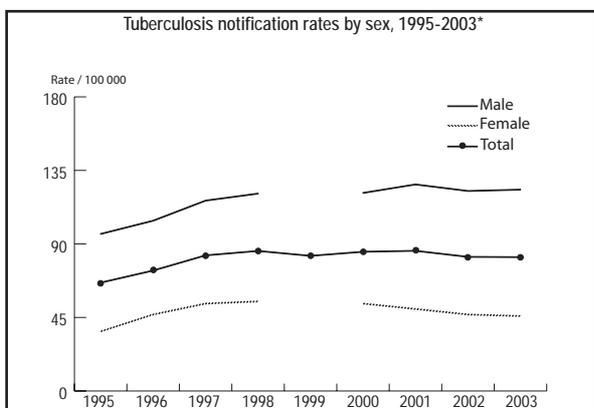
Type of data provided	Individual
Total number of cases	2 821
Notification rate per 100 000	81.9
Sex ratio (M:F)	2.3
Median age-group, nationals	45-54 years
Median age-group, non-nationals	45-54 years
Individuals born abroad	128 (4.5%)
New (never-treated)	2 247 (79.7%)
Culture positive	1 680 (59.6%)
Pulmonary	2 392 (84.8%)
of which sputum smear positive	1 334 (55.8%)

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	1 398
Cases resistant to INH	508 (36.3%)
Cases resistant to RMP	318 (22.7%)
MDR cases	312 (22.3%)
Cases resistant to EMB	192 (13.7%)
Cases resistant to SM	441 (31.5%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	1 001
Success	738 (74%)
Death	91 (9%)
Failure	39 (4%)
Default	95 (9%)
Transfer	2 (0%)
Still on treatment	36 (4%)
Unknown	0 (0%)



\* retreated cases other than relapses included since 2001

**Tuberculosis case notifications, 2003**

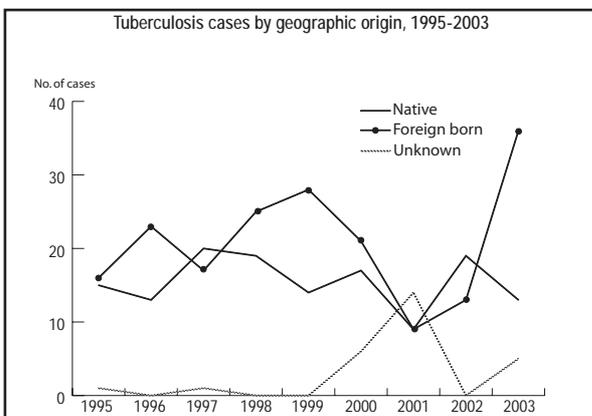
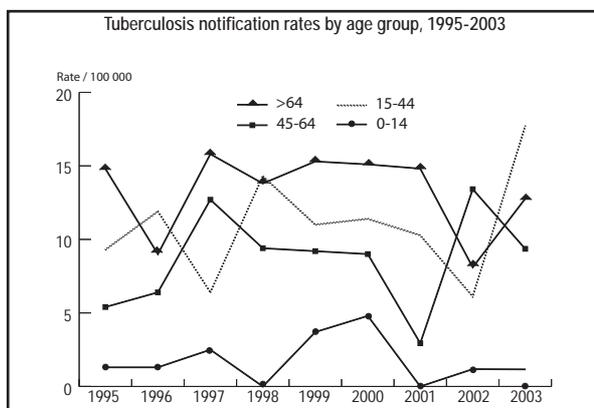
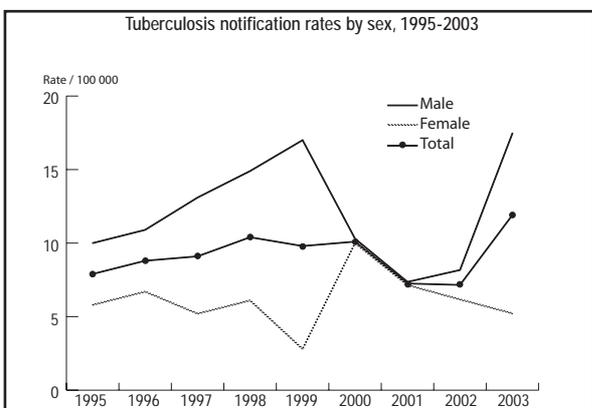
Type of data provided	Individual
Total number of cases	54
Notification rate per 100 000	11.9
Sex ratio (M:F)	3.3
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	36 (66.7%)
New (never-treated)	53 (98.1%)
Culture positive	54 (100.0%)
Pulmonary	51 (94.4%)
of which sputum smear positive	31 (60.8%)

**Drug Resistance Surveillance, 2003**

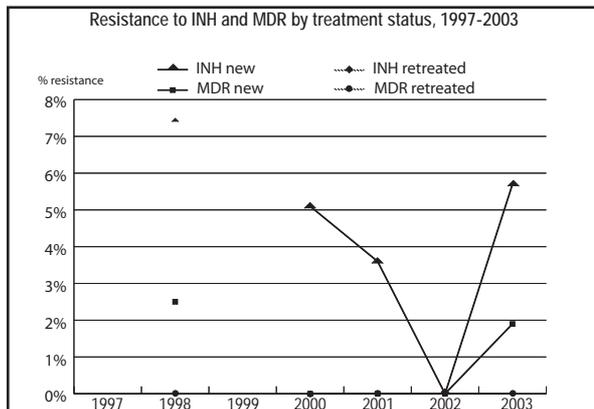
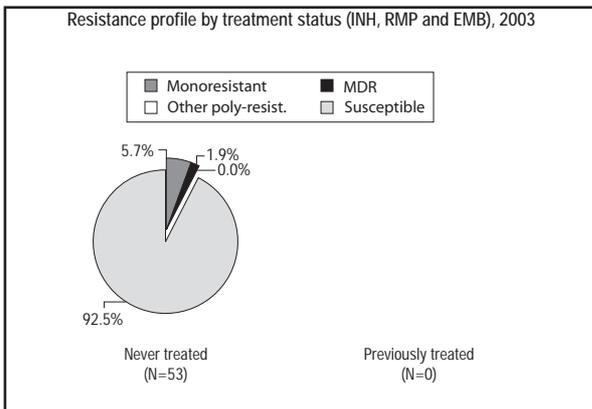
International proficiency testing	No
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	54
Cases resistant to INH	3 (5.6%)
Cases resistant to RMP	1 (1.9%)
MDR cases	1 (1.9%)
Cases resistant to EMB	2 (3.7%)
Cases resistant to SM	4 (7.4%)

**Treatment Outcome Monitoring, 2002**

NOT AVAILABLE



Insufficient number of cases for graphic presentation



## Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	697
Notification rate per 100 000	33.9
Sex ratio (M:F)	1.7
Median age-group, nationals	35-44 years
Median age-group, non-nationals	25-34 years
Individuals born abroad*	12 (1.7%)
New (never-treated)	611 (87.7%)
Culture positive	88 (12.6%)
Pulmonary	529 (75.9%)
of which sputum smear positive	241 (45.6%)

\* 23% with geographic origin unknown

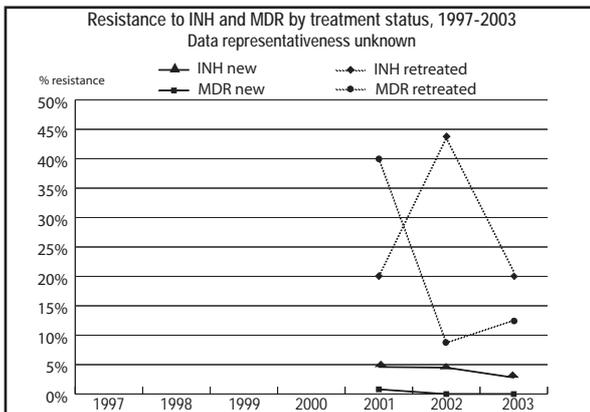
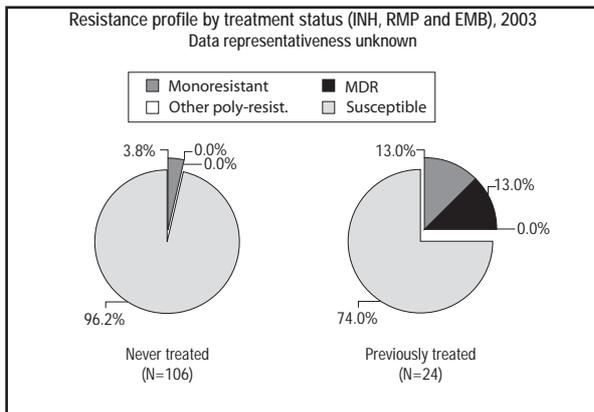
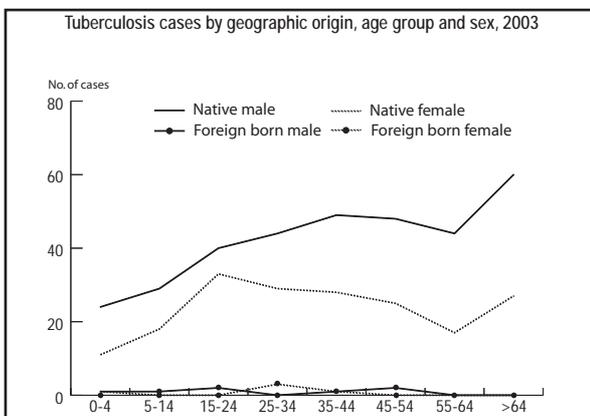
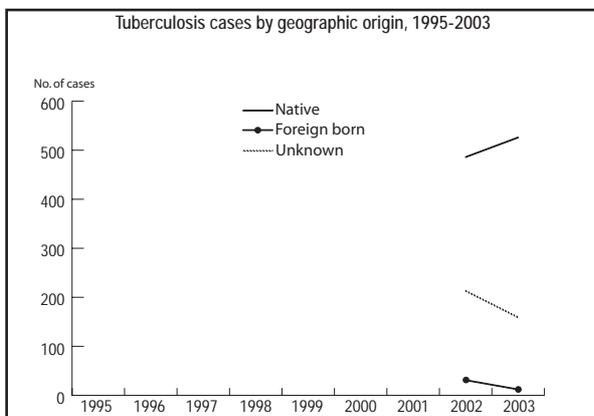
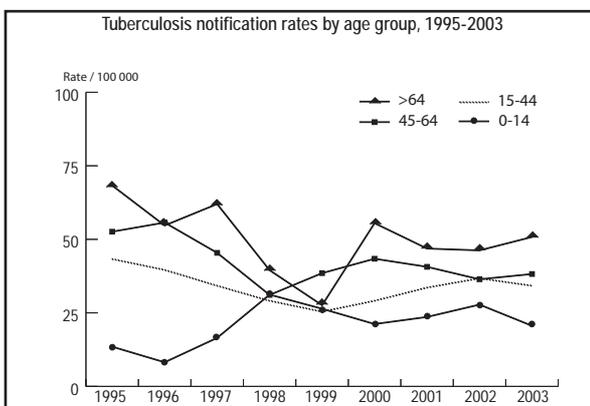
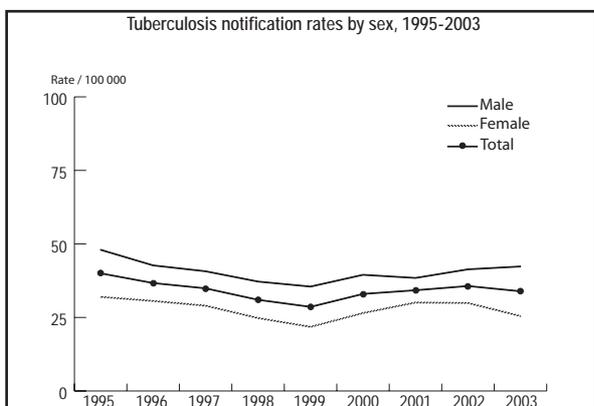
## Drug Resistance Surveillance, 2003

International proficiency testing	No
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	145
Cases resistant to INH	8 (5.5%)
Cases resistant to RMP	6 (4.1%)
MDR cases	3 (2.1%)
Cases resistant to EMB	0 (0.0%)
Cases resistant to SM	10 (6.9%)

**Data representativeness unknown**  
**Culture and DST not routinely used**

## Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary smear positive
Included in TOM cohort	200
Success	161 (81%)
Death	3 (2%)
Failure	1 (1%)
Default	29 (15%)
Transfer	1 (1%)
Still on treatment	0 (0%)
Unknown	5 (3%)



**Tuberculosis case notifications, 2003**

Type of data provided	Individual
Total number of cases	7
Notification rate per 100 000	1.8
Sex ratio (M:F)	1.3
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	4 (57.1%)
New (never-treated)	6 (85.7%)
Culture positive	3 (42.9%)
Pulmonary	4 (57.1%)
of which sputum smear positive	2 (50.0%)

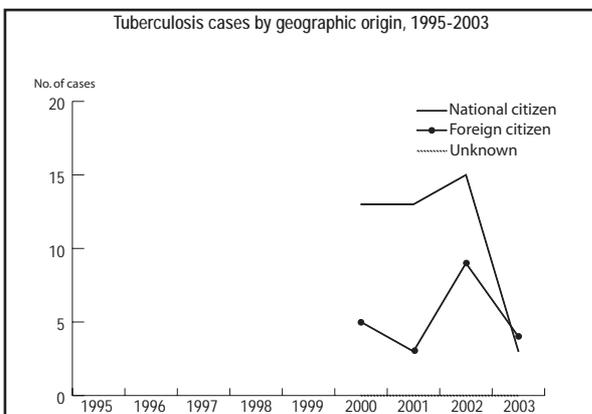
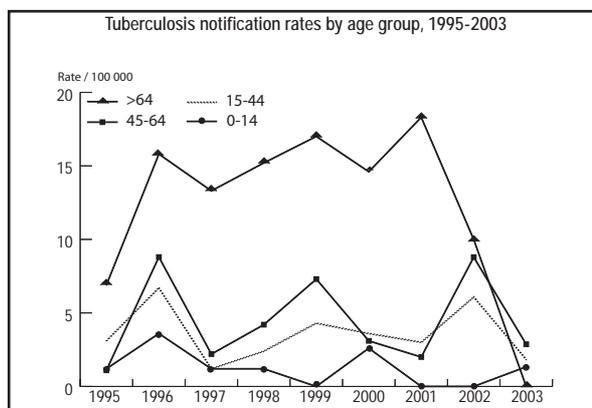
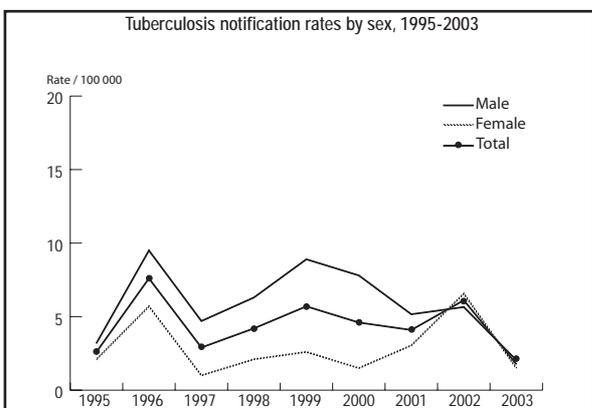
**Drug Resistance Surveillance, 2003**

International proficiency testing	No §
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	2
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%)

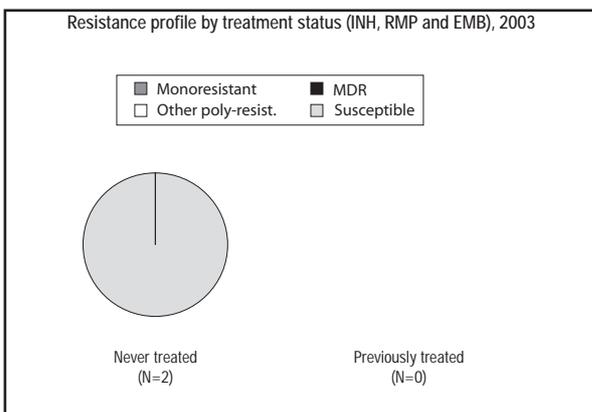
§ DST done in the United Kingdom

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	12
Success	11 (92%)
Death	1 (8%)
Failure	0 (0%)
Default	0 (0%)
Transfer	0 (0%)
Still on treatment	0 (0%)
Unknown	0 (0%)



