Surveillance of **Tuberculosis** in Europe - **EuroTB**

Report on tuberculosis cases notified in 2001

Institut de veille sanitaire
WHO Collaborating Centre for the Surveillance of Tuberculosis in Europe
KNCV Tuberculosis Foundation

European Commission

KNCV

Institut de Veille Sanitaire

Surveillance of tuberculosis in Europe: participating countries and national institutions (2003)

Andorra	Ministry of Health and Welfare	Andorra la Vella
Albania	Ministry of Health and Environment	Tirana
	University Hospital of Lung Diseases	Tirana
Armenia	Ministry of Health	Yerevan
Austria	Bundesministerium für Gesundheit und Frauen	Vienna
Azerbaijan	Research Institute for Pulmonary Diseases	Baku
Belarus	Scientific Research Institute of Pneumology and Phtisiology	Minsk
Belgium	Belgium Lung & Tuberculosis Association (BELTA)/VRDT	Brussels
Bosnia & Herzegovina	Clinic of Pulmonary Diseases and Tuberculosis “Podhrastovi”	Sarajevo
	Ministry of Health and Social Security	Banja Luka
Bulgaria	Ministry of Health	Sofia
Croatia	Croatian National Institute of Public Health	Zagreb
Cyprus	Ministry of Health	Nicosia
Czech Republic	Institute for Health Information and Statistics	Prague
Denmark	Statens Serum Institute	Copenhagen
Estonia	Estonian National TB Register	Tartu
Finland	National Public Health Institute	Helsinki
France	Institut de veille sanitaire	Saint-Maurice
Georgia	Institute of Phtisiology and Pulmonology	Tbilisi
Germany	Robert Koch-Institut	Berlin
Greece	National Centre for Surveillance and Intervention (NCSI)	Athens
Hungary	“Koranyi” National Institute of Tuberculosis & Pulmonology	Budapest
Iceland	Reykjavik Health Care Centre	Reykjavik
Ireland	National Disease Surveillance Centre	Dublin
Israel	Ministry of Health	Jerusalem
Italy	Ministero della Salute	Roma
Kazakhstan	Kazakh Tuberculosis Research Institute	Almaty
Kyrgyzstan	National Tuberculosis & Lung Diseases Institute	Bishkek
Latvia	State Centre of Tuberculosis & Lung Diseases of Latvia	Riga
Lithuania	Lithuanian Centre of Pulmonology & Tuberculosis	Vilnius
Luxembourg	Direction Générale de la Santé	Luxembourg
Macedonia, FYR	Institute for Lung Diseases and Tuberculosis	Skopje
Malta	Department of Public Health	G’mangia
Moldova, Republic of	Phtisiopulmonology Institute	Chisinau
Monaco	Direction de l’Action Sanitaire et Sociale	Monaco
Netherlands	KNCV Tuberculosis Foundation	The Hague
Norway	National Tuberculosis Register	Oslo
Poland	National Tuberculosis & Lung Diseases Institute	Warsaw
Portugal	Ministério da Saúde, Directorate General of Health	Lisbon
Romania	Institute of Pneumophtisiology “Marius Nasta”	Bucharest
Russian Federation	Russian Research Institute of Pneumophtisiology	Moscow
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Serbia & Montenegro	Institute for Lung Diseases and Tuberculosis	Belgrade
Slovakia	National Institute of TB and Respiratory Diseases	Bratislava
Slovenia	University Clinique of Respiratory and Allergic Diseases	Golnik
Spain	Instituto de Salud “Carlos III”	Madrid
Sweden	Swedish Institute for Infectious Disease Control	Solna
Switzerland	Swiss Federal Office of Public Health	Bern
Tajikistan	Tajikistan Medical University, Department of Tuberculosis	Dushanbe
Turkey	Ministry of Health	Ankara
Turkmenistan	Central Hospital for Tuberculosis	Ashkhabad
Ukraine	Institute of Tuberculosis & Pulmonology	Kiev
United Kingdom	Health Protection Agency	London
	Scottish Centre for Infection & Environmental Health	Glasgow
	Communicable Disease Surveillance Centre, NI	Belfast
Uzbekistan	Scientific Research Institute of Pthisiology and Pulmonology	Tashkent

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1.1 SUMMARY

In 2001, 390,534 cases of tuberculosis (TB) were notified in the countries of the WHO European Region, with large differences in notification rates between three areas:

- 11 cases per 100 000 population in the West (the 15 countries of the European Union, Andorra, Iceland, Israel, Malta, Monaco, Norway, San Marino and Switzerland);
- 92 per 100 000 in the East (the 15 Newly Independent States of the former Soviet Union).
- 41 per 100 000 in the Centre (the 13 remaining countries)

Between 1995 and 2001, notification rates in the West decreased by 3.6% yearly overall, but increased in Denmark, Israel, Norway and the United Kingdom, mainly due to increasing foreign-born cases. In 11 countries with consistent data, average annual decreases in numbers of cases were more marked among nationals (-7.6%) than among foreign born patients (-3.3%). In the Centre, rates decreased by 4-6% yearly in 7 countries, by 2% in Albania and F.Y.R of Macedonia, and stabilised in Bosnia & Herzegovina. In contrast, rates increased by 5% annually in Bulgaria and Romania. In the East, rates in 2001 were 62% higher than in 1995, with mean annual increases of 6-12% in most countries, less marked in more recent years.

Age specific rates were highest in persons over 64 years in the West (23% of cases) and in the Centre (25% of the cases, Romania excluded), while in the East rates peaked in the age group 25-44 years (43% of the cases). Male to female sex ratio ranged from 1.6 in the West to 2.4 in the East. In the West, 32% of the cases were of foreign origin and 18% had no information on origin. Overall, 89% of the cases notified were new cases. In the 39 countries using the pulmonary classification, pulmonary cases represented 71% of TB cases in the West, 87% in the Centre and 83% in the East. Over half of the pulmonary cases in the Centre were sputum smear positive, while in the West and the East the proportion was lower (44% and 41% respectively). Forty-nine percent of all cases notified in the West, in the Centre and in the Baltic States were confirmed by culture (range: 30-100%). Culture results were unavailable in the other countries in the East. Among the 10,508 AIDS cases reported in 2001, TB was the most common AIDS indicative (23% of the cases overall and 75% of those with information in the East).

Representative drug resistance surveillance data were provided from 24 countries. Among TB cases notified in 2001, the prevalence of primary multi-drug resistance (MDR) was very high in the Baltic States (8-14%), and in Israel (6%), and much lower in the rest of the West and in the Centre (median 0.7%; range 0-2.3%). Among cases previously treated, 40% were MDR in the Baltic States, 21.7% in Israel and a median of 3.2% in the West and Centre (range 0-9.5%). In the West, MDR was more frequent in patient of foreign origin (3.5%) than in nationals (1.0%).

Representative treatment outcome data on new smear positive cases notified in 2000 were provided from 28 countries. The median success rates (cure or completion) were 82% in the Centre, and 73% in the West and East. Death during treatment was reported in a median of 8%, 7% and 5% of cases respectively. The median proportion of failure was higher in the East (4%) than in the Centre and in the West (<1%). Success was more frequent in the cohorts of pulmonary culture positive cases (77%) than in those of smear positive cases (72%) (data from 19 countries).

In most countries in the West and Centre, TB incidence is still decreasing and drug resistance remains relatively low in countries providing representative data, indicating that TB control remains overall effective. Risk populations such as migrants from high TB incidence areas deserve focused preventive interventions.

In the East, increasing TB notifications indicate both increasing incidence and improved case detection and completeness of reporting, due to expanding implementation of the DOTS strategy. High levels of drug resistance, poor treatment outcomes and the expected impact of the spreading HIV epidemic call for urgent action to adapt and strengthen TB control programmes in the East.

1.2 RÉSUMÉ

En 2001, 390 534 cas de tuberculose (TB) ont été déclarés dans la Région Europe de l'OMS, avec des différences importantes dans les taux de déclaration selon trois zones :

- 11 cas pour 100 000 habitants à l'Ouest (les 15 pays de l'Union Européenne ainsi que l'Andorre, l'Islande, Israël, Malte, Monaco, la Norvège, Saint-Marin et la Suisse) ;
- 92 pour 100 000 à l'Est (les 15 pays de l'ex-URSS)
- 41 pour 100 000 au Centre (les 13 autres pays de la Région)

Entre 1995 et 2001, les taux de déclaration ont globalement diminué de 3,6 % par an à l'Ouest mais ont augmenté au Danemark, en Israël, en Norvège et au Royaume-Uni, ce qui est dû, principalement, à l'augmentation du nombre de cas nés à l'étranger. La diminution annuelle du nombre de cas est plus importante chez les nationaux (-7,6 %) par rapport aux individus d'origine étrangère (-3,3 %) (données de 11 pays). Au Centre, les taux annuels ont diminué de 4 à 6 % dans sept pays et de 2 % en Albanie et dans l'ancienne RY de Macédoine. Ils se sont stabilisés en Bosnie & Herzégovine et ont augmenté de 5 % par an en Bulgarie et en Roumanie. A l'Est, les taux étaient de 62 % plus élevés en 2001 par rapport à 1995, avec des augmentations annuelles moyennes de 6 à 12 % dans la plupart des pays, moins marquées dans les années plus récentes.

Les taux de déclaration par âge sont plus élevés chez les patients âgés de 65 ans et plus à l'Ouest (23 % des cas), et au Centre (25 % des cas ; à l'exception de la Roumanie) alors qu'à l'Est les taux sont plus élevés chez les patients de 25 à 44 ans (43 % des cas). Les taux sont plus élevés chez les hommes, avec un sexe ratio hommes/femmes variant de 1,6 à l'Ouest à 2,4 à l'Est. A l'Ouest, 32 % des cas sont d'origine étrangère et pour 18 % des cas, l'origine géographique n'est pas renseignée. Globalement, 89 % des cas n'ont pas d'antécédents de TB. Dans les 39 pays utilisant la classification pulmonaire, 71 % des cas sont pulmonaires à l'Ouest, 83 % à l'Est et 87 % au Centre. Environ 50 % des cas pulmonaires ont un frottis d'expectoration positif au Centre, 44 % à l'Ouest et 41 % à l'Est. La moitié des cas déclarés à l'Ouest, au Centre et dans les pays Baltes sont confirmés par culture (30-100 %). L'information sur la culture n'est pas disponible dans les 12 autres pays de l'Est. Parmi les 10 508 cas de sida déclarés en 2001, la TB était la maladie indicatrice la plus fréquente (23 % des cas ; 75 % des cas renseignés à l'Est).

Vingt-quatre pays ont fourni des données nationales représentatives sur les antibiogrammes en début de traitement. La prévalence de la multirésistance (MDR) primaire est très élevée dans les pays Baltes (8 à 14 %) et en Israël (6 %), alors qu'elle est observée dans une médiane de 0,6 % des cas (0 à 2,3 %) dans les autres pays de l'Ouest ou du Centre. Parmi les cas déjà traités, 40 % ont une tuberculose MDR dans les pays Baltes, 21,7 % en Israël et une médiane de 3,2 % (0-9,5 %) dans les autres pays. A l'Ouest, la tuberculose MDR est plus fréquente parmi les cas d'origine étrangère (3,5 %) que parmi les cas nationaux (1,0 %).

Des données nationales portant sur le résultat des traitements des cas de tuberculose à frottis positif déclarés en 2000, sont disponibles pour 28 pays. La proportion médiane des résultats favorables (guérison ou traitement complété) est de 82 % au Centre et de 73 % à l'Ouest et à l'Est. La proportion médiane des décès est de 8 %, 7 % et 5 % respectivement. La médiane des échecs de traitement est plus élevée à l'Est (4 %) qu'au Centre (1 %) ou à l'Ouest (0 %, cas classifiés comme encore traités). La proportion de succès est plus élevée dans les cohortes de nouveaux cas pulmonaires à culture positive (77 %) que dans celles des cas à frottis positif (72 %) (données de 19 pays).

Dans la plupart des pays de l'Ouest et du Centre de l'Europe, l'incidence de la TB continue de diminuer et la résistance reste à un niveau assez bas dans les pays fournissant des données représentatives, indiquant que le contrôle de la TB est globalement efficace. Les populations à risque (migrants originaires des pays à incidence de TB élevée, personnes âgées) nécessitent la mise en place d'interventions de prévention ciblées. A l'Est, l'augmentation importante des taux de déclaration montre à la fois une augmentation de l'incidence de la tuberculose et des niveaux de diagnostic et de déclaration plus exhaustifs, dans le cadre d'une meilleure mise en œuvre de la stratégie de contrôle DOTS. Les niveaux élevés de résistance, les résultats de traitement peu favorables et l'impact attendu de l'épidémie d'infections à VIH appellent à une adaptation et à un renforcement urgent des programmes de lutte anti-tuberculeuse à l'Est.

1.3 РЕЗЮМЕ

В 2001 г., 390 534 случая туберкулеза были зарегистрированы в Европейском регионе ВОЗ. Показатели зарегистрированных случаев значительно отличаются в трех географических регионах :

- 11 случаев на 100 000 в Западной Европе (15 стран Европейского Сообщества, Андорра, Исландия, Израиль, Мальта, Монако, Норвегия, Сан-Марино, Швейцария) ;
- 92 случая на 100 000 в Восточной Европе (15 Новых независимых государств бывшего Советского Союза).
- 41 случай на 100 000 в Центральной Европе (в остальных 13 странах).

На протяжении 1995 и 2001 гг., в Западной Европе показатели всех зарегистрированных случаев вообщем понизились на 3,6 %, но увеличились в Дании, Израиле, Норвегии и Соединенном Королевстве вследствие увеличения случаев туберкулеза у пациентов родившихся за границей. В 11 странах предоставивших данные, более значительное среднегодовое снижение показателей наблюдалось у местных жителей (-7,6 %) по сравнении с пациентами иностранного происхождения (-3,3 %). В Центре показатели снизились ежегодно на 4-6 % в 7 странах, на 2 % в Албании и в Бывшей Югославской Республике Македонии но стабилизовались в Босне и Герцеговине. Наоборот, показатели увеличились ежегодно на 5 % в Болгарии и в Румынии. На Востоке показатели в 2001 г. повысились на 62 % по сравнении с 1995 г. с средним годовым ростом от 6 до 12 % в большинстве стран и были менее выразительны в прошлых годах.

В Западной Европе показатели зарегистрированных случаев по возрастным группам были самыми высокими у пациентов в возрасте выше 64 лет (23 % случаев) и в Центральной Европе (25 % случаев, за исключением Румынии) тогда как в Восточной Европе достигли найвысшей степени в возрастной группе 25-44 лет (43 % случаев). Пропорции по полу варьировали с 1.6 на Западе, до 2.4 на Востоке. На Западе, пациенты иностранного происхождения составляли 32 % и происхождение неизвестно у 18 %. Вообщем, 89 % зарегистрированных случаев были новые случаи. В 39 странах использовавших легочную классификацию, легочные случаи составляли 71 % случаев туберкулеза в Западной Европе, 87 % в Центральной Европе и 83 % в Восточной Европе. Случаи с положительным мазком мокроты составляли более чем половину случаев в Центре пока пропорции были более низки на Западе и на Востоке (44% или 41%). 49 % всех зарегистрированных случаев на Западе, в Центре и в Балтийских странах были подтверждены культуральным исследованием (в пределах 30 – 100 %). В остальных странах Восточной Европы информации о культуральном исследовании недоступны. У 10 508 случаев СПИДа извещенных в 2001 г., туберкулез являлся самым общим индикатором заболевания (вообщем 23 % и 75 % случаев с информацией на Востоке),

24 страны предоставили репрезентативные данные по эпиднадзору за лекарственной резистентностью. В отношении случаев туберкулеза, зарегистрированных в 2001 г., превалентность первичной множественной лекарственной резистентности (MDR) была самой высокой в Балтийских странах (8-14 %) и в Израиле (6 %), более низка в остальной Западной Европе и в Центре (в среднем 0,7 % ; в ряду 0-2,3). Множественная резистентность у случаев получавших лечение в прошлом составляла в среднем 40% в Балтийских странах, 21,7 % случаев в Израиле и 3,2 % случаев в среднем на Западе и в Центре (в пределах 0-9,5%). В Западной Европе пропорция случаев с MDR была выше у пациентов иностранного происхождения (3,5 %) по сравнении с местными жителями (1,0 %).

28 стран предоставили репрезентативные данные по новым случаям с положительным мазком мокроты, зарегистрированные в 2000 г.. Средние показатели успеха (лечение или завершение лечения) составляли 82 % в Центральной Европе, 73 % в Западной и в Восточной Европе. Летальные исходы в течение лечения составляли в среднем 8%, 7% и 5% случаев. Средний показатель безуспешного лечения был выше в Восточной Европе (4 %) по сравнении с Центром и Западом (<1%). Успешное лечение чаще наблюдалось в когортах легочных случаев с положительной культурой (77 %) по сравнении с случаями с положительным мазком (72 %) (данные из 19 стран).

В большинстве стран Западной и Центральной Европы, заболеваемость ТБ постоянно снижается и лекарственная резистентность остается относительно низка в странах поставляющих репрезентативные данные и свидетельствует, что контроль туберкулеза эффективным. Граждане иностранного происхождения из областей с высокой заболеваемостью ТБ составляют группу риска и заслуживают целевой подход контроли.

Большое увеличение показателей зарегистрированных случаев туберкулеза в Восточной Европе свидетельствует о росте заболеваемости туберкулезом и о более комплектной регистрации и обнаружении случаев вследствие лучшей интеграции стратегии ДОТС. Высокий уровень лекарственной резистентности, слабо доступные результаты лечения и ожидаемое распространение эпидемии ВИЧ вынуждают приятие срочных мер по приспособлению и усилению программ по контролю туберкулеза на Востоке.

2. COMMENTARY

2.1 Tuberculosis case notification

In 2001, 390,534 tuberculosis (TB) cases were notified by the 51 countries of the WHO European Region, representing 10.2% of notifications made to WHO worldwide in the same year **[1]**. In the European Region, 68% of notifications derived from the East, 20% from the Centre and 12% from the West.

The overall notification rate was 45 per 100 000 population, with a clear West–East gradient (Figure 1). Most countries were able to provide breakdown of TB cases according to requested demographic or clinical characteristics (Table 1). TB case notification data for 2001, recent trends (Tables 2-14 and country profiles) and data on TB as AIDS indicative disease (Table 15) are commented below by geographic area.

Summary table. Tuberculosis surveillance data by geographic area, WHO European Region, 2001

	West N†		Centre N†		East N†		Total N†		Table*
Population (million)	**23**	**397.5**	**13**	**188.5**	**15**	**290.1**	**51**	**876.1**	**-**
TB case notification									
Total TB cases	23	45 195	13	78 024	15	267 315	51	390 534	Tab. 2
Notification rate per 100 000	23	11.4	13	41.4	15	92.1	51	44.6	Tab. 2
Mean annual change in notification rate, 1995-2001	18	-3.6%	12	-1.4%	14	9.0%	44	4%	Tab. 2
Sex ratio (M:F)	21	1.6	12	2	15	2.4	48	2.2	Tab. 3
Median age group (years)	21	35-44	12	45-54	13	35-44	48	35-44	Tab. 4
Age 0-14 years	21	5%	12	4%	13	6%	48	5%	Tab. 4
Age over 64 years	21	23%	12	18%	13	7%	48	11%	Tab. 4
Foreign origin	21	32%	8	1%	5	1%	34	7%	Tab. 5
History of anti-TB treatment or TB	21	8%	8	12%	5	12%	34	11%	Tab. 8
Pulmonary‡	20	71%	9	87%	9	83%	38	80%	Tab. 9
Pulmonary‡, smear positive	20	44%	9	48%	9	38%	38	44%	Tab. 14
Culture positive	21	49%	10	48%	6	15%	37	38%	Tab. 11
AIDS defining TB / total TB cases	22	4.6%	12	0.1%	12	0.1%	46	0.6%	Tab. 15
Surveillance of drug resistance §									
Primary isoniazid resistance	15	6.4%	6	2.8%	3	24.7%	24	7.5%	Tab. 19
Acquired isoniazid resistance	15	12.3%	6	11.0%	3	50.6%	24	23.0%	Tab. 20
Primary multi-drug resistance	15	1.6%	6	0.8%	3	10.1%	24	2.4%	Tab. 19
Acquired multi-drug resistance	15	5.7%	6	6.4%	3	39.8%	24	15.9%	Tab. 20
Treatment outcome monitoring, 2000 ll									
Treatment success **, new pulmonary sputum smear positive cases	11	73%	7	82%	8	75%	26	75%	Tab. 26
Treatment success **, retreated pulmonary sputum smear positive cases	9	75%	7	75%	8	61%	24	66%	Tab. 27

* Statistics shown apply for countries included in the respective tables of this report
† Number of countries with available data and included in the statistics
‡ Countries reporting with the recommended pulmonary classification (see technical note)
§ For countries with representative nationwide data (see technical note)
ll For countries with nationwide data, cohorts >85% complete, reporting one case or more (excluding Moldova, Rep of)
** cure or treatment completion; percentages refer to median for countries included

West

In the West, 45,195 TB cases were notified in 2001, for an overall notification rate of 11 cases per 100,000 population, highest in Portugal (44) and Spain (19). The overall rate in 2001 was 7% lower than in 2000 and 20% lower than in 1995, with decreasing average annual rates in all countries except Denmark, Israel, Norway and the United Kingdom (Figure 5). The average annual decrease between 1996 and 2001 (3.5%) was greater than that observed between 1990 and 1995 (1.0%, with a net increase from 1991 to 1993), but it was lower than that between 1985 and 1990 (4.7%) **[2]**. Most countries with decreasing notification rates between 1995 and 2001 experienced a decline in notification rates in the under-45 population (see country profiles), suggesting decreasing transmission. In countries with consistent data between 1995 and 2001, average annual decreases in the numbers of notified cases were more marked in nationals (7.6%) than in cases of foreign origin (3.3%), resulting in an increase in the proportion of TB notifications in persons of foreign origin from 31% in 1995 to 35% in 2001 (Figure 7). Numbers of cases reported by year among nationals are presented in Table 6.

In 2001, notification rates in nationals increased progressively with age and were highest in those aged over 64 years, while in the population of foreign origin a bimodal pattern with peaks in the age-groups 25-34 and over 64 occurred (Figure 3). Rates were eight times higher in foreigners (47.5 per 100 000) than in nationals (5.6), with rates in foreigners being higher than in nationals at all ages. The ratio of rates of foreigners to nationals ranged from 3 to 37 between countries, reflecting different migration patterns, but possibly also differences in demographic statistics by geographic origin, a factor which limits proper interpretation. One third of cases in 2001 were of foreign origin, reaching 40% or more in nine countries (Figure 2). Among cases of foreign origin, 38% were from Africa, 30% from Asia (15% from the Indian subcontinent) and 22% were from a country of the WHO European Region other than the country of notification (Table 7).

Apart from Spain where cases are reported using the respiratory classification, see 71% of cases were reported as pulmonary (range 59 – 94%), and 44% of them were sputum smear positive for acid-fast bacilli. Extra-pulmonary TB was more frequent in cases of foreign origin than in nationals (33% versus 24% respectively, individual data, not shown). Culture confirmation varied widely across countries (mean 49%, range 28%-100%), and was more frequent in pulmonary cases than in extra-pulmonary cases (mean 56% versus 39% respectively). In some countries, low levels of culture confirmation may have been due to lack of laboratory reporting. Species identification was available for 21 countries and showed *M. tuberculosis* in 84.4% of culture positive cases, *M. bovis* in 0.6% and *M. africanum in* 0.3% of the cases. Switzerland and Ireland had more than 2% of culture-positive cases with non-*M. tuberculosis* strains.

In 2001, TB was reported as AIDS indicative disease in 2,042 / 9,247 AIDS cases reported in Western Europe (22%), with highest proportions in Portugal (51%), Israel (34%), Spain (31%) and Belgium (30%). AIDS cases with TB as indicative disease represented 4.5% of total TB cases notified in 2001 with highest proportions in Portugal (11%) and Spain (9%; extrapulmonary TB incompletely notified). This is likely to represent an underestimate of HIV associated TB, as TB episodes occurring in HIV infected individuals after AIDS diagnosis are not reported to AIDS notification systems. In some countries, high proportions of AIDS cases reported with TB are due to high proportions of AIDS cases among migrants from countries with high prevalence of TB/HIV co-infection **[3]**.

Centre

In the Centre, 78,024 TB cases were reported in 2001 of which 39% of cases were reported from Romania and 24% from Turkey. The mean TB notification rate was 41 per 100,000 population, being under 20 in the Czech Republic (13), Albania (18) and Slovenia (19), and higher than 50 in Romania (136) and Bosnia-Herzegovina (63). Overall notification rates were 9% lower in 2001 than in 1995 (mean 1.6% decrease annually). Notification rates decreased on average by 4-6% yearly in seven countries and by 2% yearly in Albania and F.Y.R. of Macedonia. Rates stabilised in the latter years after an increase in Bosnia & Herzegovina and increased by 5% yearly in Bulgaria and Romania.

The proportion of notifications in the 0-14 years age-group was 4% and it was highest in the Former Yugoslav Republic of Macedonia (15%) and in Albania (9%), suggesting over-notification of paediatric TB cases. On average, age specific rates in the Centre (excluding Romania and Turkey) increased markedly after age 14 in men but less so in women, resulting in large gender differences in the middle age groups. Countries where total notification rates

decreased between 1995 and 2001 (Figure 5) also experienced a decline in rates in the under-45 population (except in F.Y.R. of Macedonia, see country profiles), suggesting decreasing transmission in recent years. In Romania, the extremely high and increasing notification rates in all age groups may denote persisting high level of TB transmission, making this country distinct from others in the Centre. However, this may partly be explained by increasing proportions of cases diagnosed clinically and of re-treatment patients in recent years.

In the nine countries using the pulmonary classification (see technical note), pulmonary cases represented 89% of cases (range 62-93%), of which 48% were sputum smear positive. Data on culture confirmation were not available from Macedonia F.Y.R, Serbia & Montenegro and Turkey. In the other countries, nearly half of the cases were culture confirmed. In some countries, high proportions of cases with "negative" culture suggest poor coding of culture results or a tendency to over-diagnose.

Among the 344 AIDS cases notified in 2001 (Romania excluded) the mean proportion of AIDS cases notified with TB was 19% (range: 0-36%; median: 11%), with highest proportions in Bulgaria (36%). AIDS cases with TB as indicative disease represented 0.1% of all TB notifications in 2001.

East

In the East 267,315 cases were reported in 2001, of which 52% from the Russian Federation, ranking as fourth country worldwide in absolute number of TB notifications in 2001 **[1]**. The mean TB notification rate in the East was 92 cases per 100 000 population, with rates higher than 50 per 100,000 in all countries except Armenia (37), and higher than 100 in Kazakhstan (194), Kyrgyzstan (138) and Georgia (112). Notification rates were 62% higher in 2001 than in 1995, with a mean annual increase of 8.6%. Seven countries registered an increase in notification rates exceeding 5% between 2000 and 2001, down from 12 countries between 1995 and 1996. From 1998 to 2001, all countries except the Republic of Moldova and Tajikistan experienced lower average increases in rates when compared to those between 1995 and 1998. Notification rates were stable between 1998 and 2001 in Armenia, Georgia, Latvia and Lithuania.

Paediatric TB cases represented more than 10% of cases notified in Kyrgyzstan, Turkmenistan and Uzbekistan, suggesting over-notification of paediatric TB. Higher rates in older children (5-14 years) than in younger children (0-4 years) in several countries also suggests relative over-reporting in the age group 5-14 years. The age group 15-44 years accounted for 62% of the cases notified, while only 6% of the cases were aged over 64 years. Rates were highest in the age group 25-34 years in both sexes, decreasing steadily from the age group 35-44 years in women and 45-54 years in men. The higher notification rates in young adults indicate high levels of recent transmission. Between 1995 and 2001, the age specific TB notification rates increased in the 15-44 year age-group in all the six countries with available data (Armenia, Estonia, Latvia, Lithuania, Rep. of Moldova and Ukraine), while rates in the age group 0-14 tended to be more stable. Recent 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. TB cases diagnosed in specific population groups (e.g. prisoners), as well as re-treatment cases other than relapses (e.g. in Latvia and Estonia since 2001), have been increasingly included in TB notifications, while 'case detection' increased in the context of expanding DOTS implementation in some countries (e.g. Turkmenistan and Uzbekistan).

In 2001, 83% of cases in the East were pulmonary in nine countries using this classification (range: 80-89%), and 38% of pulmonary cases were sputum smear positive (24-55%). Respiratory cases accounted for 96% in the Russian Federation and Kazakhstan and complete data by site were not provided from Belarus, Kyrgyzstan and Uzbekistan. With the exception of the Baltic States, culture confirmation was low, absent or unavailable due to inaccessibility or to selective use of culture for financial reasons or preference of direct microscopy (as in countries implementing DOTS) or radiology. In addition, the notification systems of some countries do not distinguish between cases confirmed by direct microscopy or by culture (reported as 'BK+').

In 2001 a total of 917 AIDS cases were reported in 12 countries in the East, of which 812 (89%) in Ukraine (no data from Kazakhstan, the Russian Federation and Turkmenistan). Among AIDS cases, 456 (50%) were reported without information on AIDS indicative diseases and 322 (35%) had TB as AIDS indicative disease (range: 0-100%; median 45%). Excluding cases with unknown AIDS indicative disease, 70% of AIDS cases reported in 2001 had TB at AIDS diagnosis. High TB morbidity at AIDS diagnosis reflects high prevalence of TB infection in

the HIV infected population, as well as the earlier appearance of TB over other AIDS-defining diseases in countries where the epidemic spread of HIV is relatively recent (from mid-90s). Additionally, TB tends to be easier to diagnose than other AIDS indicative diseases. Although numbers of cases with AIDS indicative TB are still low, partly due to AIDS underreporting, the incidence of HIV associated TB is expected to increase TB and particularly MDR-TB case load **[4]** in the coming years.

2.2 Drug resistance surveillance

In 2001, data on laboratory practices for Drug susceptibility Testing (DST) and on anti-TB drug resistance surveillance (DRS) for 2001 were provided from 40 countries (19 in the West, 12 in the Centre and 9 in the East).

Laboratory practices

In the 40 countries providing DST results, DST was performed in a single national reference laboratory (NRL) in nine countries (abroad for Iceland and Malta), in 2-10 laboratories in 14 countries, in 11-20 laboratories in nine countries, and in more than 20 laboratories in six countries (Table 16). Among the 29 countries with at least two laboratories performing DST, national quality assurance (QA) for DST existed in 22 of the 23 countries providing information. National QA usually involved most laboratories and most of them reached 90% or more concordance with the NRL for rifampicin (RMP) and isoniazid (INH), except in Kazakhstan and in Hungary (not shown). In 28 countries the NRL had participated in international QA activities for DST in 2001 or in recent years, and in the 26 providing information, concordance with the supranational laboratories for INH and RMP was 100% for both drugs in 17 countries, and lower for one or both drugs (89-99%) in nine countries. Among countries in group A, all participated in international QA except Luxembourg (no information from Austria), whereas in group B, five countries in the East, and three in the Centre did not participate in international QA. Among recommended DST methods, radiometric or non-radiometric proportion prevailed in the West and the Centre and absolute concentration in the East. In 23 countries, more than one DST method was used.

Drug susceptibility testing results

Data provided were classified in two groups (see also technical note). Data from 23 countries where culture and drug susceptibility testing (DST) are routinely done at TB diagnosis and where DST results are available for the majority of TB cases notified, and data from a large survey in Poland, were considered as representative (group A). Data from 16 countries culture or DST are not routinely done at TB diagnosis, or where DST results are available for selected TB cases were considered unrepresentative and classified in group B. Data are presented separately for the two groups in Tables 17-22 and commented accordingly in the text below. Mean percentage of resistance by area for countries in group A are presented in Figure 8. Trends in drug resistance are presented in the country profiles and, for countries in group A, in Tables 23-24.

West

In the 15 countries in the West included in group A (Table 17), DST results for 2001 were collected routinely for all culture positive TB cases notified at national level. Culture positive cases represented a median of 73% of the TB cases notified (range: 37-100%), and DST results for INH and RMP were available overall for 11,649 of the 13,277 culture positive cases (88%), with highest proportions of missing DST results in Ireland (30%), Belgium (22%), and Germany (17%). Among cases with DST results, information on anti-TB treatment history and geographic origin was available for more than 90% of the cases overall (not shown).

Prevalence of drug resistance for each drug and of multidrug resistance was lower among cases never treated than among cases previously treated (Tables 19- 20). Among cases never treated, primary INH resistance was observed in a median of the 5.3% of cases (range 0-18%), RMP resistance in a median of 0.9% of the cases (range 0-6.1%) and multidrug-resistance (MDR) in 86% of RMP resistant cases, with a median prevalence of 0.7% (range: 0-5.8%). Among cases previously treated, acquired INH resistance was observed in a median of 7.1% of cases for INH, 3.4% for RMP and 2.4% for MDR, with higher variability between countries.

Prevalence of drug resistance was lower among cases in native born/citizens than among cases of foreign origin (Tables 21-22). The median prevalence of INH resistance was 2.9% among nationals and 7.9% among cases of foreign origin and median prevalence of MDR was respectively 0% and 1.1%. In the 12 countries providing individual DST data in 2001, the prevalence of MDR was higher in foreigners than nationals among both new cases

(2.4% vs. 0.6%) and previously diagnosed cases (13.4% vs. 2.3%). In Germany, 44.5% of MDR cases were in individuals born in the NIS. The high prevalence of drug resistance in Israel is partly due to large proportions of TB cases in recent immigrants, many of whom from NIS **[5]**, where prevalence of anti-TB drug resistance is very high.

In nine countries providing at least three years of comparable DRS data between 1997 and 2001, the prevalence of primary INH resistance and MDR was relatively stable overall (Tables 23-24). Significant increases (X^2 for trend, P< 0.01) were observed for INH resistance in Finland, due to increasing numbers of foreign born resistant cases, and for INH resistance in the United Kingdom, where a large INH resistant outbreak has been identified in the area of London **[6]**.

Data from four countries in the West were classified in group B. In France a multi-regional network of teaching hospital laboratories collects DST data since several years **[7]** showing stable prevalence of resistance, confirmed by exhaustive surveys of multidrug resistance **[8]**. In Italy, DST data are collected from selected laboratories in several regions **[9]**. In Portugal, DST results are linked with TB cases notified but were only available for 51% of culture positive cases. In Spain, DST data were available on selected cases referred to the NRL.

Centre

Six of the 12 countries in the Centre providing DRS data, were classified in group A (Table 17). In these countries a median of 59% of all TB cases (range: 53-83%) were culture confirmed. Overall, DST results for INH and RMP were available for 90% of culture positive cases notified or included in the survey in Poland (7,369 / 8,156). The proportion of culture positive cases with missing DST results was highest in Bosnia & Herzegovina (22%; all from Rep. Srpska) and the Czech Republic (21%). The levels of drug resistance were comparable to those observed in Western Europe and were lower among new cases than among cases previously treated (median: 2.9% vs 7.8% for INH; 0.7% vs 3.9% for MDR). Cases of foreign origin (data from 4 countries) represented 11.6% of notified cases, with small numbers of resistant cases and, overall, prevalence of resistance higher in this group than in nationals. In the four countries with at least three comparable data points between 1997 and 2001 (Table 23-24), drug resistance remained stable overall. Increasing proportions of primary INH resistance were observed in Slovakia (X^2 for trend; P<0.03) and Slovenia (P<0.04), due to increasing numbers of foreign born resistant cases.

Among countries in group B, in Albania, Hungary and Romania DST data were collected on TB cases notified but culture confirmation was infrequent (30-45%) and/or DST results available for a minority of cases. In Serbia & Montenegro, DRS linked with TB case notification is limited to the region of Belgrade and shows low, stable levels of resistance. In the FYR of Macedonia, DST results were provided for cases hospitalised at the National Institute for lung diseases, representing 20% of all cases notified. In Bulgaria DST data had incomplete coverage and were based on DST performed in selected patients.

East

Of the nine countries in the East providing DRS data, only Estonia, Latvia and Lithuania (Baltic States) were classified in group A. In these countries, 62% of TB cases notified were culture confirmed and DST results were available for 98% of them in Estonia and 81-82% in Latvia and Lithuania (Table 17). Data for 2001 confirmed the very high prevalence of both primary resistance (INH: 21-29%; MDR: 8-14%) and acquired resistance (INH: 32-62%; MDR: 27-51%). The ratio of prevalence of INH resistance to MDR was smaller than in other countries, indicating more frequent association of resistance to more than one drug. Persons of foreign origin, mostly born in a NIS (see Table 7), had levels of resistance similar to the native born. The prevalence of primary resistance in the Baltic States was relatively stable in the period 1998-2001 (Tables 23-24). Trends in acquired resistance should be interpreted with caution due to changing criteria for inclusion of retreated cases in notifications (i.e. cases other than relapses included in Estonia and Lithuania since 2001).