**Insufficient number of cases for graphic presentation**



**No resistance reported**

## Tuberculosis case notifications, 2003

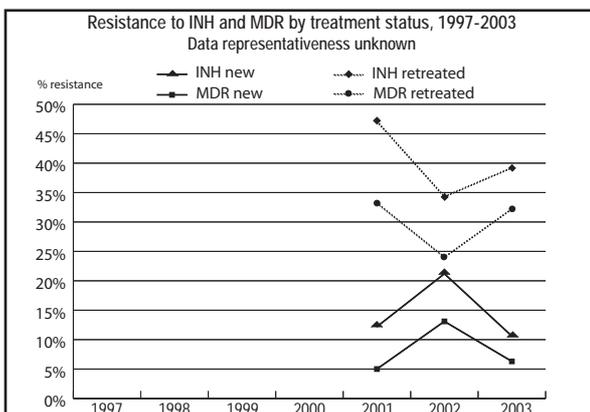
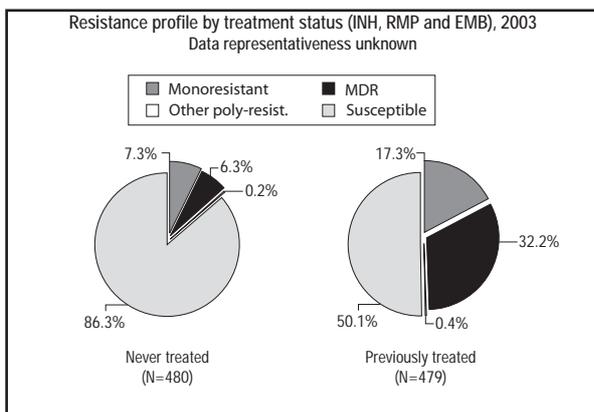
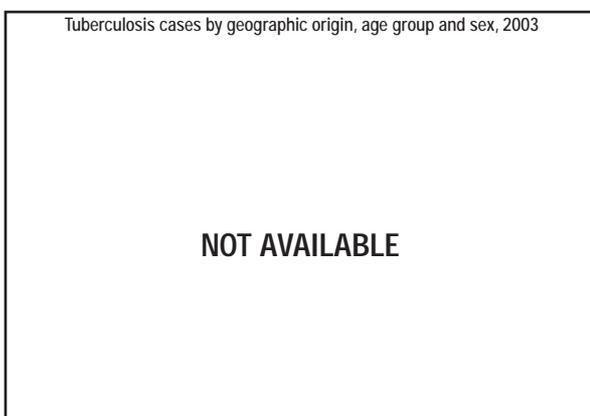
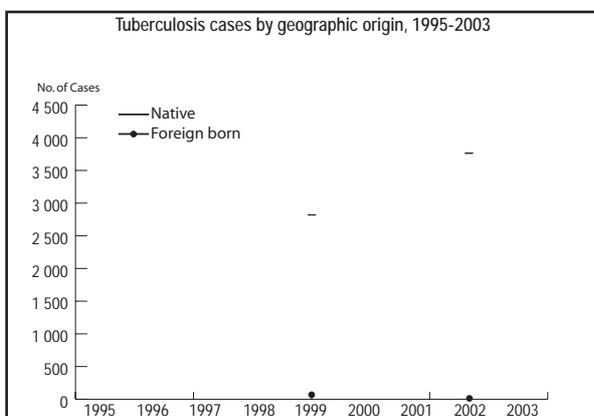
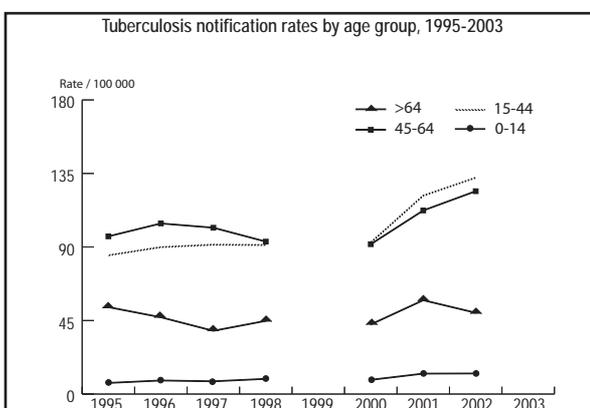
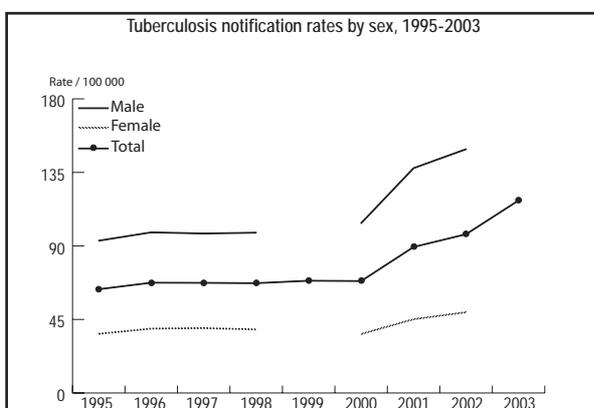
Type of data provided	Aggregate
Total number of cases	5 027
Notification rate per 100 000	117.8
Sex ratio (M:F)	-
Median age-group, nationals	-
Median age-group, non-nationals	-
Individuals born abroad	- -
New (never-treated)	3 619 (72.0%)
Culture positive	- -
Pulmonary	4 340 (86.3%)
of which sputum smear positive	2 188 (50.4%)

## Drug Resistance Surveillance, 2003

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, 2002

Geographic coverage	DOTS Areas	
Cohort	new pulmonary smear positive	
Included in TOM cohort	556	
Success	340	(61%)
Death	46	(8%)
Failure	58	(10%)
Default	87	(16%)
Transfer	21	(4%)
Still on treatment	2	(0%)
Unknown	2	(0%)



**Tuberculosis case notifications, 2003**

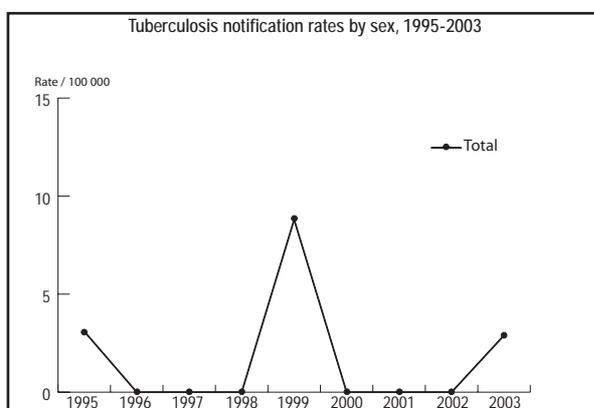
Type of data provided	Aggregate
Total number of cases	1
Notification rate per 100 000	2.9
Sex ratio (M:F)	-
Median age-group, nationals	-
Median age-group, non-nationals	-
Individuals born abroad	-
New (never-treated)	-
Culture positive	-
Pulmonary	-
of which sputum smear positive	-

**Drug Resistance Surveillance, 2003**

**NOT AVAILABLE**

**Treatment Outcome Monitoring, 2002**

**ZERO CASES**



**Insufficient number of cases for graphic presentation**

**Insufficient number of cases for graphic presentation**

**Insufficient number of cases for graphic presentation**

**No resistance reported**

**No resistance reported**

### Tuberculosis case notifications, 2003

Type of data provided	Individual
Total number of cases	1 321
Notification rate per 100 000	8.2
Sex ratio (M:F)	1.4
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Foreign citizens	749 (56.7%)
New (never-treated)	1 082 (81.9%)
Culture positive*	756 (57.2%)
Pulmonary	868 (65.7%)
of which sputum smear positive	299 (34.4%)

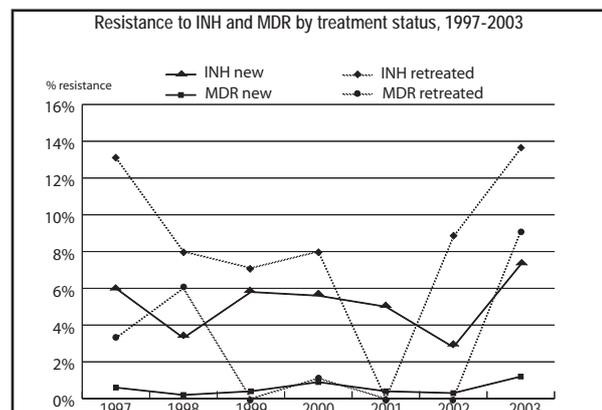
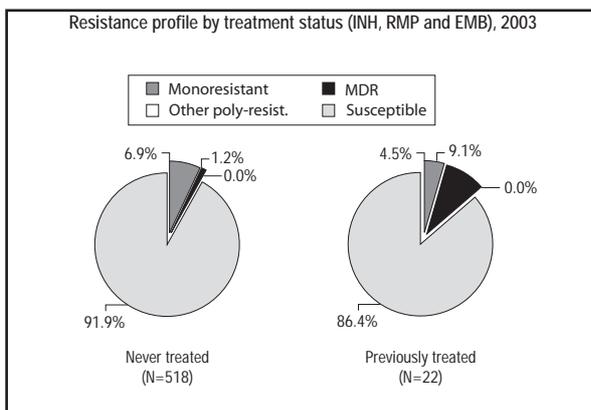
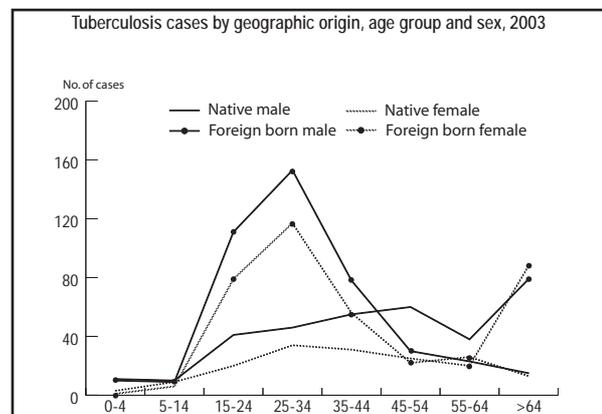
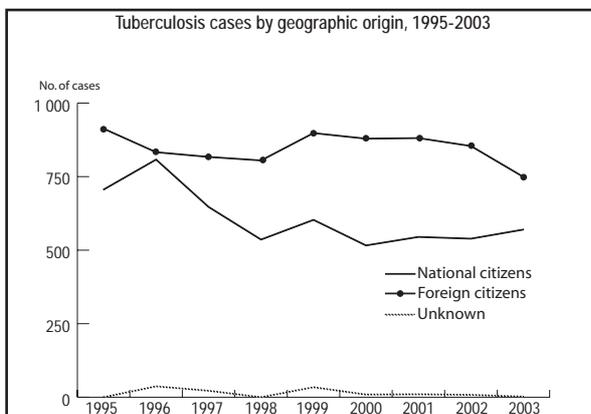
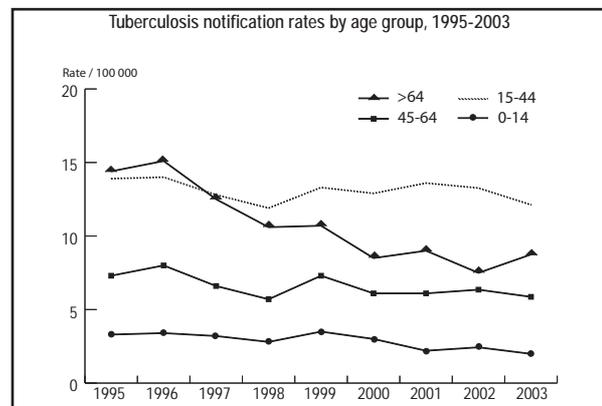
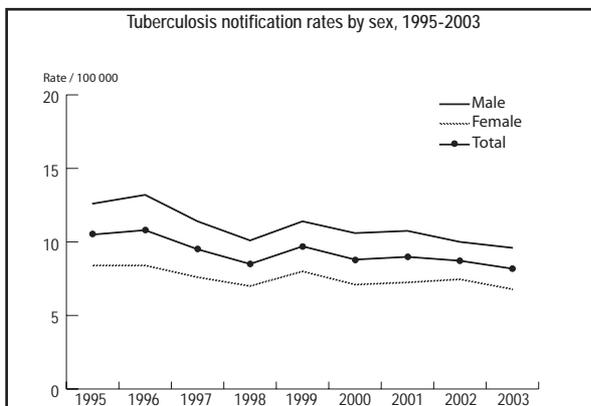
\* 33% with culture result unknown

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	Partial
Linkage with TB case notification	Yes
Cases with DST results	619
Cases resistant to INH	45 (7.3%)
Cases resistant to RMP	9 (1.5%)
MDR cases	8 (1.3%)
Cases resistant to EMB	4 (0.6%)
Cases resistant to SM	29 (4.7%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	442
Success	381 (86%)
Death	21 (5%)
Failure	0 (0%)
Default	31 (7%)
Transfer	9 (2%)
Still on treatment	0 (0%)
Unknown	0 (0%)



**Tuberculosis case notifications, 2003**

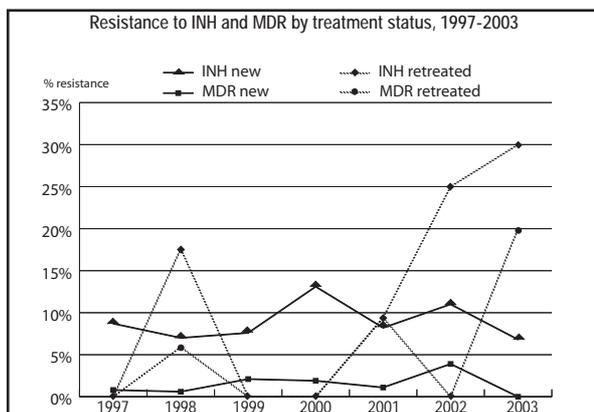
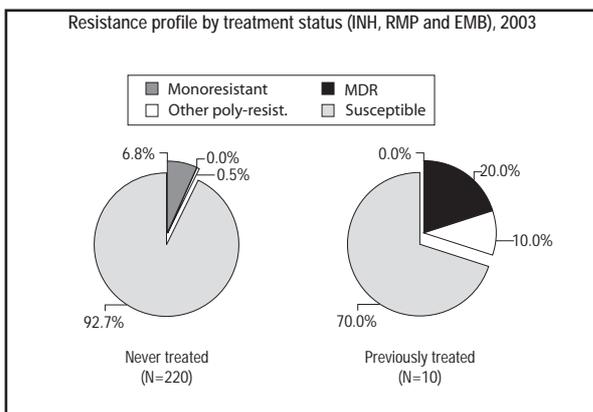
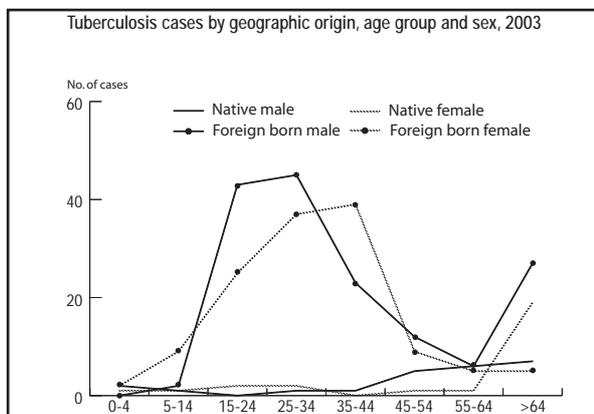
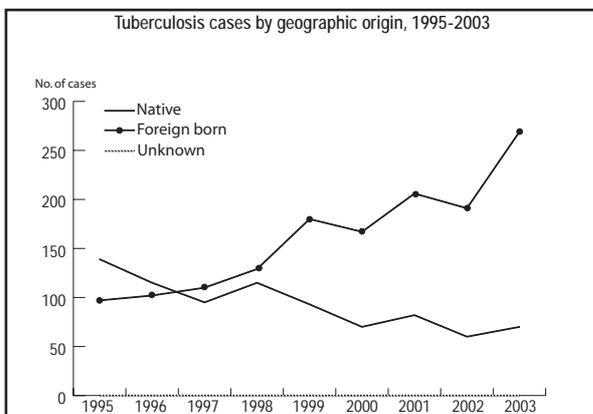
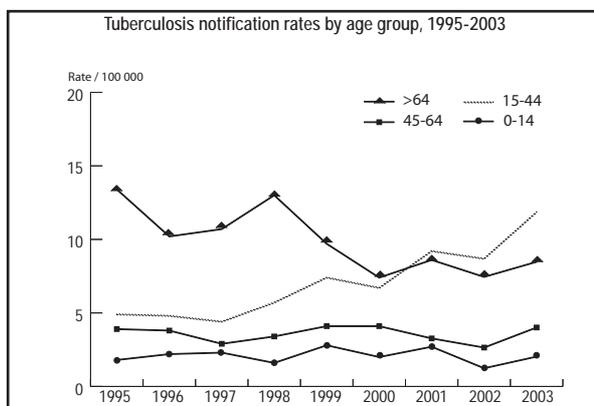
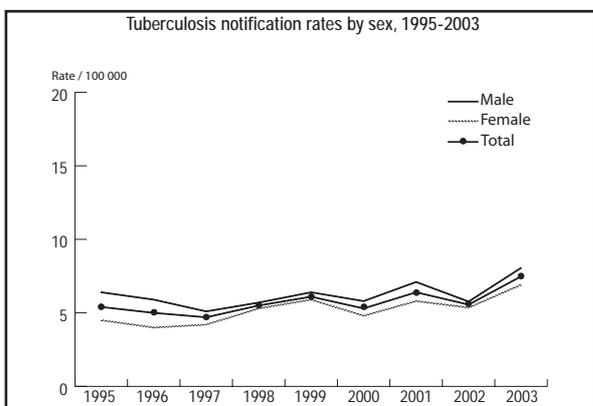
Type of data provided	Individual
Total number of cases	339
Notification rate per 100 000	7.5
Sex ratio (M:F)	1.1
Median age-group, nationals	> 64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	269 (79.4%)
New (never-treated)	269 (79.4%)
Culture positive	273 (80.5%)
Pulmonary	213 (62.8%)
of which sputum smear positive	56 (26.3%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	272
Cases resistant to INH	23 (8.5%)
Cases resistant to RMP	5 (1.8%)
MDR cases	3 (1.1%)
Cases resistant to EMB	2 (0.7%)
Cases resistant to SM	35 (12.9%)

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	110
Success	92 (84%)
Death	6 (5%)
Failure	0 (0%)
Default	6 (5%)
Transfer	6 (5%)
Still on treatment	0 (0%)
Unknown	0 (0%)



### Tuberculosis case notifications, 2003

Type of data provided	Individual*
Total number of cases	10 124
Notification rate per 100 000	26.2
Sex ratio (M:F)	1.9
Median age-group, nationals	45-54 years
Median age-group, non-nationals	-
Individuals born abroad	-
New (never-treated)	8 890 (87.8%)
Culture positive	5 553 (54.8%)
Pulmonary	9 207 (90.9%)
of which sputum smear positive	3 501 (38.0%)

\* except for origin and DST

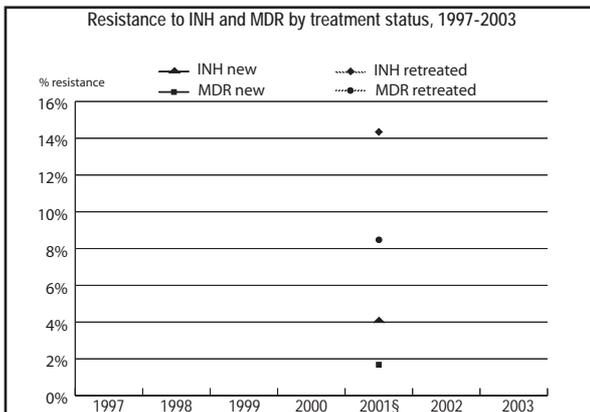
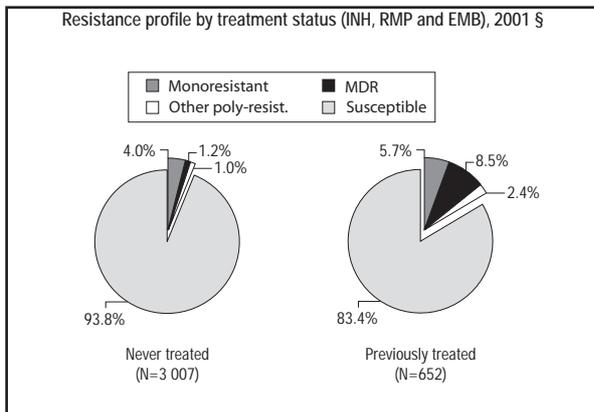
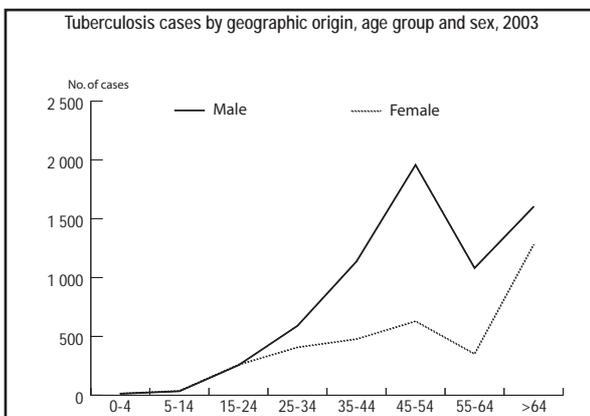
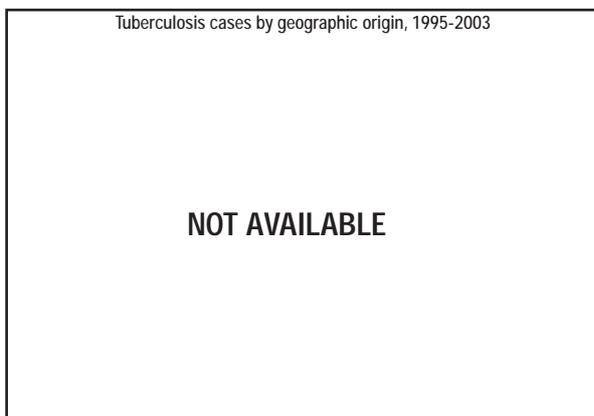
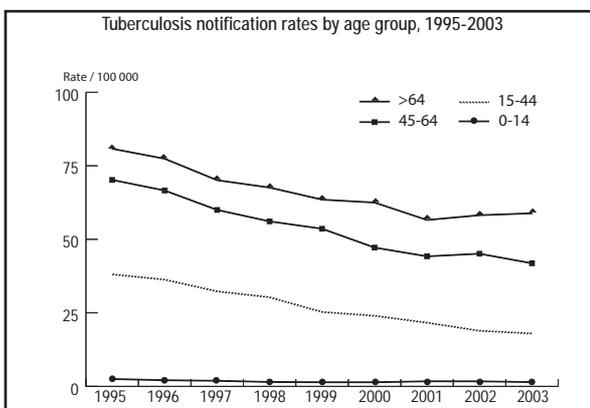
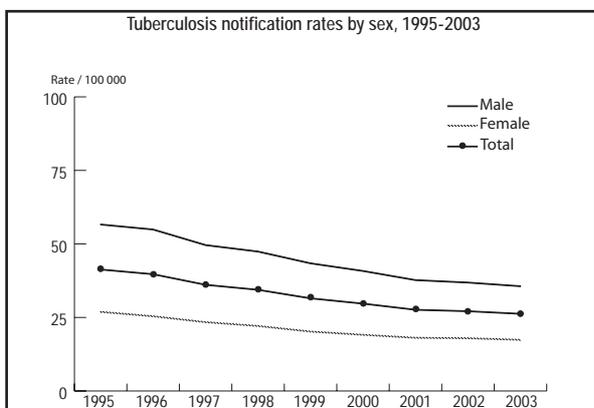
### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	No §
Cases with DST results	3 705
Cases resistant to INH	221 (6.0%)
Cases resistant to RMP	104 (2.8%)
MDR cases	92 (2.5%)
Cases resistant to EMB	41 (1.1%)
Cases resistant to SM	-

§ survey of selected laboratories

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	4 587
Success	3 471 (76%)
Death	236 (5%)
Failure	41 (1%)
Default	294 (6%)
Transfer	27 (1%)
Still on treatment	26 (1%)
Unknown	492 (11%)



§ Survey of selected laboratories

**Tuberculosis case notifications, 2003**

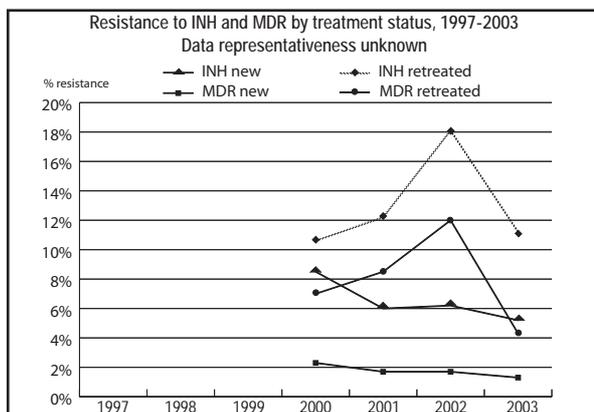
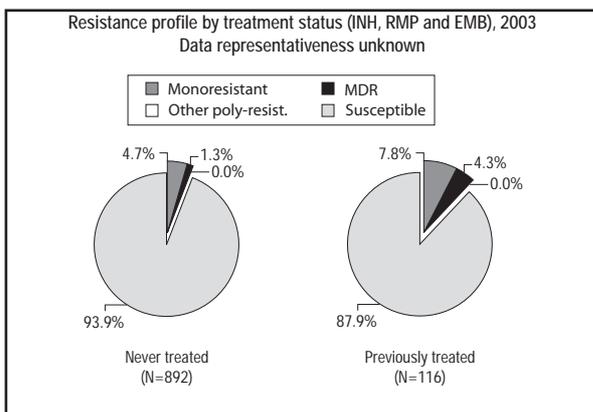
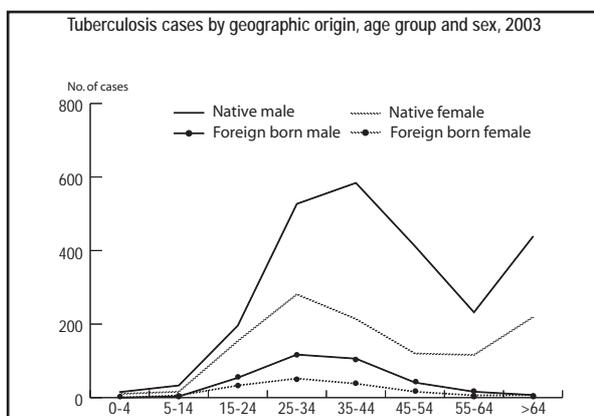
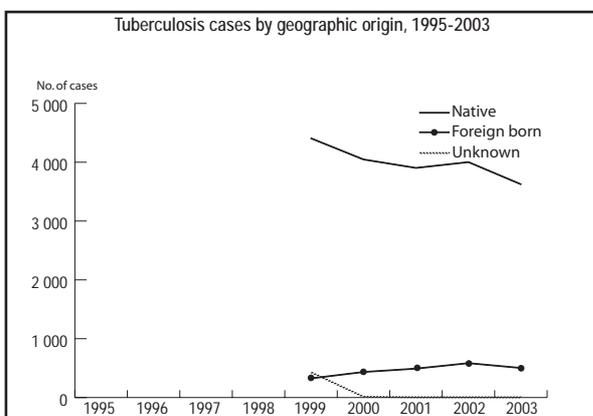
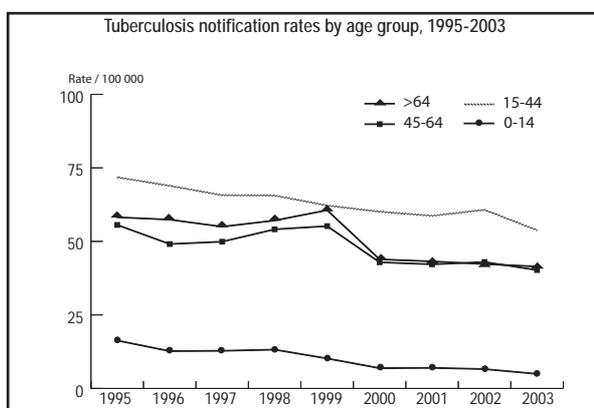
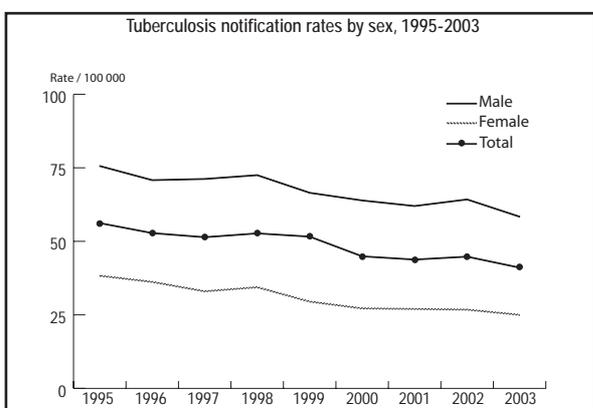
Type of data provided	Individual
Total number of cases	4 131
Notification rate per 100 000	41.1
Sex ratio (M:F)	2.2
Median age-group, nationals	35-44 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	502 (12.2%)
New (never-treated)	3 684 (89.2%)
Culture positive	2 016 (48.8%)
Pulmonary	2 992 (72.4%)
of which sputum smear positive	1 990 (66.5%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	1 008
Cases resistant to INH	59 (5.9%)
Cases resistant to RMP	17 (1.7%)
MDR cases	17 (1.7%)
Cases resistant to EMB	14 (1.4%)
Cases resistant to SM	92 (9.1%)
Data representativeness unknown	

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	2 114
Success	1 794 (85%)
Death	106 (5%)
Failure	1 (0%)
Default	86 (4%)
Transfer	77 (4%)
Still on treatment	50 (2%)
Unknown	0 (0%)



### Tuberculosis case notifications, 2003

Type of data provided	Individual
Total number of cases	31 623
Notification rate per 100 000	141.6
Sex ratio (M:F)	2.2
Median age-group, nationals	35-44 years
Median age-group, non-nationals	- years
Individuals born abroad	0 (0.0%)
New (never-treated)	25 168 (79.6%)
Culture positive*	4 609 (14.6%)
Pulmonary	27 449 (86.8%)
of which sputum smear positive	14 812 (54.0%)

\* 81% without culture result

### Drug Resistance Surveillance, 2001

International proficiency testing	Yes
Geographic coverage	Partial
Linkage with TB case notification	Yes §
Cases with DST results	3 050
Cases resistant to INH	408 (13.4%)
Cases resistant to RMP	253 (8.3%)
MDR cases	198 (6.5%)
Cases resistant to EMB	28 (0.9%)
Cases resistant to SM	91 (3.0%)

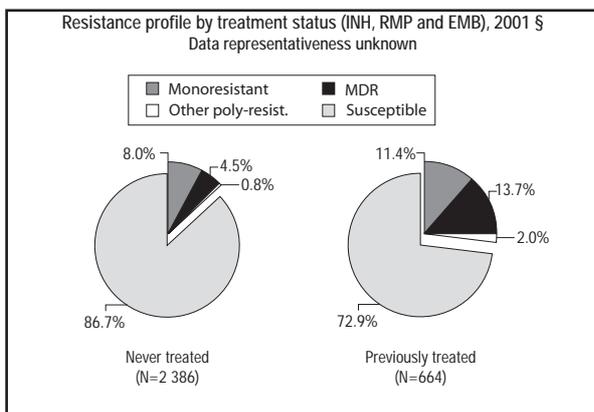
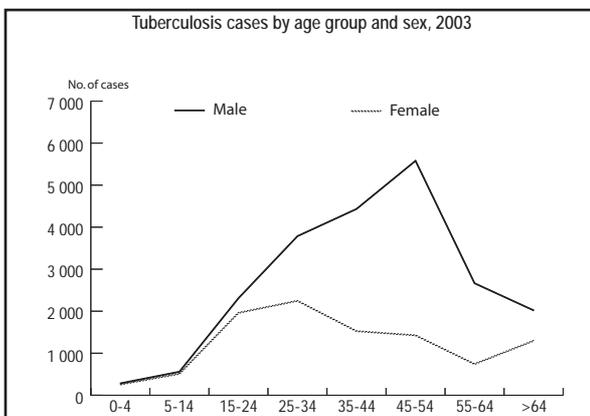
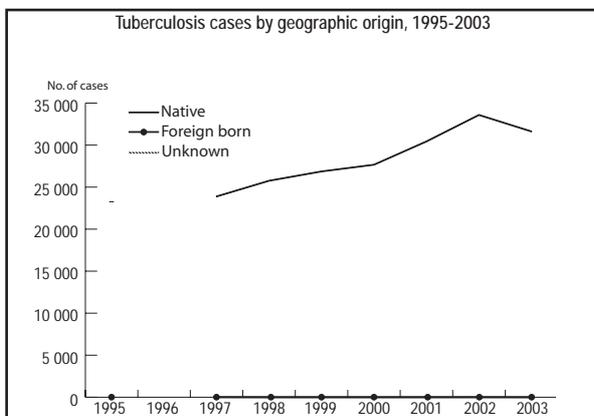
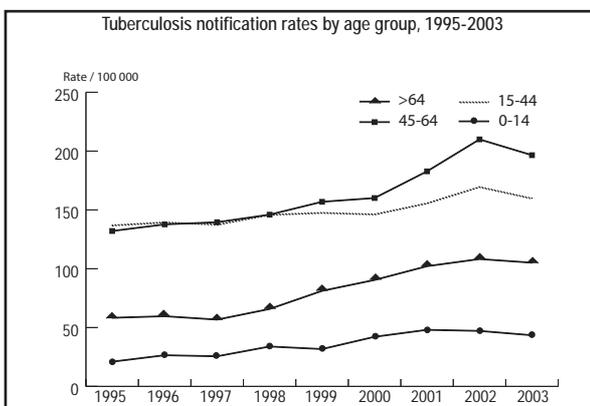
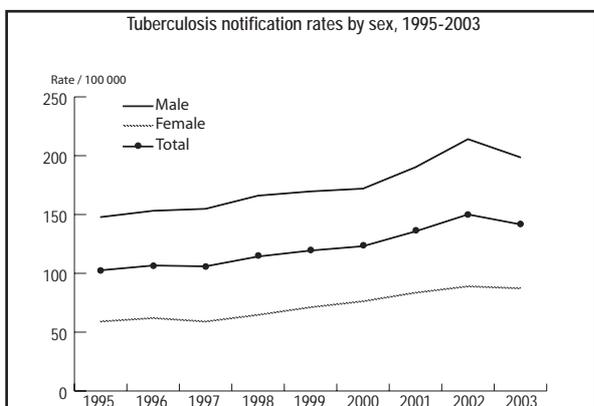
Data representativeness unknown