In the six countries in the East in group B, DST data provided represent the collection of DST results performed in selected TB cases for clinical purposes, as suggested by the overrepresentation of retreated cases in DST data compared with case notification. External quality assurance for DST is frequently lacking and culture and/or DST are not routinely performed at diagnosis. Moreover, DST data may include specimens taken after the start of treatment in some countries **[10]**. Under these conditions DST results from clinical routine are unsuitable for surveillance but indicate nevertheless that the absolute numbers of MDR cases are worryingly high.

Local / regional surveys in other NIS **[11,12]** suggest that the high levels of primary and acquired multidrug resistance observed in the Baltic countries may actually be a widespread problem broadly affecting the area. The implementation of properly designed national drug resistance surveys is a priority in this area in order to adapt TB control approaches based on reliable data and to avoid further spread of drug resistance in the population.

2.3. Treatment outcome monitoring

Data on treatment outcome monitoring (TOM) for TB cases notified in 2000 were provided from a total of 38 countries (15 the West, 10 in the Centre and 13 in the East), compared to 30 in 1999 (Tables 25-29). Data were provided on nationwide cohorts from 31 countries, on cohorts with partial geographic coverage from five countries, on both nationwide and selected DOTS cohorts from the Russian Federation. Coverage was not available for Turkey. Data were provided for sputum smear positive cohorts in 12 countries, for culture positive cohorts in Israel and for both in 25 countries.

In order to assess the completeness of nationwide TOM cohorts, the number of cases included in TOM cohorts was compared with the number of TB cases reported to EuroTB in 2000 (Table 25, see also technical note). TOM cohorts had a size similar to TB notifications in 16 countries (98-102% of notified cases), were smaller in 11 countries (73-95%) and larger in four countries (108-200%). "Small" TOM cohorts resulted from exclusion of cases with missing outcome information (e.g. in Denmark and Germany), never starting treatment (e.g. post-mortem diagnosis) or reported with unknown anti-TB treatment history (e.g. in Austria, Belgium, Sweden). "Large" TOM cohorts were mainly due to cases reclassification upon follow-up of smear or culture results. Differences between cohorts and notifications may also derive from different inclusion of retreated cases in TOM and in notification (e.g. all retreatment cases vs. relapses only). Based on the calculations described above, nationwide TOM cohorts including at least 85% of cases notified were considered representative and are presented as group A in the Tables 25-29. Cohorts including less than 85% of TB cases notified or with incomplete geographic coverage or from countries where notification figures were not available were considered unrepresentative and are presented as "group B" in Tables 25-29.

For cohorts of new smear positive cases, data from 27 countries were included in group A and considered representative (Tables 24-25). Data from the Rep. of Moldova, where the only outcome reported was cure, and from four countries reporting less than 5 smear positive cases in 2000 were excluded from analysis. In the other 22 countries, success (i.e. the sum of cure and treatment completion) was reported in a median proportion of 73% cases in the West and in the East and in 82% of cases in the Centre. Success rates reaching the WHO target of 85 % success were reported only from Azerbaijan, Bosnia & Herzegovina and the FYR of Macedonia. Cure and treatment completion were reported respectively in a median of 73% and 3% of cases in the East, 51% and 35% in the Centre and 19% and 53% in the West.

Death was reported in a median of 8-9% of cases in each area (range 1-17%). Failure was rarely reported in the West (<1%) and represented a median of 1% of cases in the Centre and 4% of cases in the East, with highest proportions reported from Romania and Tajikistan (8%), Georgia (9%) and Kazakhstan (10%). The newly introduced category "other, not evaluated" (i.e. cases still on treatment at 12 months, see technical note), represented more than 5% of cases in 10 countries, with median proportions of 7% in the West, 1% in the Centre and less than 1% in the East. In each area, a median of 5-6% of cases had interrupted treatment or had no outcome information (default), with highest proportion in Ireland (44%), Belgium (17%), and Hungary and Lithuania (12%).

Among retreated smear positive cases (Table 27), the median proportions of success were lower compared to cohorts of new cases, (West 62% vs 73%; Centre 75% vs 82%; East 61% vs 73%). Numbers of cases in other outcome categories were small and percentages were not compared. It should be pointed out that the type of retreatment cases included in the cohorts varied across countries (relapses only versus any type of retreatment), which suggests further caution when comparing outcomes of retreated patients between countries.

In the 15 countries in group A also providing data on smear positive cohorts, culture positive cohorts were of a comparable size or larger than those of smear positive cases (Table 25) with a median ratio of 1.6 (range: 1.0-3.5). In most of these countries, success rates were similar or slightly higher in culture positive cohorts than in smear positive cohorts (Tables 28-29). For new cases, median success rates were respectively 74% for culture positive

cases and 72% for smear positive cases in the West, 80% and 76% in the Centre and 76% and 72% in the Baltic States.

In Europe, TOM is being increasingly implemented at national level but international comparability of data is still limited by the insufficient standardization of national systems. In several countries, TOM cohorts exclude sizeable proportions of notified cases, including those with no outcome information, resulting in a potential overestimate of success rates. Outcome categories are also variably defined. For example, bacteriological follow-up is frequently incomplete in the West, resulting in a shift of classification from cure to completion and from failure to 'still on treatment'. In some Eastern countries not yet fully implementing DOTS in 2000, cure or treatment completion may have been defined using both radiological and laboratory criteria. Finally, the changes in definitions proposed for the 2000 cohorts (see technical note) may have been variably taken into account, further affecting data comparability.

Currently available data indicate that WHO targets of 85% success among new cases are generally not met in Europe. Reasons for low success include high proportions of failures in the East and in Romania, suggesting poor compliance (not fulfilling the definition of default) or poor effectiveness of initial regimens due to drug resistance, both deserving further attention. In the West, low success rates are contributed by incomplete outcome information and high mortality during treatment in TB case populations with high median age. High proportions of cases with treatment lasting more than 12 months possibly reflect sub-optimal application of treatment recommendations.

Further standardisation and stabilisation of TOM are needed in Europe, to enable a reliable description of progress towards global targets. Steps in this respect have been already implemented in 2003 and include the agreement on revised outcome categories, the enlarged collection of data on the entire cohort of notified cases including those with unknown anti-TB treatment history, and the pilot collection of individual outcome data enabling a more in-depth analysis of outcome determinants.

2.4. Conclusions and recommendations

Available TB surveillance data indicate that in most countries in the West and Centre of Europe, TB incidence continues to decrease and prevalence of anti-TB drug resistance remains low, suggesting that TB control remains overall effective in containing TB transmission. However, TB control needs to be reinforced in those countries with stabilising or increasing incidence and to be targeted to high risk population groups (e.g. the foreign born or the elderly) and to high incidence areas (e.g. some metropolitan areas **[13]**). In the East, TB notification data show persisting high levels of TB transmission in most countries, although data interpretation is still limited by changing surveillance and increasing case detection, in relation with expanding DOTS implementation. The very high levels of drug resistance and the sub-optimal treatment outcomes reported from some countries in the East, together with the expected impact of spreading HIV epidemics on TB epidemiology, call for urgent action to adapt and strengthen TB control in this area. AIDS reporting data show that TB is the single most common AIDS indicative disease in Europe, indicating substantial TB morbidity among HIV-infected patients throughout the region, and a non negligible contribution of HIV infection to TB incidence in some countries in the West.

European TB surveillance data are becoming increasingly complete and comparable. Consensus recommendations have been instrumental in driving standardisation of surveillance at the European scale **[14-17]** but are still incompletely implemented or need to be updated/tailored to take into account differences in TB epidemiology and in control across countries in the European Region. TB control has been given highest priority at the global level. European TB surveillance should be continued and strengthened to enhance the assessment of the overall impact of TB control efforts.

In order to do so, the following aspects related to TB surveillance should be addressed in Europe:

TB case notification

- The TB case definition for surveillance should be revised to standardise inclusion of retreated cases in statistics and to take into account evolving criteria for laboratory confirmation.

- Laboratory reporting of TB cases should complement clinician reporting in all countries, to improve information on laboratory evidence of diagnosis and to increase completeness of reporting.

- A computerised individual TB case reporting data set containing the recommended information

should be available at national level in all countries and shared at the European level.

Drug resistance surveillance (DRS)

- National and international quality assurance for drug susceptibility testing (DST) should be organised as a prerequisite to DRS.
- DRS should be implemented in all countries using a methodology in agreement with international recommendations.
- When routine collection of information on DST at the start of treatment for all TB cases notified is unfeasible, or when culture or DST are not done routinely at diagnosis, specific anti-TB drug resistance surveys should be implemented.

Treatment outcome monitoring (TOM)

- Consensus recommendations should be updated, to further standardise definitions of cohorts and outcomes and data analysis.
- Additional specific targets of the performance of anti-TB treatment programmes should be developed

Additional surveillance components

- The surveillance of HIV infection among TB patients should be improved through an improved use of information routinely available at national level and the implementation of specific HIV prevalence surveys.
- Further standardisation of TB mortality data, currently considered as non-comparable at the European level, should be re-discussed.
- Regional variations in TB morbidity within countries should be captured at the European level.
- Additional surveillance indicators of the progress towards TB elimination (e.g. risk group surveillance, outbreak surveillance) should be developed in low incidence countries and standardised at the European level.

2.5. References

1. World Health Organization. Global Tuberculosis Control: Surveillance, Planning, Financing. WHO Report 2003. Geneva, Switzerland, WHO/CDS/TB/2003.316.

2. Raviglione MC, Sudre P, Rieder HL, Spinaci S, Kochi A. Secular trends of tuberculosis in Western Europe. *Bull World Health Organ* 1993; 71:297-306.

3. European Centre for the Epidemiological Monitoring of AIDS. HIV/AIDS Surveillance in Europe. End-year report 2002. Saint-Maurice: Institut de veille sanitaire, 2003. No. 68.

4. Corbett EL, Watt CJ, Walker N, Maher D, Williams BG, Raviglione MC, Dye C. The growing burden of tuberculosis: global trends and interactions with the HIV epidemic. Arch Intern Med. 2003 May 12;163(9):1018.

5. Damelin B, Epstein L. Chemtob D. Tuberculosis in immigrants from the Former Soviet Union, by Republic, Israel, 1990-1998: a retrospective analysis. Int J Tuberc Lung Dis 2001 5; 11: S130-131 (Abstract).

6. CDSC. Drug resistant tuberculosis outbreak in north London - update. Commun Dis Rep CDR Weekly 2002; 12 (31).

7. Robert J, Trystram D, Truffot-Pernot C, Carbonnelle B, Grosset J. Surveillance of Mycobacterium tuberculosis drug resistance in France, 1995-1997. AZAY Mycobacteria Study Group. Int J Tuberc Lung Dis 2000; 4:665-672.

8. J. Robert, D. Trystram, C. Truffaut-Pernot, V. Jarlier Surveillance de la tuberculose à bacilles multirésistants en France en 1998, BEH 2002; (16-17): 71-2.

9. Migliori GB, Fattorini L, Vaccarino P, et al. Prevalence of resistance to anti-TB drugs : results of the 1998/99 national survey in Italy. Int J Tuberc Lung Dis 2002; 6:32-38.

10. Crudu V, Arnadottir T, Laticevschi D. Resistance to anti-tuberculosis drugs and practices in drug susceptibility testing in Moldova, 1995-1999. Int J Tuberc Lung Dis. 2003 Apr;7(4):336-42.

11. World Health Organization. Anti tuberculosis drug resistance in the world. Report No. 2 Prevalence and trends. WHO/CDS/TB/2000.278

12. Kimerling ME, Slavuckij A, Chavers S, et al. The risk of MDR-TB and polyresistant tuberculosis among the civilian population of Tomsk city, Siberia, 1999. Int J Tuberc Lung Dis. 2003 Sep;7(9):866-872.

13. Hayward AC, Darton T, Van-Tam JN, Watson JM, Coker R, Schwoebel V. Epidemiology and control of tuberculosis in Western European cities. Int J Tuberc Lung Dis 2003 7 (8):751-757.

14. 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 Resp J* 1996; 9:1097-1104.

15. 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 Resp J* 2000; 16: 364-371.

16. Veen J, Raviglione M., Rieder HL, et al. Standardised tuberculosis treatment outcome in Europe Eur. Resp. J. 1998; 12: 505-510.

17. World Health Organization, The International Union against Tuberculosis and Lung diseases and the Royal Netherlands Tuberculosis Association. Revised international definitions in tuberculosis control. Int. J. Tuberc Lung Dis 2001; 5; 213-215.

3. TABLES

Table 1. Tuberculosis surveillance data provided to EuroTB, WHO European Region, 2001

Geographic area Country	Type of data	TB case notification: Sex and age	Geographic origin	History of TB treatment or TB	Site of disease	Culture	Sputum smear	Drug resistance surveillance	Treatment outcome monitoring (2000)
West									
Austria	individual	■	■	■	■	■	■	■	■
Belgium	individual	■	■	■	■	■	■	■	■
Denmark	individual	■	■	■	■	■	■	■	■
Finland	individual	■	■	■	■	■	■	■	
France	individual	■	■	■	■	■	■	■	
Germany	individual	■	■	■	■	■	■	■	■
Greece	aggregate	■	■	■	■	■	■		
Ireland	individual	■	■	■	■	■	■	■	■
Italy	individual	■	■	■	■	■	■	■	■
Luxembourg	individual	■	■	■	■	■	■	■	
Netherlands	individual	■	■	■	■	■	■	■	■
Portugal	individual	■	■	■	■	■	■	■	■
Spain	aggregate	■	■	■	■	■	■	■	
Sweden	individual	■	■	■	■	■	■	■	■
United Kingdom	individual †	■	■	■	■	■	■	■	
Subtotal EU		**15**	**15**	**15**	**15**	**15**	**15**	**14**	**9**
Andorra	aggregate	■	■	■	■	■	■		■
Iceland	individual	■	■	■	■	■	■	■	■
Israel	aggregate	■	■	■	■	■	■	■	■
Malta	individual	■	■	■	■	■	■	■	■
Monaco ‡	aggregate								
Norway	individual	■	■	■	■	■	■	■	■
San Marino ‡	aggregate								■
Switzerland	individual	■	■	■	■	■	■	■	
Total West		**21**	**21**	**21**	**21**	**21**	**21**	**19**	**15**
Centre									
Albania	aggregate	■	■	■	■	■	■	■	
Bosnia & Herzegovina	individual§	■	■	■	■	■	■	■	■
Bulgaria	aggregate	■		■	■	■	■	■	
Croatia	individual	■	■	■	■	■	■	■	
Czech Republic	individual	■	■	■	■	■	■	■	■
Hungary	individual	■	■	■	■	■	■	■	■
Macedonia, F.Y.R.	aggregate	■		■	■		■	■	■
Poland	individual	■		■	■	■	■	■	■
Romania	individual	■	■	■	■	■	■	■	■
Serbia & Montenegro	aggregate	■		■	■	■		■	■
Slovakia	individual	■	■	■	■	■	■	■	■
Slovenia	individual	■	■	■	■	■	■	■	■
Turkey	aggregate				■		■		■
Total Centre		**12**	**8**	**12**	**13**	**11**	**12**	**12**	**10**
East									
Armenia	aggregate	■		■	■		■	■	■
Azerbaijan	aggregate	□ ‖		■	■	■	■	■	■
Belarus	aggregate	□ ‖					□		
Estonia	individual	■	■	■	■	■	■	■	■
Georgia	aggregate	■		■	■		■	■	■
Kazakhstan	aggregate	■		■	■	■	■	■	■
Kyrgyzstan	aggregate	□ ‖		■	■		■	■	■
Latvia	individual	■	■	■	■	■	■	■	■
Lithuania	aggregate	■	■	■	■	■	■	■	■
Moldova, Republic of	aggregate	■	■	■	■		■	■	□
Russian Federation	aggregate	□ ‖	□	■	■		■		■
Tajikistan	aggregate	■		■	■		■		■
Turkmenistan	aggregate	■		■	■	■	■		■
Ukraine	aggregate	□		■	■		□		
Uzbekistan	aggregate	■		■	■		■		■
Total East		**15**	**5**	**14**	**14**	**6**	**15**	**9**	**13**
Total WHO European Region		**48**	**34**	**47**	**48**	**38**	**48**	**40**	**38**

† Except Scotland
‡ Zero cases notified in 2001
§ Aggregate for Republika Srpska
‖ Age groups different from those requested

■ = Information provided on all cases
□ = Information provided on new cases only

Table 2. Tuberculosis cases notified and rates per 100 000 population, WHO European Region, 1995-2001

Geographic area / Country	1995 N	1995 Rate	1996 N	1996 Rate	1997 N	1997 Rate	1998 N	1998 Rate	1999 N	1999 Rate	2000 N	2000 Rate	2001 N	2001 Rate
West														
Austria	1 383	17.2	1 445	17.9	1 369	16.9	1 311	16.2	1 201	14.9	1 218	15.1	1 070	13.3
Belgium	1 380	13.6	1 352	13.3	1 263	12.4	1 203	11.8	1 270	12.4	1 313	12.8	1 321	12.9
Denmark	448	8.6	484	9.2	554	10.5	529	10.0	536	10.1	548	10.3	511	9.6
Finland	662	13.0	644	12.6	573	11.1	629	12.2	566	11.0	537	10.4	494	9.5
France	8 723	14.6	7 656	12.8	6 832	11.3	6 651	11.0	6 674	11.0	6 714	11.0	6 465	10.6
Germany	12 198	14.9	11 814	14.4	11 163	13.6	10 440	12.7	9 974	12.2	9 064	11.1	7 539	9.2
Greece	939 *	9.0	945 *	9.0	767 *	7.3	1 152	10.9	952	9.0	703	6.6	617	5.8
Ireland	458	12.7	434	11.9	416	11.3	424	11.4	469	12.5	403	10.6	406	10.6
Italy	5 225	9.1	5 152	9.0	5 176	9.0	4 795	8.3	4 429	7.7	4 759	8.3	4 505	7.8
Luxembourg	32	7.8	36	8.7	38	9.0	44	10.3	42	9.7	44	10.1	32	7.2
Netherlands	1 619	10.5	1 678	10.8	1 486	9.5	1 341	8.5	1 535	9.7	1 404	8.9	1 436	9.0
Portugal	5 577	56.2	5 248	52.8	5 112	51.4	5 260	52.7	5 160	51.6	4 494	44.9	4 399	43.8
Spain †	8 764	22.1	8 331	20.9	9 347	23.5	9 111	22.9	8 393	21.0	8 395	21.0	7 453	18.7
Sweden	564	6.4	493	5.6	456	5.1	446	5.0	493	5.6	458	5.2	428	4.8
United Kingdom	6 161	10.5	6 240	10.6	6 355	10.8	6 176	10.4	6 287	10.6	6 792	11.4	7 017	11.8
Subtotal EU	**54 133**	**14.5**	**51 952**	**13.8**	**50 907**	**13.5**	**49 512**	**13.1**	**47 981**	**12.7**	**46 846**	**12.4**	**43 693**	**11.5**
Andorra	-	-	17	25.4	19	29.7	8	11.1	9	12.0	11	14.1	10	12.3
Iceland	12	4.5	11	4.1	10	3.7	17	6.2	12	4.3	13	4.7	13	4.6
Israel	398	7.4	415	7.5	422	7.5	656	11.4	520	8.8	591	9.8	564	9.1
Malta	10	2.6	29	7.6	11	2.9	16	4.1	22	5.7	18	4.6	16	4.1
Monaco	1	3.1	0	0.0	0	0.0	0	0.0	3	8.8	0	0.0	0	0.0
Norway	236	5.4	217	5.0	205	4.7	244	5.5	273	6.1	237	5.3	288	6.4
San Marino	2	8.0	0	0.0	1	3.8	0	0.0	0	0.0	1	3.7	0	0.0
Switzerland	830	11.7	764	10.7	747	10.4	749	10.4	772	10.8	629	8.8	611	8.5
Total West	**55 622**	**14.2**	**53 405**	**13.6**	**52 322**	**13.3**	**51 202**	**13.0**	**49 592**	**12.5**	**48 346**	**12.2**	**45 195**	**11.4**
Centre														
Albania	664	20.8	707	22.4	655	20.8	694	22.1	765	24.4	631	20.1	572	18.2
Bosnia & Herzegovina	2 132	62.3	2 220	64.8	2 869	81.4	3 071	83.4	3 075	80.0	2 606	65.5	2 551	62.7
Bulgaria	3 245	38.6	3 109	37.4	3 437 ‡	41.8	4 117	50.6	3 530	43.9	3 349	42.1	3 862	49.1
Croatia	2 114 ‡	45.6	2 174	46.8	2 054	44.2	2 118	45.5	1 770	38.0	1 630	35.0	1 505	32.3
Czech Republic	1 851	17.9	1 936	18.8	1 834	17.8	1 805	17.5	1 631	15.9	1 442	14.0	1 350	13.2
Hungary	4 339	42.5	4 278	42.1	4 240	41.9	3 999	39.7	3 914	39.1	3 598	36.1	3 150	31.8
Macedonia, F.Y.R.	786	40.0	724	36.6	693	34.8	620	30.9	576	28.5	668	32.8	697	34.1
Poland	15 959	41.3	15 358	39.8	13 967	36.1	13 302	34.4	12 179	31.5	11 477	29.7	10 672	27.7
Romania	23 271	102.6	24 113	106.7	23 903	106.0	25 758	114.4	26 870	119.5	27 667	123.3	30 440	136.0
Serbia & Montenegro	4 169 §	39.5	4 541 §	42.9	4 062 §	38.4	3 028	28.6	2 646	25.0	2 922	27.7	2 888	27.4
Slovakia	1 537	28.7	1 499	27.9	1 298	24.1	1 282	23.8	1 218	22.6	1 111	20.6	1 076	19.9
Slovenia	525	26.4	563	28.2	481	24.1	449	22.5	438	22.0	380	19.1	371	18.7
Turkey	23 035	37.5	23 533	37.6	25 685	40.4	25 501	39.4	22 088	33.6	18 038	27.1	18 890	27.9
Total Centre	**83 627**	**45.7**	**84 755**	**46.1**	**85 178**	**46.1**	**85 744**	**46.7**	**80 700**	**43.7**	**75 519**	**40.7**	**78 024**	**41.4**
East														
Armenia	836	22.2	935	24.7	1 026	27.1	1 455	38.4	1 499	39.6	1 344	35.5	1 401	37.0
Azerbaijan	3 306	43.0	5 006	64.4	4 635 ‡	59.1	4 350	54.9	4 629	58.0	5 187	64.5	4 923	60.8
Belarus	5 092	49.3	5 619	54.5	5 985 *	58.2	5 595	54.5	7 339	71.8	6 084 *	59.7	5 505 *	54.3
Estonia	608	41.0	683	46.6	744	51.5	818	57.3	754	53.5	791	56.8	812 ‖	59.0
Georgia	-	-	10 641	199.6	8 446	159.0	6 302	118.9	6 546	123.9	6 436	122.3	5 876	112.2
Kazakhstan	11 095 *	66.8	13 559 *	82.0	16 109	98.0	20 623	126.1	25 060	154.1	28 265	174.8	31 254	194.2
Kyrgyzstan	3 380	74.1	4 086	88.4	5 189	110.6	5 935	124.4	6 501	134.1	6 383	129.7	6 901	138.4
Latvia	1 541	61.3	1 761	70.8	2 003	81.2	2 182	89.0	1 968	80.8 ‖	2 063	85.2 ‖	2 082 ‖	86.5
Lithuania	2 362	63.6	2 608	70.3	2 926	78.9	3 016	81.4	2 903	78.4	2 981	80.7	2 989	81.0
Moldova, Republic of	2 753	63.5	2 922	67.5	2 908	67.3	2 891	67.0	2 947	68.5	2 935	68.3	3 820	89.2
Russian Federation	96 828	65.4	110 897	75.0	119 123	80.9	121 917	83.0	135 054	92.4	143 801	98.8	138 432	95.7
Tajikistan	2 029 ‡	35.3	1 647	28.3	2 143	36.4	2 503	42.0	2 553	42.3	2 779 *	45.7	3 508	57.2
Turkmenistan	2 009	47.7	2 149	49.8	3 438	77.7	3 712 *	81.9	4 092	88.3	3 967	83.7	4 922	101.8
Ukraine	21 459 ‡	41.6	26 834	52.4	28 344	55.7	31 318	62.1	32 879	65.7	32 963	66.5	36 784	74.9
Uzbekistan	9 866	43.3	11 919	51.3	13 352	56.4	13 958	58.0	16 959	69.3	15 912	64.0	18 106	71.7
Total East	**163 164**	**56.8**	**201 266**	**68.8**	**216 371**	**74.0**	**226 575**	**77.6**	**251 683**	**86.3**	**261 891**	**90.0**	**267 315**	**92.1**
Total WHO European Region	**302 413**	**35.1**	**339 426**	**39.0**	**353 871**	**40.6**	**363 521**	**41.7**	**381 975**	**43.8**	**385 756**	**44.1**	**390 534**	**44.6**

* New cases only
† Until 1996 new respiratory cases only; since 1997 new and recurrent respiratory and meningeal cases
‡ Source: World Health Organization.Global Tuberculosis Control:WHO Report 2003. Geneva, Switzerland, WHO/CDS/TB/2003.316, p.176
§ Including Kosovo as part of former Yugoslavia
‖ Retreatment cases other than relapses included

Table 3. Tuberculosis cases by sex, WHO European Region, 2001

Geographic area / Country	Male N	Male (%)	Female N	Female (%)	Unknown N	Unknown (%)	Total	Sex ratio M:F
West								
Austria	672	(63)	398	(37)	0	(0)	1 070	1.7
Belgium	847	(64)	474	(36)	0	(0)	1 321	1.8
Denmark	270	(53)	241	(47)	0	(0)	511	1.1
Finland	275	(56)	219	(44)	0	(0)	494	1.3
France	3 809	(59)	2 621	(41)	35	(1)	6 465	1.5
Germany	4 620	(61)	2 908	(39)	11	(0)	7 539	1.6
Greece	440	(71)	177	(29)	0	(0)	617	2.5
Ireland	257	(63)	148	(36)	1	(0)	406	1.7
Italy	2 762	(61)	1 743	(39)	0	(0)	4 505	1.6
Luxembourg	16	(50)	16	(50)	0	(0)	32	1.0
Netherlands	852	(59)	584	(41)	0	(0)	1 436	1.5
Portugal	2 994	(68)	1 405	(32)	0	(0)	4 399	2.1
Spain *	4 997	(67)	2 438	(33)	18	(0)	7 453	2.0
Sweden	204	(48)	224	(52)	0	(0)	428	0.9
United Kingdom	3 859	(55)	3 148	(45)	10	(0)	7 017	1.2
Subtotal EU	**26 874**	**(62)**	**16 744**	**(38)**	**75**	**(0)**	**43 693**	**1.6**
Andorra	7	(70)	3	(30)	0	(0)	10	2.3
Iceland	7	(54)	6	(46)	0	(0)	13	1.2
Israel	352	(62)	212	(38)	0	(0)	564	1.7
Malta	10	(63)	6	(38)	0	(0)	16	1.7
Monaco	0	-	0	-	0	-	0	-
Norway	157	(55)	131	(45)	0	(0)	288	1.2
San Marino	0	-	0	-	0	-	0	-
Switzerland	348	(57)	263	(43)	0	(0)	611	1.3
Total West	**27 755**	**(61)**	**17 365**	**(38)**	**75**	**(0)**	**45 195**	**1.6**
Centre								
Albania	345	(60)	227	(40)	0	(0)	572	1.5
Bosnia & Herzegovina	1 453	(57)	1 098	(43)	0	(0)	2 551	1.3
Bulgaria	2 181	(56)	1 132	(29)	549	(14)	3 862	1.9
Croatia	969	(64)	536	(36)	0	(0)	1 505	1.8
Czech Republic	855	(63)	495	(37)	0	(0)	1 350	1.7
Hungary	2 145	(68)	1 005	(32)	0	(0)	3 150	2.1
Macedonia, F.Y.R.	391	(56)	306	(44)	0	(0)	697	1.3
Poland	7 076	(66)	3 596	(34)	0	(0)	10 672	2.0
Romania	20 860	(69)	9 580	(31)	0	(0)	30 440	2.2
Serbia & Montenegro	1 858	(64)	1 025	(35)	5	(0)	2 888	1.8
Slovakia	641	(60)	435	(40)	0	(0)	1 076	1.5
Slovenia	223	(60)	148	(40)	0	(0)	371	1.5
Turkey	-	-	-	-	-	-	-	-
Total Centre	**38 997**	**(66)**	**19 583**	**(33)**	**554**	**(1)**	**59 134**	**2.0**
East								
Armenia	1 169	(83)	232	(17)	0	(0)	1 401	5.0
Azerbaijan	3 710	(75)	1 213	(25)	0	(0)	4 923	3.1
Belarus	4 115	(75)	1 390	(25)	0	(0)	5 505	3.0
Estonia	587	(72)	225	(28)	0	(0)	812	2.6
Georgia	4 353	(74)	1 523	(26)	0	(0)	5 876	2.9
Kazakhstan	17 837	(57)	13 381	(43)	36	(0)	31 254	1.3
Kyrgyzstan †	3 590	(57)	2 684	(43)	0	(0)	6 274	1.3
Latvia	1 494	(72)	588	(28)	0	(0)	2 082	2.5
Lithuania	2 057	(69)	932	(31)	0	(0)	2 989	2.2
Moldova, Republic of	2 813	(74)	1 007	(26)	0	(0)	3 820	2.8
Russian Federation †	95 018	(75)	32 174	(25)	0	(0)	127 192	3.0
Tajikistan	2 212	(63)	1 296	(37)	0	(0)	3 508	1.7
Turkmenistan	3 146	(64)	1 776	(36)	0	(0)	4 922	1.8
Ukraine †	23 962	(71)	9 672	(29)	0	(0)	33 634	2.5
Uzbekistan	11 125	(61)	6 981	(39)	0	(0)	18 106	1.6
Total East	**177 188**	**(70)**	**75 074**	**(30)**	**36**	**(0)**	**252 298**	**2.4**
Total WHO European Region	**243 940**	**(68)**	**112 022**	**(31)**	**665**	**(0)**	**356 627**	**2.2**

* Respiratory and meningeal cases only

† New cases only

Table 4. Tuberculosis cases by age group, WHO European Region, 2001

Geographic area / Country	Age group (years) 0-4 N	0-4 (%)	5-14 N	5-14 (%)	15-24 N	15-24 (%)	25-34 N	25-34 (%)	35-44 N	35-44 (%)
West										
Austria	30	(3)	36	(3)	91	(9)	148	(14)	182	(17)
Belgium	41	(3)	35	(3)	164	(12)	240	(18)	218	(17)
Denmark	12	(2)	37	(7)	80	(16)	117	(23)	107	(21)
Finland	1	(0)	5	(1)	20	(4)	40	(8)	42	(9)
France	115	(2)	163	(3)	723	(11)	1 161	(18)	1 107	(17)
Germany	139	(2)	161	(2)	560	(7)	1 188	(16)	1 276	(17)
Greece	12	(2)	33	(5)	47	(8)	87	(14)	81	(13)
Ireland	1	(0)	15	(4)	64	(16)	77	(19)	52	(13)
Italy	86	(2)	66	(1)	424	(9)	878	(19)	665	(15)
Luxembourg	0	(0)	0	(0)	6	(19)	6	(19)	8	(25)
Netherlands	25	(2)	40	(3)	324	(23)	357	(25)	250	(17)
Portugal	47	(1)	70	(2)	527	(12)	1 097	(25)	979	(22)
Spain *	252	(3)	241	(3)	1 077	(14)	1 714	(23)	1 373	(18)
Sweden	1	(0)	12	(3)	56	(13)	85	(20)	71	(17)
United Kingdom	166	(2)	326	(5)	1 006	(14)	1 576	(22)	1 063	(15)
Subtotal EU	**928**	**(2)**	**1 240**	**(3)**	**5 169**	**(12)**	**8 771**	**(20)**	**7 474**	**(17)**
Andorra	0	(0)	0	(0)	0	(0)	3	(30)	2	(20)
Iceland	0	(0)	0	(0)	3	(23)	1	(8)	2	(15)
Israel	24	(4)	18	(3)	38	(7)	101	(18)	82	(15)
Malta	0	(0)	0	(0)	1	(6)	1	(6)	3	(19)
Monaco	0	-	0	-	0	-	0	-	0	-
Norway	8	(3)	16	(6)	45	(16)	80	(28)	45	(16)
San Marino	0	-	0	-	0	-	0	-	0	-
Switzerland	6	(1)	10	(2)	82	(13)	136	(22)	93	(15)
Total West	**966**	**(2)**	**1 284**	**(3)**	**5 338**	**(12)**	**9 093**	**(20)**	**7 701**	**(17)**
Centre										
Albania	12	(2)	42	(7)	81	(14)	90	(16)	86	(15)
Bosnia & Herzegovina	14	(1)	33	(1)	267	(10)	315	(12)	388	(15)
Bulgaria	47	(1)	119	(3)	378	(10)	516	(13)	469	(12)
Croatia	7	(0)	55	(4)	109	(7)	144	(10)	286	(19)
Czech Republic	5	(0)	7	(1)	70	(5)	153	(11)	179	(13)
Hungary	4	(0)	7	(0)	94	(3)	277	(9)	589	(19)
Macedonia, F.Y.R.	32	(5)	75	(11)	91	(13)	121	(17)	101	(14)
Poland	30	(0)	94	(1)	579	(5)	1 106	(10)	2 114	(20)
Romania	629	(2)	1 282	(4)	4 195	(14)	5 940	(20)	5 661	(19)
Serbia & Montenegro	5	(0)	16	(1)	209	(7)	390	(14)	468	(16)
Slovakia	9	(1)	13	(1)	52	(5)	91	(8)	131	(12)
Slovenia	7	(2)	6	(2)	18	(5)	50	(13)	75	(20)
Turkey	-	-	-	-	-	-	-	-	-	-
Total Centre	**801**	**(1)**	**1 749**	**(3)**	**6 143**	**(10)**	**9 193**	**(16)**	**10 547**	**(18)**
East										
Armenia	16	(1)	75	(5)	300	(21)	328	(23)	271	(19)
Azerbaijan	-	-	-	-	-	-	-	-	-	-
Belarus	-	-	-	-	-	-	-	-	-	-
Estonia	4	(0)	12	(1)	54	(7)	125	(15)	196	(24)
Georgia	65	(1)	393	(7)	929	(16)	1 296	(22)	1 218	(21)
Kazakhstan	364	(1)	1 704	(5)	6 890	(22)	7 732	(25)	6 084	(19)
Kyrgyzstan †	413	(7) ‡	876	(14) ‡	1 335	(21)	1 412	(23)	923	(15)
Latvia	46	(2)	112	(5)	195	(9)	401	(19)	467	(22)
Lithuania	14	(0)	110	(4)	217	(7)	430	(14)	671	(22)
Moldova, Republic of	23	(1)	95	(2)	728	(19)	833	(22)	883	(23)
Russian Federation †	1 967	(2) ‡	2 745	(2) ‡	20 443	(16)	30 277	(24)	30 029	(24)
Tajikistan	76	(2)	215	(6)	1 149	(33)	1 001	(29)	563	(16)
Turkmenistan	26	(1)	594	(12)	1 082	(22)	1 378	(28)	885	(18)
Ukraine †	161	(0)	627	(2)	4 333	(13)	6 625	(20)	7 926	(24)
Uzbekistan	182	(1)	2 467	(14)	3 500	(19)	4 899	(27)	3 069	(17)
Total East	**3 357**	**(1)**	**10 025**	**(4)**	**41 155**	**(17)**	**56 737**	**(23)**	**53 185**	**(22)**
Total WHO European Region	**5 124**	**(1)**	**13 058**	**(4)**	**52 636**	**(15)**	**75 023**	**(22)**	**71 433**	**(21)**

* Respiratory and meningeal cases only
† Age groups only for new cases
‡ Paediatric age-groups are 0-6 and 7-14 years