DST not routinely performed; no national EQA in 2001

National survey done in 2003-4 (final results pending)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	13 116
Success	10 363 (79%)
Death	548 (4%)
Failure	701 (5%)
Default	981 (7%)
Transfer	98 (1%)
Still on treatment	52 (0%)
Unknown	373 (3%)



Resistance to INH and MDR by treatment status, 1997-2003

NOT AVAILABLE

§ Data from diagnostic testing

### Tuberculosis case notifications, 2003

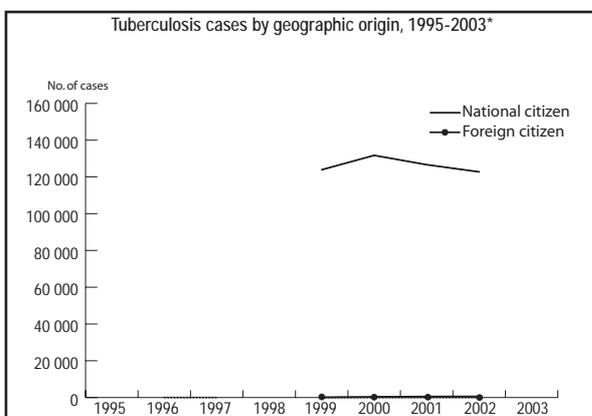
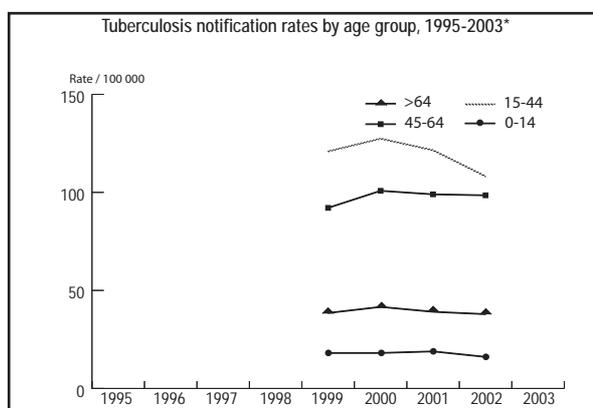
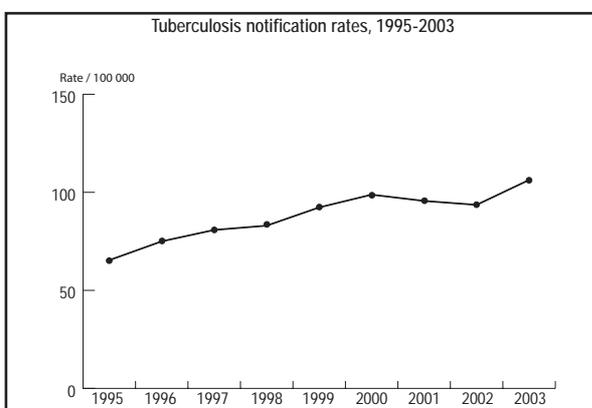
Type of data provided	Aggregate	
Total number of cases	152 244	
Notification rate per 100 000	106.3	
Sex ratio (M:F)*	2.6	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Individuals born abroad	608	(0.4%)
New (never-treated)	123 340	(81.0%)
Culture positive	2 990	(2.0%)
Pulmonary	147 310	(96.8%)
of which sputum smear positive	56 857	(38.6%)

### Drug Resistance Surveillance, 1999, 2002

see bottom Table

### Treatment Outcome Monitoring, 2002

Geographic coverage	DOTS areas	
Cohort	new pulmonary smear positive	
Included in TOM cohort	5 171	
Success	3 447	(67%)
Death	668	(13%)
Failure	469	(9%)
Default	374	(7%)
Transfer	213	(4%)
Still on treatment	0	(0%)
Unknown	0	(0%)



Tuberculosis cases by age group and sex, 2003

**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	(%)
<b>1) Cases never treated</b>					
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%
<b>2) Cases retreated</b>					
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, 1997-2003

**NOT AVAILABLE**

\* New cases only

### Tuberculosis case notifications, 2003

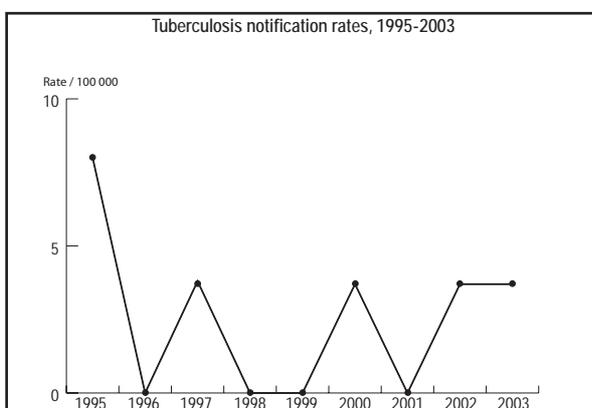
Type of data provided	Aggregate
Total number of cases	1
Notification rate per 100 000	3.7
Sex ratio (M:F)	-
Median age-group, nationals	>64 years
Median age-group, non-nationals	-
Individuals born abroad	0 (0.0%)
New (never-treated)	0 (0.0%)
Culture positive	1 (100.0%)
Pulmonary	1 (100.0%)
of which sputum smear positive	1 (100.0%)

### Drug Resistance Surveillance, 2003

**NOT AVAILABLE**

### Treatment Outcome Monitoring, 2002

**NOT AVAILABLE**



**Insufficient number of cases for graphic presentation**

**Insufficient number of cases for graphic presentation**

**Insufficient number of cases for graphic presentation**

**No resistance reported**

**No resistance reported**

### Tuberculosis case notifications, 2003

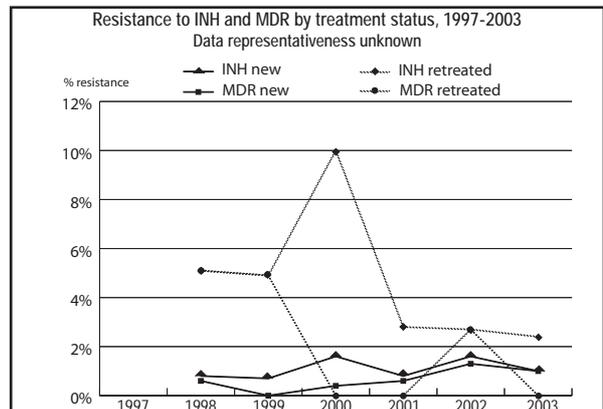
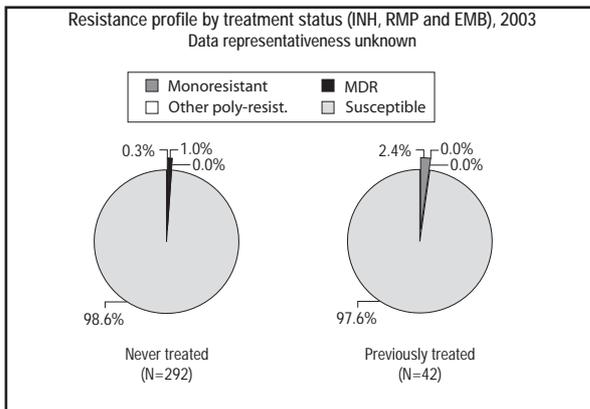
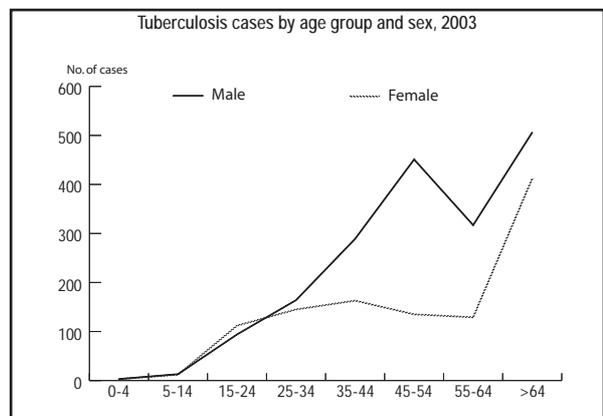
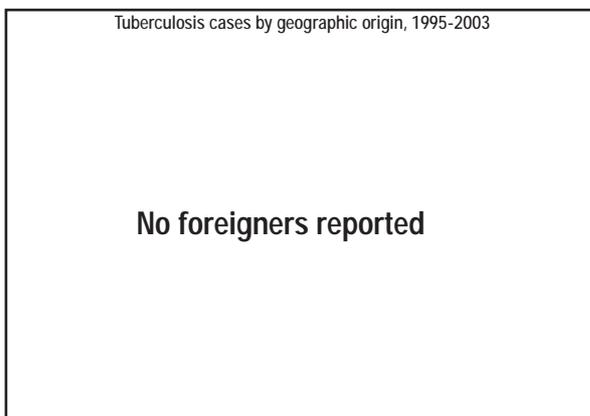
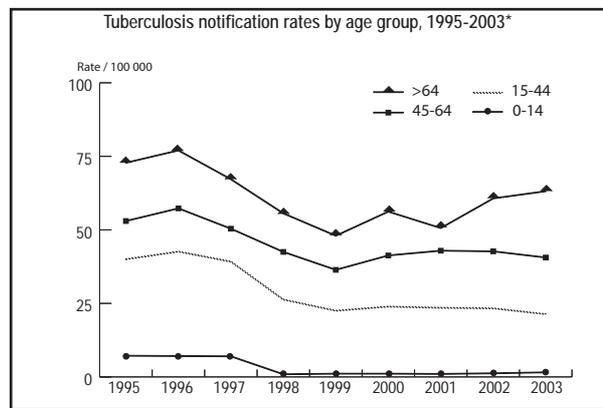
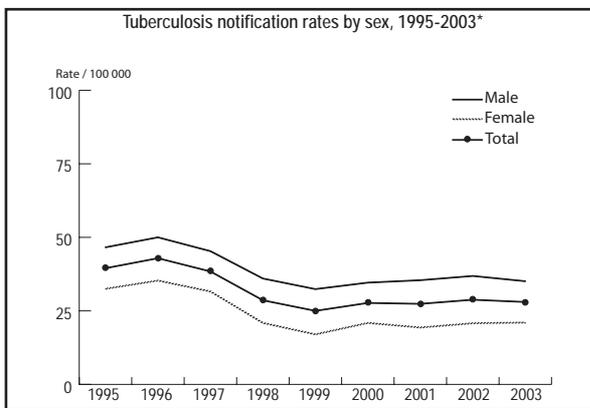
Type of data provided	Aggregate
Total number of cases	2 949
Notification rate per 100 000	28.0
Sex ratio (M:F)	1.7
Median age-group, nationals	45-54 years
Median age-group, non-nationals	-
Individuals born abroad	0 (0.0%)
New (never-treated)	2 708 (91.8%)
Culture positive	-
Pulmonary	2 766 (93.8%)
of which sputum smear positive	-

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	Belgrade region
Linkage with TB case notification	Yes
Cases with DST results	334
Cases resistant to INH	4 (1.2%)
Cases resistant to RMP	3 (0.9%)
MDR cases	3 (0.9%)
Cases resistant to EMB	3 (0.9%)
Cases resistant to SM	22 (6.6%)
National representativeness of data	unknown
Culture and DST not routinely used	

### Treatment Outcome Monitoring, 2002

Geographic coverage	Belgrade region
Cohort	new pulmonary culture positive
Included in TOM cohort	335
Success	297 (89%)
Death	19 (6%)
Failure	2 (1%)
Default	13 (4%)
Transfer	1 (0%)
Still on treatment	1 (0%)
Unknown	2 (1%)
National representativeness of data	unknown



\* including cases from Kosovo until 1997

### Tuberculosis case notifications, 2003

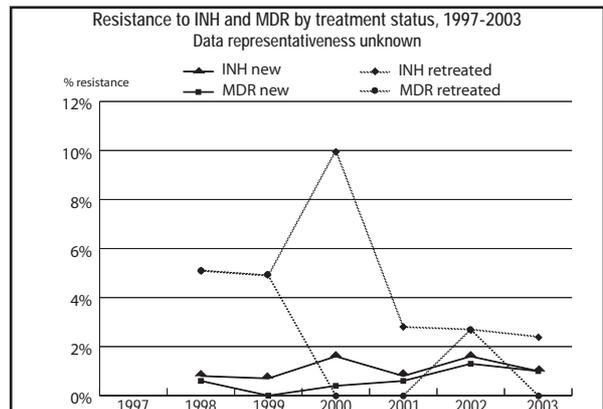
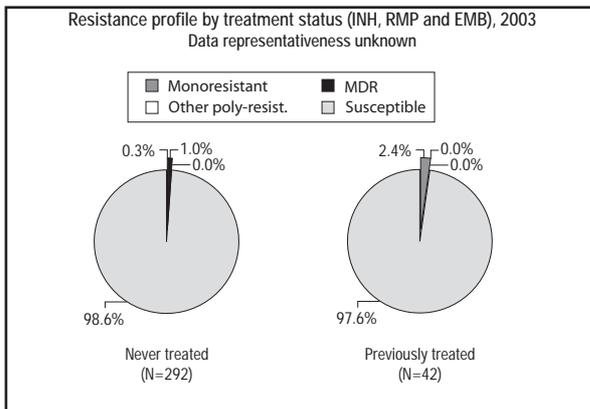
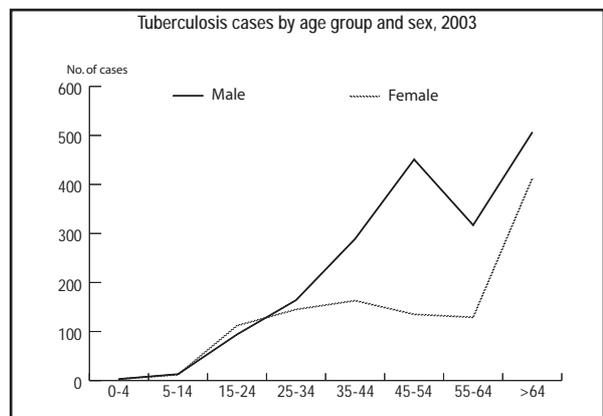
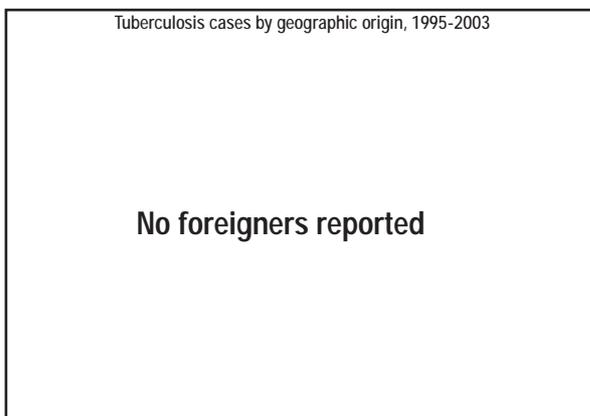
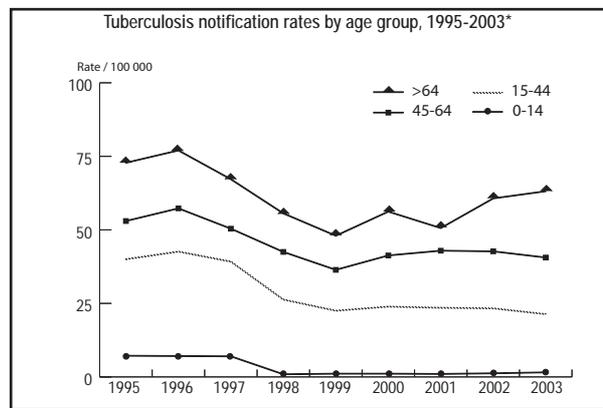
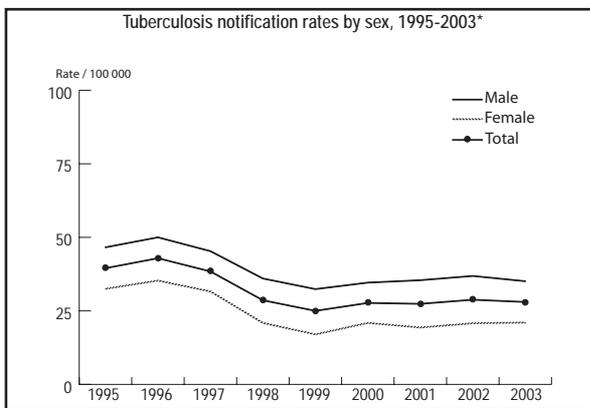
Type of data provided	Aggregate
Total number of cases	2 949
Notification rate per 100 000	28.0
Sex ratio (M:F)	1.7
Median age-group, nationals	45-54 years
Median age-group, non-nationals	-
Individuals born abroad	0 (0.0%)
New (never-treated)	2 708 (91.8%)
Culture positive	-
Pulmonary	2 766 (93.8%)
of which sputum smear positive	-