Table 4 (cont.). Tuberculosis cases by age group, WHO European Region, 2001

Age group (years)								Total	Geographic area Country
45-54		55-64		> 64		Unknown			
N	(%)	N	(%)	N	(%)	N	(%)		
									West
164	(15)	160	(15)	258	(24)	1	(0)	1 070	Austria
168	(13)	144	(11)	311	(24)	0	(0)	1 321	Belgium
68	(13)	33	(6)	57	(11)	0	(0)	511	Denmark
60	(12)	68	(14)	258	(52)	0	(0)	494	Finland
925	(14)	604	(9)	1 667	(26)	0	(0)	6 465	France
1 097	(15)	996	(13)	2 111	(28)	11	(0)	7 539	Germany
59	(10)	65	(11)	217	(35)	16	(3)	617	Greece
45	(11)	49	(12)	101	(25)	2	(0)	406	Ireland
489	(11)	488	(11)	1 320	(29)	89	(2)	4 505	Italy
2	(6)	1	(3)	9	(28)	0	(0)	32	Luxembourg
150	(10)	92	(6)	198	(14)	0	(0)	1 436	Netherlands
611	(14)	378	(9)	685	(16)	5	(0)	4 399	Portugal
766	(10)	544	(7)	1 417	(19)	69	(1)	7 453	Spain *
29	(7)	19	(4)	155	(36)	0	(0)	428	Sweden
820	(12)	693	(10)	1 362	(19)	5	(0)	7 017	United Kingdom
5 453	**(12)**	**4 334**	**(10)**	**10 126**	**(23)**	**198**	**(0)**	**43 693**	**Subtotal EU**
1	(10)	0	(0)	4	(40)	0	(0)	10	Andorra
1	(8)	3	(23)	3	(23)	0	(0)	13	Iceland
62	(11)	51	(9)	188	(33)	0	(0)	564	Israel
2	(13)	0	(0)	9	(56)	0	(0)	16	Malta
0	-	0	-	0	-	0	-	0	Monaco
14	(5)	21	(7)	59	(20)	0	(0)	288	Norway
0	-	0	-	0	-	0	-	0	San Marino
66	(11)	62	(10)	156	(26)	0	(0)	611	Switzerland
5 599	**(12)**	**4 471**	**(10)**	**10 545**	**(23)**	**198**	**(0)**	**45 195**	**Total West**
									Centre
93	(16)	77	(13)	91	(16)	0	(0)	572	Albania
360	(14)	373	(15)	791	(31)	10	(0)	2 551	Bosnia & Herzegovina
665	(17)	458	(12)	661	(17)	549	(14)	3 862	Bulgaria
260	(17)	204	(14)	440	(29)	0	(0)	1 505	Croatia
266	(20)	194	(14)	476	(35)	0	(0)	1 350	Czech Republic
851	(27)	519	(16)	809	(26)	0	(0)	3 150	Hungary
90	(13)	90	(13)	97	(14)	0	(0)	697	Macedonia, F.Y.R.
2 619	(25)	1 433	(13)	2 697	(25)	0	(0)	10 672	Poland
6 185	(20)	3 414	(11)	3 122	(10)	12	(0)	30 440	Romania
620	(21)	462	(16)	713	(25)	5	(0)	2 888	Serbia & Montenegro
232	(22)	136	(13)	412	(38)	0	(0)	1 076	Slovakia
71	(19)	43	(12)	101	(27)	0	(0)	371	Slovenia
-	-	-	-	-	-	-	-	-	Turkey
12 312	**(21)**	**7 403**	**(13)**	**10 410**	**(18)**	**576**	**(1)**	**59 134**	**Total Centre**
									East
227	(16)	163	(12)	21	(1)	0	(0)	1 401	Armenia
-	-	-	-	-	-	-	-	-	Azerbaijan
-	-	-	-	-	-	-	-	-	Belarus
206	(25)	115	(14)	99	(12)	1	(0)	812	Estonia
870	(15)	583	(10)	517	(9)	5	(0)	5 876	Georgia
4 111	(13)	2 474	(8)	1 859	(6)	36	(0)	31 254	Kazakhstan
598	(10)	313	(5)	404	(6)	0	(0)	6 274	Kyrgyzstan †
399	(19)	278	(13)	184	(9)	0	(0)	2 082	Latvia
610	(20)	442	(15)	495	(17)	0	(0)	2 989	Lithuania
702	(18)	321	(8)	235	(6)	0	(0)	3 820	Moldova, Republic of
24 402	(19)	10 104	(8)	7 225	(6)	0	(0)	127 192	Russian Federation †
272	(8)	129	(4)	103	(3)	0	(0)	3 508	Tajikistan
493	(10)	246	(5)	218	(4)	0	(0)	4 922	Turkmenistan
6 862	(20)	3 778	(11)	3 322	(10)	0	(0)	33 634	Ukraine †
1 801	(10)	1 245	(7)	943	(5)	0	(0)	18 106	Uzbekistan
41 553	**(17)**	**20 191**	**(8)**	**15 625**	**(6)**	**42**	**(0)**	**241 870**	**Total East**
59 464	**(17)**	**32 065**	**(9)**	**36 580**	**(11)**	**816**	**(0)**	**346 199**	**Total WHO European Region**

* Respiratory and meningeal cases only

† Age groups only for new cases

Table 5. Tuberculosis cases by geographic origin, WHO European Region, 2001

Geographic area / Country	Classification used	Geographic origin: Born in / citizen of the country N	(%)	Foreign born / non-citizen N	(%)	Unknown N	(%)	Total
West								
Austria	**citizenship**	802	(75)	268	(25)	0	(0)	1 070
Belgium	**citizenship**	714	(54)	604	(46)	3	(0)	1 321
Denmark	birthplace *	174	(34)	334	(65)	3	(1)	511
Finland	birthplace	427	(86)	58	(12)	9	(2)	494
France	birthplace	2 870	(44)	2 305	(36)	1 290	(20)	6 465
Germany	birthplace	3 781	(50)	2 741	(36)	1 017	(13)	7 539
Greece	**citizenship**	513	(83)	104	(17)	0	(0)	617
Ireland	birthplace	328	(81)	65	(16)	13	(3)	406
Italy	birthplace	3 063	(68)	1 391	(31)	51	(1)	4 505
Luxembourg	birthplace	9	(28)	9	(28)	14	(44)	32
Netherlands	**citizenship**	545	(38)	881	(61)	10	(1)	1 436
Portugal	birthplace	3 903	(89)	491	(11)	5	(0)	4 399
Spain †	birthplace	2 294	(31)	412	(6)	4 747	(64)	7 453
Sweden	birthplace	142	(33)	286	(67)	0	(0)	428
United Kingdom	birthplace	2 368	(34)	3 585	(51)	1 064	(15)	7 017
Subtotal EU		**21 933**	**(50)**	**13 534**	**(31)**	**8 226**	**(19)**	**43 693**
Andorra	**citizenship**	9	(90)	1	(10)	0	(0)	10
Iceland	birthplace	6	(46)	7	(54)	0	(0)	13
Israel	birthplace	87	(15)	477	(85)	0	(0)	564
Malta	**citizenship**	13	(81)	3	(19)	0	(0)	16
Monaco	-	0	-	0	-	0	-	0
Norway	birthplace	82	(28)	206	(72)	0	(0)	288
San Marino	**citizenship**	0	-	0	-	0	-	0
Switzerland	birthplace	192	(31)	338	(55)	81	(13)	611
Total West		**22 322**	**(49)**	**14 566**	**(32)**	**8 307**	**(18)**	**45 195**
Centre								
Albania	birthplace	570	(100)	2	(0)	0	(0)	572
Bosnia & Herzegovina	both ‡	2 543	(100)	8	(0)	0	(0)	2 551
Bulgaria	-	-	-	-	-	-	-	-
Croatia	birthplace	811	(54)	177	(12)	517	(34)	1 505
Czech Republic	birthplace	1 157	(86)	193	(14)	0	(0)	1 350
Hungary	birthplace	3 077	(98)	57	(2)	16	(1)	3 150
Macedonia, F.Y.R.	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-
Romania	**citizenship**	30 436	(100)	4	(0)	0	(0)	30 440
Serbia & Montenegro	-	-	-	-	-	-	-	-
Slovakia	birthplace	1 063	(99)	13	(1)	0	(0)	1 076
Slovenia	birthplace	287	(77)	84	(23)	0	(0)	371
Turkey	-	-	-	-	-	-	-	-
Total Centre		**39 944**	**(97)**	**538**	**(1)**	**533**	**(1)**	**41 015**
East								
Armenia	-	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-	-
Belarus	-	-	-	-	-	-	-	-
Estonia	birthplace	630	(78)	182	(22)	0	(0)	812
Georgia	-	-	-	-	-	-	-	-
Kazakhstan	-	-	-	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-	-	-	-
Latvia	birthplace	1 931	(93)	122	(6)	29	(1)	2 082
Lithuania	birthplace	2 815	(94)	174	(6)	0	(0)	2 989
Moldova, Republic of	birthplace	3 766	(99)	54	(1)	0	(0)	3 820
Russian Federation §	**citizenship**	126 651	(100)	541	(0)	0	(0)	127 192
Tajikistan	-	-	-	-	-	-	-	-
Turkmenistan	-	-	-	-	-	-	-	-
Ukraine	-	-	-	-	-	-	-	-
Uzbekistan	-	-	-	-	-	-	-	-
Total East		**135 793**	**(99)**	**1 073**	**(1)**	**29**	**(0)**	**136 895**
Total WHO European Region		**198 059**	**(89)**	**16 177**	**(7)**	**8 869**	**(4)**	**223 105**

* Cases aged under 26 years and born in Denmark classified by birthplace of parents
† Respiratory and meningeal cases only
‡ Birthplace in Republika Srpska; citizenship in Fed. of Bosnia
§ New cases only

Table 6. Tuberculosis cases in persons born in / citizens of the country, WHO European Region, 1995-2001 *

Geographic area Country	Classification used	1995	1996	1997	1998	1999	2000	2001
West EU								
Austria	**citizenship**	1 037	1 098	1 029	1 023	889	884	802
Belgium	**citizenship**	919	906	849	776	809	758	714
Denmark	birthplace ‖	190	195	174	184	164	198	174
Finland	birthplace	611	596	524	568	517	490	427
France	birthplace	-	-	-	-	-	3 198	2 870
Germany	**citizenship** †	8 666	8 340	7 736	7 149	6 669	6 017	4 671
Greece	**citizenship**	-	-	-	1 026	704	635	513
Ireland	birthplace	-	-	-	389	404	354	328
Italy	birthplace	-	-	-	-	3 346	3 511	3 063
Netherlands	**citizenship**	706	808	647	536	603	516	545
Portugal	birthplace	-	-	-	-	4 406	4 047	3 903
Sweden	birthplace	249	198	156	177	174	151	142
United Kingdom	birthplace	-	-	-	2 355	2 087	2 369	2 368
West other								
Andorra	birthplace	-	5	3	2	7	2	9
Iceland	birthplace	11	7	8	9	4	8	6
Israel	birthplace	-	70	52	96	71	91	87
Malta	**citizenship**	-	-	-	-	-	13	13
Monaco	birthplace	-	0	0	0	1	0	0
Norway	birthplace	139	115	95	115	93	70	82
San Marino	**citizenship**	1	0	1	0	0	1	0
Switzerland	birthplace	-	-	239	211	269	228	192
Centre								
Bosnia & Herzegovina	both ‡	-	-	-	-	3 065	2 594	2 543
Czech Republic	birthplace	1 834	1 936	1 726	1 695	1 496	1 299	1 157
Hungary	birthplace	-	4 236	4 196	-	3 832	3 521	3 077
Romania	**citizenship**	23 265	-	23 888	25 758	26 868	27 720	30 436
Slovakia	birthplace	-	1 497	1 298	1 281	1 214	1 103	1 063
Slovenia	birthplace	401	457	377	368	335	286	287
East								
Estonia	birthplace	-	681	716	704	587	608	630
Latvia	birthplace	-	-	1 889	2 087	1 614	1 893	1 931
Lithuania	birthplace	-	-	2 769	2 784	2 699	2 821	2 815
Russian Federation §	**citizenship**	-	-	-	-	123 903	131 729	126 651

* Countries with at least two successive datapoints with the same classification of origin and with 80% or more of cases with information on origin in any year
† Data shown by citizenship for comparability of trend over time (available by birthplace since 2001)
‡ By birthplace in Republika Srpska; by citizenship in the Federation of Bosnia & Herzegovina
§ New cases only
‖ Cases aged under 26 years and born in Denmark classified by birthplace of parents

Table 7. Tuberculosis cases of foreign origin by geographic region of origin, WHO European Region, 2001 (25 countries with individual data)

Geographic area / Country	Classification used	Geographic region of origin: Europe * † West N	West (%)	Centre N	Centre (%)	East N	East (%)	Asia † N	Asia † (%)	Africa N	Africa (%)	Other ‡ / Unknown N	Other ‡ / Unknown (%)	Total
West														
Austria	**citizenship**	8	(3)	167	(62)	6	(2)	61	(23)	25	(9)	1	(0)	268
Belgium	**citizenship**	38	(6)	95	(16)	41	(7)	97	(16)	321	(53)	12	(2) §	604
Denmark §§	birthplace	4	(1)	40	(12)	4	(1)	107	(32)	145	(43)	34	(10)	334
Finland	birthplace	1	(2)	4	(7)	8	(14)	20	(34)	25	(43)	0	(0)	58
France	birthplace	-	-	-	-	-	-	390	(17)	1 482	(64)	433	(19) ‖	2 305
Germany	birthplace	106	(4)	1 052	(37)	487	(17)	685	(24)	358	(13)	53	(2) ¶	2 741
Ireland	birthplace	5	(8)	2	(3)	2	(3)	20	(31)	27	(42)	9	(14)	65
Italy	birthplace	19	(1)	235	(17)	25	(2)	275	(20)	518	(37)	319	(23)	1 391
Luxembourg	birthplace	5	(56)	2	(22)	0	(0)	1	(11)	1	(11)	0	(0)	9
Netherlands	**citizenship**	18	(2)	93	(11)	23	(3)	179	(20)	522	(59)	46	(5)	881
Portugal	birthplace	29	(6)	3	(1)	14	(3)	26	(5)	399	(81)	20	(4)	491
Sweden	birthplace	16	(6)	55	(19)	2	(1)	83	(29)	114	(40)	16	(6) **	286
United Kingdom ††	birthplace	120	(3)	101	(3)	15	(0)	1 926	(55)	1 085	(31)	279	(8)	3 526
Subtotal EU		**369**	**(3)**	**1 849**	**(14)**	**627**	**(5)**	**3 870**	**(30)**	**5 022**	**(38)**	**1222**	**(9)**	**12 959**
Iceland	birthplace	0	(0)	1	(14)	0	(0)	5	(71)	0	(0)	1	(14)	7
Malta	**citizenship**	1	(33)	1	(33)	0	(0)	0	(0)	0	(0)	1	(33)	3
Norway	birthplace	-	-	-	-	-	-	76	(37)	102	(50)	28	(14) ‡‡	206
Switzerland	birthplace	47	(14)	94	(28)	7	(2)	76	(22)	96	(28)	18	(5)	338
Total West		**417**	**(3)**	**1 945**	**(14)**	**634**	**(5)**	**4 027**	**(30)**	**5 220**	**(38)**	**1 270**	**(9)**	**13 513**
Centre														
Croatia	birthplace	1	(1)	174	(98)	0	(0)	0	(0)	0	(0)	2	(1)	177
Czech Republic	birthplace	1	(1)	42	(22)	83	(43)	61	(32)	6	(3)	0	(0)	193
Hungary	birthplace	1	(2)	38	(67)	9	(16)	7	(12)	2	(4)	0	(0)	57
Romania	**citizenship**	0	(0)	0	(0)	0	(0)	3	(75)	1	(25)	0	(0)	4
Slovakia	birthplace	1	(8)	4	(31)	4	(31)	4	(31)	0	(0)	0	(0)	13
Slovenia	birthplace	4	(5)	76	(90)	1	(1)	0	(0)	0	(0)	3	(4)	84
Total Centre		**8**	**(2)**	**334**	**(63)**	**97**	**(18)**	**75**	**(14)**	**9**	**(2)**	**5**	**(1)**	**528**
East														
Estonia	birthplace	6	(3)	0	(0)	176	(97)	0	(0)	0	(0)	0	(0)	182
Latvia	birthplace	1	(1)	0	(0)	121	(99)	0	(0)	0	(0)	0	(0)	122
Total East		**7**	**(2)**	**0**	**(0)**	**297**	**(98)**	**0**	**(0)**	**0**	**(0)**	**0**	**(0)**	**304**
Total WHO European Region		**432**	**(3)**	**2 279**	**(16)**	**1 028**	**(7)**	**4 102**	**(28)**	**5 229**	**(36)**	**1 275**	**(9)**	**14 345**

*For grouping of countries within the European Region, see technical note
† The Asian republics of the Newly Independent States, Turkey and Israel are included under Europe and not Asia
‡ 685 cases from America and Oceania
§ 2 cases from Europe, exact country unspecified
‖ 221 cases from Europe, exact country unspecified
¶ 3 cases from Europe, exact country unspecified
** 1 case from Europe, exact country unspecified
†† Excluding Scotland
‡‡ 28 cases from Europe, exact country unspecified
§§ Cases aged under 26 years and born in Denmark classified by birthplace of parents

Table 8. Tuberculosis cases by previous anti-TB treatment status, WHO European Region, 2001

Geographic area Country	Previous anti-TB treatment status *								Total
	Never treated (New)		Previously treated		Unknown				
					Previous TB diagnosis		Previous TB diagnosis unknown		
	N	(%)	N	(%)	N	(%)	N	(%)	
West									
Austria	982	(92)	28	(3)	60	(6)	0	(0)	1 070
Belgium	977	(74)	-	-	136	(10)	208	(16)	1 321
Denmark	475	(93)	-	-	36	(7)	0	(0)	511
Finland	421	(85)	34	(7)	0	(0)	39	(8)	494
France	4 268	(66)	603	(9)	0	(0)	1 594	(25)	6 465
Germany	4 677	(62)	631	(8)	312	(4)	1 919	(25)	7 539
Greece	503	(82)	114	(18)	0	(0)	0	(0)	617
Ireland	251	(62)	18	(4)	20	(5)	117	(29)	406
Italy	3 553	(79)	23	(1)	139	(3)	790	(18)	4 505
Luxembourg	31	(97)	1	(3)	0	(0)	0	(0)	32
Netherlands	1 395	(97)	41	(3)	0	(0)	0	(0)	1 436
Portugal	3 889	(88)	510	(12)	0	(0)	0	(0)	4 399
Spain †	4 410	(59)	349	(5)	0	(0)	2 694	(36)	7 453
Sweden	394	(92)	34	(8)	0	(0)	0	(0)	428
United Kingdom ‡	5 003	(75)	209	(3)	132	(2)	1 308	(20)	6 652
Subtotal EU	**31 229**	**(72)**	**2 595**	**(6)**	**835**	**(2)**	**8 669**	**(20)**	**43 328**
Andorra	9	(90)	-	-	1	(10)	0	(0)	10
Iceland	12	(92)	1	(8)	0	(0)	0	(0)	13
Israel	530	(94)	34	(6)	0	(0)	0	(0)	564
Malta	15	(94)	-	-	1	(6)	0	(0)	16
Monaco	0	-	0	-	0	-	0	-	0
Norway	268	(93)	20	(7)	0	(0)	0	(0)	288
San Marino	0	-	0	-	0	-	0	-	0
Switzerland	414	(68)	72	(12)	0	(0)	125	(20)	611
Total West	**32 477**	**(72)**	**2 722**	**(6)**	**837**	**(2)**	**8 794**	**(20)**	**44 830**
Centre									
Albania	531	(93)	-	-	41	(7)	0	(0)	572
Bosnia & Herzegovina	2 288	(90)	260	(10)	0	(0)	3	(0)	2 551
Bulgaria	3 436	(89)	-	-	426	(11)	0	(0)	3 862
Croatia	1 364	(91)	129	(9)	12	(1)	0	(0)	1 505
Czech Republic	1 291	(96)	59	(4)	0	(0)	0	(0)	1 350
Hungary	2 563	(81)	539	(17)	48	(2)	0	(0)	3 150
Macedonia, FYR	622	(89)	75	(11)	0	(0)	0	(0)	697
Poland	9 429	(88)	1 238	(12)	5	(0)	0	(0)	10 672
Romania	26 164	(86)	4 276	(14)	0	(0)	0	(0)	30 440
Serbia & Montenegro	2 645	(92)	-	-	238	(8)	5	(0)	2 888
Slovakia	878	(82)	198	(18)	0	(0)	0	(0)	1 076
Slovenia	341	(92)	30	(8)	0	(0)	0	(0)	371
Turkey	17 263	(91)	1 627	(9)	0	(0)	0	(0)	18 890
Total Centre	**68 815**	**(88)**	**8 431**	**(11)**	**770**	**(1)**	**8**	**(0)**	**78 024**
East									
Armenia	1 343	(96)	58	(4)	0	(0)	0	(0)	1 401
Azerbaijan	4 877	(99)	46	(1)	0	(0)	0	(0)	4 923
Belarus	-	-	-	-	-	-	-	-	-
Estonia	570	(70)	242	(30)	0	(0)	0	(0)	812
Georgia	3 886	(66)	1 990	(34)	0	(0)	0	(0)	5 876
Kazakhstan	23 126	(74)	8 128	(26)	0	(0)	0	(0)	31 254
Kyrgyzstan	6 274	(91)	545	(8)	0	(0)	82	(1)	6 901
Latvia	1 729	(83)	353	(17)	0	(0)	0	(0)	2 082
Lithuania	2 225	(74)	764	(26)	-	-	0	(0)	2 989
Moldova, Republic of	3 418	(89)	402	(11)	-	-	0	(0)	3 820
Russian Federation	127 192	(92)	-	-	11 240	(8)	0	(0)	138 432
Tajikistan	3 446	(98)	-	-	62	(2)	0	(0)	3 508
Turkmenistan	3 833	(78)	-	-	1 089	(22)	0	(0)	4 922
Ukraine	33 634	(91)	3 150	(9)	0	(0)	0	(0)	36 784
Uzbekistan	15 718	(87)	-	-	2 388	(13)	0	(0)	18 106
Total East	**231 271**	**(88)**	**15 678**	**(6)**	**14 779**	**(6)**	**82**	**(0)**	**261 810**
Total WHO European Region	**332 563**	**(86)**	**26 831**	**(7)**	**16 386**	**(4)**	**8 884**	**(2)**	**384 664**

* See technical note

† Respiratory and meningeal cases only

‡ Excluding Scotland

Table 9. Tuberculosis cases by site of disease, WHO European Region, 2001

Geographic area / Country	Classification	Site of disease: Pulmonary / Respiratory N	(%)	Extra-pulmonary / Extra-respiratory N	(%)	Unknown N	(%)	Total
West								
Austria	pulmonary	868	(81)	202	(19)	0	(0)	1 070
Belgium	pulmonary	971	(74)	343	(26)	7	(1)	1 321
Denmark	pulmonary	345	(68)	165	(32)	1	(0)	511
Finland	pulmonary	316	(64)	178	(36)	0	(0)	494
France	pulmonary	4 758	(74)	1 634	(25)	73	(1)	6 465
Germany	pulmonary	5 739	(76)	1 379	(18)	421	(6)	7 539
Greece	pulmonary	546	(88)	71	(12)	0	(0)	617
Ireland	pulmonary	302	(74)	86	(21)	18	(4)	406
Italy	pulmonary	3 278	(73)	1 227	(27)	0	(0)	4 505
Luxembourg	pulmonary	25	(78)	7	(22)	0	(0)	32
Netherlands	pulmonary	950	(66)	486	(34)	0	(0)	1 436
Portugal	pulmonary	3 188	(72)	1 209	(27)	2	(0)	4 399
Spain *	**respiratory**	7 374	(99)	79	(1)	0	(0)	7 453
Sweden	pulmonary	279	(65)	149	(35)	0	(0)	428
United Kingdom †	pulmonary	3 907	(59)	2 665	(40)	80	(1)	6 652
Subtotal EU		**32 846**	**(76)**	**9 880**	**(23)**	**602**	**(1)**	**43 328**
Andorra	pulmonary	9	(90)	1	(10)	0	(0)	10
Iceland	pulmonary	8	(62)	5	(38)	0	(0)	13
Israel	pulmonary	428	(76)	136	(24)	0	(0)	564
Malta	pulmonary	15	(94)	1	(6)	0	(0)	16
Monaco	pulmonary	0	-	0	-	0	-	0
Norway	pulmonary	203	(70)	84	(29)	1	(0)	288
San Marino	**respiratory**	0	-	0	-	0	(0)	0
Switzerland	pulmonary	455	(74)	156	(26)	0	(0)	611
Total West		**33 964**	**(76)**	**10 263**	**(23)**	**603**	**(1)**	**44 830**
Centre								
Albania	pulmonary	355	(62)	217	(38)	0	(0)	572
Bosnia & Herzegovina	pulmonary	2 253	(88)	298	(12)	0	(0)	2 551
Bulgaria	**respiratory**	3 389	(88)	473	(12)	0	(0)	3 862
Croatia	pulmonary	1 342	(89)	163	(11)	0	(0)	1 505
Czech Republic	pulmonary	1 062	(79)	288	(21)	0	(0)	1 350
Hungary	pulmonary	2 933	(93)	217	(7)	0	(0)	3 150
Macedonia, F.Y.R.	pulmonary	556	(80)	141	(20)	0	(0)	697
Poland	**respiratory**	10 492	(98)	180	(2)	0	(0)	10 672
Romania	pulmonary	26 413	(87)	4 022	(13)	5	(0)	30 440
Serbia & Montenegro	**respiratory**	2 660	(92)	228	(8)	0	(0)	2 888
Slovakia	pulmonary	879	(82)	197	(18)	0	(0)	1 076
Slovenia	pulmonary	306	(82)	65	(18)	0	(0)	371
Turkey	pulmonary	-	-	-	-	-	-	-
Total Centre		**52 640**	**(89)**	**6 489**	**(11)**	**5**	**(0)**	**59 134**
East								
Armenia	pulmonary	1 244	(89)	157	(11)	0	(0)	1 401
Azerbaijan	pulmonary	3 967	(81)	956	(19)	0	(0)	4 923
Belarus	**respiratory**	-	-	-	-	-	-	-
Estonia	pulmonary	720	(89)	92	(11)	0	(0)	812
Georgia	pulmonary	4 704	(80)	1 172	(20)	0	(0)	5 876
Kazakhstan	**respiratory**	29 932	(96)	1 322	(4)	0	(0)	31 254
Kyrgyzstan	pulmonary	-	-	-	-	-	-	-
Latvia	pulmonary	1 756	(84)	326	(16)	0	(0)	2 082
Lithuania	pulmonary	2 480	(83)	509	(17)	0	(0)	2 989
Moldova, Republic of	pulmonary	3 165	(83)	655	(17)	0	(0)	3 820
Russian Federation	**respiratory**	132 864	(96)	5 568	(4)	0	(0)	138 432
Tajikistan	pulmonary	3 127	(89)	381	(11)	0	(0)	3 508
Turkmenistan	pulmonary	3 971	(81)	951	(19)	0	(0)	4 922
Ukraine	**respiratory**	-	-	-	-	-	-	-
Uzbekistan	**respiratory**	-	-	-	-	-	-	-
Total East		**187 930**	**(94)**	**12 089**	**(6)**	**0**	**(0)**	**200 019**
Total WHO European Region		**274 534**	**(90)**	**28 841**	**(9)**	**608**	**(0)**	**303 983**

* Respiratory and meningeal cases only

† Excluding Scotland (respiratory classification)

Table 10. Tuberculosis cases, by detailed site of disease * and age group, WHO European Region, 2001†

Site of disease	Age group (years)							
	0-14 (Cases = 902)		15-44 (Cases =12 035)		45 and over (Cases = 15 417)		Total ‡ (Cases = 28 464)	
	Sites	(%) §	Sites	(%) §	Sites	(%) §	Sites	(%) §
Pulmonary	590	(65.4)	9 481	(78.8)	12 136	(78.7)	22 294	(78.3)
Extrapulmonary								
Pleura	40	(4.4)	903	(7.5)	966	(6.3)	1 911	(6.7)
Intrathoracic lymphnodes	158	(17.5)	265	(2.2)	255	(1.7)	679	(2.4)
Extrathoracic lymphnodes	68	(7.5)	705	(5.9)	638	(4.1)	1 412	(5.0)
Spine	8	(0.9)	97	(0.8)	145	(0.9)	250	(0.9)
Bone/joint other than spine	23	(2.5)	117	(1.0)	258	(1.7)	399	(1.4)
Meninges	17	(1.9)	66	(0.5)	67	(0.4)	151	(0.5)
CNS ‖ other than meninges	2	(0.2)	28	(0.2)	33	(0.2)	65	(0.2)
Genito-urinary	5	(0.6)	237	(2.0)	583	(3.8)	829	(2.9)
Peritoneal / digestive	6	(0.7)	139	(1.2)	124	(0.8)	270	(0.9)
Disseminated ¶	17	(1.9)	250	(2.1)	192	(1.2)	462	(1.6)
Other	34	(3.8)	354	(2.9)	453	(2.9)	848	(3.0)
Unknown	32	(3.5)	148	(1.2)	267	(1.7)	449	(1.6)
Total sites	**968**		**12 642**		**15 850**		**29 570**	

* The Table shows numbers of sites; column percentages exceed 100% because in some cases one major and one minor site of disease were reported (see technical note).
† 17 countries providing individual data: Austria, Belgium, Croatia, Czech Republic, Estonia, Germany, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Norway, Portugal, Slovakia, Slovenia and Switzerland.
‡ Includes 110 cases with unknown age
§ Percentage of cases in which the site was reported
‖ CNS = Central Nervous System
¶ Includes miliary TB, TB of more than two organ systems or isolate of M. tuberculosis complex from the blood

Table 11. Tuberculosis cases by culture result, WHO European Region, 2001

Geographic area Country	Routine use of culture nationwide (for pulmonary cases)	Laboratory criteria for definite TB case *	Positive		Negative / not done / unknown		Total
			N	(%)	N	(%)	
West							
Austria	-	-	692	(65)	378	(35)	1 070
Belgium	yes	C	958	(73)	363	(27)	1 321
Denmark	yes	C	383	(75)	128	(25)	511
Finland	yes	C	411	(83)	83	(17)	494
France	yes	C&S	1 831	(28)	4 634	(72)	6 465
Germany	yes	C&S†	4 670	(62)	2 869	(38)	7 539
Greece	no	C&S	268	(43)	349	(57)	617
Ireland	yes	C	149	(37)	257	(63)	406
Italy	no	C&S	1 616	(36)	2 889	(64)	4 505
Luxembourg	yes	C	32	(100)	0	(0)	32
Netherlands	yes	C	503	(35)	933	(65)	1 436
Portugal	yes	C	2 290	(52)	2 109	(48)	4 399
Spain ‡	yes	C&S	2 693	(36)	4 760	(64)	7 453
Sweden	yes	C	359	(84)	69	(16)	428
United Kingdom	yes	C	4 053	(58)	2 964	(42)	7 017
Subtotal EU			**20 908**	**(48)**	**22 785**	**(52)**	**43 693**
Andorra	yes	C&S	8	(80)	2	(20)	10
Iceland	yes	C	12	(92)	1	(8)	13
Israel	yes	C	317	(56)	247	(44)	564
Malta	yes	C	10	(63)	6	(38)	16
Monaco	-	-	0	-	0	-	0
Norway	yes	C	220	(76)	68	(24)	288
San Marino	-	C	0	-	0	-	0
Switzerland	yes	C	504	(82)	107	(18)	611
Total West			**21 979**	**(49)**	**23 216**	**(51)**	**45 195**
Centre							
Albania	no	C&S	206	(36)	366	(64)	572
Bosnia & Herzegovina	yes	C	1 660	(65)	891	(35)	2 551
Bulgaria	yes	C&S	1 323	(34)	2 539	(66)	3 862
Croatia	yes	C	810	(54)	695	(46)	1 505
Czech Republic	yes	C&S	854	(63)	496	(37)	1 350
Hungary	yes	C&S	940	(30)	2 210	(70)	3 150
Macedonia, F.Y.R.	no	C	-	-	-	-	-
Poland	yes	C	5 965	(56)	4 707	(44)	10 672
Romania	no	C&S	13 816	(45)	16 624	(55)	30 440
Serbia & Montenegro	no	C&S	-	-	-	-	-
Slovakia	yes	C&S	575	(53)	501	(47)	1 076
Slovenia	yes	C	308	(83)	63	(17)	371
Turkey	yes	C&S	-	-	-	-	-
Total Centre			**26 457**	**(48)**	**29 092**	**(52)**	**55 549**
East							
Armenia	no	S	-	-	-	-	-
Azerbaijan	no	C&S	241	(5)	4 682	(95)	4 923
Belarus	yes	C&S	-	-	-	-	-
Estonia	yes	C	591	(73)	221	(27)	812
Georgia	no	S	-	-	-	-	-
Kazakhstan	no	S	3 112	(10)	28 142	(90)	31 254
Kyrgyzstan	no	C&S	-	-	-	-	-
Latvia	yes	C	1 288	(62)	794	(38)	2 082
Lithuania	yes	C&S	1 771	(59)	1 218	(41)	2 989
Moldova, Republic of	no	S	-	-	-	-	-
Russian Federation	no	C&S	-	-	-	-	-
Tajikistan	no	S	-	-	-	-	-
Turkmenistan	no	S	234	(5)	4 688	(95)	4 922
Ukraine	no	C&S	-	-	-	-	-
Uzbekistan	no	C&S	-	-	-	-	-
Total East			**7 237**	**(15)**	**39 745**	**(85)**	**46 982**
Total WHO European Region			**55 673**	**(38)**	**92 053**	**(62)**	**147 726**

* C=culture positive; C&S = Culture or sputum smear positive

† Sputum smear and nucleic acid amplification test positive on the same material

‡ Respiratory and meningeal cases only

Table 12. Tuberculosis cases by culture result and site of disease, WHO European Region, 2001*

Geographic area / Country	Culture done: Positive N	Positive (%)	Negative N	Negative (%)	Unknown N	Unknown (%)	Culture not done N	not done (%)	Unknown N	Unknown (%)	Total #
A) Pulmonary cases											
West											
Austria	589	(68)	148	(17)	0	(0)	131	(15)	0	(0)	868
Belgium	739	(76)	88	(9)	62	(6)	11	(1)	71	(7)	971
Denmark	254	(74)	37	(11)	0	(0)	0	(0)	54	(16)	345
Finland ‖	280	(89)	-	-	-	-	-	-	36	(11)	316
France	1 661	(35)	293	(6)	1 718	(36)	0	(0)	1 086	(23)	4 758
Germany	3 820	(67)	1 049	(18)	225	(4)	174	(3)	471	(8)	5 739
Iceland	7	(88)	0	(0)	0	(0)	0	(0)	1	(13)	8
Ireland	122	(40)	27	(9)	0	(0)	7	(2)	146	(48)	302
Italy	1 212	(37)	468	(14)	0	(0)	797	(24)	801	(24)	3 278
Luxembourg	25	(100)	0	(0)	0	(0)	0	(0)	0	(0)	25
Malta	10	(67)	3	(20)	0	(0)	2	(13)	0	(0)	15
Netherlands	359	(38)	57	(6)	7	(1)	21	(2)	506	(53)	950
Norway	156	(77)	19	(9)	0	(0)	0	(0)	28	(14)	203
Portugal	2 097	(66)	322	(10)	65	(2)	521	(16)	183	(6)	3 188
Sweden	233	(84)	29	(10)	0	(0)	0	(0)	17	(6)	279
Switzerland	374	(82)	0	(0)	0	(0)	65	(14)	16	(4)	455
United Kingdom † ‖	2 477	(63)	-	-	-	-	-	-	1 430	(37)	3 907
Total West	**14 415**	**(56)**	**2 540**	**(10)**	**2 077**	**(8)**	**1 729**	**(7)**	**4 846**	**(19)**	**25 607**
Centre											
Bosnia & Herzegovina ‡	1 153	(77)	349	(23)	0	(0)	0	(0)	0	(0)	1 502
Croatia	762	(57)	214	(16)	0	(0)	0	(0)	366	(27)	1 342
Czech Republic	729	(69)	333	(31)	0	(0)	0	(0)	0	(0)	1 062
Hungary	916	(31)	1 338	(46)	188	(6)	436	(15)	55	(2)	2 933
Poland §	5 805	(55)	4 409	(42)	0	(0)	0	(0)	278	(3)	10 492
Romania	13 536	(51)	5 600	(21)	6 412	(24)	845	(3)	20	(0)	26 413
Slovakia	517	(59)	359	(41)	0	(0)	3	(0)	0	(0)	879
Slovenia	273	(89)	23	(8)	1	(0)	9	(3)	0	(0)	306
Total Centre	**23 691**	**(53)**	**12 625**	**(28)**	**6 601**	**(15)**	**1 293**	**(3)**	**719**	**(2)**	**44 929**
East											
Estonia	557	(77)	153	(21)	0	(0)	10	(1)	0	(0)	720
Latvia	1 275	(73)	386	(22)	64	(4)	0	(0)	31	(2)	1 756
Total East	**1 832**	**(74)**	**539**	**(22)**	**64**	**(3)**	**10**	**(0)**	**31**	**(1)**	**2 476**
Total pulmonary cases	**39 938**	**(55)**	**15 704**	**(22)**	**8 742**	**(12)**	**3 032**	**(4)**	**5 596**	**(8)**	**73 012**
B) Extra-pulmonary cases											
West											
Austria	103	(51)	29	(14)	0	(0)	70	(35)	0	(0)	202
Belgium	216	(63)	55	(16)	19	(6)	6	(2)	47	(14)	343
Denmark	129	(78)	13	(8)	0	(0)	0	(0)	23	(14)	165
Finland ‖	131	(74)	-	-	-	-	-	-	47	(26)	178
France	161	(10)	432	(26)	572	(35)	0	(0)	469	(29)	1 634
Germany	698	(51)	343	(25)	57	(4)	101	(7)	180	(13)	1 379
Iceland	5	(100)	0	(0)	0	(0)	0	(0)	0	(0)	5
Ireland	27	(31)	5	(6)	0	(0)	3	(3)	51	(59)	86
Italy	404	(33)	171	(14)	0	(0)	302	(25)	350	(29)	1 227
Luxembourg	7	(100)	0	(0)	0	(0)	0	(0)	0	(0)	7
Malta	0	(0)	0	(0)	0	(0)	1	(100)	0	(0)	1
Netherlands	144	(30)	44	(9)	7	(1)	13	(3)	278	(57)	486
Norway	64	(76)	8	(10)	0	(0)	0	(0)	12	(14)	84
Portugal	193	(16)	118	(10)	38	(3)	191	(16)	669	(55)	1 209
Sweden	126	(85)	17	(11)	0	(0)	0	(0)	6	(4)	149
Switzerland	130	(83)	0	(0)	0	(0)	21	(13)	5	(3)	156
United Kingdom † ‖	1 309	(49)	-	-	-	-	-	-	1 356	(51)	2 665
Total West	**3 847**	**(39)**	**1 235**	**(12)**	**693**	**(7)**	**708**	**(7)**	**3 493**	**(35)**	**9 976**
Centre											
Bosnia & Herzegovina ‡	34	(14)	204	(86)	0	(0)	0	(0)	0	(0)	238
Croatia	48	(29)	61	(37)	0	(0)	0	(0)	54	(33)	163
Czech Republic	125	(43)	163	(57)	0	(0)	0	(0)	0	(0)	288
Hungary	24	(11)	85	(39)	11	(5)	95	(44)	2	(1)	217
Poland §	160	(89)	20	(11)	0	(0)	0	(0)	0	(0)	180
Romania	278	(7)	1 464	(36)	881	(22)	1 399	(35)	0	(0)	4 022
Slovakia	58	(29)	134	(68)	0	(0)	5	(3)	0	(0)	197
Slovenia	35	(54)	20	(31)	1	(2)	7	(11)	2	(3)	65
Total Centre	**762**	**(14)**	**2 151**	**(40)**	**893**	**(17)**	**1 506**	**(28)**	**58**	**(1)**	**5 370**
East											
Estonia	34	(37)	58	(63)	0	(0)	0	(0)	0	(0)	92
Latvia	13	(4)	18	(6)	0	(0)	0	(0)	295	(90)	326
Total East	**47**	**(11)**	**76**	**(18)**	**0**	**(0)**	**0**	**(0)**	**295**	**(71)**	**418**
Total extra-pulmonary cases	**4 656**	**(30)**	**3 462**	**(22)**	**1 586**	**(10)**	**2 214**	**(14)**	**3 846**	**(24)**	**15 764**