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	Belgrade region
Linkage with TB case notification	Yes
Cases with DST results	334
Cases resistant to INH	4 (1.2%)
Cases resistant to RMP	3 (0.9%)
MDR cases	3 (0.9%)
Cases resistant to EMB	3 (0.9%)
Cases resistant to SM	22 (6.6%)
National representativeness of data	unknown
Culture and DST not routinely used	

### Treatment Outcome Monitoring, 2002

Geographic coverage	Belgrade region
Cohort	new pulmonary culture positive
Included in TOM cohort	335
Success	297 (89%)
Death	19 (6%)
Failure	2 (1%)
Default	13 (4%)
Transfer	1 (0%)
Still on treatment	1 (0%)
Unknown	2 (1%)
National representativeness of data	unknown



\* including cases from Kosovo until 1997

### Tuberculosis case notifications, 2003

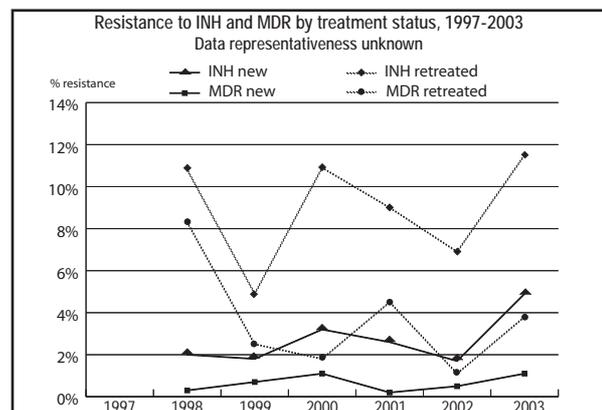
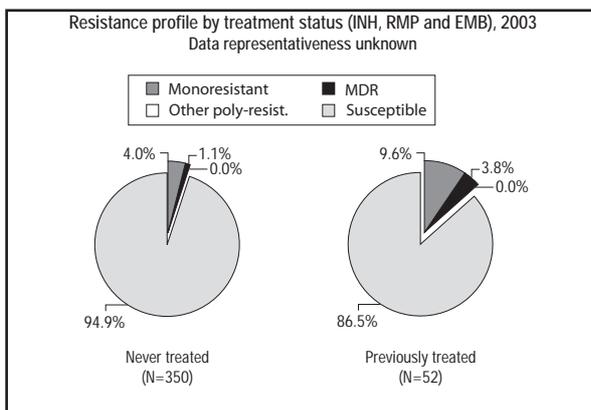
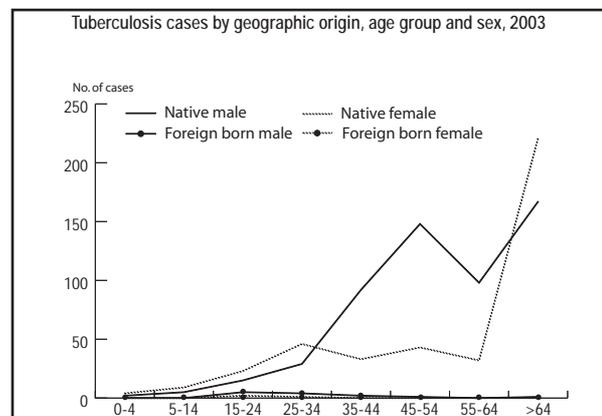
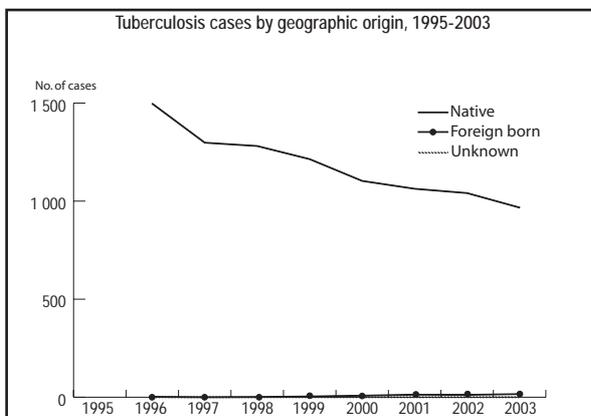
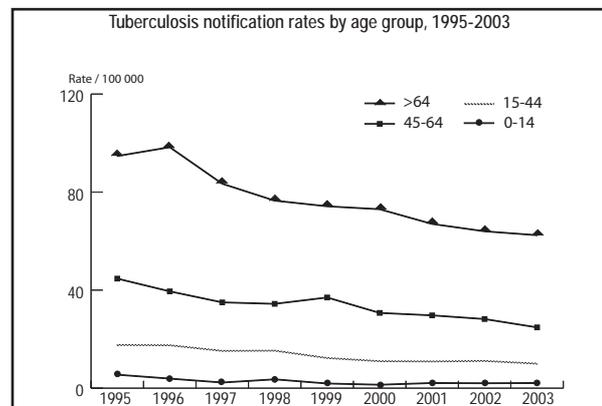
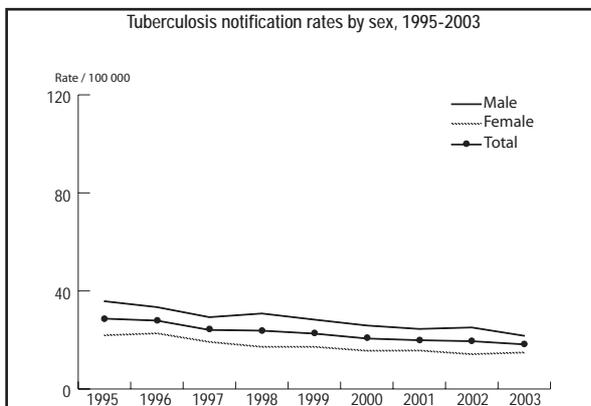
Type of data provided	Individual
Total number of cases	983
Notification rate per 100 000	18.2
Sex ratio (M:F)	1.4
Median age-group, nationals	55-64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	16 (1.6%)
New (never-treated)	845 (86.0%)
Culture positive	406 (41.3%)
Pulmonary	777 (79.0%)
of which sputum smear positive	227 (29.2%)

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	406
Cases resistant to INH	23 (5.7%)
Cases resistant to RMP	8 (2.0%)
MDR cases	6 (1.5%)
Cases resistant to EMB	0 (0.0%)
Cases resistant to SM	9 (2.2%)

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	361
Success	299 (83%)
Death	61 (17%)
Failure	1 (0%)
Default	0 (0%)
Transfer	0 (0%)
Still on treatment	0 (0%)
Unknown	0 (0%)



**Tuberculosis case notifications, 2003**

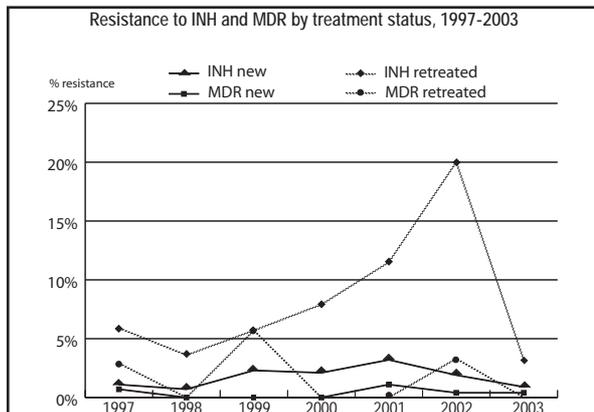
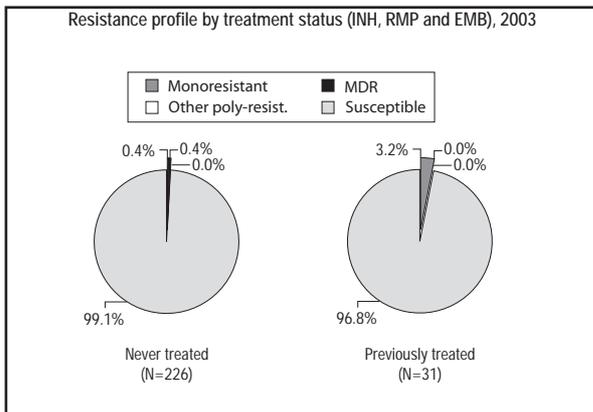
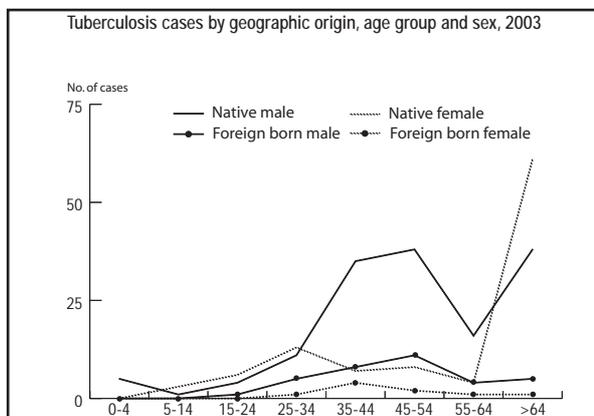
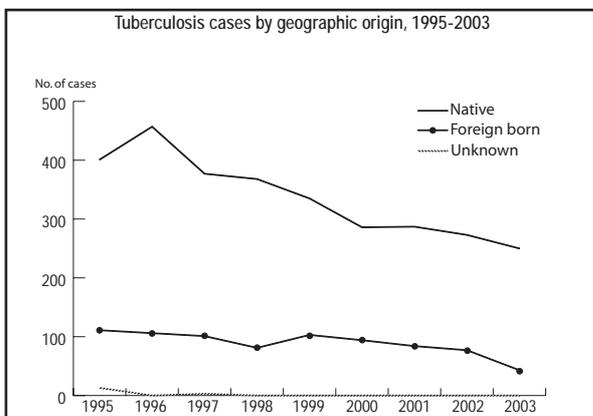
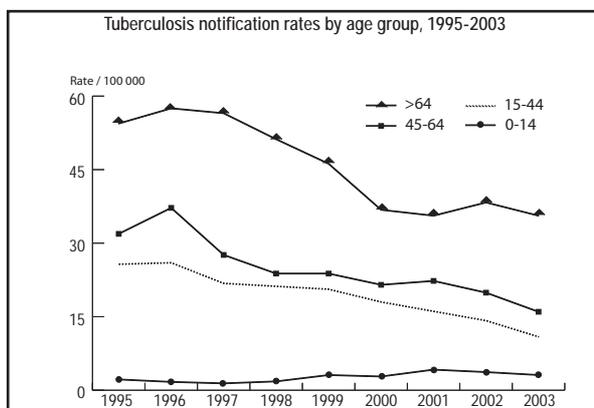
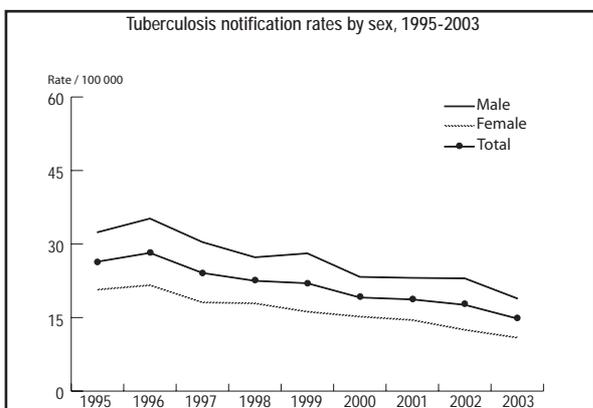
Type of data provided	Individual
Total number of cases	293
Notification rate per 100 000	14.8
Sex ratio (M:F)	1.6
Median age-group, nationals	45-54 years
Median age-group, non-nationals	45-54 years
Individuals born abroad	43 (14.7%)
New (never-treated)	254 (86.7%)
Culture positive	259 (88.4%)
Pulmonary	249 (85.0%)
of which sputum smear positive	132 (53.0%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	257
Cases resistant to INH	3 (1.2%)
Cases resistant to RMP	1 (0.4%)
MDR cases	1 (0.4%)
Cases resistant to EMB	1 (0.4%)
Cases resistant to SM	9 (3.5%)

**Treatment Outcome Monitoring, 2002**

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	231
Success	188 (81%)
Death	27 (12%)
Failure	0 (0%)
Default	15 (6%)
Transfer	1 (0%)
Still on treatment	0 (0%)
Unknown	0 (0%)



### Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	7 467
Notification rate per 100 000	18.2
Sex ratio (M:F)	2.0
Median age-group, nationals	35-44 years
Median age-group, non-nationals	25-34 years
Individuals born abroad †	603 (8.1%)
New (never-treated)	4 594 (61.5%)
Culture positive	3 572 (47.8%)
Pulmonary	7 330 (98.2%)
of which sputum smear positive	3 027 (41.3%)

† 42% of cases missing information on origin

### Drug Resistance Surveillance, 2003

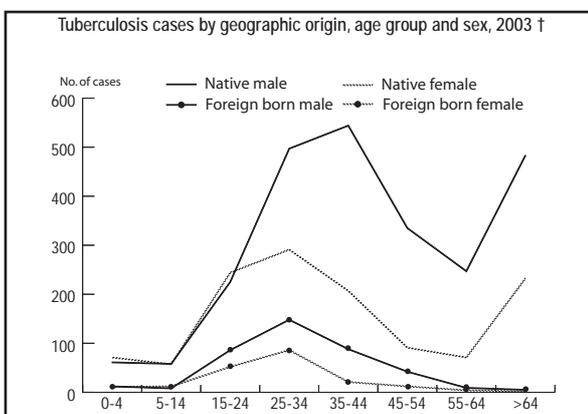
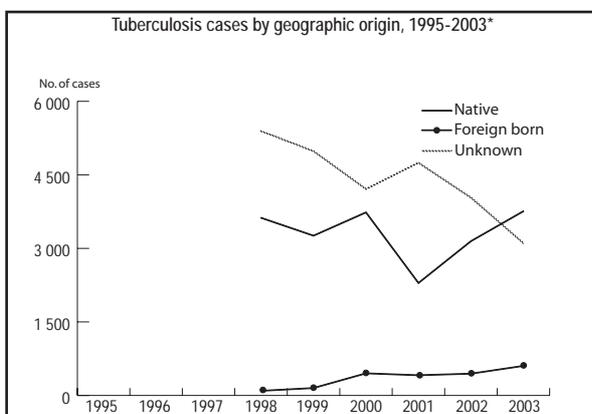
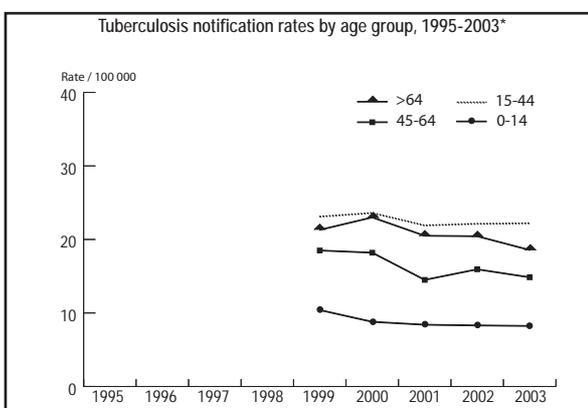
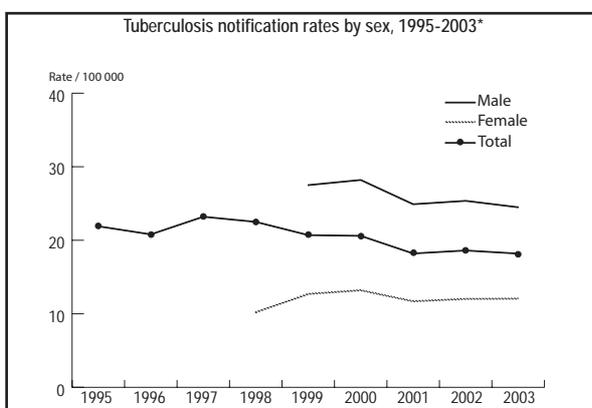
International proficiency testing	Yes
Geographic coverage	Partial
Linkage with TB case notification	No §
Cases with DST results	1 786
Cases resistant to INH	111 (6.2%)
Cases resistant to RMP	60 (3.4%)
MDR cases	47 (2.6%)
Cases resistant to EMB	11 (0.6%)
Cases resistant to SM	43 (2.4%)