* Countries providing individual data
† Excluding Scotland
‡ Excluding Rep. Srpska
‖ Only positive results reported
Excluding 608 cases with site unknown

Table 13. Tuberculosis cases by *M. tuberculosis* complex species, WHO European Region, 2001

Geographic area / Country	*M. tuberculosis* complex species								Total culture positive
	M. tuberculosis		*M. bovis*		*M. africanum*		Unknown / not done		
	N	(%)	N	(%)	N	(%)	N	(%)	
West									
Austria	186	(26.9)	5	(0.7)	1	(0.1)	500	(72.3)	692
Belgium	903	(94.3)	2	(0.2)	2	(0.2)	51	(5.3)	958
Finland	409	(99.5)	0	(0.0)	0	(0.0)	2	(0.5)	411
Iceland	11	(91.7)	0	(0.0)	0	(0.0)	1	(8.3)	12
Ireland	117	(78.5)	4	(2.7)	0	(0.0)	28	(18.8)	149
Italy	1 288	(79.7)	1	(0.1)	5	(0.3)	322	(19.9)	1 616
Luxembourg	32	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	32
Malta	10	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	10
Netherlands	482	(95.8)	4	(0.8)	0	(0.0)	17	(3.4)	503
Norway	219	(99.5)	1	(0.5)	0	(0.0)	0	(0.0)	220
Sweden	353	(98.3)	5	(1.4)	1	(0.3)	0	(0.0)	359
Switzerland	455	(90.3)	9	(1.8)	5	(1.0)	35	(6.9)	504
United Kingdom*	3 361	(88.3)	22	(0.6)	11	(0.3)	412	(10.8)	3 806
Total West	**7 826**	**(84.4)**	**53**	**(0.6)**	**25**	**(0.3)**	**1 368**	**(14.8)**	**9 272**
Centre									
Bosnia & Herzegovina †	1 187	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	1 187
Croatia ‡	810	(100.0)	-	-	-	-	0	(0.0)	810
Czech Republic	813	(95.2)	3	(0.4)	0	(0.0)	38	(4.4)	854
Hungary	940	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	940
Romania	1 911	(13.8)	0	(0.0)	0	(0.0)	11 905	(86.2)	13 816
Slovakia	575	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	575
Slovenia	305	(99.0)	1	(0.3)	0	(0.0)	2	(0.6)	308
Total Centre	**6 541**	**(35.4)**	**4**	**(0.0)**	**0**	**(0.0)**	**11 945**	**(64.6)**	**18 490**
East									
Estonia	591	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	591
Total	**14 958**	**(52.8)**	**57**	**(0.2)**	**25**	**(0.1)**	**13 313**	**(47.0)**	28 353

* Excluding Scotland
† Excluding Rep. Srpska
‡ Species other than *M. tuberculosis* excluded from dataset

Table 14. Pulmonary tuberculosis cases by sputum smear result, WHO European Region, 2001

Geographic area Country	Classification by site	Routine use of sputum smear nationwide	Positive N	Positive (%)	Negative / unknown N	Negative / unknown (%)	Total
West							
Austria	pulmonary	yes	275	(32)	593	(68)	868
Belgium	pulmonary	yes	472	(49)	499	(51)	971
Denmark	pulmonary	yes	140	(41)	205	(59)	345
Finland	pulmonary	yes	158	(50)	158	(50)	316
France	pulmonary	yes	2 699	(57)	2 059	(43)	4 758
Germany	pulmonary	yes	2 038	(36)	3 701	(64)	5 739
Greece	pulmonary	no	259	(47)	287	(53)	546
Ireland	pulmonary	yes	125	(41)	177	(59)	302
Italy	pulmonary	no	1 143	(35)	2 135	(65)	3 278
Luxembourg	pulmonary	yes	12	(48)	13	(52)	25
Netherlands	pulmonary	yes	321	(34)	629	(66)	950
Portugal	pulmonary	yes	2 097	(66)	1 091	(34)	3 188
Spain	**respiratory**	yes	2 780	(38)	4 594	(62)	7 374
Sweden	pulmonary	no	111	(40)	168	(60)	279
United Kingdom *	pulmonary	yes	1 394	(36)	2 513	(64)	3 907
Subtotal EU			**14 024**	**(43)**	**18 822**	**(57)**	**32 846**
Andorra	pulmonary	yes	2	(22)	7	(78)	9
Iceland	pulmonary	yes	3	(38)	5	(63)	8
Israel	pulmonary	yes	191	(45)	237	(55)	428
Malta	pulmonary	yes	3	(20)	12	(80)	15
Monaco	pulmonary	-	0	-	0	-	0
Norway	pulmonary	yes	61	(30)	142	(70)	203
San Marino	**respiratory**	-	0	-	0	-	0
Switzerland	pulmonary	yes	129	(28)	326	(72)	455
Total West			**14 413**	**(42)**	**19 551**	**(58)**	**33 964**
Centre							
Albania	pulmonary	yes	195	(55)	160	(45)	355
Bosnia & Herzegovina	pulmonary	yes	918	(41)	1 335	(59)	2 253
Bulgaria	**respiratory**	yes	1 323	(39)	2 066	(61)	3 389
Croatia	pulmonary	yes	485	(36)	857	(64)	1 342
Czech Republic	pulmonary	yes	395	(37)	667	(63)	1 062
Hungary	pulmonary	yes	725	(25)	2 208	(75)	2 933
Macedonia, F.Y.R.	pulmonary	yes	190	(34)	366	(66)	556
Poland	**respiratory**	yes	3 699	(35)	6 793	(65)	10 492
Romania	pulmonary	yes	14 115	(53)	12 298	(47)	26 413
Serbia & Montenegro	**respiratory**	no	-	-	-	-	-
Slovakia	pulmonary	yes	269	(31)	610	(69)	879
Slovenia	pulmonary	yes	154	(50)	152	(50)	306
Turkey	pulmonary	yes	-	-	-	-	-
Total Centre			**22 468**	**(45)**	**27 512**	**(55)**	**49 980**
East							
Armenia	pulmonary	no	618	(50)	626	(50)	1 244
Azerbaijan	pulmonary	no	948	(24)	3 019	(76)	3 967
Belarus	**respiratory**	yes	-	-	-	-	-
Estonia	pulmonary	yes	337	(47)	383	(53)	720
Georgia	pulmonary	yes	1 691	(36)	3 013	(64)	4 704
Kazakhstan	**respiratory**	yes	14 429	(48)	15 503	(52)	29 932
Kyrgyzstan	pulmonary	yes	-	-	-	-	-
Latvia	pulmonary	yes	882	(50)	874	(50)	1 756
Lithuania	pulmonary	yes	1 360	(55)	1 120	(45)	2 480
Moldova, Republic of	pulmonary	no	1 250	(39)	1 915	(61)	3 165
Russian Federation	**respiratory**	yes	31 890	(24)	100 974	(76)	132 864
Tajikistan	pulmonary	no	781	(25)	2 346	(75)	3 127
Turkmenistan	pulmonary	yes	1 797	(45)	2 174	(55)	3 971
Ukraine	**respiratory**	yes	-	-	-	-	-
Uzbekistan	**respiratory**	no	-	-	-	-	-
Total East			**55 983**	**(30)**	**131 947**	**(70)**	**187 930**
Total WHO European Region			**92 864**	**(34)**	**179 010**	**(66)**	**271 874**

* Excluding Scotland (respiratory classification)

Table 15. AIDS cases with tuberculosis as AIDS indicative disease, WHO European Region, 2001

(data from EuroHIV, European non aggregate AIDS data set, update June 2002)*

Geographic area Country	Total AIDS cases N	Rate / 100 000	AIDS indicative disease unspecified N	(%)	TB as AIDS indicative disease: Pulmonary † N	(%)	Extra-pulmonary ‡ N	(%)	Total N	(%)	Cases of TB as AIDS indicative disease / total TB cases (%) #
West											
Austria	74	0.9	3	(4)	5	(7)	2	(3)	7	(9)	0.7
Belgium	162	1.6	0	(0)	30	(19)	18	(11)	48	(30)	3.6
Denmark	76	1.4	0	(0)	10	(13)	10	(13)	20	(26)	3.9
Finland	18	0.3	0	(0)	3	(17)	0	(0)	3	(17)	0.6
France	1 690	2.8	1	(0)	164	(10)	135	(8)	299	(18)	4.6
Germany	920	1.1	0	(0)	44	(5)	36	(4)	80	(9)	1.1
Greece	96	0.9	0	(0)	9	(9)	6	(6)	15	(16)	2.4
Ireland	12	0.3	0	(0)	0	(0)	0	(0)	0	(0)	0.0
Italy	1 836	3.2	0	(0)	104	(6)	79	(4)	183	(10)	4.1
Luxembourg	4	0.9	0	(0)	1	(25)	0	(0)	1	(25)	3.1
Netherlands	94	0.6	0	(0)	18	(19)	7	(7)	25	(27)	1.7
Portugal	958	9.5	42	(4)	306	(32)	181	(19)	487	(51)	11.1
Spain	2 105	5.3	0	(0)	329	(16)	316	(15)	645	(31)	8.7 ‖
Sweden	48	0.5	6	(13)	4	(8)	2	(4)	6	(13)	1.4
United Kingdom	824	1.4	0	(0)	121	(15)	49	(6)	170	(21)	2.4
Subtotal EU	**8 917**	**2.4**	**52**	**(1)**	**1 148**	**(13)**	**841**	**(9)**	**1 989**	**(22)**	**4.6**
Andorra	n/a	-	-	-	-	-	-	-	-	-	-
Iceland	1	0.4	0	(0)	0	(0)	0	(0)	0	(0)	0.0
Israel	82	1.3	4	(5)	22	(27)	6	(7)	28	(34)	5.0
Malta	0	0.0	0	-	0	-	0	-	0	-	0.0
Monaco	0	0.0	0	-	0	-	0	-	0	-	-
Norway	27	0.6	0	(0)	1	(4)	5	(19)	6	(22)	2.1
San Marino	1	3.7	0	(0)	0	(0)	0	(0)	0	(0)	-
Switzerland	219	3.1	0	(0)	14	(6)	5	(2)	19	(9)	3.1
Total West	**9 247**	**2.3**	**56**	**(1)**	**1 185**	**(13)**	**857**	**(9)**	**2 042**	**(22)**	**4.5**
Centre											
Albania	n/a	-	-	-	-	-	-	-	-	-	-
Bosnia & Herzegovina	6	0.1	5	(83)	0	(0)	0	(0)	0	(0)	0.0
Bulgaria	14	0.2	0	(0)	4	(29)	1	(7)	5	(36)	0.1
Croatia	12	0.3	0	(0)	1	(8)	1	(8)	2	(17)	0.1
Czech Republic	6	0.1	0	(0)	0	(0)	0	(0)	0	(0)	0.0
Hungary	20	0.2	3	(15)	0	(0)	0	(0)	0	(0)	0.0
Macedonia, F.Y.R.	6	0.3	0	(0)	0	(0)	0	(0)	0	(0)	0.0
Poland	168	0.4	5	(3)	32	(19)	9	(5)	41	(24)	0.4
Romania §	(213)	(1.0)	(213)	-	-	-	-	-	-	-	-
Serbia & Montenegro	62	0.6	2	(3)	7	(11)	0	(0)	7	(11)	0.2
Slovakia	5	0.1	0	(0)	0	(0)	0	(0)	0	(0)	0.0
Slovenia	5	0.3	0	(0)	1	(20)	0	(0)	1	(20)	0.3
Turkey	40	0.1	0	(0)	6	(15)	3	(8)	9	(23)	0.05
Total Centre	**344**	**0.2**	**15**	**(4)**	**51**	**(15)**	**14**	**(4)**	**65**	**(19)**	**0.1**
East											
Armenia	4	0.1	0	(0)	0	(0)	0	(0)	0	(0)	0.0
Azerbaijan	17	0.2	0	(0)	9	(53)	1	(6)	10	(59)	0.2
Belarus	5	0.0	0	(0)	1	(20)	0	(0)	1	(20)	0.02
Estonia	2	0.1	0	(0)	1	(50)	0	(0)	1	(50)	0.1
Georgia	11	0.2	2	(18)	5	(45)	0	(0)	5	(45)	0.1
Kazakhstan	n/a	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	0	0.0	0	-	0	-	0	-	0	-	0.0
Latvia	42	1.7	0	(0)	22	(52)	1	(2)	23	(55)	1.1
Lithuania	8	0.2	0	(0)	0	(0)	1	(13)	1	(13)	0.03
Moldova, Republic of	9	0.2	0	(0)	7	(78)	0	(0)	7	(78)	0.2
Russian Federation	n/a	-	-	-	-	-	-	-	-	-	-
Tajikistan	1	0.0	0	(0)	1	(100)	0	(0)	1	(100)	0.03
Turkmenistan	n/a	-	-	-	-	-	-	-	-	-	-
Ukraine	812	1.7	454	(56)	268	(33)	4	(0)	272	(33)	0.7
Uzbekistan	6	0.0	0	(0)	1	(17)	0	(0)	1	(17)	0.01
Total East	**917**	**0.7**	**456**	**(50)**	**315**	**(34)**	**7**	**(1)**	**322**	**(35)**	**0.1**
Total WHO European Region	**10 508**	**1.5**	**527**	**(5)**	**1 551**	**(15)**	**878**	**(8)**	**2 429**	**(23)**	**0.6**

* Numbers and rates differ from those in EuroHIV reports, usually presented by year of diagnosis, adjusted for reporting delay
† In persons over 12 years of age; includes cases with concomitant pulmonary and extrapulmonary TB
‡ At all ages
§ AIDS indicative diseases not available; not included in totals
‖ TB case notifications include only respiratory and meningeal cases
n/a = not available
Total TB cases notified in 2001 (see Table 2)

Table 16. Laboratory practices and quality assurance for anti-TB Drug Susceptibility Testing (DST), WHO European Region, 2001

Geographic area Country	No. labs. performing:		DST methods used					Quality assurance for DST				
								National *		International		
	Culture	DST	non radiometric proportion	radiometric proportion	resistance ratio	absolute concentr.	other		No. labs	Year	% agreement of results for: INH †	% agreement of results for: RMP †
West												
Austria	11	8	■	–	–	–	–	yes	4	no	–	–	–
Belgium	~200	17	■	■	–	–	–	yes	16	yes	2001	95	95
Denmark	1	1	–	■	–	–	–	–	–	yes	2001	100	100
Finland	15	2	■	■	–	–	–	n/a	–	yes	2001	100	100
France	323	130	■	■	–	–	■	n/a	–	yes	2001	n/a	n/a
Germany	~200	~100	■	■	–	–	■	yes	83	yes	2001	100	100
Iceland ‡	1	0	–	–	–	–	–	–	–	–	–	–	–
Ireland	8	n/a	■	■	■	■	-	yes	8	yes	2002	100	89
Israel	18	1	-	-	■	-	■	-		yes	2001	100	100
Italy	>200	>200	■	■	■	■	■	yes	20	yes	2002	100	100
Luxembourg	2	1	■	■	–	–	–	–	–	no	–	–	–
Malta §	1	0	–	–	–	–	–	–	–	–	–	–	–
Netherlands	43	15	■	■	–	■	■	–	–	yes	2003	100	100
Norway	13	4	–	■	–	–	■	yes	3	yes	2001	100	100
Portugal	60	14	■	■	–	–	■	yes	14	yes	2001	100	100
Spain	200	n/a	■	–	–	–	–	n/a	-	yes	2001	100	100
Sweden	5	5	-	■	–	–	–	yes	5	yes	2002	95	100
Switzerland	35	16	■	■	–	–	■	yes	16	yes	2002	100	89
United Kingdom	268	8	–	■	■	■	–	yes	6	yes	2002	100	100
Centre												
Albania	3	1	■	–	–	–	–	–	–	yes	2001	90	90
Bosnia & Herzegovina	10	7	■	■	–	–	–	yes	7	yes ||	2002	n/a	n/a
Bulgaria	28	18	■	■	–	–	–	yes	18	no	–	–	–
Croatia	16	11	■	–	–	–	–	yes	11	yes	2001	100	100
Czech Republic	45	14	■	■	–	–	■	yes	14	yes	2001	100	100
Hungary	23	14	■	■	–	■	–	yes	12	yes	2002	100	100
Macedonia	3	1	■	–	–	–	–	–	–	no	–	–	–
Poland	142	72	■	■	■	–	–	yes	42	yes	2001	100	100
Romania	127	73	–	–	–	■	–	no	–	no	–	–	–
Serbia & Montenegro	36	12	■	–	–	–	–	n/a	–	yes	2001	100	90
Slovakia	17	8	■	■	–	–	–	yes	8	yes	n/a	100	99
Slovenia	6	1	■	–	–	–	■	–	–	yes	2000	100	100
East												
Armenia	2	2	–	–	–	■	–	n/a	–	no	–	–	–
Azerbaijan	6	6	–	–	–	■	–	yes	6	no	–	–	–
Estonia	3	2	■	–	–	–	–	yes	2	yes	2002	100	100
Georgia	1	1	■	–	–	■	–	–	–	no	–	–	–
Kazakhstan	21	21	–	–	–	■	–	yes	20	yes	2002	94	92
Kyrgyzstan	13	3	–	–	–	■	–	n/a	–	no	–	–	–
Latvia	8	1	–	■	–	■	–	–	–	yes	2001	100	100
Lithuania	6	6	■	■	–	–	–	yes	6	yes	2001	90	95
Moldova, Rep. of	4	2	–	–	–	■	–	yes	2	no	–	–	–

n/a = not available
* For countries with more than one laboratory performing DST
† INH = isoniazid; RMP = rifampicin
‡ DST done in Denmark
§ DST done in Sweden
|| Except Republika Srpska

Table 17. Characteristics of Drug Resistance Surveillance (DRS), WHO European Region, 2001

Geographic area Country	Routine use of culture	Source of data	Geographic Coverage of DRS	% of culture confirmed cases *	Cases included in DRS		
					Culture Positive	Cases with DST result (INH & RMP)	
					N	N	(%)
A) Culture and DST performed routinely; national data on all notified / representative sample of TB cases							
West							
Austria	-	TB notifications	national	65%	692	630	(91)
Belgium	yes	TB notifications	national	73%	958	749	(78)
Denmark	yes	TB notifications	national	75%	385	380	(99)
Finland	yes	TB notifications	national	83%	411	410	(100)
Germany	yes	TB notifications	national	62%	4 670	3 881	(83)
Iceland	yes	TB notifications	national	92%	12	12	(100)
Ireland	yes	TB notifications	national	37%	149	104	(70)
Israel	yes	TB notifications	national	56%	317	317	(100)
Luxembourg ‡	yes	TB notifications	national	100%	32	29	(91)
Malta	yes	TB notifications	national	63%	10	10	(100)
Netherlands	yes	TB notifications	national	35%	503	503	(100)
Norway	yes	TB notifications	national	75%	222	214	(96)
Sweden	yes	TB notifications	national	84%	359	359	(100)
Switzerland	yes	TB notifications	national	82%	504	502	(100)
United Kingdom	yes	TB notifications	national	58%	4 053	3 549	(88)
Centre							
Bosnia-Herzegovina	yes	TB notifications	national	65%	1 660	1 296	(78)
Croatia	yes	TB notifications	national	54%	809	808	(100)
Czech Republic	yes	TB notifications	national	63%	854	678	(79)
Poland	yes	42 laboratories †	national	54%	3 950	3 705	(94)
Slovakia	yes	TB notifications	national	53%	575	575	(100)
Slovenia	yes	TB notifications	national	83%	308	307	(100)
East							
Estonia	yes	TB notifications	national	73%	591	580	(98)
Latvia	yes	TB notifications	national	65%	1 360	1 098	(81)
Lithuania	yes	TB notifications	national	59%	1 771	1 452	(82)
B) Culture / DST not routinely performed, data on selected cases / areas							
West							
France	yes	27 Univ. Hosp Labs	18/23 regions	-	1 329	1 313	(99)
Italy	some	20 labs	8/20 regions	-	1 639	910	(56)
Portugal	yes	TB notifications	national	51%	2 242	1 163	(52)
Spain	yes	NRL	16/19 regions	-	2 693	1 722	(64)
Centre							
Albania	no	TB notifications	national	36%	206	206	(100)
Bulgaria	yes	all labs doing DST	18/28 regions	33%	916	293	(32)
Hungary	yes	TB notifications	national	30%	940	369	(39)
Macedonia, FYR	no	NRL	n/a	-	-	141	-
Romania	no	TB notifications	national	45%	13 816	3 050	(22)
Serbia & Montenegro	-	TB notifications	Belgrade	55%	389	389	(100)
East							
Armenia	no	all labs doing DST	national	-	630	630	-
Azerbaijan	no	all labs doing DST	some areas	-	241	241	(100)
Georgia	no	all labs doing DST	Tbilisi + prisons	-	464	424	-
Kazakhstan	no	all labs doing DST	national	10%	-	8 953	-
Kyrgyzstan	no	NRL	-	-	699	699	-
Moldova, Rep. of	no	all labs doing DST	national	-	1 280	1 280	-

n/a = not available
NRL = National Reference Laboratory
* In areas included in DRS
† Representing 66% of all culture positive cases in Poland
‡ No confirmation that DST results refer only to isolates taken at start of treatment
§ For Rep. Srpska, 3 laboratories

Table 18. Global drug resistance, all tuberculosis cases, WHO European Region, 2001

Geographic area / Country	Cases with DST result	Cases resistant to at least: Isoniazid (INH) N	(%)	Rifampicin (RMP) N	(%)	INH & RMP (MDR) N	(%)	Ethambutol * N	(%)	Streptomycin * N	(%)
A) Culture and DST performed routinely; national data on all notified TB cases / representative sample of TB cases											
West											
Austria	630	24	(3.8)	7	(1.1)	5	(0.8)	1	(0.2)	18	(2.9)
Belgium	749	53	(7.1)	20	(2.7)	18	(2.4)	22	(2.9)	-	-
Denmark	380	21	(5.5)	0	(0.0)	0	(0.0)	2	(0.5)	43	(11.3)
Finland	410	16	(3.9)	4	(1.0)	4	(1.0)	9	(2.2)	16	(3.9)
Germany	3 881	294	(7.6)	113	(2.9)	105	(2.7)	104	(2.7)	279	(7.2)
Iceland	12	1	(8.3)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Ireland	104	2	(1.9)	1	(1.0)	1	(1.0)	0	(0.0)	-	-
Israel	317	64	(20.2)	23	(7.3)	22	(6.9)	17	(5.4)	-	-
Luxembourg †	29	1	(3.4)	0	(0.0)	0	(0.0)	0	(0.0)	1	(3.4)
Malta	10	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Netherlands	503	24	(4.8)	2	(0.4)	2	(0.4)	1	(0.2)	17	(3.4)
Norway	214	18	(8.4)	5	(2.3)	5	(2.3)	2	(0.9)	27	(12.6)
Sweden	359	31	(8.6)	6	(1.7)	4	(1.1)	3	(0.8)	25	(7.0)
Switzerland	502	23	(4.6)	9	(1.8)	7	(1.4)	5	(1.0)	-	-
United Kingdom	3 549	229	(6.5)	40	(1.1)	27	(0.8)	15	(0.4)	-	-
Centre											
Bosnia-Herzegovina	1 296	2	(0.2)	10	(0.8)	2	(0.2)	4	(0.3)	10	(0.8)
Croatia	808	15	(1.9)	6	(0.7)	5	(0.6)	5	(0.6)	15	(1.9)
Czech Republic	678	22	(3.2)	12	(1.8)	9	(1.3)	8	(1.2)	9	(1.3)
Poland	3 705	221	(6.0)	104	(2.8)	92	(2.5)	41	(1.1)	-	-
Slovakia	575	22	(3.8)	6	(1.0)	6	(1.0)	2	(0.3)	8	(1.4)
Slovenia	307	12	(3.9)	4	(1.3)	3	(1.0)	3	(1.0)	8	(2.6)
East											
Estonia	580	217	(37.4)	160	(27.6)	158	(27.2)	165	(28.4)	217	(37.4)
Latvia	1 098	327	(29.8)	153	(13.9)	150	(13.7)	93	(8.5)	287	(26.1)
Lithuania	1 452	455	(31.3)	279	(19.2)	266	(18.3)	132	(9.1)	381	(26.2)
B) Culture / DST not routinely performed, data on selected cases / areas											
West											
France	1 313	58	(4.4)	17	(1.3)	15	(1.1)	6	(0.5)	78	(5.9)
Italy	910	105	(11.5)	52	(5.7)	38	(4.2)	28	(3.1)	86	(9.5)
Portugal	1 163	80	(6.9)	34	(2.9)	31	(2.7)	13	(1.1)	125	(10.7)
Spain	1 722	109	(6.3)	68	(3.9)	51	(3.0)	31	(1.8)	45	(2.6)
Centre											
Albania	206	11	(5.3)	8	(3.9)	6	(2.9)	1	(0.5)	-	-
Bulgaria	293	189	(64.5)	135	(46.1)	87	(29.7)	87	(29.7)	93	(31.7)
Hungary	369	36	(9.8)	10	(2.7)	10	(2.7)	13	(3.5)	30	(8.1)
Macedonia, FYR	141	9	(6.4)	3	(2.1)	3	(2.1)	3	(2.1)	-	-
Romania	3 050	408	(13.4)	253	(8.3)	198	(6.5)	28	(0.9)	91	(3.0)
Serbia & Montenegro	389	4	(1.0)	4	(1.0)	2	(0.5)	6	(1.5)	-	-
East											
Armenia	630	230	(36.5)	149	(23.7)	125	(19.8)	117	(18.6)	247	(39.2)
Azerbaijan ‡	-	-	-	-	-	-	-	-	-	-	-
Georgia	424	230	(54.2)	109	(25.7)	105	(24.8)	129	(30.4)	303	(71.5)
Kazakhstan	8 953	2 834	(31.7)	2 300	(25.7)	1 432	(16.0)	2 089	(23.3)	3 945	(44.1)
Kyrgyzstan	699	406	(58.1)	266	(38.1)	262	(37.5)	283	(40.5)	541	(77.4)
Moldova, Rep. of	1 280	313	(24.5)	297	(23.2)	203	(15.9)	58	(4.5)	407	(31.8)

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

† No confirmation that DST results refer only to isolates taken at start of treatment

‡ Only new cases reported for 2001.

Table 19. Drug resistance, tuberculosis cases never treated (primary resistance), WHO European Region, 2001

Geographic area / Country	cases with DST result	Cases resistant to at least: Isoniazid (INH) N	(%)	Rifampicin (RMP) N	(%)	INH & RMP (multidrug resistant) N	(%)	Ethambutol † N	(%)	Streptomycin † N	(%)
A) Culture and DST performed routinely; national data on all notified / representative sample of TB cases											
West											
Austria*	589	19	(3.2)	5	(0.8)	4	(0.7)	1	(0.2)	17	(2.9)
Belgium*	562	36	(6.4)	14	(2.5)	13	(2.3)	14	(2.5)	-	-
Denmark	356	20	(5.6)	0	(0.0)	0	(0.0)	2	(0.6)	39	(11.0)
Finland	348	12	(3.4)	3	(0.9)	3	(0.9)	8	(2.3)	13	(3.7)
Germany*	2 354	124	(5.3)	49	(2.1)	43	(1.8)	46	(2.0)	137	(5.8)
Iceland	11	1	(9.1)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Ireland*	67	1	(1.5)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Israel	294	53	(18.0)	18	(6.1)	17	(5.8)	14	(4.8)	-	-
Luxembourg	28	1	(3.6)	0	(0.0)	0	(0.0)	0	(0.0)	1	(3.6)
Malta*	9	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Netherlands	484	24	(5.0)	2	(0.4)	2	(0.4)	1	(0.2)	17	(3.5)
Norway	182	15	(8.2)	2	(1.1)	2	(1.1)	2	(1.1)	21	(11.5)
Sweden	338	27	(8.0)	3	(0.9)	2	(0.6)	2	(0.6)	24	(7.1)
Switzerland	342	15	(4.4)	4	(1.2)	3	(0.9)	2	(0.6)	-	-
United Kingdom	2 494	171	(6.9)	27	(1.1)	19	(0.8)	10	(0.4)	-	-
Centre											
Bosnia & Herzegovina	1 132	0	(0.0)	5	(0.4)	0	(0.0)	2	(0.2)	8	(0.7)
Croatia	713	10	(1.4)	2	(0.3)	2	(0.3)	1	(0.1)	10	(1.4)
Czech Republic	663	21	(3.2)	11	(1.7)	8	(1.2)	7	(1.1)	9	(1.4)
Poland	3 037	125	(4.1)	44	(1.4)	35	(1.2)	19	(0.6)	-	-
Slovakia	464	12	(2.6)	1	(0.2)	1	(0.2)	2	(0.4)	6	(1.3)
Slovenia	281	9	(3.2)	4	(1.4)	3	(1.1)	3	(1.1)	7	(2.5)
East											
Estonia	375	90	(24.0)	54	(14.4)	53	(14.1)	56	(14.9)	99	(26.4)
Latvia	911	268	(29.4)	102	(11.2)	99	(10.9)	58	(6.4)	232	(25.5)
Lithuania	972	200	(20.6)	79	(8.1)	75	(7.7)	31	(3.2)	157	(16.2)
B) Culture / DST not routinely performed, data on selected cases / areas											
West											
France	1 056	40	(3.8)	11	(1.0)	10	(0.9)	5	(0.5)	50	(4.7)
Italy	746	64	(8.6)	17	(2.3)	7	(0.9)	8	(1.1)	54	(7.2)
Portugal	999	60	(6.0)	19	(1.9)	17	(1.7)	7	(0.7)	98	(9.8)
Spain	502	17	(3.4)	8	(1.6)	4	(0.8)	0	(0.0)	7	(1.4)
Centre											
Albania	191	3	(1.6)	2	(1.0)	0	(0.0)	0	(0.0)	-	-
Bulgaria	210	140	(66.7)	93	(44.3)	62	(29.5)	55	(26.2)	56	(26.7)
Hungary	316	26	(8.2)	6	(1.9)	6	(1.9)	6	(1.9)	23	(7.3)
Macedonia, FYR	130	6	(4.6)	2	(1.5)	1	(0.8)	2	(1.5)	-	-
Romania	2 386	253	(10.6)	144	(6.0)	107	(4.5)	15	(0.6)	62	(2.6)
Serbia & Montenegro	353	3	(0.8)	4	(1.1)	2	(0.6)	2	(0.6)	-	-
East											
Armenia	328	64	(19.5)	26	(7.9)	18	(5.5)	26	(7.9)	80	(24.4)
Azerbaijan	241	22	(9.1)	21	(8.7)	2	(0.8)	24	(10.0)	97	(40.2)
Georgia	256	95	(37.1)	21	(8.2)	19	(7.4)	42	(16.4)	164	(64.1)
Kazakhstan	4 564	1 120	(24.5)	752	(16.5)	450	(9.9)	815	(17.9)	1 596	(35.0)
Kyrgyzstan	412	182	(44.2)	100	(24.3)	100	(24.3)	109	(26.5)	293	(71.1)
Moldova, Rep. of	959	203	(21.2)	184	(19.2)	126	(13.1)	39	(4.1)	274	(28.6)

* Information on previous TB treatment history not available or incomplete ; classified according to TB history (See technical note)
† Data presented if DST results were available for > 90% of cases tested for INH and RMP

Table 20. Drug resistance, tuberculosis cases previously treated (acquired resistance), WHO European Region, 2001

Geographic area / Country	cases with DST result	Cases resistant to at least: Isoniazid (INH) N	(%)	Rifampicin (RMP) N	(%)	INH & RMP (multidrug resistant) N	(%)	Ethambutol † N	(%)	Streptomycin † N	(%)
A) Culture and DST performed routinely; national data on all notified / representative sample of TB cases											
West											
Austria *	41	5	(12.2)	2	(4.9)	1	(2.4)	0	(0.0)	1	(2.4)
Belgium*	74	3	(4.1)	2	(2.7)	1	(1.4)	4	(5.4)	-	-
Denmark	24	1	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	4	(16.7)
Finland	26	3	(11.5)	1	(3.8)	1	(3.8)	1	(3.8)	2	(7.7)
Germany*	499	76	(15.2)	37	(7.4)	37	(7.4)	26	(5.2)	63	(12.6)
Iceland	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Ireland*	14	1	(7.1)	1	(7.1)	1	(7.1)	0	(0.0)	-	-
Israel	23	11	(47.8)	5	(21.7)	5	(21.7)	3	(13.0)	-	-
Luxembourg	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Malta*	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Netherlands	14	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Norway	32	3	(9.4)	3	(9.4)	3	(9.4)	0	(0.0)	6	(18.8)
Sweden	21	4	(19.0)	3	(14.3)	2	(9.5)	1	(4.8)	1	(4.8)
Switzerland	59	4	(6.8)	2	(3.4)	2	(3.4)	2	(3.4)	-	-
United Kingdom	209	16	(7.7)	5	(2.4)	5	(2.4)	4	(1.9)	-	-
Centre											
Bosnia & Herzegovina	154	2	(1.3)	5	(3.2)	2	(1.3)	2	(1.3)	2	(1.3)
Croatia	93	5	(5.4)	4	(4.3)	3	(3.2)	4	(4.3)	5	(5.4)
Czech Republic	15	1	(6.7)	1	(6.7)	1	(6.7)	1	(6.7)	0	(0.0)
Poland	668	96	(14.4)	60	(9.0)	57	(8.5)	22	(3.3)	-	-
Slovakia	111	10	(9.0)	5	(4.5)	5	(4.5)	0	(0.0)	2	(1.8)
Slovenia	26	3	(11.5)	0	(0.0)	0	(0.0)	0	(0.0)	1	(3.8)
East											
Estonia	205	127	(62.0)	106	(51.7)	105	(51.2)	109	(53.2)	118	(57.6)
Latvia	187	59	(31.6)	51	(27.3)	51	(27.3)	35	(18.7)	55	(29.4)
Lithuania	480	255	(53.1)	200	(41.7)	191	(39.8)	101	(21.0)	224	(46.7)
B) Culture / DST not routinely performed, data on selected cases / areas											
West											
France	102	10	(9.8)	5	(4.9)	4	(3.9)	1	(1.0)	7	(6.9)
Italy	99	36	(36.4)	34	(34.3)	30	(30.3)	18	(18.2)	28	(28.3)
Portugal	164	20	(12.2)	15	(9.1)	14	(8.5)	6	(3.7)	27	(16.5)
Spain	153	28	(18.3)	26	(17.0)	19	(12.4)	10	(6.5)	11	(7.2)
Centre											
Albania	15	8	(53.3)	6	(40.0)	6	(40.0)	1	(6.7)	-	-
Bulgaria	83	49	(59.0)	42	(50.6)	25	(30.1)	32	(38.6)	37	(44.6)
Hungary	47	9	(19.1)	3	(6.4)	3	(6.4)	5	(10.6)	6	(12.8)
Macedonia, FYR	5	1	(20.0)	0	(0.0)	2	(40.0)	0	(0.0)	-	-
Romania	664	155	(23.3)	109	(16.4)	91	(13.7)	13	(2.0)	29	(4.4)
Serbia & Montenegro	36	1	(2.8)	0	(0.0)	0	(0.0)	4	(11.1)	-	-
East											
Armenia	225	132	(58.7)	98	(43.6)	84	(37.3)	71	(31.6)	130	(57.8)
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-
Georgia	168	135	(80.4)	88	(52.4)	86	(51.2)	87	(51.8)	139	(82.7)
Kazakhstan	4 389	1 714	(39.1)	1 548	(35.3)	982	(22.4)	1 274	(29.0)	2 349	(53.5)
Kyrgyzstan	285	222	(77.9)	164	(57.5)	160	(56.1)	172	(60.4)	246	(86.3)
Moldova, Rep. of	321	110	(34.3)	113	(35.2)	77	(24.0)	19	(5.9)	133	(41.4)