Data representativeness unknown

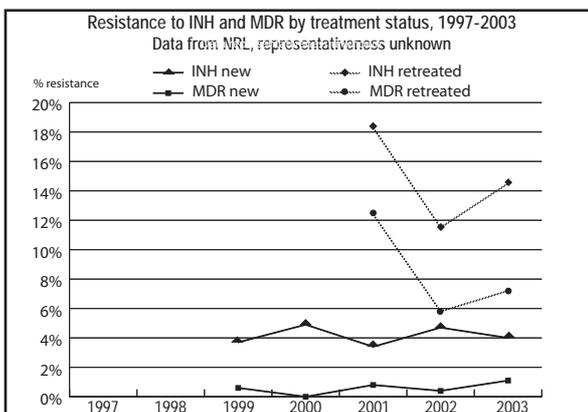
§ Data from NRL

### Treatment Outcome Monitoring, 2002

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	(%)
<b>1) Cases never treated</b>					
NRL, 2003	1 236	50	4.0%	14	1.1%
Galicia, 2001-2002	360	16	4.4%	5	1.4%
Barcelona, 2001	133	8	6.0%	1	0.8%
<b>2) Cases retreated</b>					
NRL, 2003	138	20	14.5%	10	7.2%
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 meningeal cases

† 42% of cases missing information on origin

**Tuberculosis case notifications, 2003**

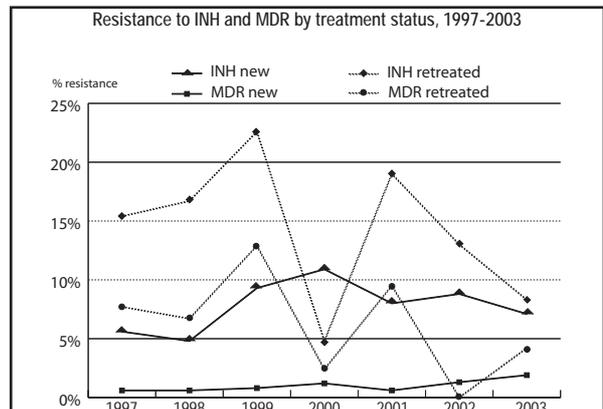
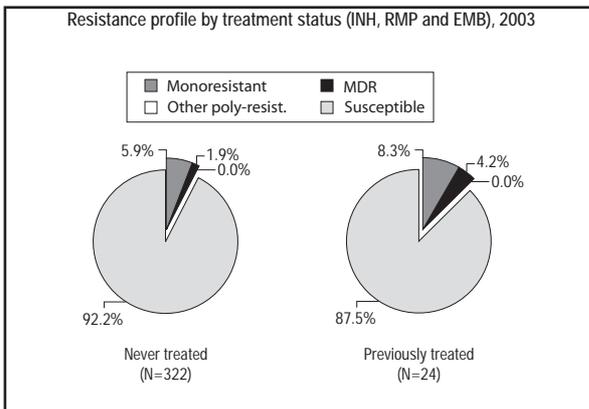
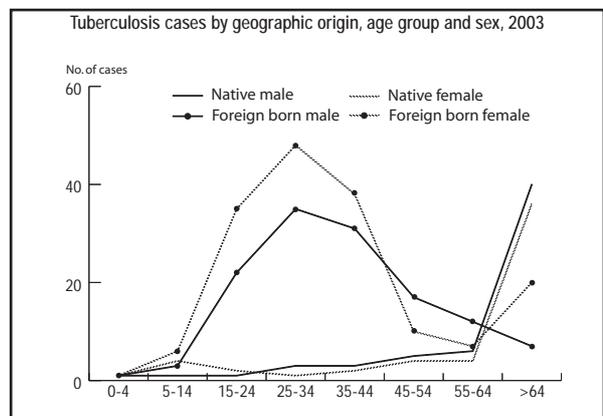
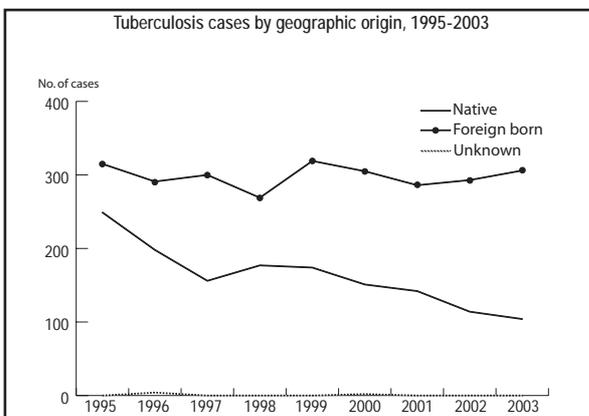
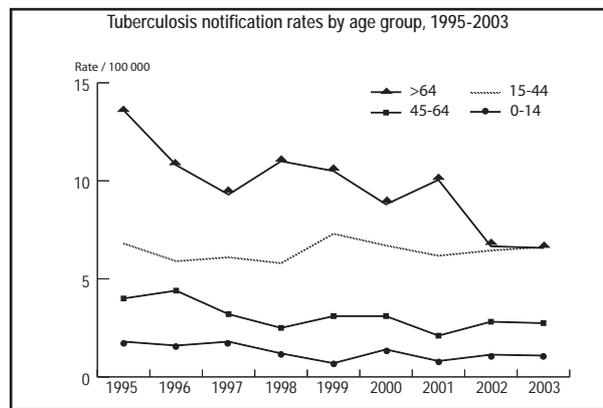
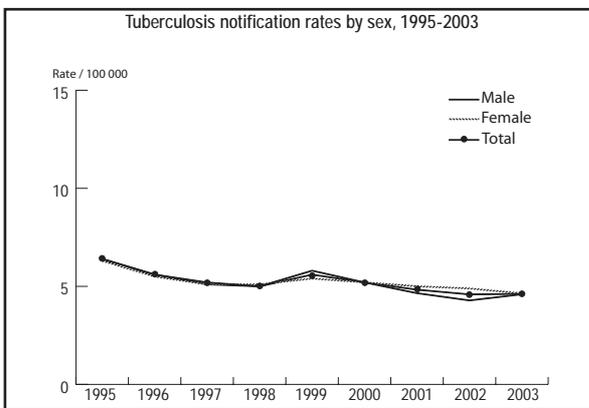
Type of data provided	Individual
Total number of cases	410
Notification rate per 100 000	4.6
Sex ratio (M:F)	1.0
Median age-group, nationals	> 64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	306 (74.6%)
New (never-treated)	381 (92.9%)
Culture positive	349 (85.1%)
Pulmonary	256 (62.4%)
of which sputum smear positive	121 (47.3%)

**Drug Resistance Surveillance, 2003**

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	347
Cases resistant to INH	25 (7.2%)
Cases resistant to RMP	9 (2.6%)
MDR cases	7 (2.0%)
Cases resistant to EMB	4 (1.2%)
Cases resistant to SM	21 (6.1%)

**Treatment Outcome Monitoring, 2002**

Geographic coverage	Belgrade region
Cohort	new pulmonary culture positive
Included in TOM cohort	208
Success	166 (80%)
Death	16 (8%)
Failure	0 (0%)
Default	4 (2%)
Transfer	6 (3%)
Still on treatment	13 (6%)
Unknown	3 (1%)



### Tuberculosis case notifications, 2003

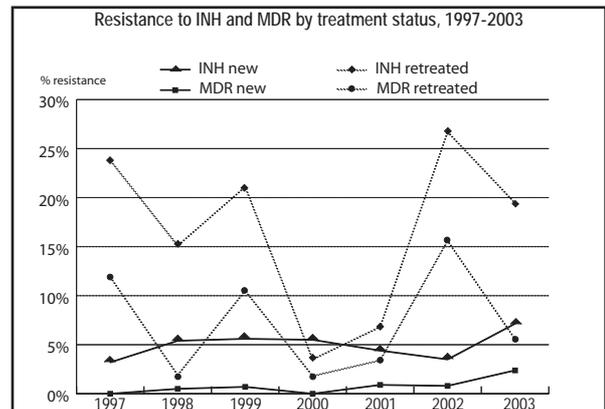
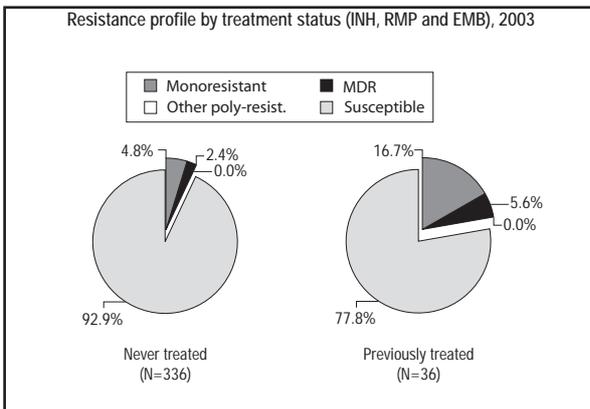
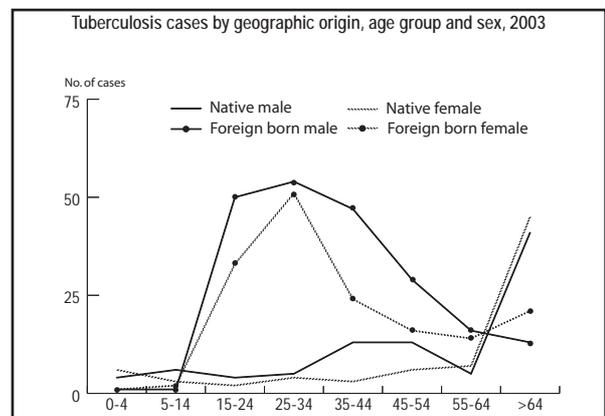
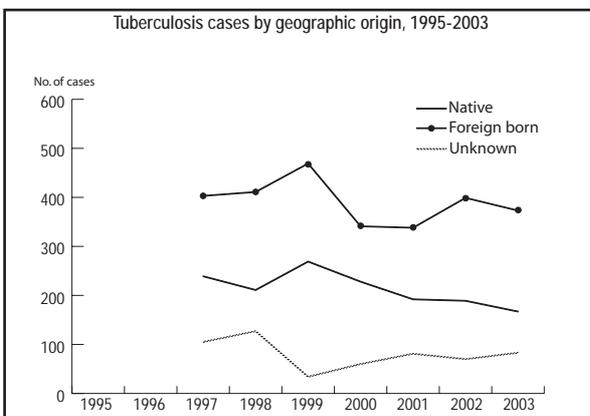
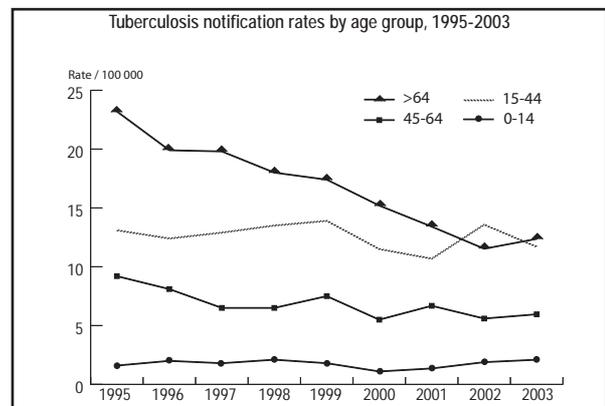
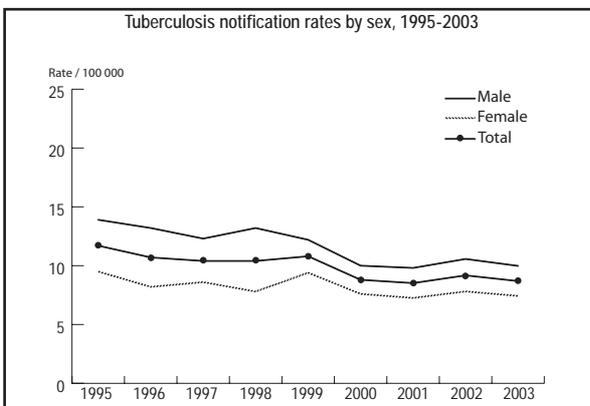
Type of data provided	Individual
Total number of cases	623
Notification rate per 100 000	8.7
Sex ratio (M:F)	1.3
Median age-group, nationals	>64 years
Median age-group, non-nationals	25-34 years
Individuals born abroad	373 (59.9%)
New (never-treated)	425 (68.2%)
Culture positive	483 (77.5%)
Pulmonary	465 (74.6%)
of which sputum smear positive	122 (26.2%)

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National
Linkage with TB case notification	Yes
Cases with DST results	481
Cases resistant to INH	38 (7.9%)
Cases resistant to RMP	12 (2.5%)
MDR cases	12 (2.5%)
Cases resistant to EMB	6 (1.2%)
Cases resistant to SM	-

### Treatment Outcome Monitoring, 2002

NOT AVAILABLE



### Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	4 883
Notification rate per 100 000	78.2
Sex ratio (M:F)	1.3
Median age-group, nationals	25-34 years
Median age-group, non-nationals	-
Individuals born abroad	0 (0,0%)
New (never-treated)	-
Culture positive	-
Pulmonary	-
of which sputum smear positive	-