* Information on previous TB treatment history not available or incomplete ; classified according to TB history (See technical note)
† Data presented if DST results were available for > 90% of cases tested for INH and RMP

Table 21. Drug resistance, tuberculosis cases in persons born in/citizens of the country of report, WHO European Region, 2001

Geographic area / Country	Definition used	cases with DST result	Cases resistant to at least: Isoniazid (INH) N	(%)	Rifampicin (RMP) N	(%)	INH & RMP (multidrug resistant) N	(%)	Ethambutol * N	(%)	Streptomycin * N	(%)
A) Culture and DST performed routinely; national data on all notified / representative sample of TB cases												
West												
Austria	citiz	471	14	(3.0)	3	(0.6)	2	(0.4)	0	(0.0)	7	(1.5)
Belgium	citiz	392	17	(4.3)	6	(1.5)	5	(1.3)	8	(2.0)	-	-
Denmark †	birth	139	2	(1.4)	0	(0.0)	0	(0.0)	1	(0.7)	4	(2.9)
Finland	birth	347	4	(1.2)	0	(0.0)	0	(0.0)	3	(0.9)	3	(0.9)
Germany	birth	1 988	66	(3.3)	23	(1.2)	20	(1.0)	28	(1.4)	69	(3.5)
Iceland	birth	5	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Ireland	birth	83	1	(1.2)	1	(1.2)	1	(1.2)	0	(0.0)	-	-
Israel	birth	32	5	(15.6)	1	(3.1)	1	(3.1)	3	(9.4)	-	-
Luxembourg	birth	7	1	(14.3)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Malta	citiz	9	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Netherlands	citiz	177	5	(2.8)	0	(0.0)	0	(0.0)	1	(0.6)	3	(1.7)
Norway	birth	60	2	(3.3)	0	(0.0)	0	(0.0)	0	(0.0)	4	(6.7)
Sweden	birth	113	5	(4.4)	2	(1.8)	2	(1.8)	1	(0.9)	2	(1.8)
Switzerland	birth	156	3	(1.9)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
United Kingdom	birth	1 005	62	(6.2)	8	(0.8)	6	(0.6)	1	(0.1)	-	-
Centre												
Bosnia-Herzegovina	-	-	-	-	-	-	-	-	-	-	-	-
Croatia	birth	566	10	(1.8)	5	(0.9)	4	(0.7)	4	(0.7)	12	(2.1)
Czech Republic	birth	612	11	(1.8)	8	(1.3)	5	(0.8)	6	(1.0)	5	(0.8)
Poland	-	-	-	-	-	-	-	-	-	-	-	-
Slovakia	birth	567	20	(3.5)	5	(0.9)	5	(0.9)	2	(0.4)	6	(1.1)
Slovenia	birth	232	8	(3.4)	2	(0.9)	2	(0.9)	3	(1.3)	8	(3.4)
East												
Estonia	birth	453	168	(37.1)	127	(28.0)	125	(27.6)	133	(29.4)	175	(38.6)
Latvia	birth	1 025	306	(29.9)	143	(14.0)	141	(13.8)	88	(8.6)	274	(26.7)
Lithuania	citiz	1 373	430	(31.3)	262	(19.1)	251	(18.3)	125	(9.1)	359	(26.1)
B) Culture / DST not routinely performed, data on selected cases / areas												
West												
France	birth	657	13	(2.0)	5	(0.8)	3	(0.5)	3	(0.5)	33	(5.0)
Italy	birth	544	59	(10.8)	32	(5.9)	22	(4.0)	19	(3.5)	58	(10.7)
Portugal	birth	1 011	64	(6.3)	27	(2.7)	24	(2.4)	10	(1.0)	109	(10.8)
Spain	-	-	-	-	-	-	-	-	-	-	-	-
Centre												
Albania	-	204	11	(5.4)	8	(3.9)	6	(2.9)	1	(0.5)	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	birth	360	36	(10.0)	10	(2.8)	10	(2.8)	13	(3.6)	30	(8.3)
Macedonia, FYR	-	-	-	-	-	-	-	-	-	-	-	-
Romania	citiz	3 048	408	(13.4)	253	(8.3)	198	(6.5)	28	(0.9)	90	(3.0)
Serbia & Montenegro	-	-	-	-	-	-	-	-	-	-	-	-
East												
Armenia	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	citiz	241	22	(9.1)	21	(8.7)	2	(0.8)	24	(10.0)	97	(40.2)
Georgia	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	-	-	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	citiz	699	406	(58.1)	266	(38.1)	262	(37.5)	283	(40.5)	541	(77.4)
Moldova, Rep. of	-	-	-	-	-	-	-	-	-	-	-	-

birth = place of birth; citiz = citizenship

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

† cases born in Denmark and aged < 26 years classified by parents' place of birth

Table 22. Drug resistance, tuberculosis cases in persons of foreign origin, WHO European Region, 2001

Geographic area Country	Definition used	cases with DST result	Cases resistant to at least: Isoniazid (INH) N	(%)	Rifampicin (RMP) N	(%)	INH & RMP (multidrug resistant) N	(%)	Ethambutol * N	(%)	Streptomycin * N	(%)
A) Culture and DST performed routinely; national data on all notified TB cases / representative sample of TB cases												
West												
Austria	**citiz**	159	10	(6.3)	4	(2.5)	3	(1.9)	1	(0.6)	11	(6.9)
Belgium	**citiz**	357	36	(10.1)	14	(3.9)	13	(3.6)	14	(3.9)	-	-
Denmark †	birth	241	19	(7.9)	0	(0.0)	0	(0.0)	1	(0.4)	39	(16.2)
Finland	birth	54	9	(16.7)	2	(3.7)	2	(3.7)	4	(7.4)	10	(18.5)
Germany	birth	1 406	203	(14.4)	81	(5.8)	77	(5.5)	68	(4.8)	190	(13.5)
Iceland	birth	7	1	(14.3)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Ireland	birth	15	1	(6.7)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Israel	birth	285	59	(20.7)	22	(7.7)	21	(7.4)	14	(4.9)	-	-
Luxembourg	birth	9	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Malta	**citiz**	1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Netherlands	**citiz**	323	19	(5.9)	2	(0.6)	2	(0.6)	0	(0.0)	13	(4.0)
Norway	birth	154	16	(10.4)	5	(3.2)	5	(3.2)	2	(1.3)	23	(14.9)
Sweden	birth	246	26	(10.6)	4	(1.6)	2	(0.8)	2	(0.8)	23	(9.3)
Switzerland	birth	283	17	(6.0)	9	(3.2)	7	(2.5)	5	(1.8)	-	-
United Kingdom	birth	1 830	136	(7.4)	29	(1.6)	20	(1.1)	13	(0.7)	-	-
Centre												
Bosnia-Herzegovina	-	-	-	-	-	-	-	-	-	-	-	-
Croatia	birth	125	1	(0.8)	0	(0.0)	0	(0.0)	0	(0.0)	1	(0.8)
Czech Republic	birth	66	11	(16.7)	4	(6.1)	4	(6.1)	2	(3.0)	4	(6.1)
Poland	-	-	-	-	-	-	-	-	-	-	-	-
Slovakia	birth	8	2	(25.0)	1	(12.5)	1	(12.5)	0	(0.0)	2	(25.0)
Slovenia	birth	75	4	(5.3)	2	(2.7)	1	(1.3)	0	(0.0)	0	(0.0)
East												
Estonia	birth	127	49	(38.6)	33	(26.0)	33	(26.0)	32	(25.2)	42	(33.1)
Latvia	birth	73	21	(28.8)	10	(13.7)	9	(12.3)	5	(6.8)	13	(17.8)
Lithuania	**citiz**	79	25	(31.6)	17	(21.5)	15	(19.0)	7	(8.9)	22	(27.8)
B) Culture / DST not routinely performed, data on selected cases / areas												
West												
France	birth	601	42	(7.0)	12	(2.0)	12	(2.0)	3	(0.5)	41	(6.8)
Italy	birth	359	45	(12.5)	20	(5.6)	16	(4.5)	9	(2.5)	27	(7.5)
Portugal	birth	152	16	(10.5)	7	(4.6)	7	(4.6)	3	(2.0)	16	(10.5)
Spain	–	–	–	–	–	–	–	–	–	–	–	–
Centre												
Albania	-	2	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	birth	8	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	-
Macedonia, FYR	-	-	-	-	-	-	-	-	-	-	-	-
Romania	**citiz**	2	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	-
Serbia & Montenegro	-	-	-	-	-	-	-	-	-	-	-	-
East												
Armenia	-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-
Georgia	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	-	-	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	**citiz**	2	2	(100.0)	1	(50.0)	1	(50.0)	1	(50.0)	2	(100.0)
Moldova, Rep. of	-	-	-	-	-	-	-	-	-	-	-	-

birth = place of birth; citiz = citizenship

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

† cases born in Denmark and aged < 26 years classified by parents' place of birth

Table 23. Resistance to isoniazid by anti-TB treatment status, WHO European Region, 1997-2001 *

Geographic area Country	1997 Total tested †	1997 Resistant to INH (%)	1998 Total tested †	1998 Resistant to INH (%)	1999 Total tested †	1999 Resistant to INH (%)	2000 Total tested †	2000 Resistant to INH (%)	2001 Total tested †	2001 Resistant to INH (%)
A) Cases never treated (primary resistance)										
West										
Austria	-	-	669	(3.0)	703	(4.3)	694	(2.9)	589	(3.3)
Denmark	391	(5.1)	412	(6.1)	392	(7.4)	392	(7.4)	356	(5.6)
Finland	-	-	-	-	371	(0.5)	374	(2.7)	348	(3.4)
Germany	-	-	1 583	(4.9)	2 206	(4.3)	1 743	(3.8)	2 354	(6.8) ‡
Iceland	7	(0.0)	10	(0.0)	7	(0.0)	8	(0.0)	11	(9.1)
Ireland	-	-	112	(0.9)	101	(2.0)	136	(2.9)	67	(1.5)
Luxembourg	-	-	40	(7.5)	-	-	39	(5.1)	28	(3.6)
Malta	-	-	2	(0.0)	13	(0.0)	9	(0.0)	9	(0.0)
Netherlands	844	(5.9)	570	(3.1)	899	(5.8)	768	(5.6)	484	(5.0)
Norway	126	(8.7)	158	(7.0)	144	(7.6)	160	(13.1)	182	(8.2)
Sweden	354	(5.3)	335	(4.8)	377	(9.0)	322	(10.9)	338	(8.0)
Switzerland	345	(3.2)	405	(5.4)	428	(5.6)	330	(5.5)	342	(4.4)
United Kingdom	-	-	2 515	(3.9)	2 138	(6.2)	2 312	(5.9)	2 494	(6.9)
Centre										
Bosnia & Herzegovina	-	-	-	-	1 154	(0.6)	993	(0.5)	1 132	(0.0)
Croatia	-	-	-	-	761	(1.8)	780	(1.0)	713	(1.4)
Czech Republic	-	-	-	-	628	(1.6)	616	(3.4)	663	(3.2)
Slovakia	-	-	589	(1.2)	456	(1.8)	465	(3.2)	464	(2.6)
Slovenia	280	(1.1)	287	(0.7)	364	(2.3)	282	(2.1)	281	(3.2)
East										
Estonia	334	(22.8)	433	(25.4)	428	(27.3)	410	(22.9)	375	(24.0)
Latvia	-	-	789	(28.1)	825	(27.8)	897	(29.0)	911	(29.4)
Lithuania	-	-	1 181	(12.2)	819	(21.7)	701	(21.8)	972	(20.6)
B) Cases previously treated (acquired resistance)										
West										
Austria	-	-	64	(6.8)	53	(13.2)	67	(3.0)	41	(12.2)
Denmark	34	(0.0)	32	(12.5)	24	(8.3)	33	(24.2)	24	(4.2)
Finland	-	-	-	-	27	(3.7)	29	(13.8)	26	(11.5)
Germany	-	-	282	(17.7)	303	(15.5)	257	(17.1)	499	(24.5)
Iceland	2	(0.0)	1	(0.0)	1	(0.0)	1	(0.0)	1	(0.0)
Ireland	-	-	19	(0.0)	22	(0.0)	26	(3.8)	14	(7.1)
Luxembourg	-	-	4	(0.0)	-	-	5	(0.0)	1	(0.0)
Malta	-	-	2	(0.0)	0	(0.0)	1	(0.0)	1	(0.0)
Netherlands	61	(14.7)	50	(8.0)	42	(7.1)	95	(8.4)	14	(0.0)
Norway	4	(0.0)	17	(17.6)	40	(0.0)	10	(0.0)	32	(9.4)
Sweden	26	(19.2)	30	(20.0)	31	(25.8)	42	(4.8)	21	(19.0)
Switzerland	42	(23.8)	53	(15.1)	57	(21.1)	57	(3.5)	59	(6.8)
United Kingdom	-	-	238	(8.8)	220	(4.5)	237	(10.1)	209	(7.7)
Centre										
Bosnia & Herzegovina	-	-	-	-	121	(5.0)	153	(3.3)	154	(1.3)
Croatia	-	-	-	-	93	(4.3)	99	(4.0)	93	(5.4)
Czech Republic	-	-	-	-	70	(8.6)	22	(9.1)	15	(6.7)
Slovakia	-	-	157	(5.7)	122	(4.9)	110	(10.9)	111	(9.0)
Slovenia	34	(5.9)	28	(3.6)	35	(5.7)	38	(7.9)	26	(11.5)
East										
Estonia	44	(27.3)	93	(49.5)	89	(53.9)	117	(54.7)	205	(62.0)
Latvia	-	-	224	(29.0)	190	(31.9)	247	(35.2)	187	(31.6)
Lithuania	-	-	288	(16.7)	167	(53.9)	220	(56.4)	480	(53.1)

* Countries in group A (see technical note) providing comparable data for at least three years. For trends in other countries, see country profiles

† Cases with DST results for INH and RMP

‡ Major change in DRS in 2001 (from survey of selected health units to exhaustive data collection)

Table 24. Multidrug resistance (MDR) by anti-TB treatment status, WHO European Region, 1997-2001*

Geographic area Country	1997 Total tested †	1997 MDR (%)	1998 Total tested †	1998 MDR (%)	1999 Total tested †	1999 MDR (%)	2000 Total tested †	2000 MDR (%)	2001 Total tested †	2001 MDR (%)
A) Cases never treated (primary resistance)										
West										
Austria	-	-	669	(0.3)	703	(0.3)	694	(0.4)	589	(0.7)
Denmark	391	(0.3)	412	(0.5)	392	(0.0)	392	(0.3)	356	(0.0)
Finland	-	-	-	-	371	(0.0)	374	(0.3)	348	(0.9)
Germany	-	-	1 583	(0.8)	2 206	(0.8)	1 743	(0.8)	2 354	(2.3) ‡
Iceland	7	(0.0)	10	(0.0)	7	(0.0)	8	(0.0)	11	(0.0)
Ireland	-	-	112	(0.0)	101	(1.0)	136	(0.7)	67	(0.0)
Luxembourg	-	-	40	(2.5)	-	-	39	(0.0)	28	(0.0)
Malta	-	-	2	(0.0)	13	(0.0)	9	(0.0)	9	(0.0)
Netherlands	844	(0.6)	570	(0.2)	899	(0.4)	768	(0.9)	484	(0.4)
Norway	126	(0.8)	158	(0.6)	144	(2.1)	160	(1.9)	182	(1.1)
Sweden	354	(0.6)	335	(0.6)	377	(0.8)	322	(1.2)	338	(0.6)
Switzerland	345	(0.0)	405	(0.5)	428	(0.7)	330	(0.0)	342	(0.9)
United Kingdom	-	-	2 515	(0.3)	2 138	(0.5)	2 312	(0.9)	2 494	(0.8)
Centre										
Bosnia & Herzegovina	-	-	-	-	1 154	(0.3)	993	(0.1)	1 132	(0.0)
Croatia	-	-	-	-	761	(0.3)	780	(0.1)	713	(0.3)
Czech Republic	-	-	-	-	628	(0.3)	616	(1.1)	663	(1.2)
Slovakia	-	-	589	(0.3)	456	(0.7)	465	(1.1)	464	(0.2)
Slovenia	280	(0.7)	287	(0.0)	364	(0.0)	282	(0.0)	281	(1.1)
East										
Estonia	334	(12.9)	433	(14.5)	428	(17.5)	410	(12.2)	375	(14.1)
Latvia	-	-	789	(9.0)	825	(10.4)	897	(9.3)	911	(10.9)
Lithuania	-	-	1 181	(4.7)	819	(7.8)	701	(8.7)	972	(7.7)
B) Cases previously treated (acquired resistance)										
West										
Austria	-	-	64	(4.7)	53	(5.7)	67	(1.5)	41	(2.4)
Denmark	34	(0.0)	32	(3.1)	24	(0.0)	33	(3.0)	24	(0.0)
Finland	-	-	-	-	27	(0.0)	29	(3.4)	26	(3.8)
Germany	-	-	282	(6.7)	303	(5.9)	257	(7.4)	499	(7.1)
Iceland	2	(0.0)	1	(0.0)	1	(0.0)	1	(0.0)	1	(0.0)
Ireland	-	-	19	(0.0)	22	(0.0)	26	(3.8)	14	(7.1)
Luxembourg	-	-	4	(0.0)	-	-	5	(0.0)	1	(0.0)
Malta	-	-	2	(0.0)	0	(0.0)	1	(0.0)	1	(0.0)
Netherlands	61	(3.3)	50	(6.0)	42	(0.0)	95	(1.1)	14	(0.0)
Norway	4	(0.0)	17	(5.9)	40	(0.0)	10	(0.0)	32	(9.4)
Sweden	26	(7.7)	30	(10.0)	31	(12.9)	42	(2.4)	21	(9.5)
Switzerland	42	(11.9)	53	(1.9)	57	(10.5)	57	(1.8)	59	(3.4)
United Kingdom	-	-	238	(3.8)	220	(2.7)	237	(4.2)	209	(2.4)
Centre										
Bosnia & Herzegovina	-	-	-	-	121	(2.5)	153	(2.0)	154	(1.3)
Croatia	-	-	-	-	93	(3.2)	99	(1.0)	93	(3.2)
Czech Republic	-	-	-	-	70	(2.9)	22	(9.1)	15	(6.7)
Slovakia	-	-	157	(1.9)	122	(2.5)	110	(1.8)	111	(4.5)
Slovenia	34	(2.9)	28	(0.0)	35	(5.7)	38	(0.0)	26	(0.0)
East										
Estonia	44	(13.6)	93	(36.6)	89	(48.3)	117	(45.3)	205	(51.2)
Latvia	-	-	224	(23.7)	190	(26.8)	247	(27.1)	187	(27.3)
Lithuania	-	-	288	(10.8)	167	(42.5)	220	(43.2)	480	(39.8)

* Countries in group A (see technical note) providing comparable data for at least three years. For trends in other countries, see country profiles

† Cases with DST results for INH and RMP

‡ Major change in DRS in 2001 (from a survey of selected health units to exhaustive data collection)

Table 25. Treatment outcome monitoring (TOM): geographic coverage and completeness of cohorts, WHO European Region, 2000

Geographic area Country	geographic coverage of TOM		Sputum smear positive cases: Total notified nationwide (A) †	Total considered for TOM ‡	Total included in cohorts (B) #	Completeness of TOM cohorts (B/A) (%)	Pulmonary culture positive cases: Total notified nationwide (A) †	Total considered for TOM ‡	Total included in cohorts (B) #	Completeness of TOM cohorts (B/A) (%)
A) Nationwide data, completeness of TOM cohorts ≥ 85%										
West										
Andorra	national		1	2	2	200%	5	7	7	140%
Austria	national		333	308	308	92%	666	621	621	93%
Belgium	national		464	416	413	89%	758	666	660	87%
Iceland	national		3	3	3	100%	7	7	7	100%
Ireland	national		142	153	153	108%	182	186	186	102%
Israel	national		-	-	-	-	248	377	346	140%
Malta	national		5	5	5	100%	9	9	9	100%
Netherlands	national		324	332	319	98%	591	584	584	99%
Norway	national		40	40	40	100%	111	111	111	100%
Portugal	national		2 106	2 133	2 133	101%	2 042	2 104	2 104	103%
San Marino	national		1	1	1	100%	1	1	1	100%
Sweden	national		128	127	121	95%	-	-	-	-
Centre										
Bosnia & Herzegovina	national		881	878	878	100%	1 508	1 294	1 294	86%
Czech Republic	national		442	442	434	98%	815	729	720	88%
Hungary	national		501	784	773	154%	896	981	961	107%
Macedonia, F.Y.R.	national	*	183	183	168	92%	-	-	-	-
Romania	national	*	12 487	12 773	12 763	102%	13 431	15 089	15 042	112%
Slovakia	national		284	284	284	100%	528	528	528	100%
Slovenia	national		169	169	169	100%	285	285	285	100%
East										
Azerbaijan	national	*	964	964	964	100%	492	189	189	38%
Estonia	national		316	316	316	100%	516	516	516	100%
Georgia	national		1 451	1 277	1 277	88%	-	-	-	-
Kazakhstan	national		12 926	11 910	11 682	90%	-	-	-	-
Kyrgyzstan	national		1 726	1 553	1 511	88%	-	-	-	-
Latvia	national		842	842	842	100%	1 278	1 278	1 278	100%
Lithuania	national	*	1 058	1 058	1 058	100%	1 490	1 490	1 490	100%
Moldova, Republic of §	national		651	651	651	100%	-	-	-	-
Tajikistan	national		434	674	674	155%	-	-	-	-
B) Data from selected areas or completeness of TOM cohorts < 85% / unknown										
West										
Germany	national	**	-	952	517	-	-	2 005	1 155	-
Denmark	national		152	154	125	82%	313	314	129	41%
Italy	9 regions	‡‡	-	254	254	-	-	338	338	-
Centre										
Poland	DOTS areas		-	277	270	-	-	-	-	-
Serbia & Montenegro	Belgrade reg.		-	282	282	-	-	280	280	-
Turkey §	n/a		4 315	3 461	3 461	80%	-	-	-	-
East										
Armenia	DOTS areas		686	510	501	73%	-	-	-	-
Russian Federation §	national	††	26 123	19 797	19 797	76%	-	38 152	38 084	-
Russian Federation	DOTS areas		-	5 485	5 310	-	-	-	-	-
Turkmenistan	national		-	1 512	1 512	-	-	-	-	-
Uzbekistan	DOTS areas		-	2 019	1 794	-	-	-	-	-

* pooled data from DOTS and non DOTS areas;
† includes cases notified with unknown anti-TB treatment history
‡ sum of new and retreated cases, before exclusion of "non eligible" cases (see technical note)
# denominator used to calculate percentages of outcomes, after exclusion of non eligible cases
§ new cases only
†† Cases notified to the Ministry of Health
‡‡ Network of 18 selected clinical centres; data not linked to TB notification
** cases notified in a sample of health units
n/a = not available

Table 26. Outcome of new pulmonary sputum smear positive TB cases, WHO European Region, 2000

Geographic area Country	Total included	Success: Cured N	Cured (%)	Success: Treatment completed N	Treatment completed (%)	Success: Subtotal success N	Subtotal success (%)	Died N	Died (%)	Failed N	Failed (%)	Other, not evaluated* N	Other, not evaluated* (%)	Transferred N	Transferred (%)	Defaulted / unknown † N	Defaulted / unknown † (%)
A) Nationwide data, completeness of TOM cohorts ≥ 85%																	
West																	
Andorra	2	0	(0)	1	(50)	**1**	**(50)**	0	(0)	0	(0)	0	(0)	0	(0)	1	(50)
Austria	298	0	(0)	218	(73)	**218**	**(73)**	28	(9)	0	(0)	34	(11)	0	(0)	18	(6)
Belgium	358	90	(25)	146	(41)	**236**	**(66)**	36	(10)	3	(1)	17	(5)	6	(2)	60	(17)
Iceland	2	0	(0)	2	(100)	**2**	**(100)**	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Ireland	127	24	(19)	38	(30)	**62**	**(49)**	9	(7)	0	(0)	0	(0)	0	(0)	56	(44)
Israel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	4	0	(0)	4	(100)	**4**	**(100)**	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	301	70	(23)	159	(53)	**229**	**(76)**	18	(6)	0	(0)	38	(13)	6	(2)	10	(3)
Norway	37	18	(49)	8	(22)	**26**	**(70)**	5	(14)	1	(3)	0	(0)	4	(11)	1	(3)
Portugal	1 924	164	(9)	1 361	(71)	**1 525**	**(79)**	117	(6)	3	(0)	132	(7)	48	(2)	99	(5)
San Marino	1	0	(0)	0	(0)	**0**	**(0)**	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)
Sweden	112	0	(0)	89	(79)	**89**	**(79)**	12	(11)	0	(0)	9	(8)	0	(0)	2	(2)
Centre																	
Bosnia & Herzegovina	756	579	(77)	134	(18)	**713**	**(94)**	8	(1)	9	(1)	4	(1)	6	(1)	16	(2)
Czech Republic	396	235	(59)	43	(11)	**278**	**(70)**	67	(17)	4	(1)	32	(8)	10	(3)	5	(1)
Hungary	651	185	(28)	233	(36)	**418**	**(64)**	68	(10)	18	(3)	41	(6)	30	(5)	76	(12)
Macedonia, FYR	152	78	(51)	53	(35)	**131**	**(86)**	6	(4)	3	(2)	0	(0)	1	(1)	11	(7)
Romania	10 158	2 833	(28)	4 309	(42)	**7 142**	**(70)**	423	(4)	830	(8)	871	(9)	51	(1)	841	(8)
Slovakia	238	193	(81)	1	(0)	**194**	**(82)**	34	(14)	3	(1)	3	(1)	0	(0)	4	(2)
Slovenia	145	48	(33)	74	(51)	**122**	**(84)**	11	(8)	0	(0)	1	(1)	4	(3)	7	(5)
East																	
Azerbaijan	890	796	(89)	4	(0)	**800**	**(90)**	11	(1)	15	(2)	0	(0)	36	(4)	28	(3)
Estonia	257	173	(67)	6	(2)	**179**	**(70)**	27	(11)	3	(1)	32	(12)	0	(0)	16	(6)
Georgia	807	304	(38)	202	(25)	**506**	**(63)**	23	(3)	75	(9)	0	(0)	3	(0)	200	(25)
Kazakhstan	8 781	6 641	(76)	260	(3)	**6 901**	**(79)**	415	(5)	883	(10)	0	(0)	294	(3)	288	(3)
Kyrgyzstan	1 233	896	(73)	117	(9)	**1 013**	**(82)**	43	(3)	50	(4)	0	(0)	70	(6)	57	(5)
Latvia	637	434	(68)	26	(4)	**460**	**(72)**	75	(12)	16	(3)	41	(6)	3	(0)	42	(7)
Lithuania	776	563	(73)	0	(0)	**563**	**(73)**	80	(10)	28	(4)	8	(1)	4	(1)	93	(12)
Moldova, Rep.of ‡	651	5	(1)	403	(62)	**408**	**(63)**	0	(0)	1	(0)	0	(0)	0	(0)	242	(37)
Tajikistan	665	492	(74)	18	(3)	**510**	**(77)**	103	(15)	52	(8)	0	(0)	0	(0)	0	(0)
B) Data from selected areas or completeness of TOM cohorts < 85% / unknown																	
West																	
Denmark	110	41	(37)	54	(49)	**95**	**(86)**	5	(5)	0	(0)	9	(8)	1	(1)	0	(0)
Germany	454	277	(61)	74	(16)	**351**	**(77)**	72	(16)	4	(1)	0	(0)	18	(4)	9	(2)
Italy	227	83	(37)	79	(35)	**162**	**(71)**	3	(1)	0	(0)	0	(0)	19	(8)	43	(19)
Centre																	
Poland	214	107	(50)	48	(22)	**155**	**(72)**	23	(11)	13	(6)	0	(0)	11	(5)	12	(6)
Serbia & Montenegro	261	230	(88)	2	(1)	**232**	**(89)**	11	(4)	1	(0)	0	(0)	3	(1)	14	(5)
Turkey	3 461	0	(0)	2 521	(73)	**2 521**	**(73)**	90	(3)	0	(0)	420	(12)	221	(6)	209	(6)
East																	
Armenia	447	360	(81)	29	(6)	**389**	**(87)**	16	(4)	12	(3)	0	(0)	0	(0)	30	(7)
Russian Federation §	19 797	12 587	(64)	0	(0)	**12 587**	**(64)**	2 585	(13)	3 546	(18)	0	(0)	731	(4)	348	(2)
Russian Federation **	3 616	2 327	(64)	133	(4)	**2 460**	**(68)**	227	(6)	458	(13)	0	(0)	133	(4)	338	(9)
Turkmenistan	1 017	804	(79)	20	(2)	**824**	**(81)**	89	(9)	65	(6)	0	(0)	12	(1)	27	(3)
Uzbekistan	1 030	280	(27)	549	(53)	**829**	**(80)**	28	(3)	64	(6)	56	(5)	6	(1)	47	(5)

* cases still on treatment at 12 months and not known to have met other outcomes
† cases with treatment interruption of > 2 months, lost to follow-up or with unknown outcome
‡ Only treatment completion reported, except for a pilot DOTS project in prisons (6 cases)
§ cases notified to the Ministry of Health
** cases from DOTS areas

Table 27. Outcome of retreated pulmonary sputum smear positive TB cases, WHO European Region, 2000

Geographic area Country	Total included	Success: Cured N	Cured (%)	Teatment completed N	Teatment completed (%)	Subtotal success N	Subtotal success (%)	Died N	Died (%)	Failed N	Failed (%)	Other, not evalueted* N	Other, not evalueted* (%)	Transferred N	Transferred (%)	Defaulted / unknown † N	Defaulted / unknown † (%)
A) Nationwide data, completeness of TOM cohorts ≥ 85%																	
West																	
Andorra	0	0	-	0	-	**0**	-	0	-	0	-	0	-	0	-	0	-
Austria	10	0	(0)	8	(80)	**8**	**(80)**	0	(0)	0	(0)	2	(20)	0	(0)	0	(0)
Belgium ‡	55	9	(16)	25	(45)	**34**	**(62)**	7	(13)	0	(0)	5	(9)	1	(2)	8	(15)
Iceland ‡	1	0	(0)	1	(100)	**1**	**(100)**	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Ireland	26	4	(15)	11	(42)	**15**	**(58)**	5	(19)	0	(0)	0	(0)	0	(0)	6	(23)
Israel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	1	0	(0)	1	(100)	**1**	**(100)**	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	18	5	(28)	4	(22)	**9**	**(50)**	1	(6)	0	(0)	7	(39)	0	(0)	1	(6)
Norway	3	1	(33)	0	(0)	**1**	**(33)**	2	(67)	0	(0)	0	(0)	0	(0)	0	(0)
Portugal	209	20	(10)	137	(66)	**157**	**(75)**	9	(4)	0	(0)	21	(10)	8	(4)	14	(7)
San Marino	0	0	-	0	-	**0**	**-**	0	-	0	-	0	-	0	-	0	-
Sweden	9	0	(0)	7	(78)	**7**	**(78)**	0	(0)	0	(0)	1	(11)	0	(0)	1	(11)
Centre																	
Bosnia & Herzegovina	122	96	(79)	18	(15)	**114**	**(93)**	4	(3)	1	(1)	0	(0)	0	(0)	3	(2)
Czech Republic ‡	38	20	(53)	4	(11)	**24**	**(63)**	3	(8)	1	(3)	8	(21)	2	(5)	0	(0)
Hungary	122	19	(16)	24	(20)	**43**	**(35)**	18	(15)	11	(9)	30	(25)	6	(5)	14	(11)
Macedonia, FYR ‡	16	13	(81)	1	(6)	**14**	**(88)**	1	(6)	0	(0)	0	(0)	0	(0)	1	(6)
Romania	2 605	625	(24)	526	(20)	**1 151**	**(44)**	223	(9)	518	(20)	261	(10)	17	(1)	435	(17)
Slovakia	46	36	(78)	0	(0)	**36**	**(78)**	5	(11)	1	(2)	2	(4)	0	(0)	2	(4)
Slovenia	24	7	(29)	11	(46)	**18**	**(75)**	1	(4)	0	(0)	0	(0)	2	(8)	3	(13)
East																	
Azerbaijan	74	44	(59)	5	(7)	**49**	**(66)**	4	(5)	8	(11)	0	(0)	3	(4)	10	(14)
Estonia ‡	59	32	(54)	1	(2)	**33**	**(56)**	2	(3)	0	(0)	22	(37)	0	(0)	2	(3)
Georgia	470	107	(23)	147	(31)	**254**	**(54)**	45	(10)	37	(8)	0	(0)	0	(0)	134	(29)
Kazakhstan	2 901	1 801	(62)	125	(4)	**1 926**	**(66)**	276	(10)	413	(14)	0	(0)	146	(5)	140	(5)
Kyrgyzstan ‡	278	163	(59)	41	(15)	**204**	**(73)**	21	(8)	23	(8)	0	(0)	12	(4)	18	(6)
Latvia	205	79	(39)	5	(2)	**84**	**(41)**	39	(19)	6	(3)	57	(28)	3	(1)	16	(8)
Lithuania	282	126	(45)	0	(0)	**126**	**(45)**	58	(21)	23	(8)	12	(4)	2	(1)	61	(22)
Moldova, Republic of	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Tajikistan	9	4	(44)	2	(22)	**6**	**(67)**	1	(11)	2	(22)	0	(0)	0	(0)	0	(0)
B) Data from selected areas or completeness of TOM cohorts < 85% / unknown																	
West																	
Denmark ‡	15	4	(27)	9	(60)	**13**	**(87)**	1	(7)	0	(0)	1	(7)	0	(0)	0	(0)
Germany	63	32	(51)	13	(21)	**45**	**(71)**	10	(16)	2	(3)	0	(0)	3	(5)	3	(5)
Italy	27	9	(33)	2	(7)	**11**	**(41)**	1	(4)	3	(11)	0	(0)	5	(19)	7	(26)
Centre																	
Poland	56	36	(64)	7	(13)	**43**	**(77)**	8	(14)	0	(0)	0	(0)	3	(5)	2	(4)
Serbia & Montenegro	21	16	(76)	2	(10)	**18**	**(86)**	0	(0)	0	(0)	0	(0)	0	(0)	3	(14)
Turkey	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
East																	
Armenia ‡	54	28	(52)	8	(15)	**36**	**(67)**	4	(7)	4	(7)	0	(0)	0	(0)	10	(19)
Russian Federation §	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Russian Federation **	1 694	431	(25)	402	(24)	**833**	**(49)**	169	(10)	363	(21)	0	(0)	179	(11)	150	(9)
Turkmenistan	495	327	(66)	43	(9)	**370**	**(75)**	36	(7)	55	(11)	0	(0)	3	(1)	31	(6)
Uzbekistan	764	150	(20)	417	(55)	**567**	**(74)**	61	(8)	64	(8)	0	(0)	3	(0)	69	(9)

* cases still on treatment at 12 months and not known to have met other outcomes
† cases with treatment interruption of > 2 months, lost to follow-up or with unknown outcome
‡ includes relapses only
§ cases notified to the Ministry of Health
** cases from DOTS areas

Table 28. Outcome of new pulmonary culture positive TB cases, WHO European Region, 2000