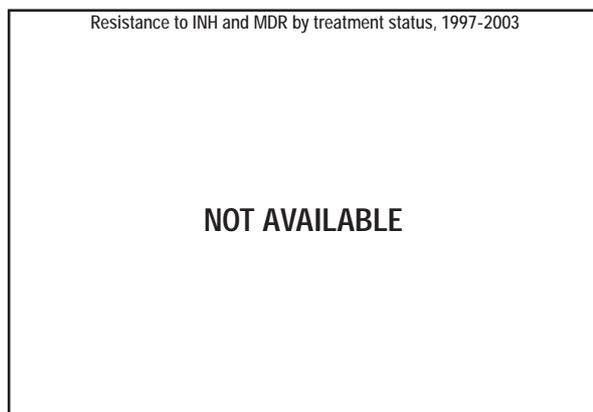
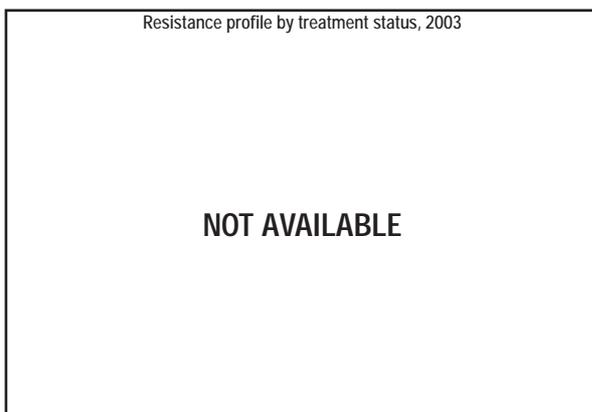
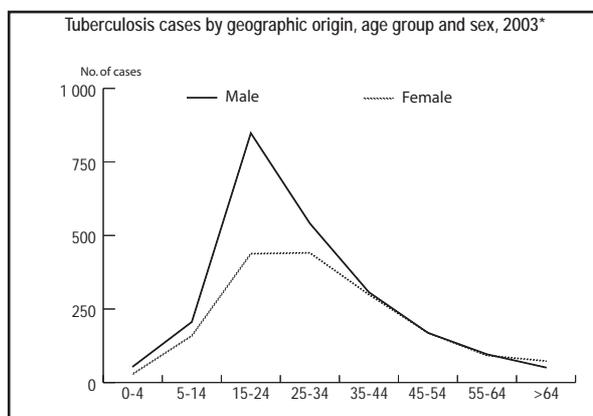
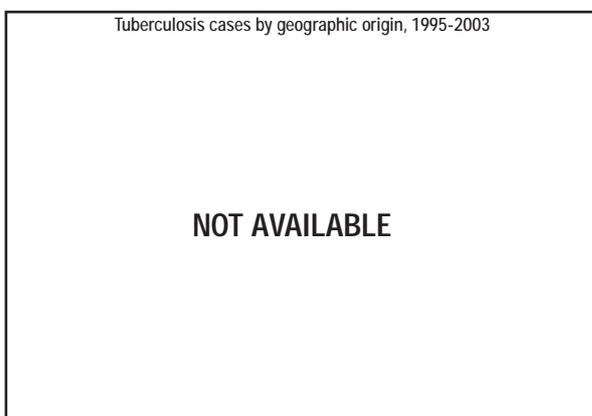
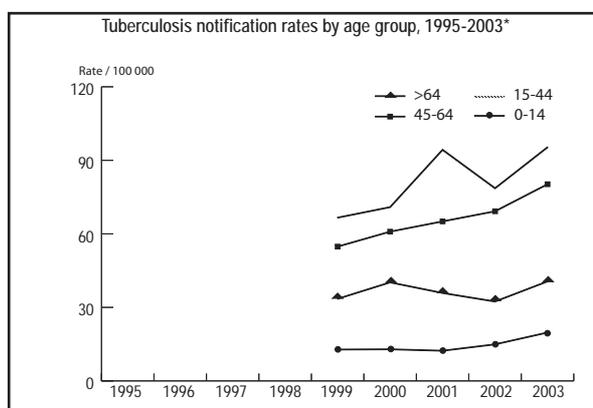
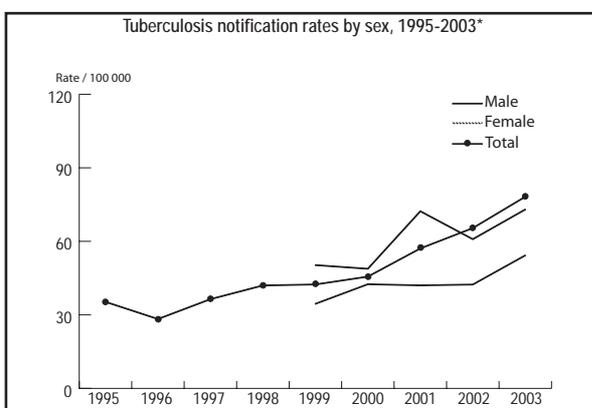
### Drug Resistance Surveillance, 2003

**NOT AVAILABLE**

### Treatment Outcome Monitoring, 2002

Geographic coverage	DOTS areas	
Cohort	new pulmonary smear positive	
Included in TOM cohort	107	
Success	84	(79%)
Death	5	(5%)
Failure	12	(11%)
Default	5	(5%)
Transfer	1	(1%)
Still on treatment	0	(0%)
Unknown	0	(0%)

Data representativeness unknown



\* ~20% with age-group and sex unknown (2002 and 2003)

### Tuberculosis case notifications, 2003

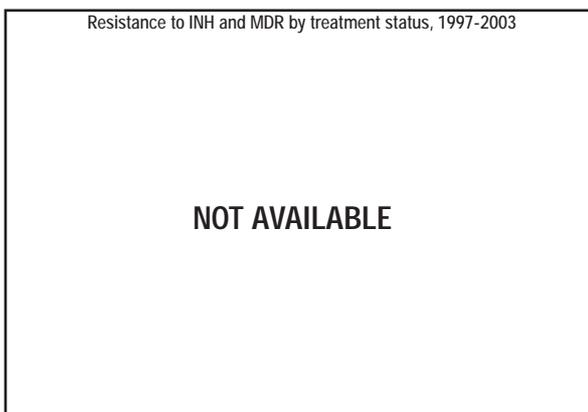
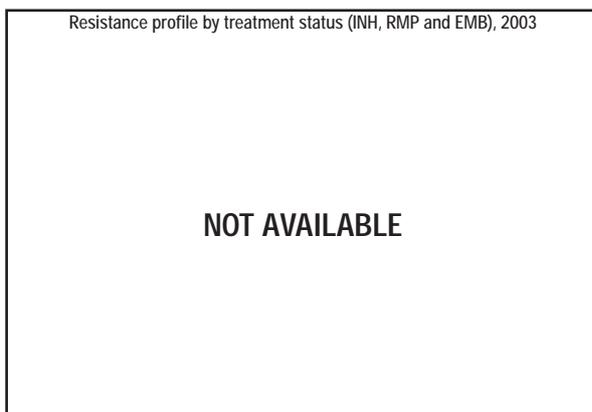
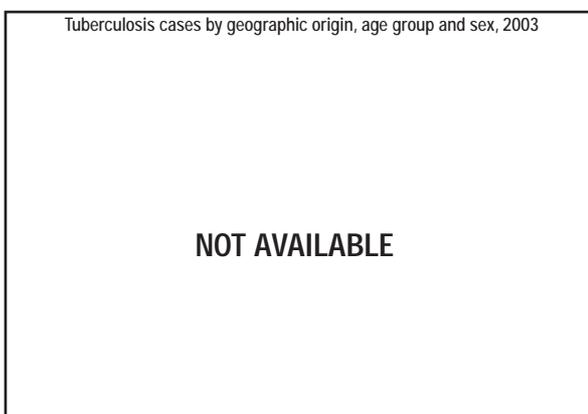
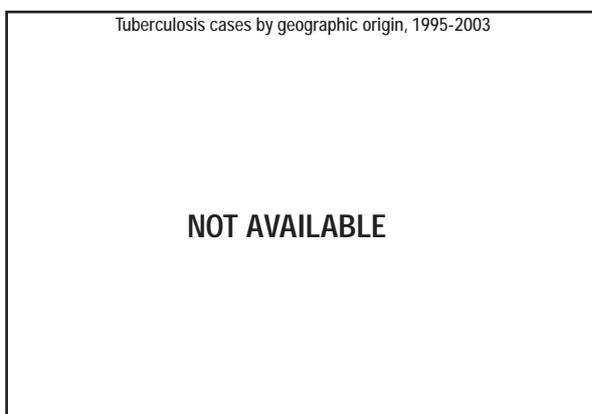
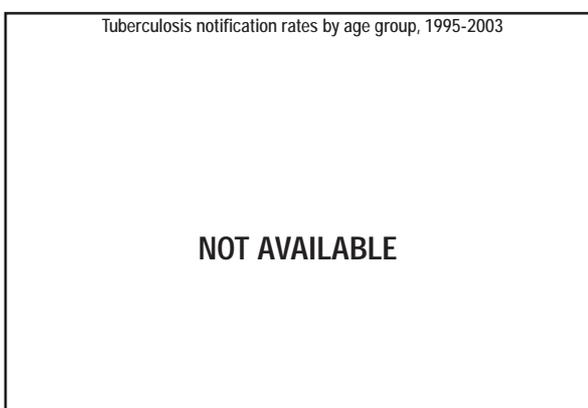
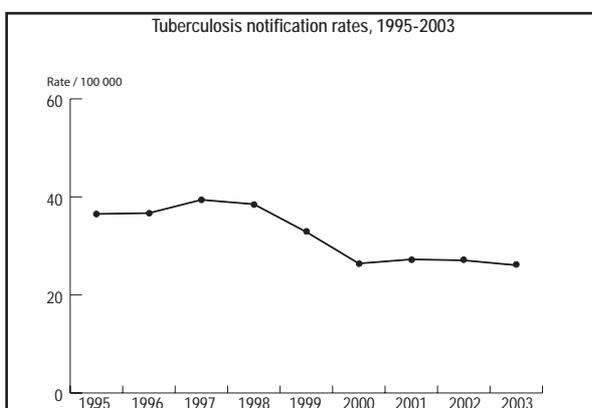
Type of data provided	Aggregate
Total number of cases	18 590
Notification rate per 100 000	26.1
Sex ratio (M:F)	-
Median age-group, nationals	-
Median age-group, non-nationals	-
Individuals born abroad	-
New (never-treated)	17 923 (96.4%)
Culture positive	-
Pulmonary	12 882 (69.3%)
of which sputum smear positive	5 816 (45.1%)

### Drug Resistance Surveillance, 2003

**NOT AVAILABLE**

### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary smear positive
Included in TOM cohort	4 245
Success	3 348 (79%)
Death	123 (3%)
Failure	0 (0%)
Default	179 (4%)
Transfer	173 (4%)
Still on treatment	422 (10%)
Unknown	0 (0%)
<b>Data representativeness unknown</b>	



### Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	4 759
Notification rate per 100 000	97.8
Sex ratio (M:F)	1.8
Median age-group, nationals	25-34 years
Median age-group, non-nationals	-
Individuals born abroad	0 (0.0%)
New (never-treated)	3 661 (76.9%)
Culture positive	-
Pulmonary	3 783 (79.5%)
of which sputum smear positive	1 737 (45.9%)

### Drug Resistance Surveillance, 2001-2002

International proficiency testing	No
Geographic coverage	Partial
Linkage with TB case notification	Yes
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%)

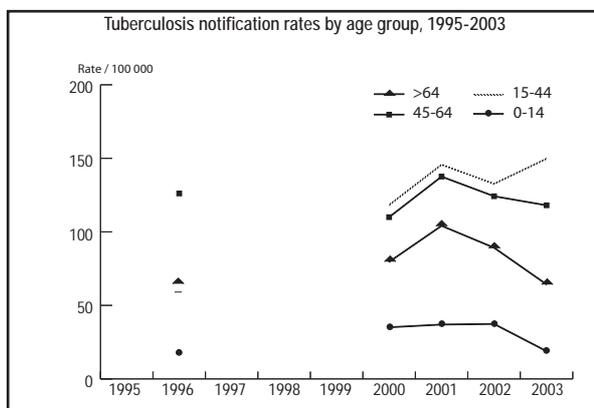
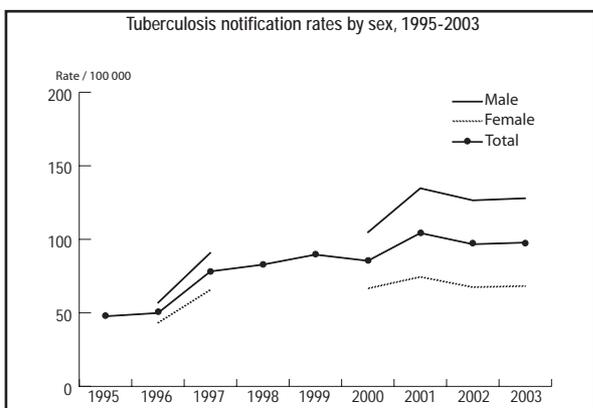
Data from regional survey (Dashoguz Velayat)

Culture and DST not routinely performed

§ New cases only

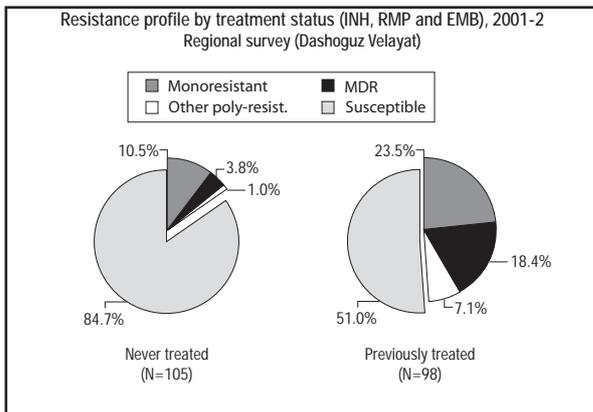
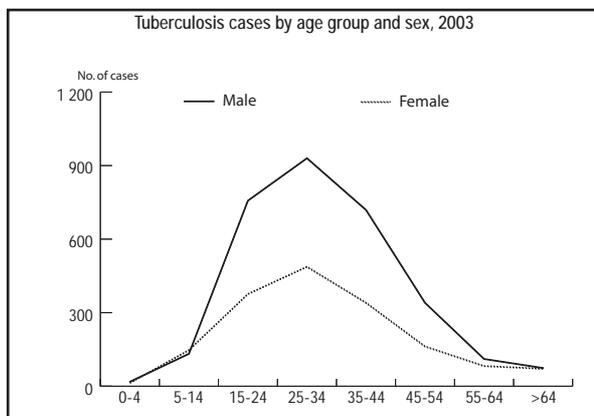
### Treatment Outcome Monitoring, 2002

Geographic coverage	National
Cohort	new pulmonary culture positive
Included in TOM cohort	1 254
Success	925 (74%)
Death	38 (3%)
Failure	93 (7%)
Default	28 (2%)
Transfer	8 (1%)
Still on treatment	0 (0%)
Unknown	162 (13%)



Tuberculosis cases by geographic origin, 1995-2003

**No foreigners reported**



Resistance to INH and MDR by treatment status, 1997-2003

**NOT AVAILABLE**

### Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	40 659
Notification rate per 100 000	83.8
Sex ratio (M:F)	2.7
Median age-group, nationals	35-44 years
Median age-group, non-nationals	-
Individuals born abroad	-
New (never-treated)	37 043 (91.1%)
Culture positive	-
Pulmonary	-
of which sputum smear positive	-

### 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%)

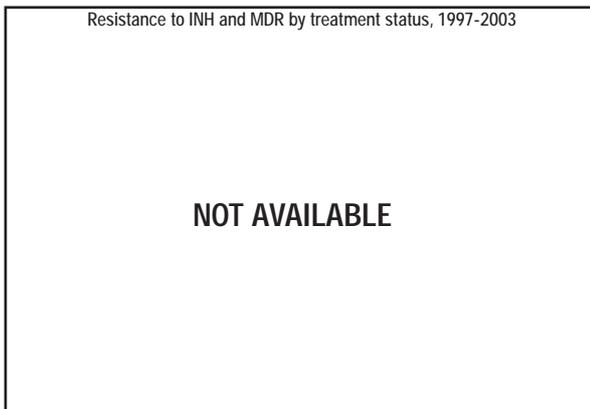
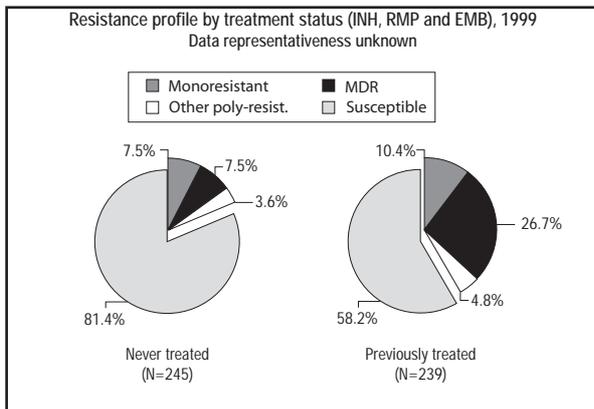
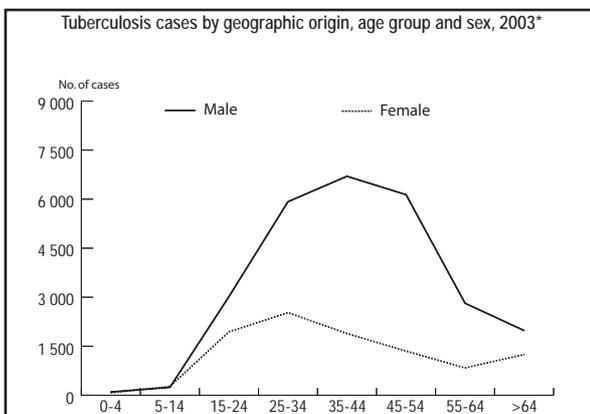
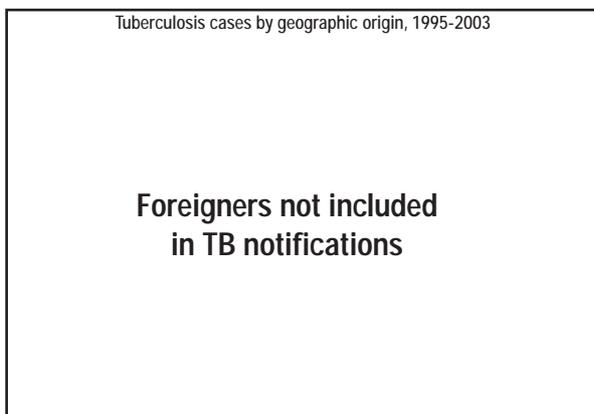
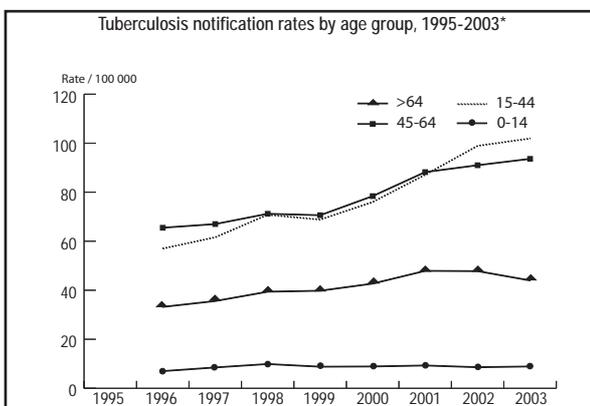
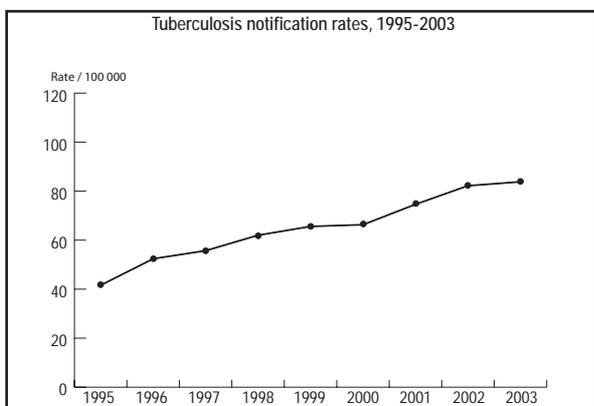
Data representativeness unknown

† Data from a single laboratory

§ New cases only

### Treatment Outcome Monitoring, 2002

NOT AVAILABLE



\* New cases only

### Tuberculosis case notifications, 2003

Type of data provided	Individual *
Total number of cases	7 278
Notification rate per 100 000	12.3
Sex ratio (M:F)	1.3
Median age-group, nationals	45-54 years
Median age-group, non-nationals	25-34 years
Individuals born abroad †	4 328 (59.5%)
New (never-treated)*	4 844 (66.6%)
Culture positive	4 084 (56.1%)
Pulmonary*	3 857 (53.0%)
of which sputum smear positive*	1 612 (41.8%)

\* excluding Scotland

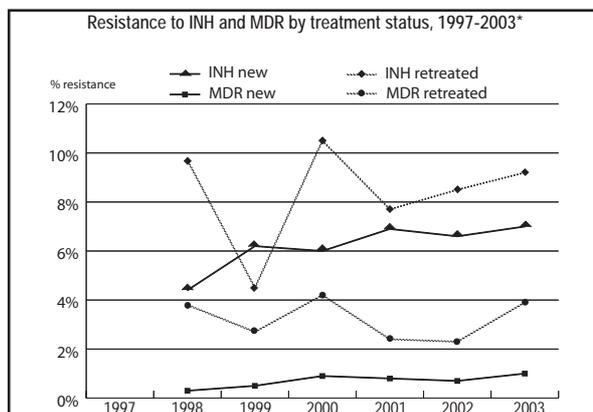
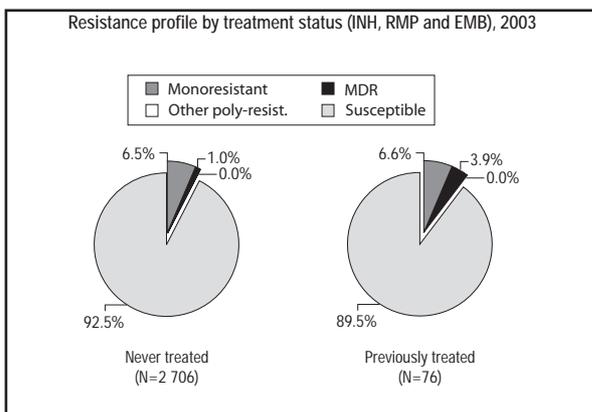
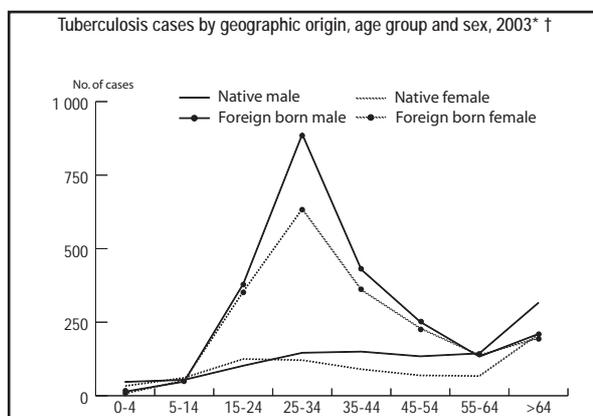
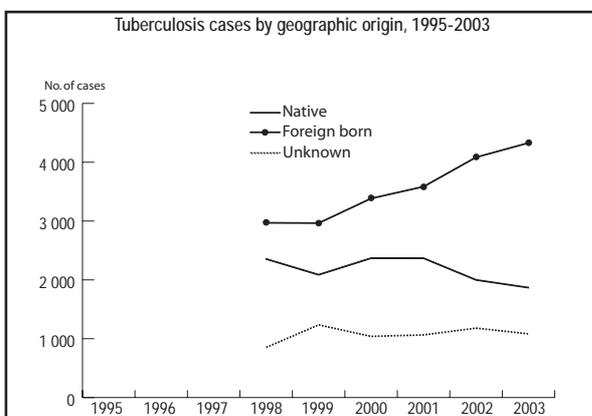
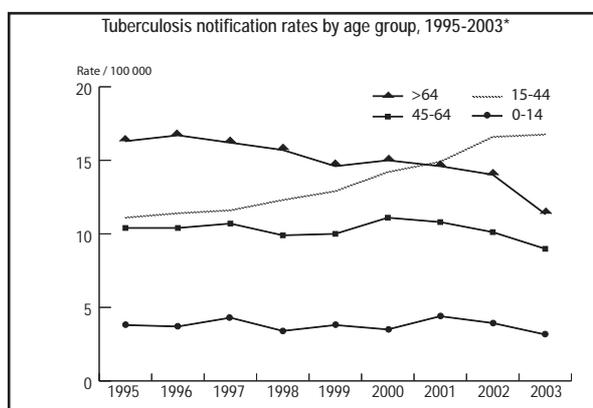
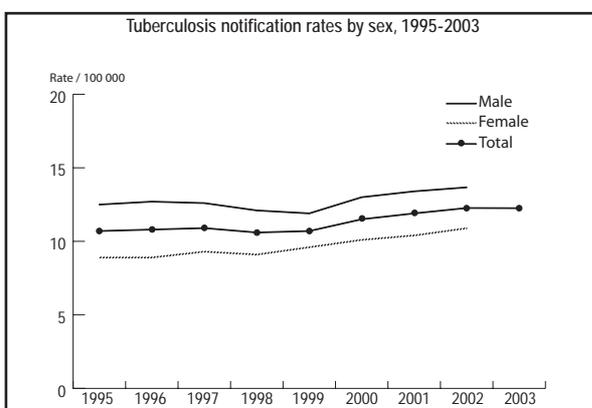
† 15% of cases missing information on origin

### Drug Resistance Surveillance, 2003

International proficiency testing	Yes
Geographic coverage	National *
Linkage with TB case notification	Yes
Cases with DST results	3 758
Cases resistant to INH	271 (7.2%)
Cases resistant to RMP	67 (1.8%)
MDR cases	49 (1.3%)
Cases resistant to EMB	19 (0.5%)
Cases resistant to SM	- -

### 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

† 15% of missing information on origin

### Tuberculosis case notifications, 2003

Type of data provided	Aggregate
Total number of cases	26 172
Notification rate per 100 000	100.3
Sex ratio (M:F)	1.3
Median age-group, nationals	25-34 years
Median age-group, non-nationals	-
Individuals born abroad	-
New (never-treated)	19 725 (75.4%)
Culture positive	-
Pulmonary	23 912 (91.4%)
of which sputum smear positive	7 652 (32.0%)

### 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)

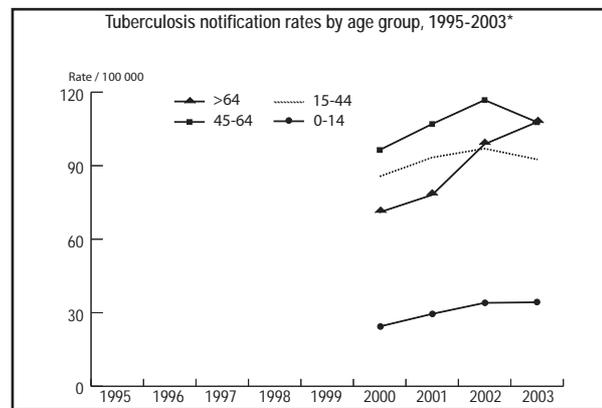
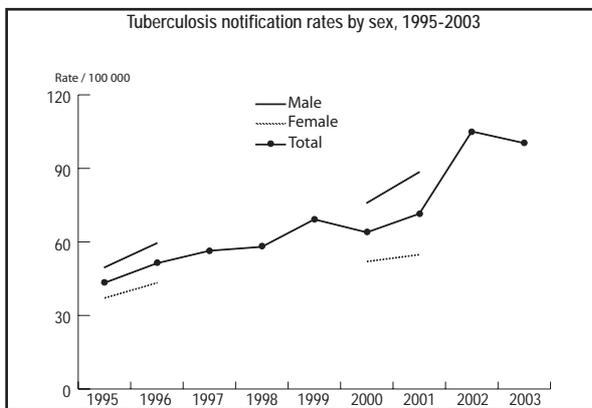
Culture and DST not routinely performed

§ New cases only

### Treatment Outcome Monitoring, 2002

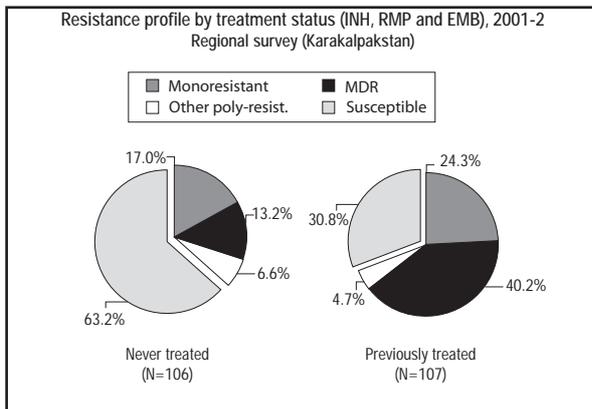
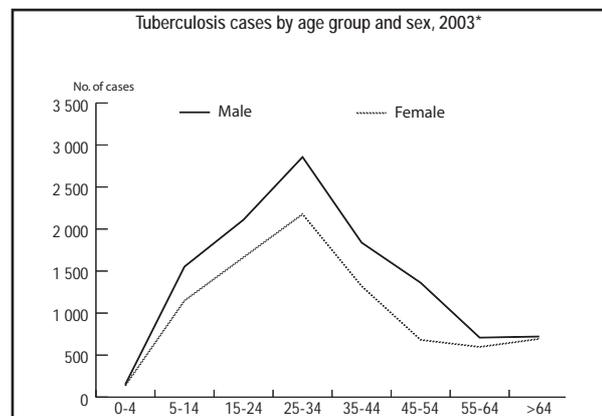
Geographic coverage	DOTS Areas	
Cohort	new pulmonary smear positive	
Included in TOM cohort	2 544	
Success	2 030	(80%)
Death	127	(5%)
Failure	203	(8%)
Default	184	(7%)
Transfer	0	(0%)
Still on treatment	0	(0%)
Unknown	0	(0%)

Data representativeness unknown



Tuberculosis cases by geographic origin, 1995-2003

**Foreigners not included  
in TB notifications**



Resistance to INH and MDR by treatment status, 1997-2003

**NOT AVAILABLE**

\* New cases only in 2003

## 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 correspondants on the inside cover). Country participation is on a voluntary basis. National surveillance institutions are responsible for the quality of data provided. 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

Data on TB notification for the previous calendar year are collected annually since the reporting year 1995, some months after the end of the year of report, in order to allow for validation and consolidation at national level. Data are collected preferentially as individual, anonymous data, according to standardised definitions and specifications. Since the reporting year 2003, individual data are collected for the two last years to allow for collection of treatment outcome information (see below). Countries which do not provide individual data, 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 are 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)

Results of drug susceptibility testing (DST) for initial isolates of *M. tuberculosis* are collected since the reporting year 1998 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 [6] are also included in this report.

#### Treatment outcome monitoring

Since the reporting year 2002, outcome data are collected for all cases in individual form by resubmission of an updated individual data set for the year before the last. Alternatively, aggregate treatment outcome data are reported by history of previous anti-TB treatment, for definite cases notified in the calendar year before the last (i.e. in 2002 for data collected in 2004).

### 6.2 Data analysis and presentation

#### TB case notification

Updates to information presented in this report were accepted until 15 June 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 2002 [7], except for Andorra and San Marino [8,9] and Monaco (2000, provided by the national correspondent). Population estimates by geographic origin are provided by national correspondents and were last updated in in 2002-2003. Differences between data published in EuroTB and

WHO reports [10] are mainly due to continuing data validation by EuroTB after the deadline for publication of WHO report.

TB/HIV surveillance

Information on HIV sero-status of TB cases is incomplete in many countries. HIV prevalence is calculated on the total number of TB cases reported, including those with unknown HIV serostatus, which may result in under-estimated HIV prevalence among TB cases. AIDS data for the latest year are presented by year of report. To provide a conservative estimate of the proportion of HIV-associated TB, numbers of AIDS cases with TB as initial AIDS indicative disease are divided by total TB cases notified in the same year. Time trends in numbers of AIDS-defining TB cases are presented by year of diagnosis, adjusted for reporting delays [11].

Drug resistance surveillance

Data on the results of DST at the start of treatment for isoniazid, rifampicin, ethambutol and streptomycin 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 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 2003) and DST results for INH and RMP are available for the majority of culture positive cases (at least 80% in 2003) or
- data from national surveys with a defined sampling frame;

**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 tested using Chi-squared test for linear trend and considered statistically significant if P-value is less than 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) should include 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. In countries providing 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 98% of definite pulmonary TB cases notified, considered as country-representative and complete
- **group B**, cohorts including less than 98% of TB cases initially notified, or from selected areas, or for which data for assessing completeness of TOM cohorts were not available.

Outcome data may also differ due to presentation of culture positive cohorts and pooling of national data from DOTS and non-DOTS areas in EuroTB reports.

Geographic areas

Based on epidemiological and geographical considerations, the 52 countries of the WHO European Region have been grouped into three geographic

areas (see map):

- 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: 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 Federa-

tion, Tajikistan, Turkmenistan, Ukraine and Uzbekistan).

The respective total populations of the three areas were 475, 126 and 280 million in 2003.

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](http://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.

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.

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.

Note: 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 (retreated cases having bacteriologically positive TB previously declared cured or completing treatment) 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.

Site of disease*Pulmonary case*

A case with TB affecting the lung parenchyma and/or the tracheo-bronchial tree

*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: Cases with both pulmonary and extra-pulmonary localisation are classified as pulmonary cases. Cases with disseminated TB (i.e. TB involving more than two organ systems, miliary TB or isolation of *M. tuberculosis* complex from blood) are classified as pulmonary if the lung parenchyma or tracheo-bronchial tree are affected and as extra-pulmonary otherwise. In individual data, detailed information is collected on the major site and one minor site of disease. The pulmonary localisation is always classified as the major site.

As an alternative to the recommended "pulmonary" classification above, cases are classified according

to the "respiratory" classification, in which pleural and intra-thoracic lymphatic TB cases are classified as respiratory cases together with pulmonary 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 providing individual outcome information, outcome is collected for all TB cases notified (not shown in the report).

*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 [3,4], 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

## 6.4 References

1. Rieder H, Watson J, Raviglione M, et al. Surveillance of tuberculosis in Europe. Recommendations of a Working Group of the World Health Organization (WHO) and the European Region of the International Union Against Tuberculosis and Lung Disease (IUATLD) for uniform reporting on tuberculosis cases. *Eur Respir J* 1996; 9:1097-1104.
2. Schwoebel V, Lambregts-van Weezenbeeck CSB, Moro ML, et al. Standardisation of antituberculosis drug resistance surveillance in Europe. Recommendations of a World Health Organization (WHO) and International Union Against Tuberculosis and Lung Disease (IUATLD) Working Group. *Eur Respir J* 2000; 16:364-371.
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5. Ancelle Park R. Expanded European AIDS case definition. *Lancet* 1993; 341-2
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