Geographic area / Country	Total included	Success: Cured N	Cured (%)	Success: Treatment completed N	Treatment completed (%)	Success: Subtotal success N	Subtotal success (%)	Died N	Died (%)	Failed N	Failed (%)	Other, not evaluated* N	Other, not evaluated* (%)	Transferred N	Transferred (%)	Defaulted / unknown † N	Defaulted / unknown † (%)
A) Nationwide data, completeness of TOM cohorts ≥ 85%																	
West																	
Andorra	7	0	(0)	6	(86)	**6**	**(86)**	0	(0)	0	(0)	0	(0)	0	(0)	1	(14)
Austria	607	0	(0)	428	(71)	**428**	**(71)**	72	(12)	0	(0)	70	(12)	1	(0)	36	(6)
Belgium	577	139	(24)	234	(41)	**373**	**(65)**	70	(12)	4	(1)	18	(3)	10	(2)	102	(18)
Iceland	6	0	(0)	5	(83)	**5**	**(83)**	1	(17)	0	(0)	0	(0)	0	(0)	0	(0)
Ireland	160	27	(17)	58	(36)	**85**	**(53)**	16	(10)	0	(0)	0	(0)	0	(0)	59	(37)
Israel	320	215	(67)	33	(10)	**248**	**(78)**	34	(11)	3	(1)	4	(1)	22	(7)	9	(3)
Malta	8	0	(0)	8	(100)	**8**	**(100)**	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	543	142	(26)	329	(61)	**471**	**(87)**	35	(6)	0	(0)	0	(0)	8	(1)	29	(5)
Norway	105	46	(44)	36	(34)	**82**	**(78)**	10	(10)	3	(3)	0	(0)	9	(9)	1	(1)
Portugal	1 893	173	(9)	1 378	(73)	**1 551**	**(82)**	100	(5)	2	(0)	119	(6)	39	(2)	82	(4)
San Marino	1	0	(0)	0	(0)	**0**	**(0)**	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)
Sweden	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Centre																	
Bosnia & Herzegovina	1 147	862	(75)	144	(13)	**1 006**	**(88)**	8	(1)	6	(1)	101	(9)	10	(1)	16	(1)
Czech Republic	645	367	(57)	79	(12)	**446**	**(69)**	119	(18)	4	(1)	53	(8)	13	(2)	10	(2)
Hungary	778	192	(25)	283	(36)	**475**	**(61)**	107	(14)	26	(3)	30	(4)	45	(6)	95	(12)
Macedonia, FYR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	12 071	2 912	(24)	6 372	(53)	**9 284**	**(77)**	448	(4)	922	(8)	432	(4)	54	(0)	931	(8)
Slovakia	421	345	(82)	3	(1)	**348**	**(83)**	58	(14)	3	(1)	3	(1)	0	(0)	9	(2)
Slovenia	247	72	(29)	135	(55)	**207**	**(84)**	24	(10)	1	(0)	0	(0)	7	(3)	8	(3)
East																	
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Estonia	401	291	(73)	1	(0)	**292**	**(73)**	32	(8)	5	(1)	48	(12)	0	(0)	24	(6)
Georgia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kazakhstan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	957	684	(71)	40	(4)	**724**	**(76)**	85	(9)	22	(2)	61	(6)	4	(0)	61	(6)
Lithuania	1 067	815	(76)	0	(0)	**815**	**(76)**	79	(7)	29	(3)	7	(1)	6	(1)	131	(12)
Moldova, Republic of	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B) Data from selected areas or completeness of TOM cohorts < 85% / unknown																	
West																	
Denmark	112	42	(38)	56	(50)	**98**	**(88)**	6	(5)	0	(0)	7	(6)	1	(1)	0	(0)
Germany	1 003	571	(57)	204	(20)	**775**	**(77)**	159	(16)	5	(0)	0	(0)	41	(4)	23	(2)
Italy	301	100	(33)	120	(40)	**220**	**(73)**	7	(2)	0	(0)	0	(0)	20	(7)	54	(18)
Centre																	
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Serbia & Montenegro ‡	251	224	(89)	1	(0)	**225**	**(90)**	11	(4)	1	(0)	0	(0)	2	(1)	12	(5)
Turkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East																	
Armenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Russian Federation §	38 084	26 524	(70)	0	(0)	**26 524**	**(70)**	5 169	(14)	4 234	(11)	0	(0)	1 461	(4)	696	(2)
Russian Federation **	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkmenistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uzbekistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* cases still on treatment at 12 months and not known to have met other outcomes
† cases with treatment interruption of > 2 months, lost to follow-up or with unknown outcome
‡ cohort including cases with positive smear or culture
§ cases notified to the Ministry of Health
** cases from DOTS areas

Table 29. Outcome of retreated pulmonary culture positive TB cases, WHO European Region, 2000

Geographic area Country	Total included	Success: Cured N	Cured (%)	Success: Treatment completed N	Treatment completed (%)	Success: Subtotal success N	Subtotal success (%)	Died N	Died (%)	Failed N	Failed (%)	Other, not evaluated* N	Other, not evaluated* (%)	Transferred N	Transferred (%)	Defaulted / unknown † N	Defaulted / unknown † (%)
A) Nationwide data, completeness of TOM cohorts ≥ 85%																	
West																	
Andorra	0	0	-	0	-	**0**	**-**	0	-	0	-	0	-	0	-	0	-
Austria	14	0	(0)	11	(79)	**11**	**(79)**	1	(7)	0	(0)	1	(7)	0	(0)	1	(7)
Belgium ‡	83	18	(22)	32	(39)	**50**	**(60)**	12	(14)	0	(0)	8	(10)	1	(1)	12	(14)
Iceland ‡	1	0	(0)	1	(100)	**1**	**(100)**	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Ireland	26	4	(15)	11	(42)	**15**	**(58)**	5	(19)	0	(0)	0	(0)	0	(0)	6	(23)
Israel	26	6	(23)	12	(46)	**18**	**(69)**	1	(4)	1	(4)	3	(12)	2	(8)	1	(4)
Malta	1	0	(0)	1	(100)	**1**	**(100)**	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	41	14	(34)	18	(44)	**32**	**(78)**	4	(10)	0	(0)	0	(0)	0	(0)	5	(12)
Norway	6	3	(50)	2	(33)	**5**	**(83)**	1	(17)	0	(0)	0	(0)	0	(0)	0	(0)
Portugal	211	27	(13)	145	(69)	**172**	**(82)**	10	(5)	0	(0)	13	(6)	7	(3)	9	(4)
San Marino	0	0	-	0	-	**0**	**-**	0	-	0	-	0	-	0	-	0	-
Sweden	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Centre																	
Bosnia & Herzegovina	147	124	(84)	12	(8)	**136**	**(93)**	1	(1)	4	(3)	0	(0)	1	(1)	5	(3)
Czech Republic ‡	75	44	(59)	9	(12)	**53**	**(71)**	12	(16)	1	(1)	7	(9)	2	(3)	0	(0)
Hungary	183	30	(16)	24	(13)	**54**	**(30)**	30	(16)	39	(21)	23	(13)	8	(4)	29	(16)
Macedonia, FYR ‡	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Romania	2 971	727	(24)	776	(26)	**1 503**	**(51)**	236	(8)	578	(19)	159	(5)	11	(0)	484	(16)
Slovakia	107	86	(80)	0	(0)	**86**	**(80)**	13	(12)	1	(1)	4	(4)	0	(0)	3	(3)
Slovenia	38	10	(26)	19	(50)	**29**	**(76)**	2	(5)	0	(0)	0	(0)	2	(5)	5	(13)
East																	
Azerbaijan	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Estonia ‡	115	55	(48)	0	(0)	**55**	**(48)**	2	(2)	1	(1)	51	(44)	0	(0)	6	(5)
Georgia	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Kazakhstan	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Kyrgyzstan ‡	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Latvia	321	123	(38)	9	(3)	**132**	**(41)**	46	(14)	7	(2)	108	(34)	4	(1)	24	(7)
Lithuania	423	206	(49)	0	(0)	**206**	**(49)**	74	(17)	31	(7)	15	(4)	3	(1)	94	(22)
Moldova, Republic of	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
B) Data from selected areas or completeness of TOM cohorts < 85% / unknown																	
West																	
Denmark ‡	17	4	(24)	11	(65)	**15**	**(88)**	1	(6)	0	(0)	1	(6)	0	(0)	0	(0)
Germany	152	77	(51)	30	(20)	**107**	**(70)**	30	(20)	2	(1)	0	(0)	5	(3)	8	(5)
Italy	37	9	(24)	8	(22)	**17**	**(46)**	3	(8)	3	(8)	0	(0)	4	(11)	10	(27)
Centre																	
Poland	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Serbia & Montenegro	29	26	(90)	0	(0)	**26**	**(90)**	1	(3)	0	(0)	0	(0)	0	(0)	2	(7)
Turkey	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
East																	
Armenia ‡	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Russian Federation §	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Russian Federation **	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Turkmenistan	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-
Uzbekistan	-	-	-	-	-	**-**	**-**	-	-	-	-	-	-	-	-	-	-

* cases still on treatment at 12 months and not known to have met other outcomes
† cases with treatment interruption of > 2 months, lost to follow-up or with unknown outcome
‡ includes relapses only
§ cases notified to the MoH
** cases from DOTS areas

4. FIGURES

Figure 1. Tuberculosis rates per 100,000 population, WHO European Region, 2001

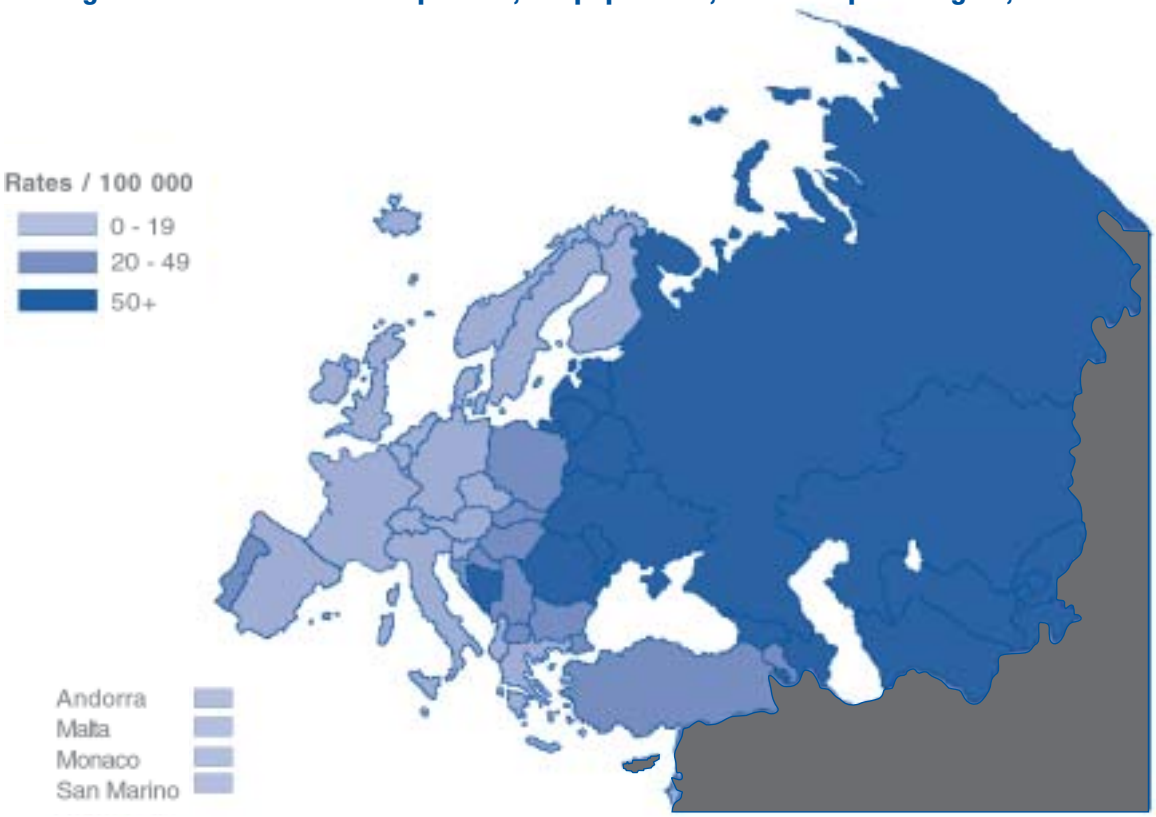


Figure 2. Proportion of tuberculosis cases of foreign origin, WHO European Region, 2001

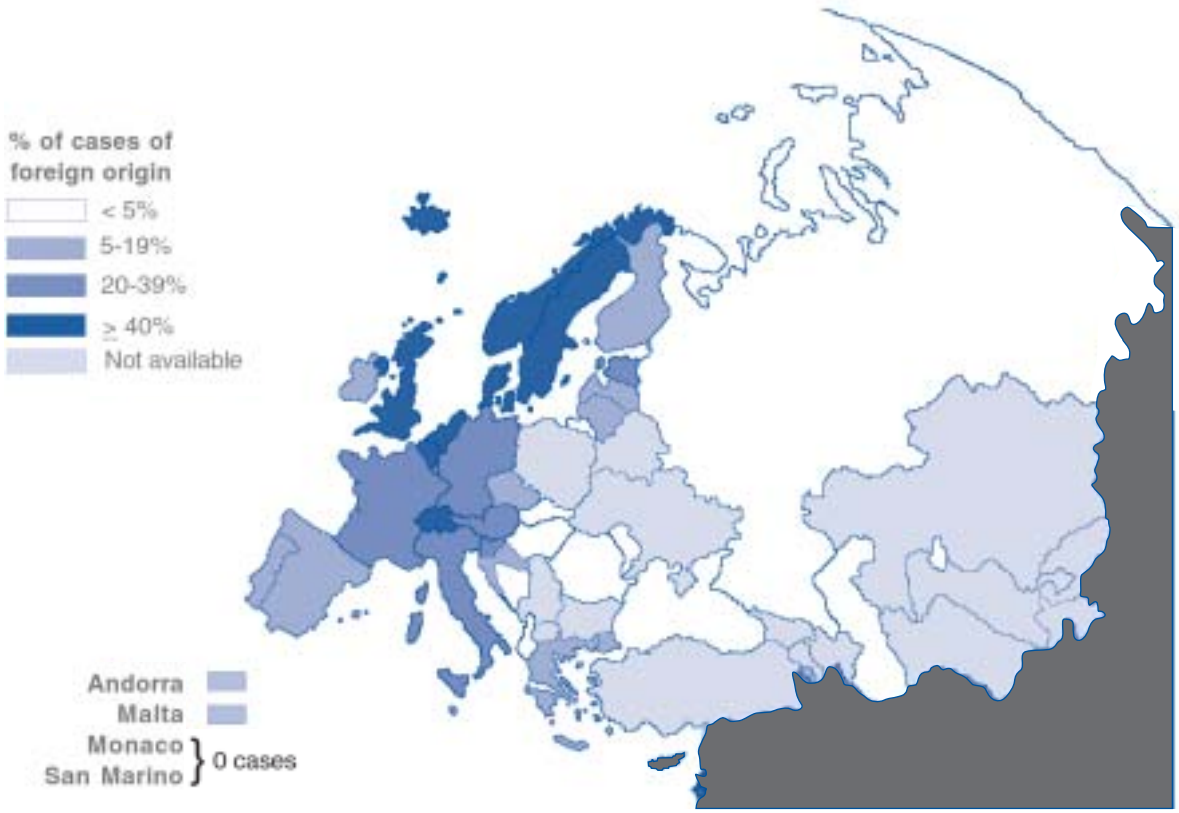
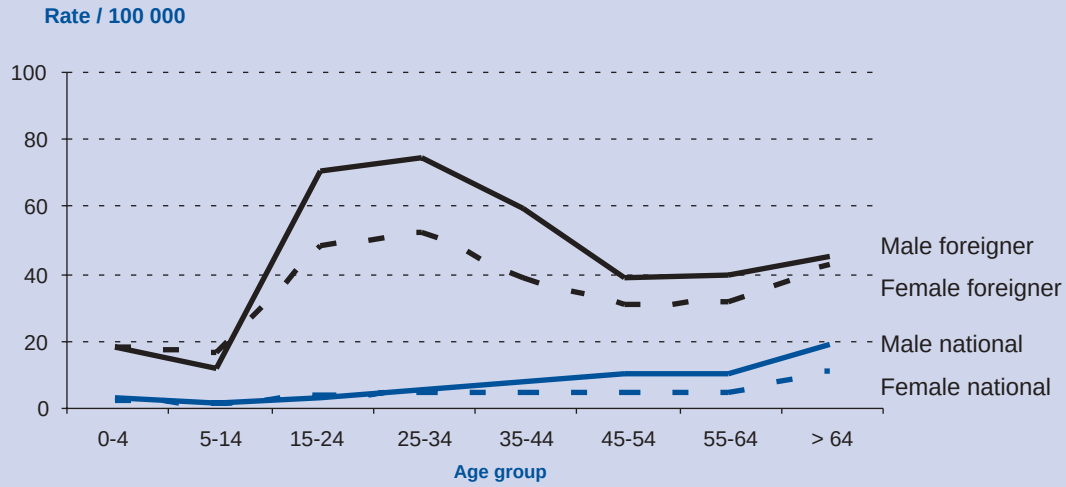


Figure 3. TB notification rates by age group, sex and geographic origin, 11 countries* Western Europe, 2001



* Countries providing population estimates by geographic origin: Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Netherlands, Norway, Sweden, Switzerland

Figure 4. Tuberculosis notification rates by geographic area, WHO European Region, 1995 - 2001

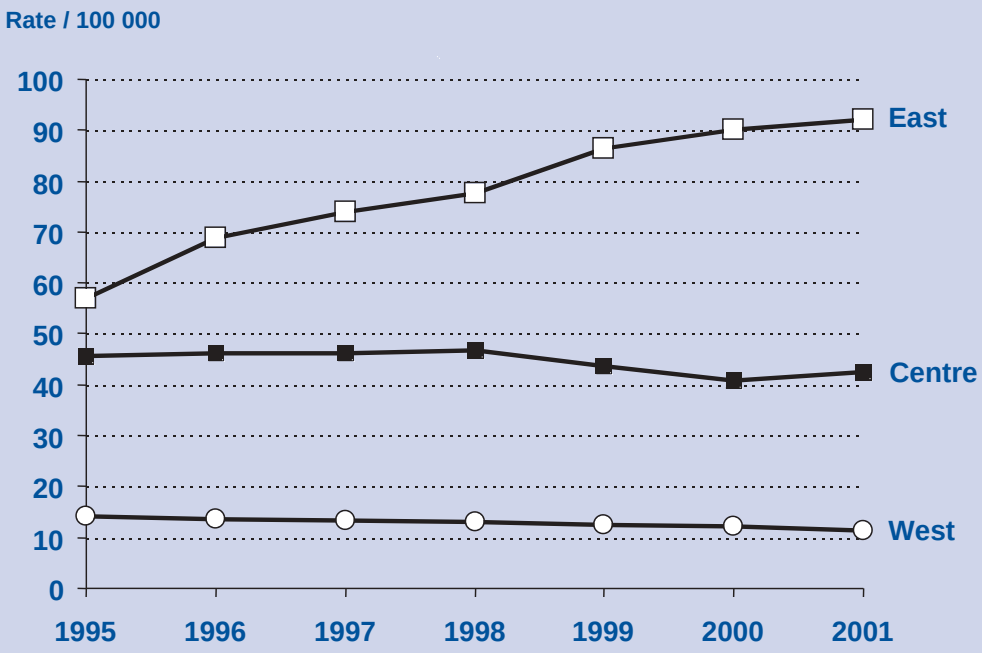
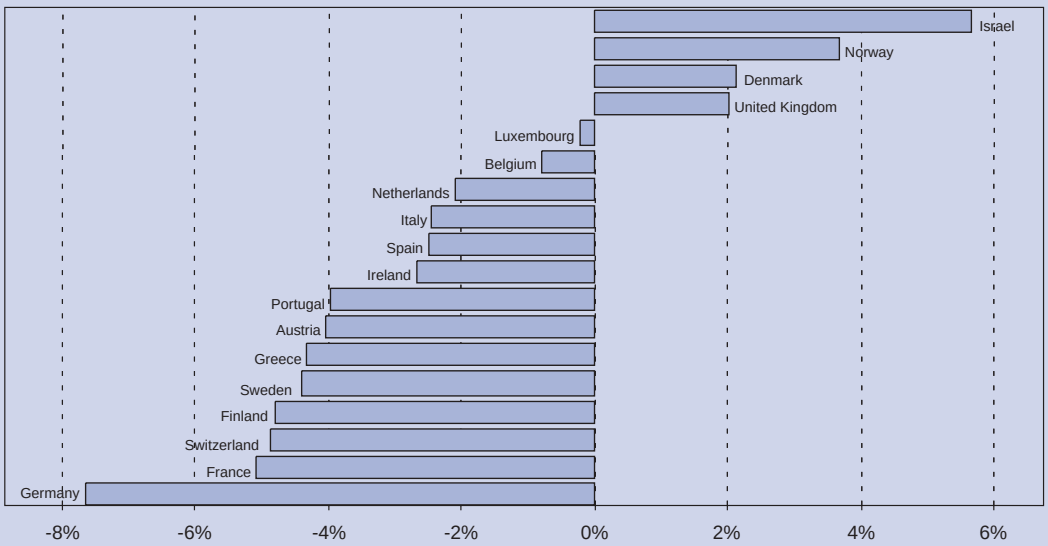


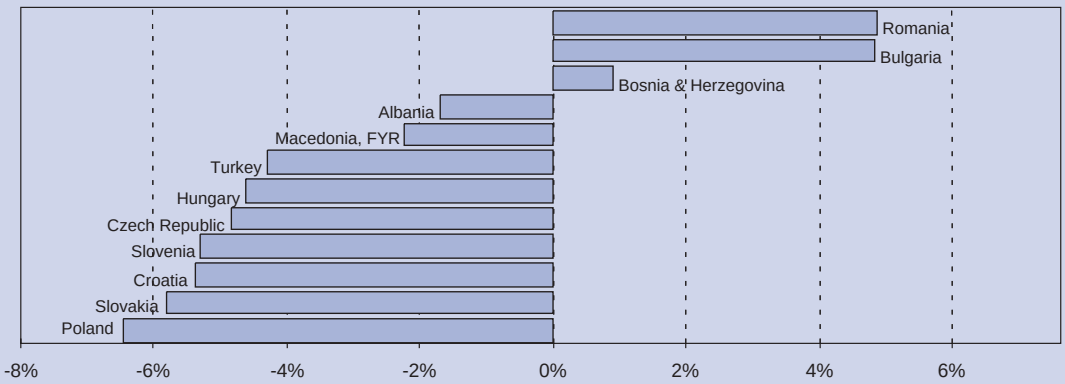
Figure 5. Mean annual percentage change in TB notification rates, 1995-2001

WEST



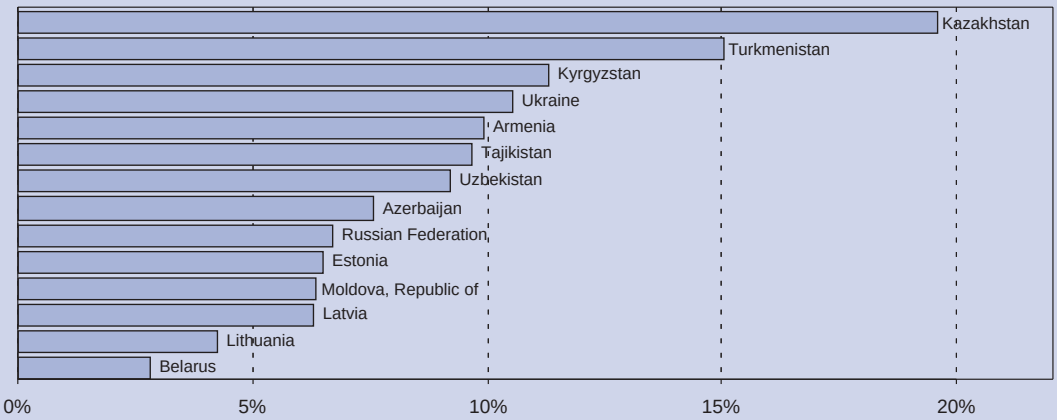
Countries with > 20 cases notified in 2001

CENTRE



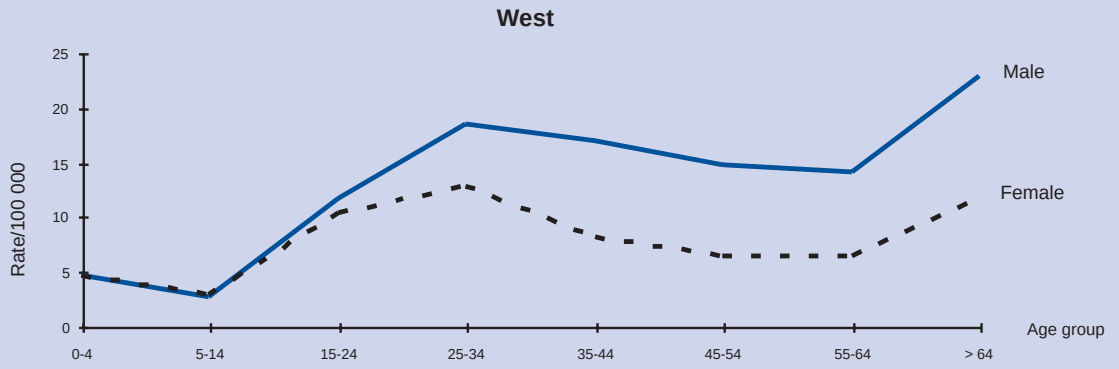
Excluding Serbia & Montenegro

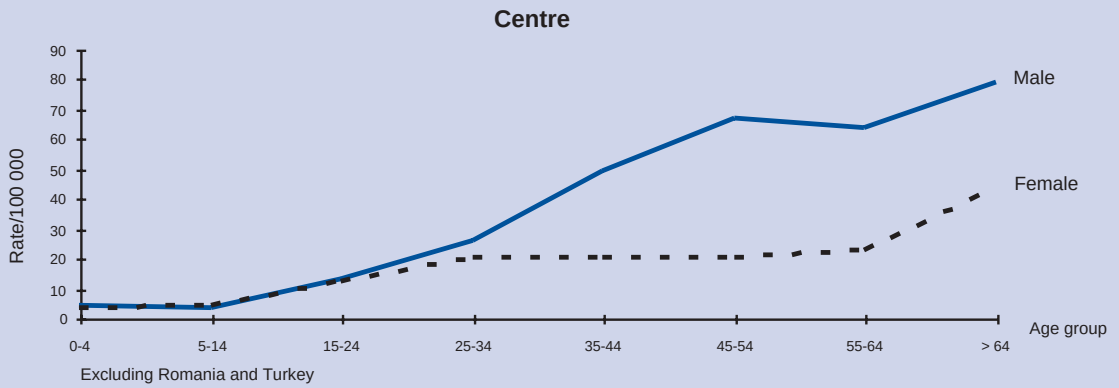
EAST



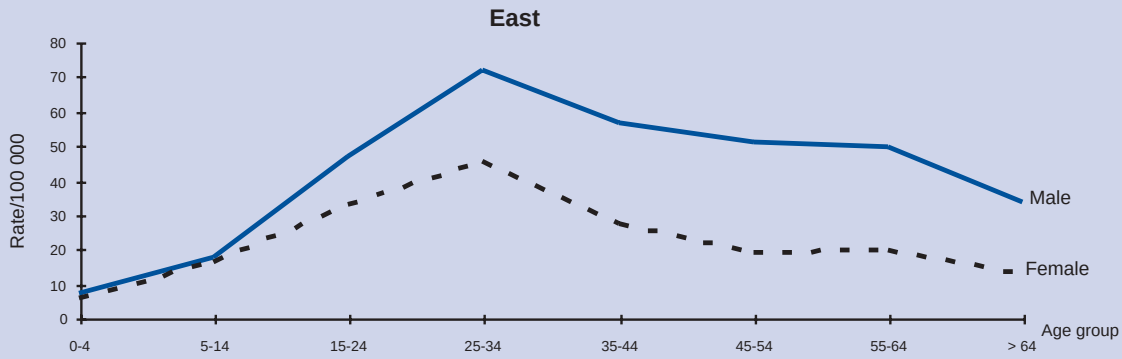
Excluding Georgia

Figure 6. Notification rates by age group and sex, WHO European Region, 2001



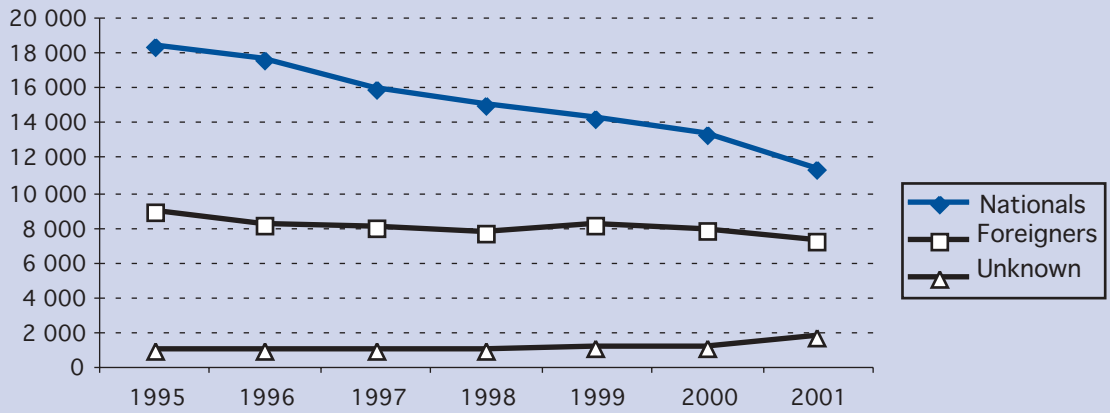


Excluding Romania and Turkey



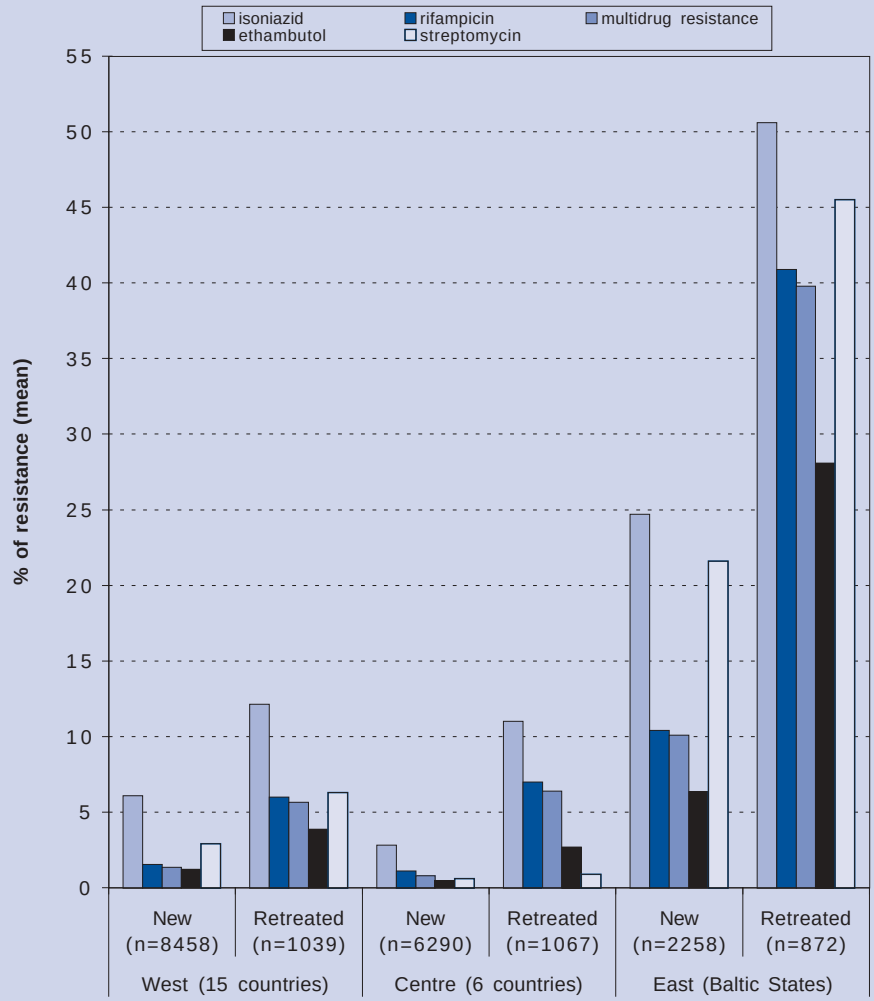
Excluding Azerbaijan, Belarus, Kyrgyzstan, Russian Federation and Ukraine

Figure 7. Tuberculosis cases by geographic origin, Western Europe*, 1995 - 2001



* Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Netherlands, Norway, Sweden, Switzerland

Figure 8. Anti-TB drug resistance by previous anti-TB treatment status and area, WHO European Region*, 2001



* countries providing representative data (group A, see Tables 17-24 and technical note)

5. COUNTRY PROFILES

ALBANIA

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	572	
Notification rate per 100 000	18.2	
Sex ratio (M:F)	1.5	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad	2	(0.3%)
New (never treated)	531	(92.8%)
Culture positive	206	(36.0%)
Pulmonary	355	(62.1%)
of which sputum smear positive	195	(54.9%)

Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	national	
Linkage with TB case notification	Yes	
Cases with DST results	206	
Cases resistant to INH	11	(5.3%)
Cases resistant to RMP	8	(3.9%)
MDR cases	6	(2.9%)
Cases resistant to EMB	1	(0.5%)
Cases resistant to SM	20	(9.7%)

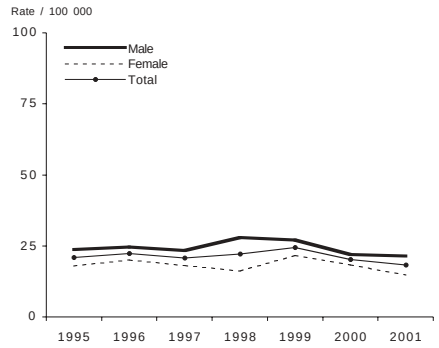
Data representativeness unknown

Culture and DST not routinely performed

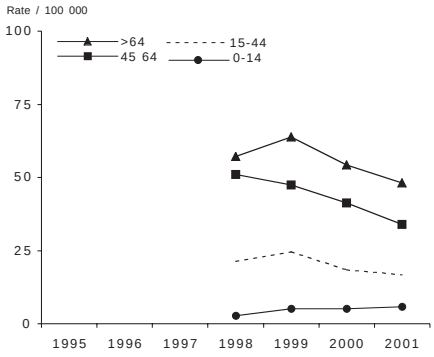
Treatment Outcome Monitoring, 2000

Not available

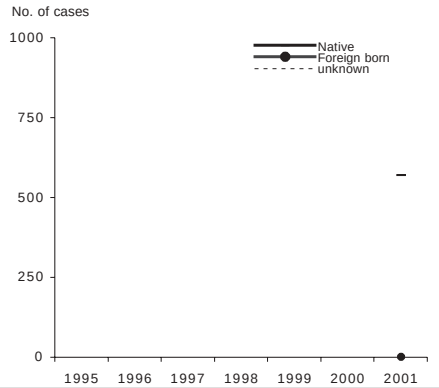
Tuberculosis notification rates by sex, 1995-2001



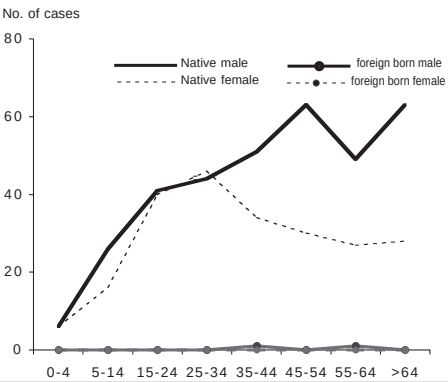
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

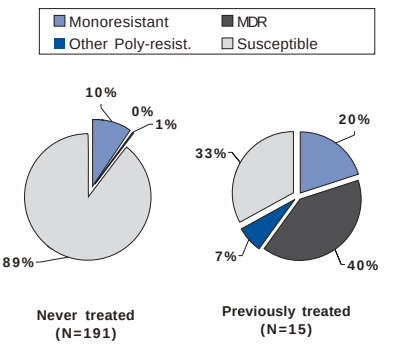


Tuberculosis cases by geographic origin, age group and sex, 2001



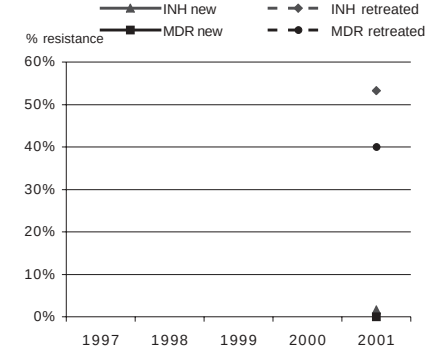
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	10	
Notification rate per 100 000	12.3	
Sex ratio (M:F)	2.3	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	1	(10.0%)
New (never-treated)	9	(90.0%)
Culture positive	8	(80.0%)
Pulmonary	9	(90.0%)
of which sputum smear positive	2	(22.2%)

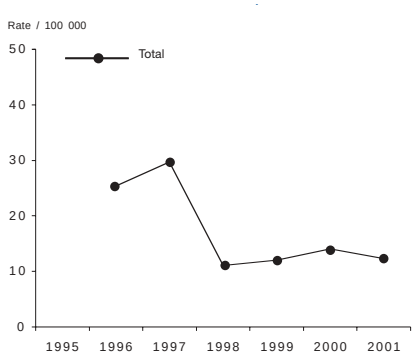
Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	3	
Cases resistant to INH	0	(0%)
Cases resistant to RMP	0	(0%)
MDR cases	0	(0%)
Cases resistant to EMB	0	(0%)
Cases resistant to SM	0	(0%)

Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	7	
Success	6	(86%)
Death	0	(0%)
Failure	0	(0%)
Default	1	(14%)
Transfer	0	(0%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates, 1995-2001



Tuberculosis notification rates by age group, 1995-2001

Insufficient number of cases for graphic presentation

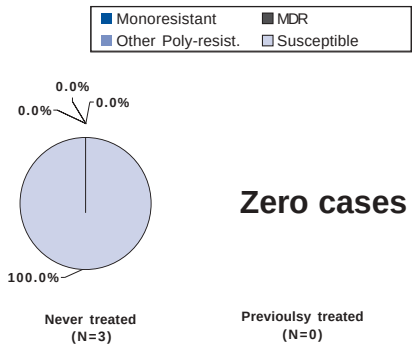
Tuberculosis cases by geographic origin, 1995-2001

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2001

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001

No resistance reported

ARMENIA

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	1 401	
Notification rate per 100 000	37.0	
Sex ratio (M:F)	5.0	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign citizens	-	
New (never-treated)	1 343	(95.9%)
Culture positive	-	-
Pulmonary	1 244	(88.8%)
of which sputum smear positive	618	(49.7%)

Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	National	
Linkage with TB case notification	No §	
Cases with DST results	630	
Cases resistant to INH	230	(36.5%)
Cases resistant to RMP	149	(23.7%)
MDR cases	125	(19.8%)
Cases resistant to EMB	117	(18.6%)
Cases resistant to SM	247	(39.2%)

Data representativeness unknown

Culture and DST not routinely performed

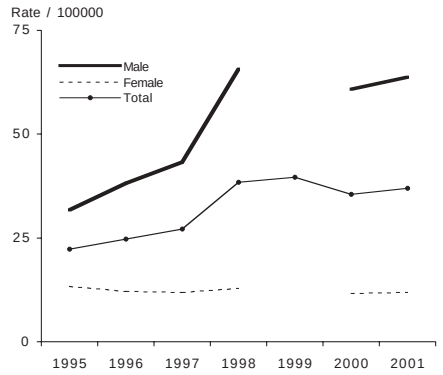
§ Data from all laboratories performing DST

Treatment Outcome Monitoring, 2000

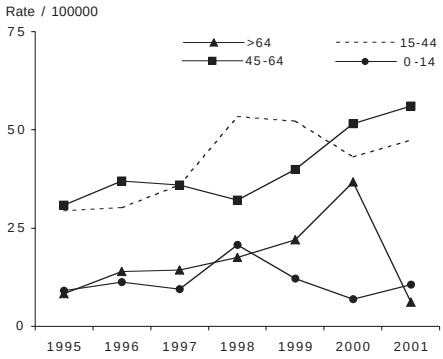
Geographic coverage	DOTS areas §	
Cohort	new sputum smear positive	
Included in TOM cohort	447	
Success	389	(87%)
Death	16	(4%)
Failure	12	(3%)
Default	30	(7%)
Transfer	0	(0%)
Other / not evaluated	0	(0%)

§ Representing 73% of smear positive cases

Tuberculosis notification rates by sex, 1995-2001



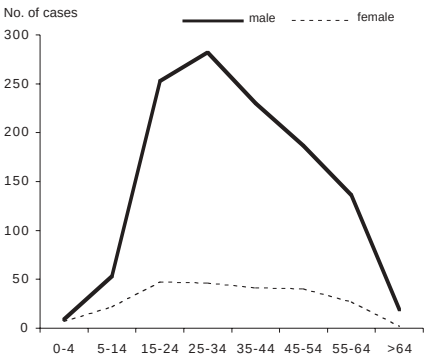
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

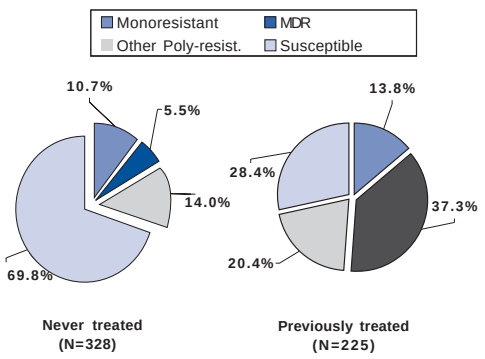
Not available

Tuberculosis cases by geographic origin, age group and sex, 2001



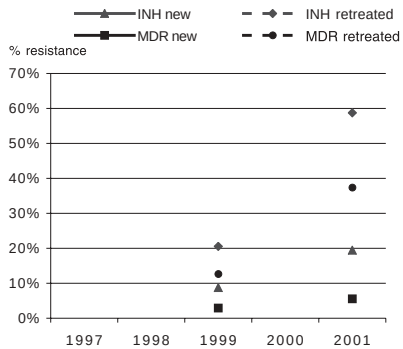
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of case	1 070	
Notification rate per 100 000	13.3	
Sex ratio (M:F)	1.7	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Foreign citizens	268	(26%)
New (never-treated)	982	(92%)
Culture positive	692	(61%)
Pulmonary	868	(81%)
of which sputum smear positive	275	(32%)

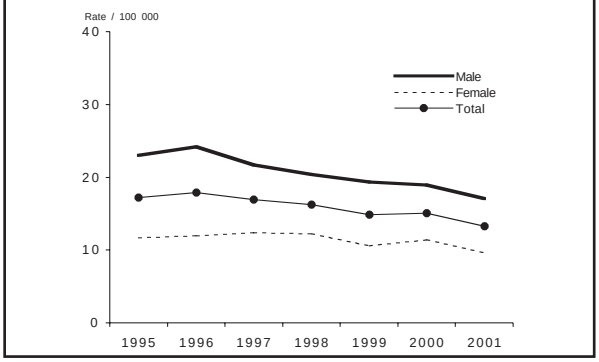
Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	630	
Cases resistant to INH	24	(3.8%)
Cases resistant to RMP	7	(1.1%)
MDR cases	5	(0.8%)
Cases resistant to EMB	1	(0.2%)
Cases resistant to SM	18	(2.9%)

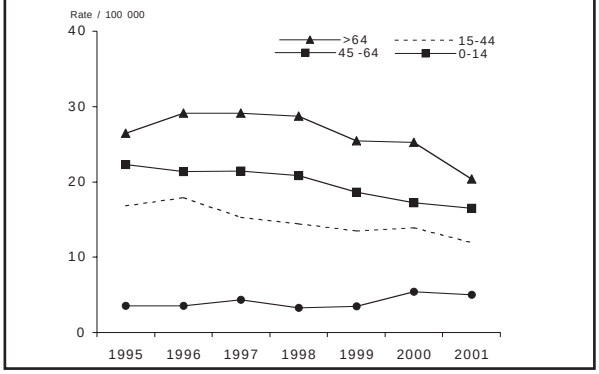
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	607	
Success	428	(71%)
Death	72	(12%)
Failure	0	(0%)
Default	36	(6%)
Transfer	1	(0%)
Other / not evaluated	70	(12%)

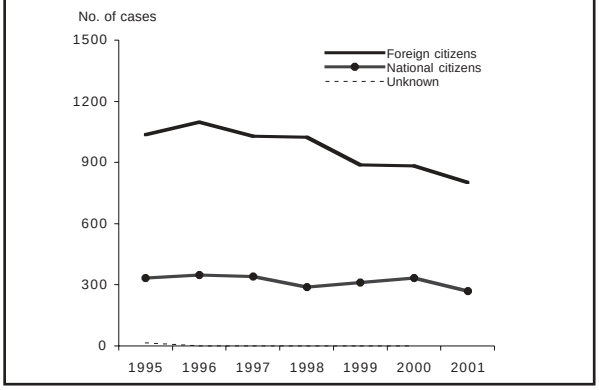
Tuberculosis notification rates by sex, 1995-2001



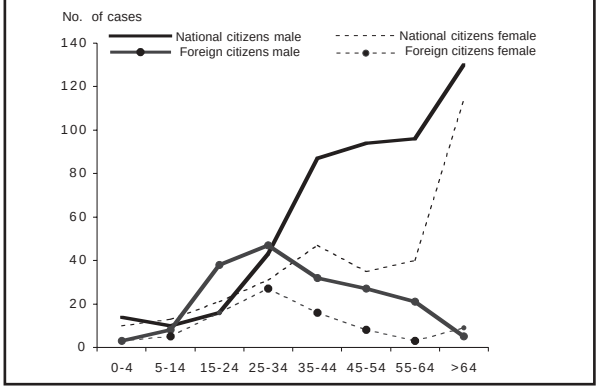
Tuberculosis notification rates by age group, 1995-2001



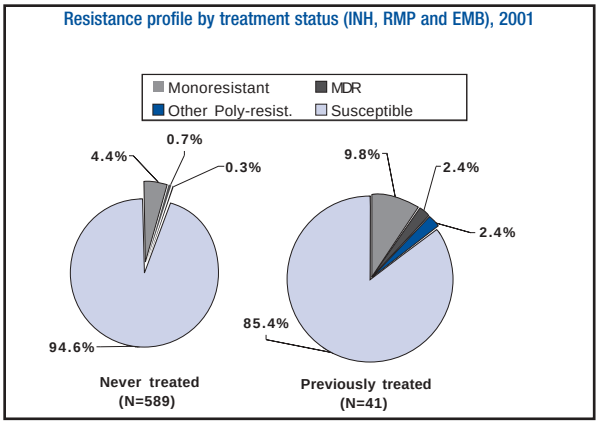
Tuberculosis cases by geographic origin, 1995-2001



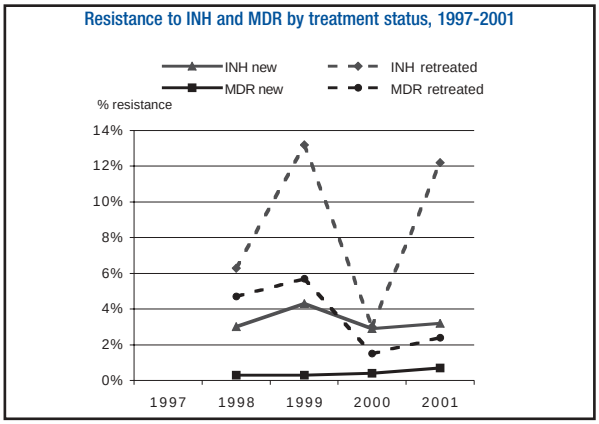
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



AZERBAIJAN

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	4 923	
Notification rate per 100 000	60.8	
Sex ratio (M:F)	3.1	
Median age-group, nationals	–	
Median age-group, non-nationals	–	
Foreign born/citizens	-	-
New (never-treated)	4 877	(99.1%)
Culture positive	241	(4.9%)
Pulmonary	3 967	(80.6%)
of which sputum smear positive	948	(23.9%)

Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	some areas	
Linkage with TB case notification	No §	
Cases with DST results (new cases)	241	
Cases resistant to INH	22	(9.1%)
Cases resistant to RMP	21	(8.7%)
MDR cases	2	(0.8%)
Cases resistant to EMB	24	(10.0%)
Cases resistant to SM	97	(40.2%)

Data representativness unknown

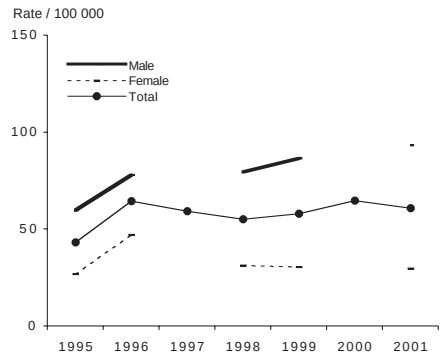
Culture and DST not routinely performed

§ New cases diagnosed in all laboratories performing DST

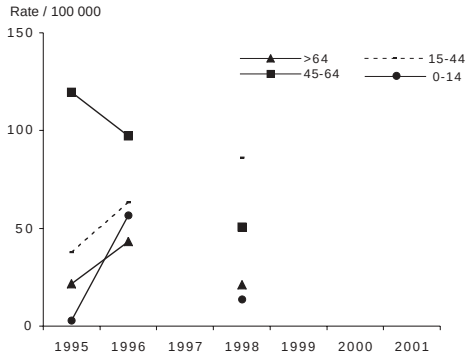
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	890	
Success	800	(90%)
Death	11	(1%)
Failure	15	(2%)
Default	28	(3%)
Transfer	36	(4%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates by sex, 1995-2001



Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

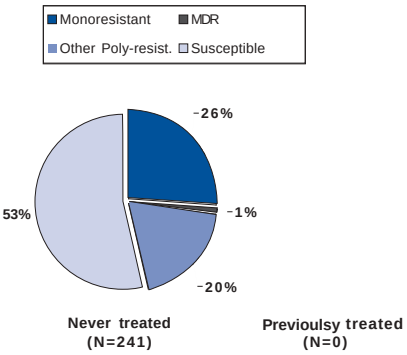
Foreigners not included in TB notifications

Tuberculosis cases by geographic origin, age group and sex, 2001

Not available

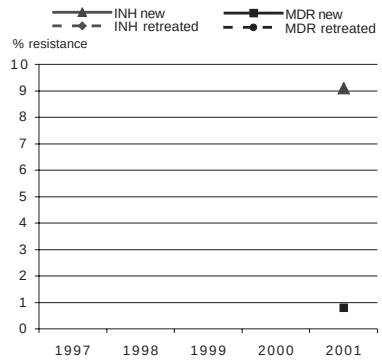
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	5 505	
Notification rate per 100 000	54.3	
Sex ratio (M:F)	3.0	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	-	-
Culture positive	-	-
Respiratory	-	-
sputum smear positive	2 341	-

Drug Resistance Surveillance, 2000

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

Culture not routinely perfomed

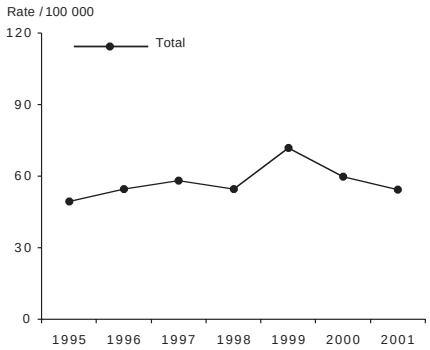
§ New cases notified to MoH (prisons not included)

Data representativeness unknown

Treatment Outcome Monitoring, 2000

Not available

Tuberculosis notification rates, 1995-2001



Tuberculosis notification rates by age group, 1995-2001

Not available

Tuberculosis cases by geographic origin, 1995-2001

Foreigners not included in TB notifications

Tuberculosis cases by geographic origin, age group and sex, 2001

Not available

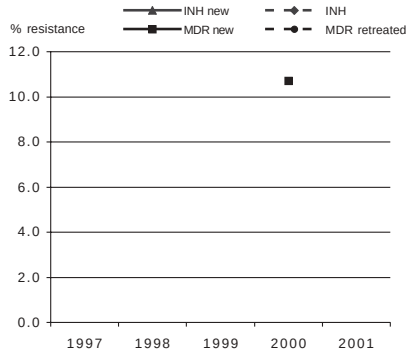
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown

Not available

Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



BELGIUM

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	1 321	
Notification rate per 100 000	12.9	
Sex ratio (M:F)	1.8	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Foreign citizens	604	(45.7%)
New (never-treated)	977	(74.0%)
Culture positive	958	(72.5%)
Pulmonary	971	(73.5%)
of which sputum smear positive	472	(48.6%)

Drug Resistance Surveillance, 2001

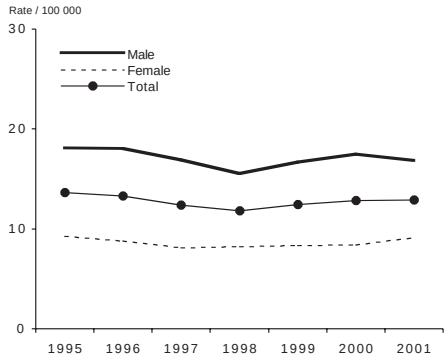
International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	749	
Cases resistant to INH	53	(7.1%)
Cases resistant to RMP	20	(2.7%)
MDR cases	18	(2.4%)
Cases resistant to EMB	22	(2.9%)
Cases resistant to SM	0	(0.0%)

Treatment Outcome Monitoring, 2000

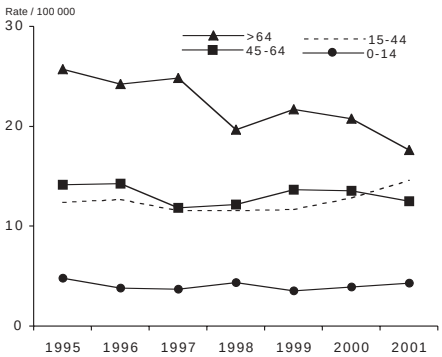
Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	577	
Success	373	(65%)
Death	70	(12%)
Failure	4	(1%)
Default	102	(18%)
Transfer	10	(2%)
Other / not evaluated	18	(3%)

§ some patient records lost, excluded

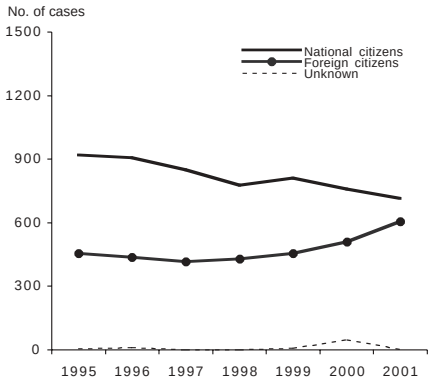
Tuberculosis notification rates by sex, 1995-2001



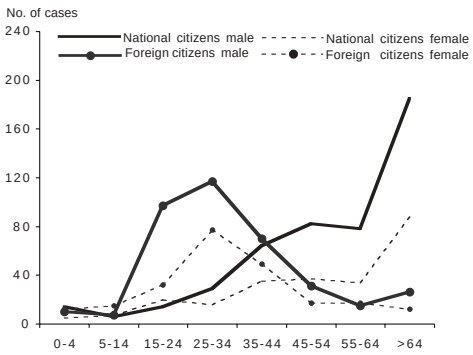
Tuberculosis notification rates by age group, 1995-2001



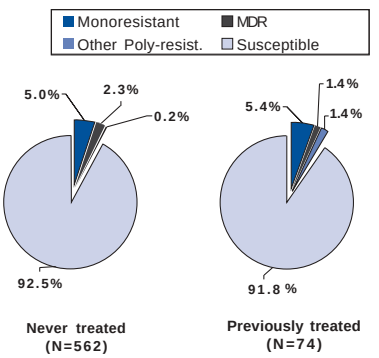
Tuberculosis cases by geographic origin, 1995-2001



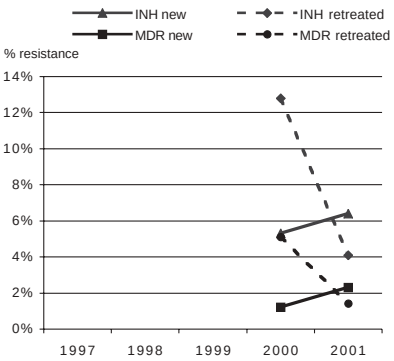
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



BOSNIA & HERZEGOVINA

Tuberculosis case notifications, 2001

Type of data provided	Individual *	
Total number of cases	2 551	
Notification rate per 100 000	62.7	
Sex ratio (M:F)	1.3	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	15-24 years	
Foreign born/citizens	8	(0.3%)
New (never-treated)	2 288	(89.7%)
Culture positive	1 660	(65.1%)
Pulmonary	2 253	(88.3%)
of which sputum smear positive	918	(40.7%)

*** Aggregate for Rep. Srpska (811 cases)**

Drug Resistance Surveillance, 2001

International proficiency testing	Yes *	
Geographic coverage	National	
Linkage with TB case notification	Yes *	
Cases with DST results	1 296 §	
Cases resistant to INH	2	(0.2%)
Cases resistant to RMP	10	(0.8%)
MDR cases	2	(0.2%)
Cases resistant to EMB	4	(0.3%)
Cases resistant to SM	10	(0.8%)

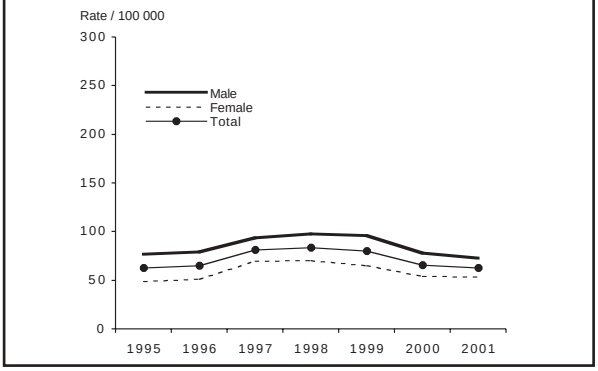
*** Not in Rep. Srpska (cases diagnosed in 2 labs)**

§ 109 cases for Rep. Srpska

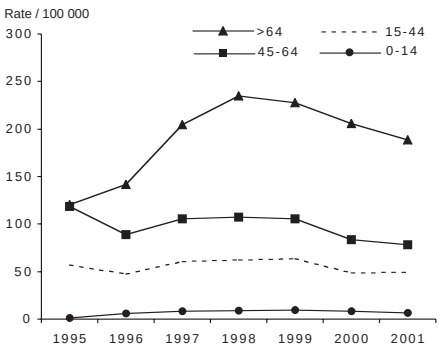
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	1 147	
Success	1 006	(88%)
Death	8	(1%)
Failure	6	(1%)
Default	16	(1%)
Transfer	10	(1%)
Other / not evaluated	101	(9%)

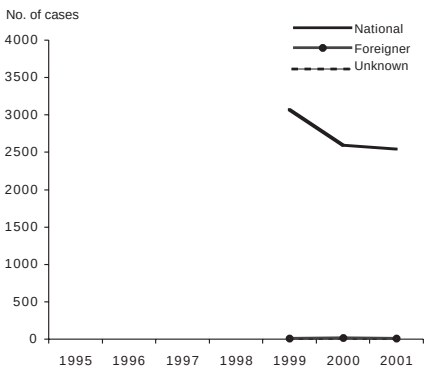
Tuberculosis notification rates by sex, 1995-2001



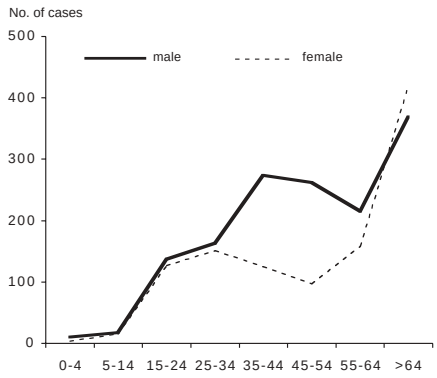
Tuberculosis notification rates by age group, 1995-2001



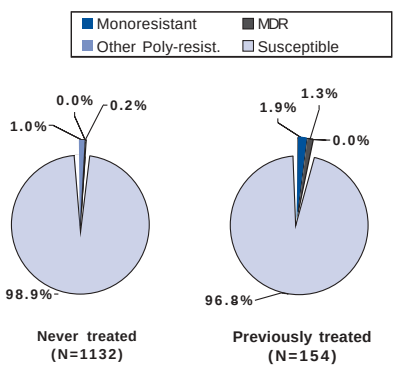
Tuberculosis cases by geographic origin, 1995-2001



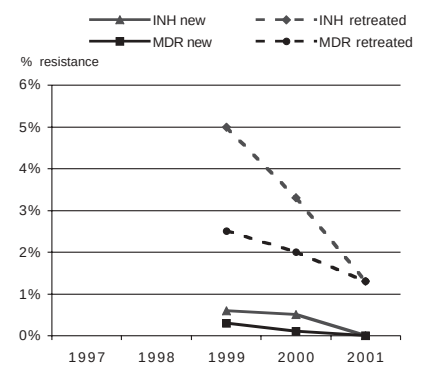
Tuberculosis cases by age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB) 2001



Resistance to INH and MDR by treatment status, 1997-2001



BULGARIA

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	3 862	
Notification rate per 100 000	49.1	
Sex ratio (M:F)	1.9 *	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	3 436	(89.0%)
Culture positive	1 323	(34.3%)
Respiratory	3 389	(87.8%)
of which sputum smear positive	1 323	(39.0%)

*** 14% of cases with sex unknown**

Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	18 / 28 regions	
Linkage with TB case notification	Yes	
Cases with DST results	293	
Cases resistant to INH	189	(64.5%)
Cases resistant to RMP	135	(46.1%)
MDR cases	87	(29.7%)
Cases resistant to EMB	87	(29.7%)
Cases resistant to SM	93	(31.7%)

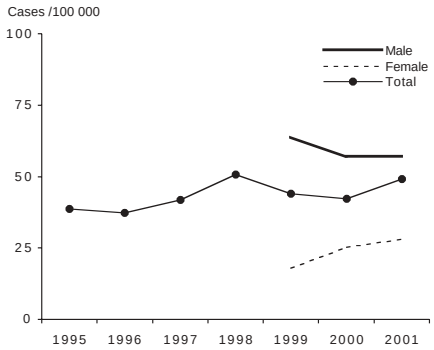
Data representativness unknown

DST performed at start or during treatment in case of poor clinical response;

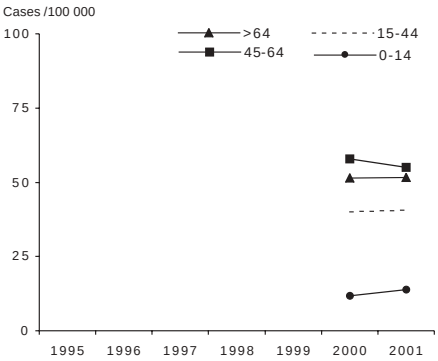
Treatment Outcome Monitoring, 2000

Not available

Tuberculosis notification rates by sex, 1995-2001



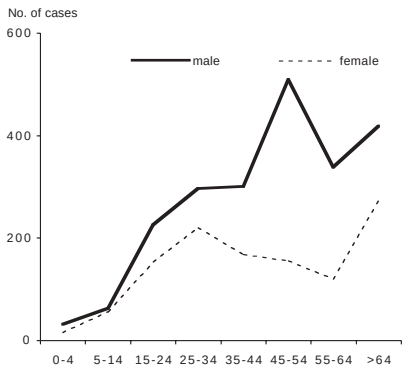
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

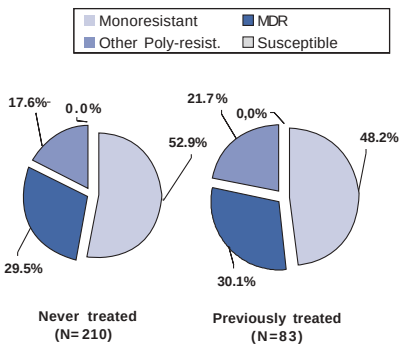
Not available

Tuberculosis cases by age group and sex, 2001



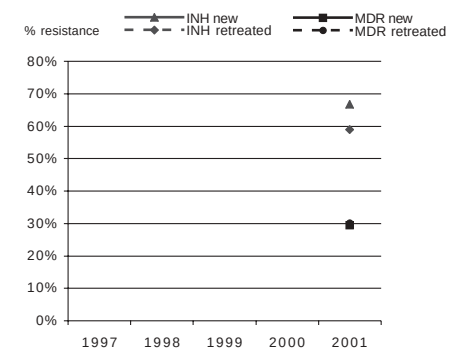
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



CROATIA

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	1 505	
Notification rate per 100 000	32.3	
Sex ratio (M:F)	1.8	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	45-54 years	
Individuals born abroad*	177	(11.8%)
New (never-treated)	1 364	(90.6%)
Culture positive	810	(53.8%)
Pulmonary	1 342	(89.2%)
of which sputum smear positive	485	(36.1%)

*** 34% of cases origin unknown**

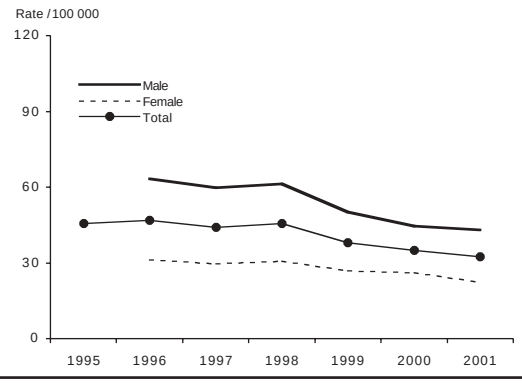
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	808	
Cases resistant to INH	15	(1.9%)
Cases resistant to RMP	6	(0.7%)
MDR cases	5	(0.6%)
Cases resistant to EMB	5	(0.6%)
Cases resistant to SM	15	(1.9%)

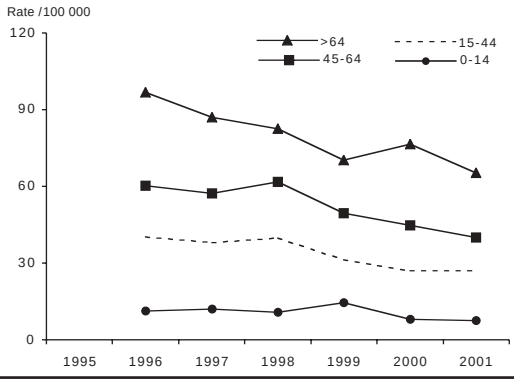
Treatment Outcome Monitoring, 2000

Not available

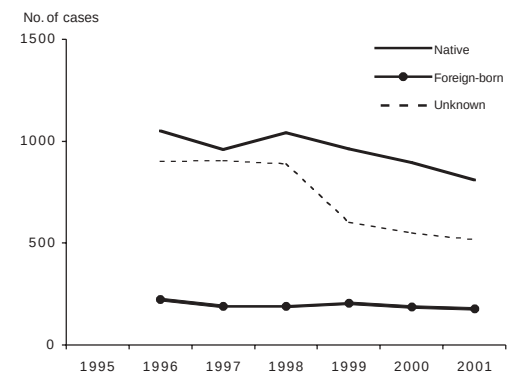
Tuberculosis notification rates by sex, 1995-2001



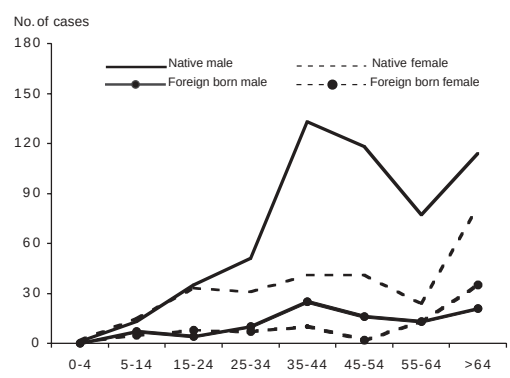
Tuberculosis notification rates by age group, 1995-2001



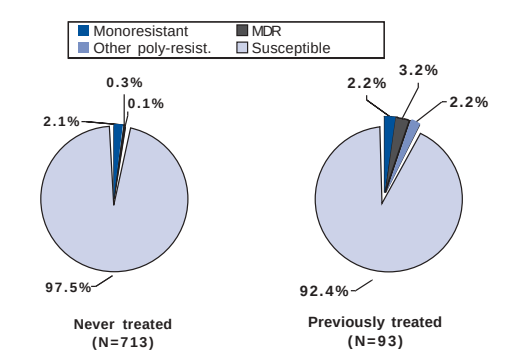
Tuberculosis cases by geographic origin, 1995-2001



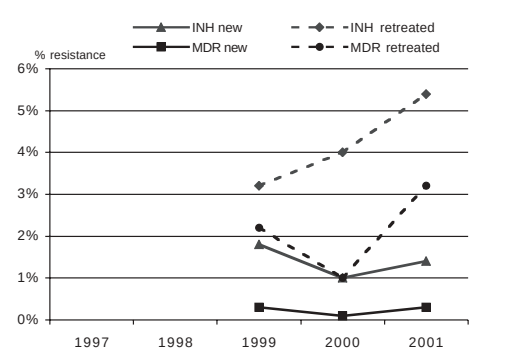
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



CZECH REPUBLIC

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	1 350	
Notification rate per 100 000	13.2	
Sex ratio (M:F)	1.7	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	193	(14.3%)
New (never-treated)	1 291	(95.6%)
Culture positive	854	(63.3%)
Pulmonary	1 062	(78.7%)
of which sputum smear positive	395	(37.2%)

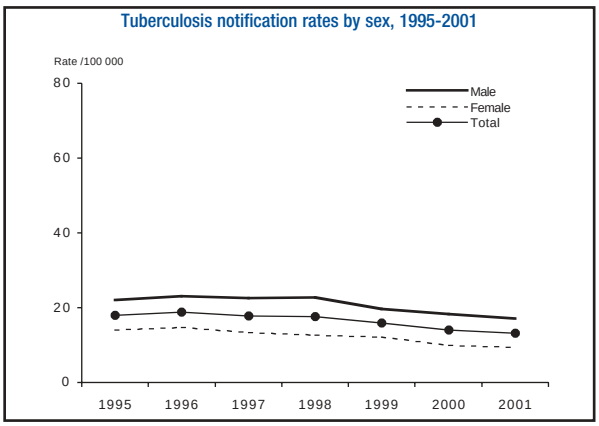
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	678	
Cases resistant to INH	22	(3.2%)
Cases resistant to RMP	12	(1.8%)
MDR cases	9	(1.3%)
Cases resistant to EMB	8	(1.2%)
Cases resistant to SM	9	(1.3%)

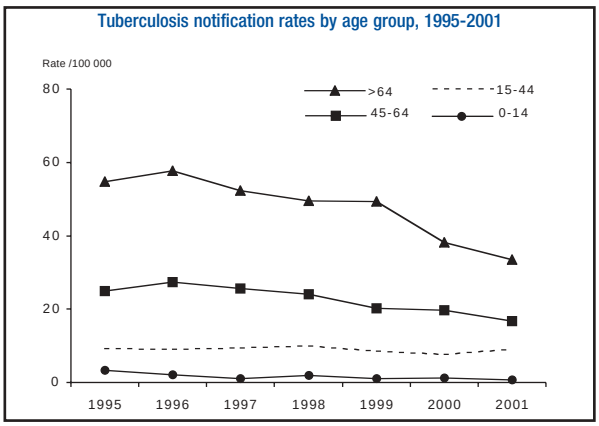
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	645	
Success	446	(69%)
Death	119	(18%)
Failure	4	(1%)
Default	10	(2%)
Transfer	13	(2%)
Other / not evaluated	53	(8%)

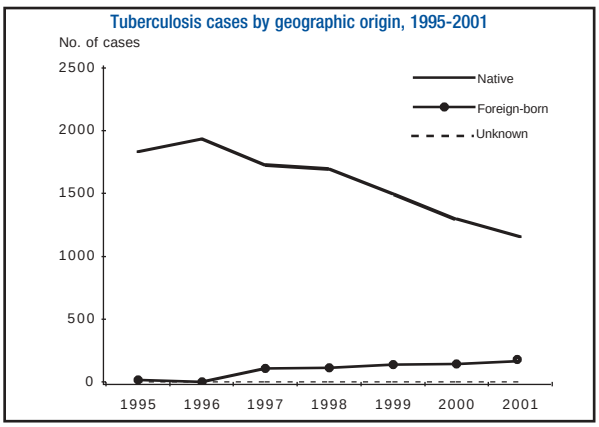
Tuberculosis notification rates by sex, 1995-2001



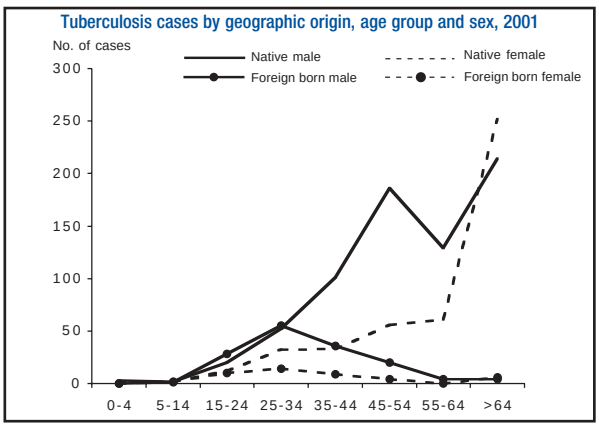
Tuberculosis notification rates by age group, 1995-2001



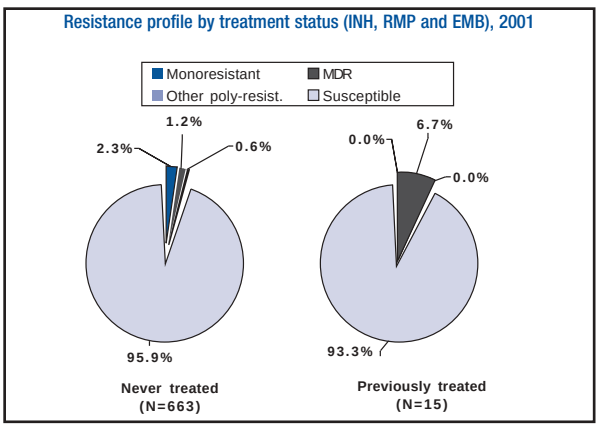
Tuberculosis cases by geographic origin, 1995-2001



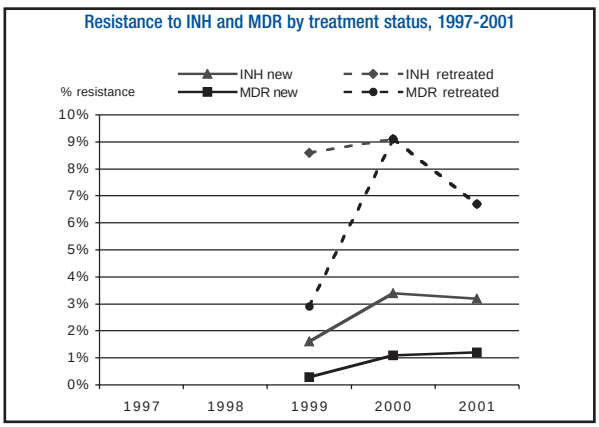
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



Tuberculosis case notifications, 2001

Type of data provided	Individual *	
Total number of cases	511	
Notification rate per 100 000	9.6	
Sex ratio (M:F)	1.1	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	334	(65.4%)
New (never-treated)	475	(93.0%)
Culture positive	383	(75.0%)
Pulmonary	345	(67.5%)
of which sputum smear positive	140	(40.6%)

*** except DST results**

Drug Resistance Surveillance, 2001

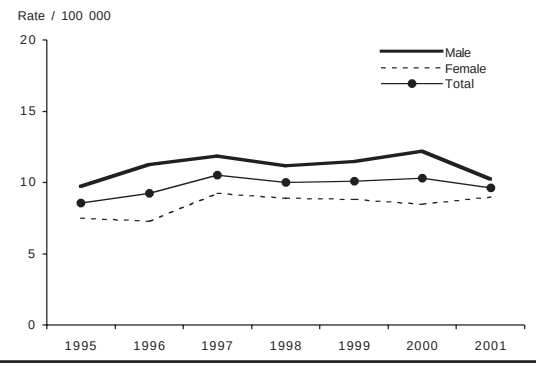
International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	380	
Cases resistant to INH	21	(5.5%)
Cases resistant to RMP	0	(0.0%)
MDR cases	0	(0.0%)
Cases resistant to EMB	2	(0.5%)
Cases resistant to SM	43	(11.3%)

Treatment Outcome Monitoring, 2000

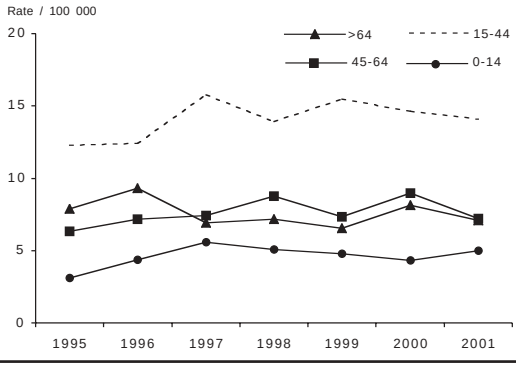
Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	112 *	
Success	98	(88%)
Death	6	(5%)
Failure	0	(0%)
Default	0	(0%)
Transfer	1	(1%)
Other / not evaluated	7	(6%)

*** including <85% of notified cases**

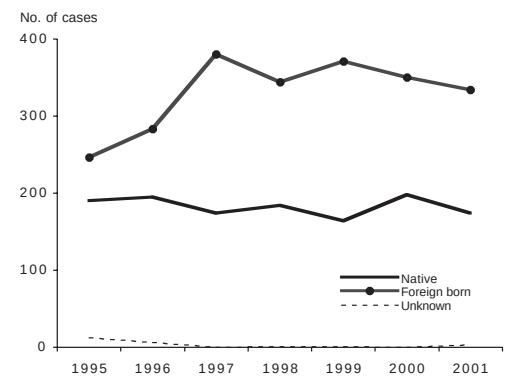
Tuberculosis notification rates by sex, 1995-2001



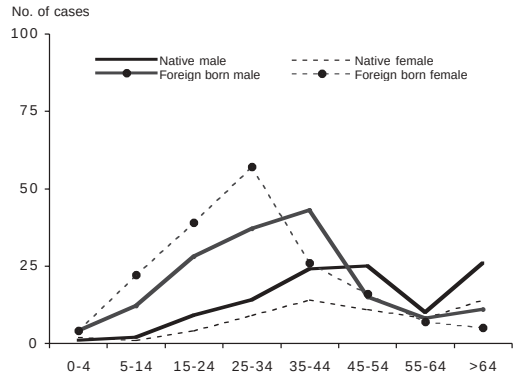
Tuberculosis notification rates by age group, 1995-2001



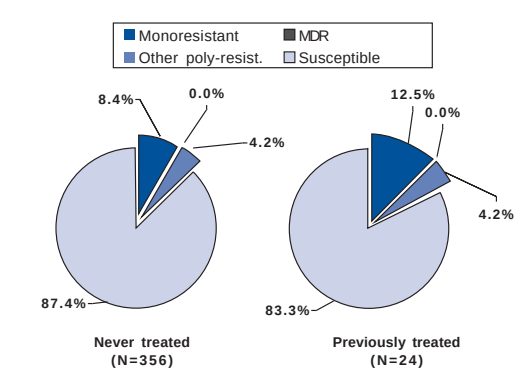
Tuberculosis cases by geographic origin, 1995-2001



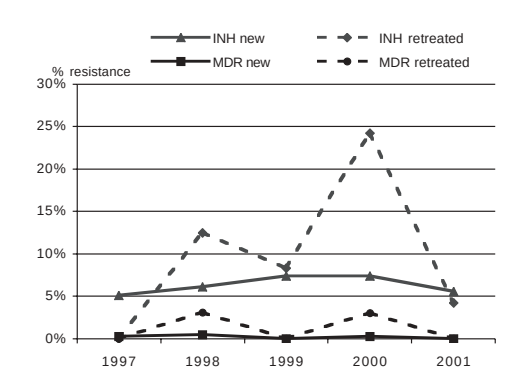
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



ESTONIA

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	812	
Notification rate per 100 000	59.0	
Sex ratio (M:F)	2.6	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	45-54 years	
Individuals born abroad	182	(22.4%)
New (never-treated)	570	(70.2%)
Culture positive	591	(72.8%)
Pulmonary	720	(88.7%)
of which sputum smear positive	337	(46.8%)

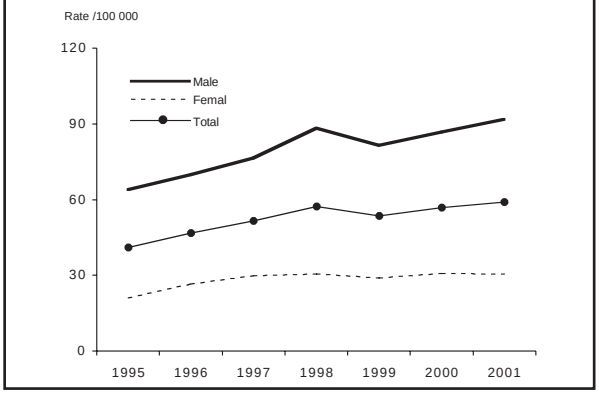
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	580	
Cases resistant to INH	217	(37.4%)
Cases resistant to RMP	160	(27.6%)
MDR cases	158	(27.2%)
Cases resistant to EMB	165	(28.4%)
Cases resistant to SM	217	(37.4%)

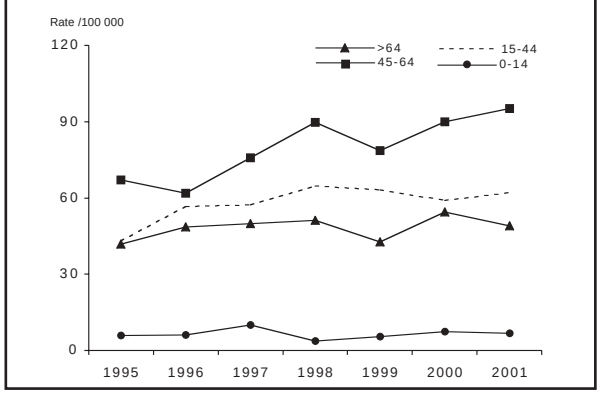
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort new	pulmonary culture positive	
Included in TOM cohort	401	
Success	292	(73%)
Death	32	(8%)
Failure	5	(1%)
Default	24	(6%)
Transfer	0	(0%)
Other / not evaluated	48	(12%)

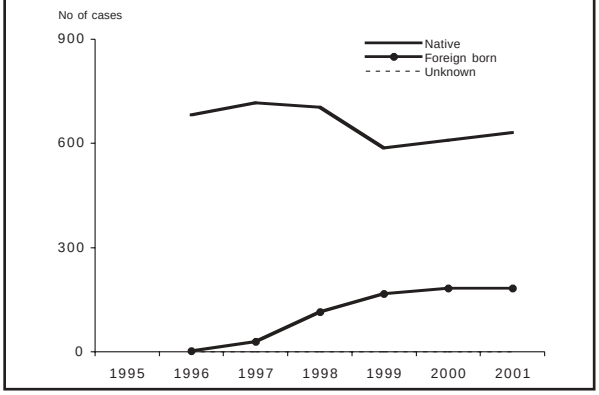
Tuberculosis notification rates by sex, 1995-2001*



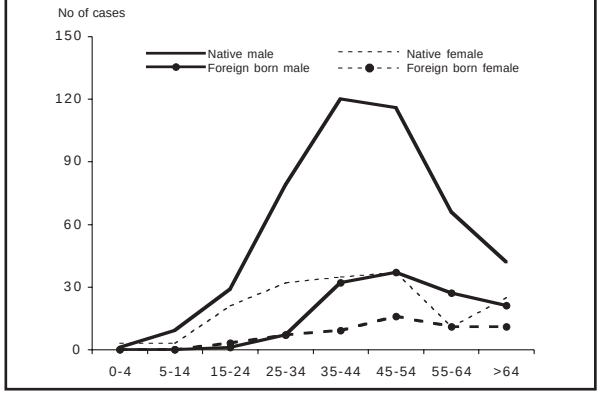
Tuberculosis notification rates by age group, 1995-2001*



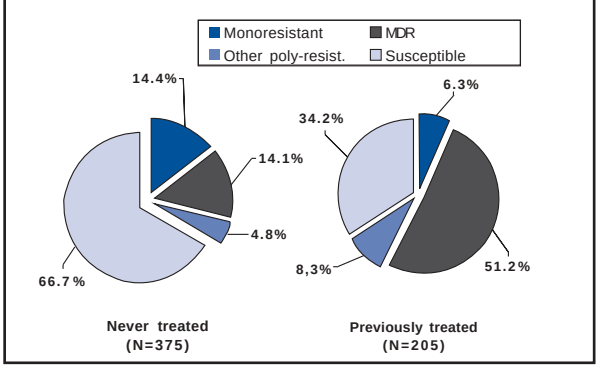
Tuberculosis cases by geographic origin, 1995-2001*



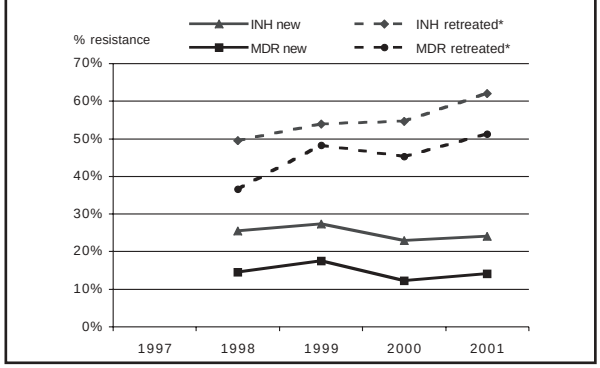
Tuberculosis cases by geographic origin, age group and sex, 2001*



Resistance profile by treatment status (INH, RMP and EMB), 2001*



Resistance to INH and MDR by treatment status, 1997-2001*



* retreated cases other than relapses included since 2001

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	494	
Notification rate per 100 000	9.5	
Sex ratio (M:F)	1.3	
Median age-group, nationals	65 + years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	58	(11.7%)
New (never-treated)	421	(85.2%)
Culture positive	411	(83.2%)
Pulmonary	316	(64.0%)
of which sputum smear positive	158	(50.0%)

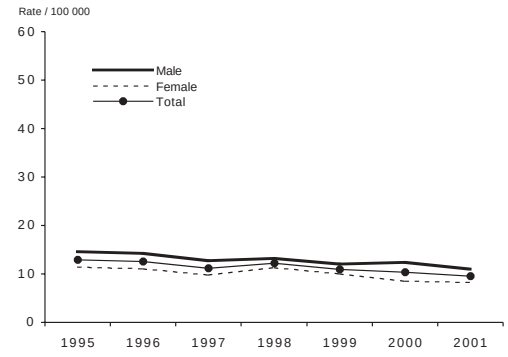
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	410	
Cases resistant to INH	16	(3.9%)
Cases resistant to RMP	4	(1.0%)
MDR cases	4	(1.0%)
Cases resistant to EMB	9	(2.2%)
Cases resistant to SM	16	(3.9%)

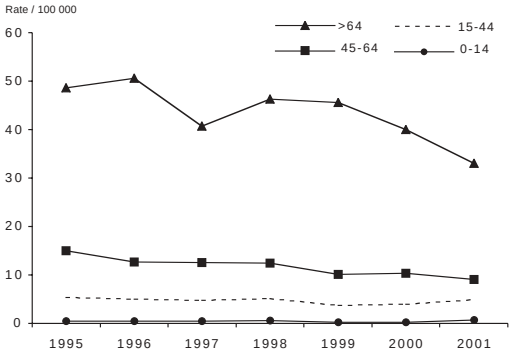
Treatment Outcome Monitoring, 2000

Not available

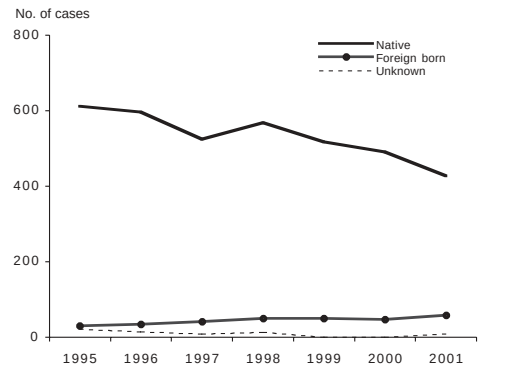
Tuberculosis notification rates by sex, 1995-2001



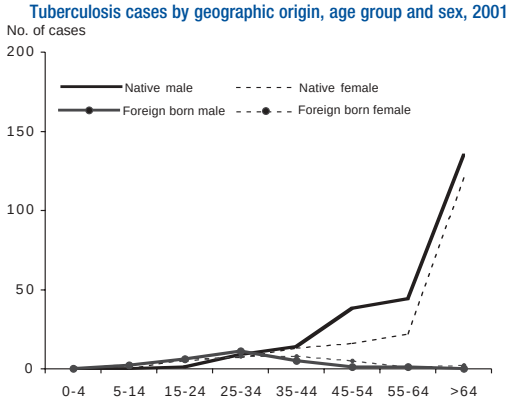
Tuberculosis notification rates by age group, 1995-2001



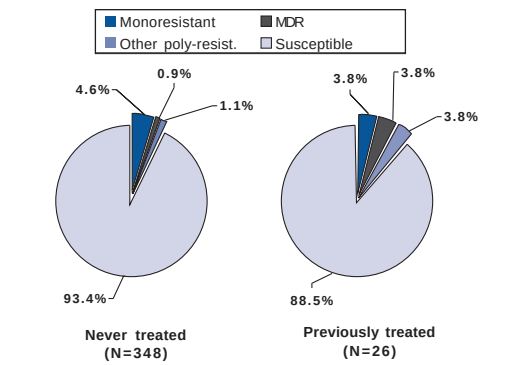
Tuberculosis cases by geographic origin, 1995-2001



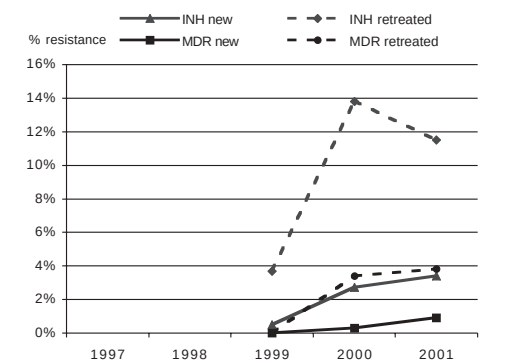
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



FRANCE

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	6 465	
Notification rate per 100 000	10.6	
Sex ratio (M:F)	1.5	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad §	2 305	(35.7%)
New (never-treated)	4 268	(66.0%)
Culture positive **	1 831	(28.3%)
Pulmonary	4 758	(73.6%)
of which sputum smear positive	2 699	(56.7%)

§ 20% of cases with missing origin
**** 40% of cases with culture result available**

Drug Resistance Surveillance, 2001

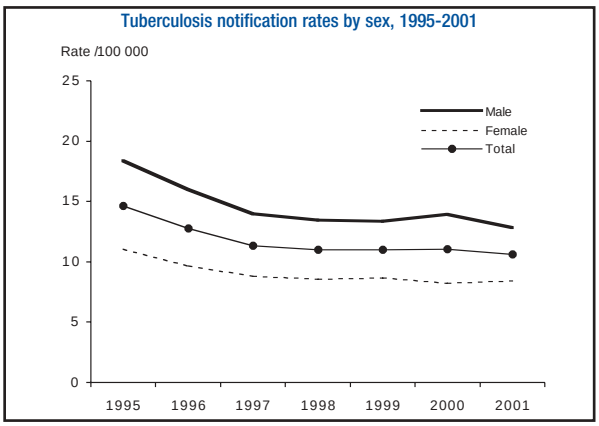
International proficiency testing	Yes	
Geographic coverage	18 / 23 regions	
Linkage with TB case notification	No §	
Cases with DST results	1 313	
Cases resistant to INH	58	(4.4%)
Cases resistant to RMP	17	(1.3%)
MDR cases	15	(1.1%)
Cases resistant to EMB	6	(0.5%)
Cases resistant to SM	78	(5.9%)

Data representativeness unknown
§ TB cases diagnosed in a sentinel network of 27 teaching hospital laboratories

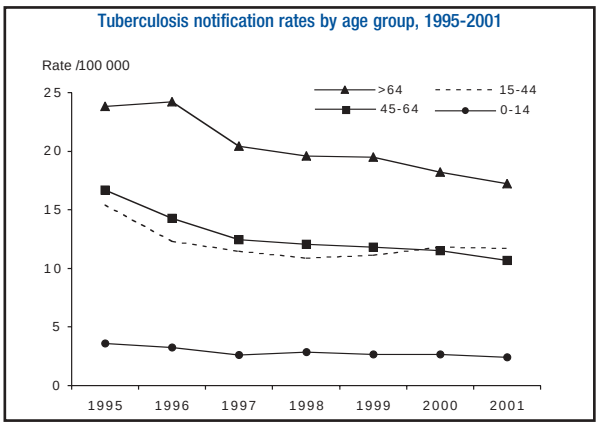
Treatment Outcome Monitoring, 2000

Not available

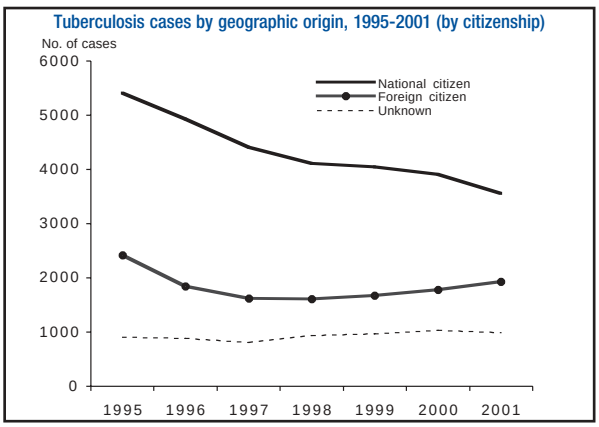
Tuberculosis notification rates by sex, 1995-2001



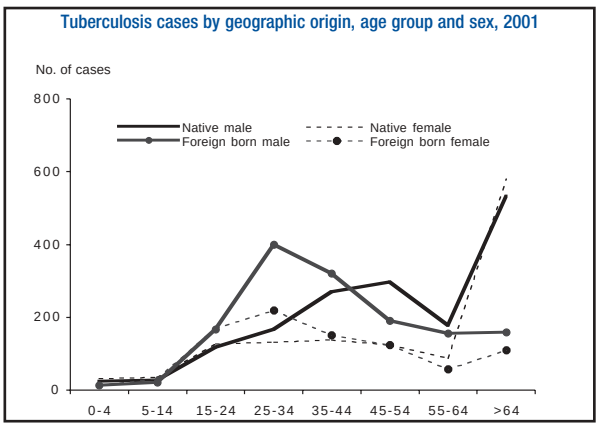
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001 (by citizenship)

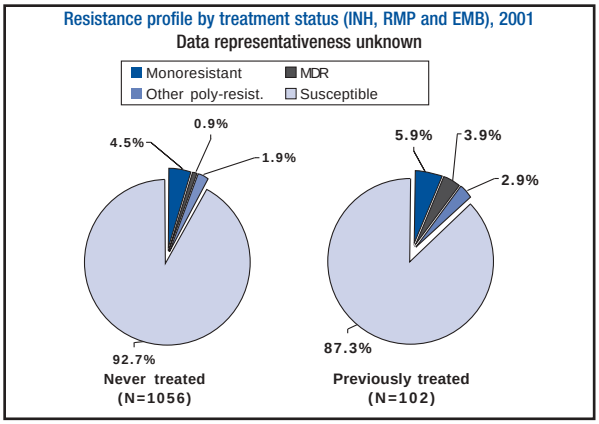


Tuberculosis cases by geographic origin, age group and sex, 2001



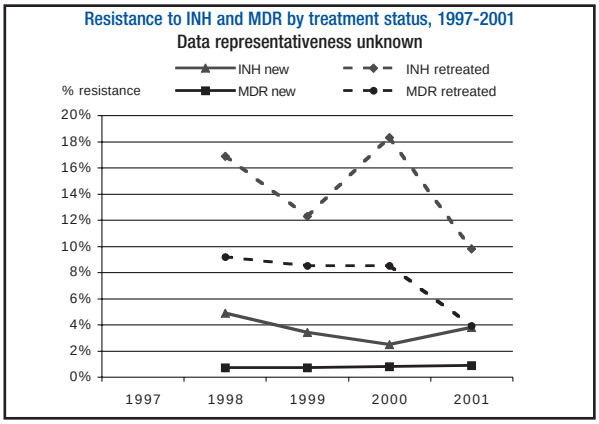
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	5 876	
Notification rate per 100 000	112.2	
Sex ratio (M:F)	2.9	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	3 886	(66.1%)
Culture positive	-	-
Pulmonary	4 704	(80.1%)
of which sputum smear positive	1 691	(35.9%)

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

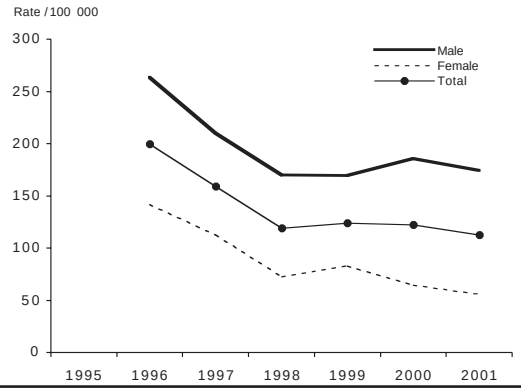
Culture and DST not routinely performed

§ Data from all laboratories performing DST

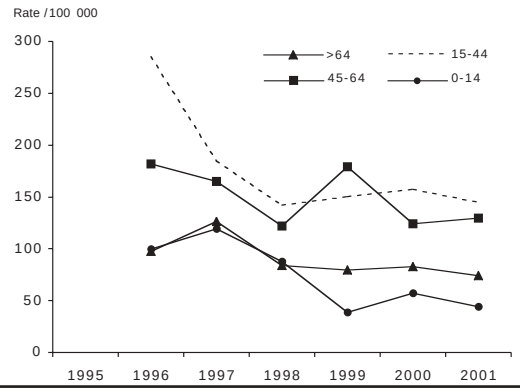
Treatment Outcome Monitoring, 2000

Geographic coverage	DOTS areas	
Cohort	new sputum smear positive	
Included in TOM cohort	807	
Success	506	(63%)
Death	23	(3%)
Failure	75	(9%)
Default	200	(25%)
Transfer	3	(0%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates by sex, 1995-2001



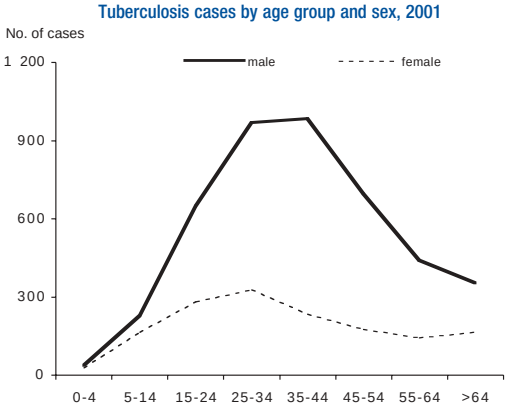
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

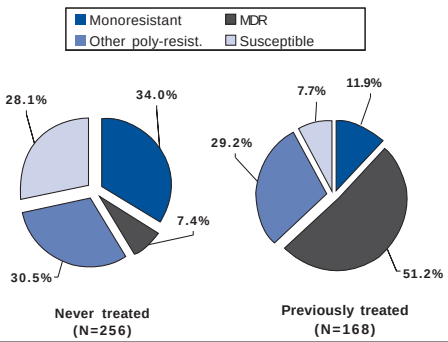
Foreigners not included

Tuberculosis cases by age group and sex, 2001



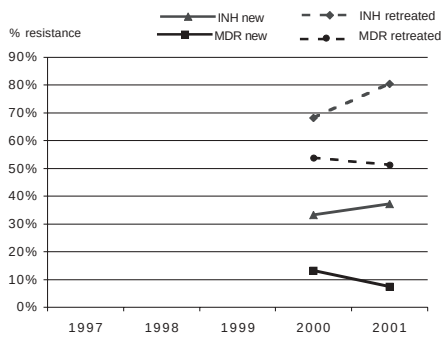
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



GERMANY

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	7 539	
Notification rate per 100 000	9.2	
Sex ratio (M:F)	1.6	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	35-44 years	
Foreign born	2 741	(36.4%)
New (never-treated)	4 677	(62.0%)
Culture positive	4 670	(61.9%)
Pulmonary	5 739	(76.1%)
of which sputum smear positive	2 038	(35.5%)

Drug Resistance Surveillance, 2001

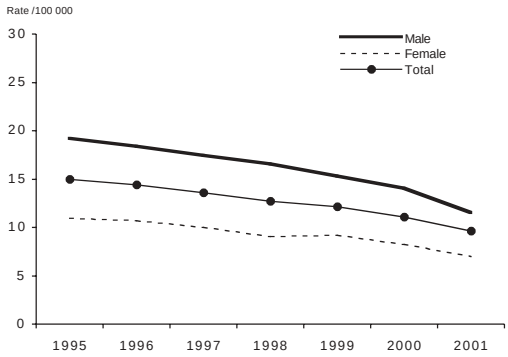
International proficiency testing	Yes	
Geographic coverage §	National	
Linkage with TB case notification	Yes	
Cases with DST results	3 881	
Cases resistant to INH	294	(7.6%)
Cases resistant to RMP	113	(2.9%)
MDR cases	105	(2.7%)
Cases resistant to EMB	104	(2.7%)
Cases resistant to SM	279	(7.2%)

Treatment Outcome Monitoring, 2000

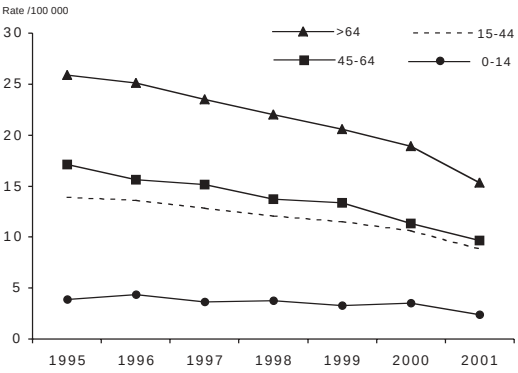
Geographic coverage	National	
Cohort	new pulmonary culture positive §	
Included in TOM cohort	1 003	
Success	775	(77%)
Death	159	(16%)
Failure	5	(0%)
Default	23	(2%)
Transfer	41	(4%)
Other / not evaluated	0	(0%)

§ cases notified in selected health units; 54 % cases excluded

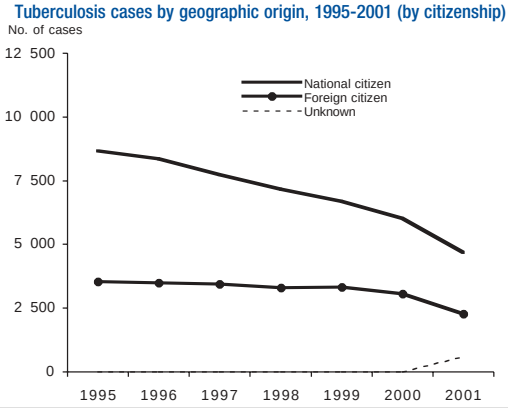
Tuberculosis notification rates by sex, 1995-2001



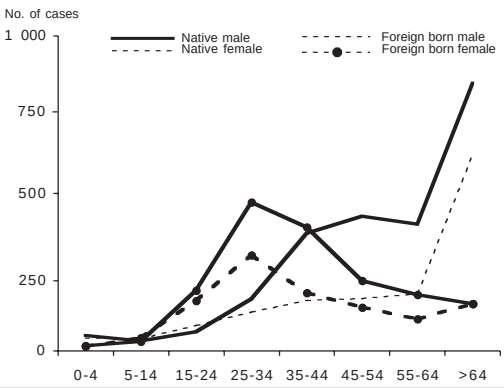
Tuberculosis notification rates by age group, 1995-2001



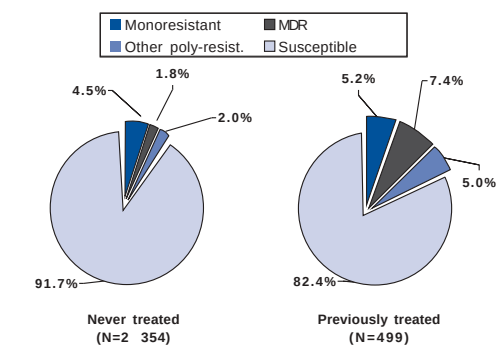
Tuberculosis cases by geographic origin, 1995-2001 (by citizenship)



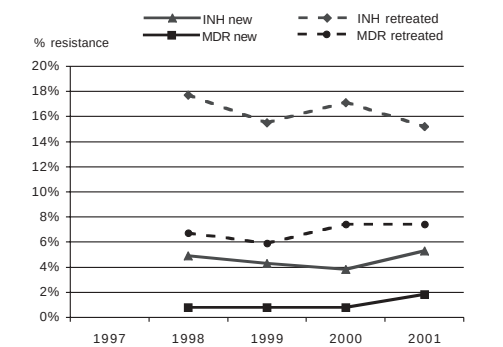
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001*



* Surveillance of drug resistance changed in 2001

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	617	
Notification rate per 100 000	5.8	
Sex ratio (M:F)	2.5	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Foreign citizens	104	(16.9%)
New (never-treated)	503	(81.5%)
Culture positive	268	(43.4%)
Pulmonary	546	(88.5%)
of which sputum smear positive	259	(47.4%)

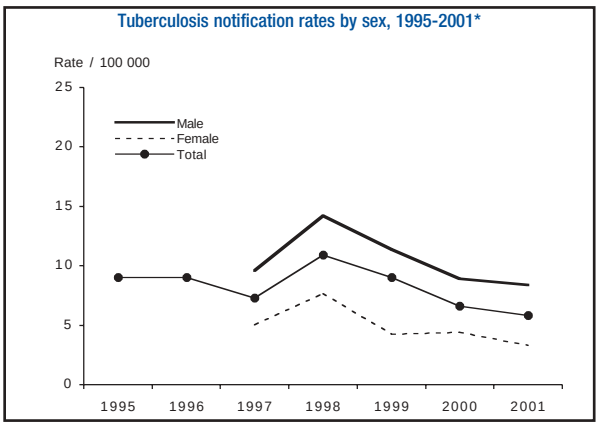
Drug Resistance Surveillance, 2001

Not available

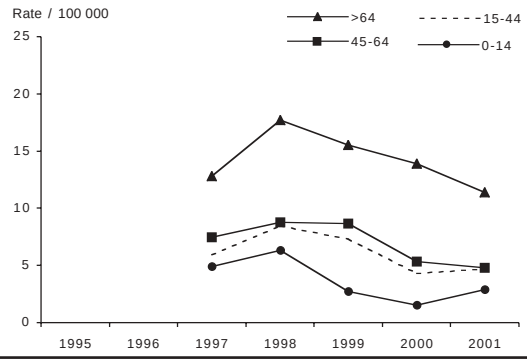
Treatment Outcome Monitoring, 2000

Not available

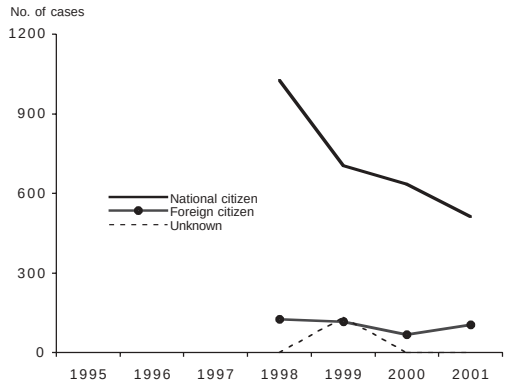
Tuberculosis notification rates by sex, 1995-2001*



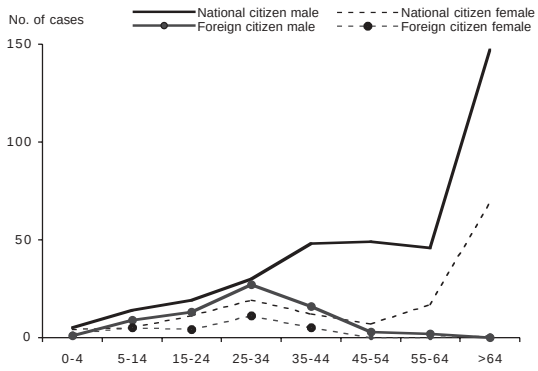
Tuberculosis notification rates by age group, 1995-2001*



Tuberculosis cases by geographic origin, 1995-2001*



Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001

Not available

Resistance to INH and MDR by treatment status, 1997-2001

Not available

* TB case definitions changed in 1998

Hungary

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	3 150	
Notification rate per 100 000	31.8	
Sex ratio (M:F)	2.1	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	57	(1.8%)
New (never-treated)	2 563	(81.4%)
Culture positive	940	(29.8%)
Pulmonary	2 933	(93.1%)
of which sputum smear positive	725	(24.7%)

Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	yes	
Cases with DST results	369	
Cases resistant to INH	36	(9.8%)
Cases resistant to RMP	10	(2.7%)
MDR cases	10	(2.7%)
Cases resistant to EMB	13	(3.5%)
Cases resistant to SM	30	(8.1%)

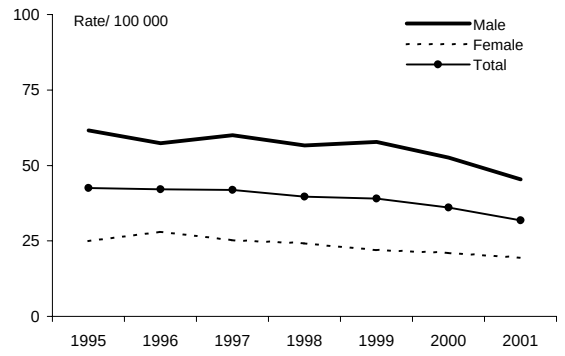
Data representativeness unknown

Culture and DST not routinely performed

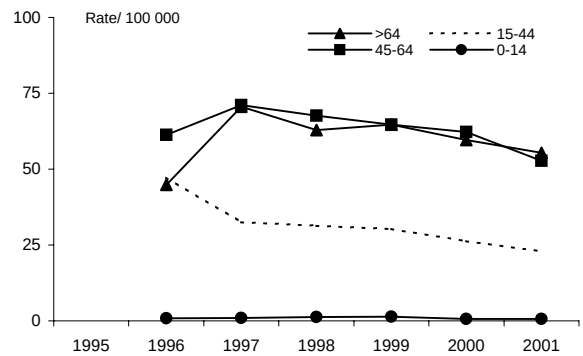
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	778	
Success	475	(61%)
Death	107	(14%)
Failure	26	(3%)
Default	95	(12%)
Transfer	45	(6%)
Other / not evaluated	30	(4%)

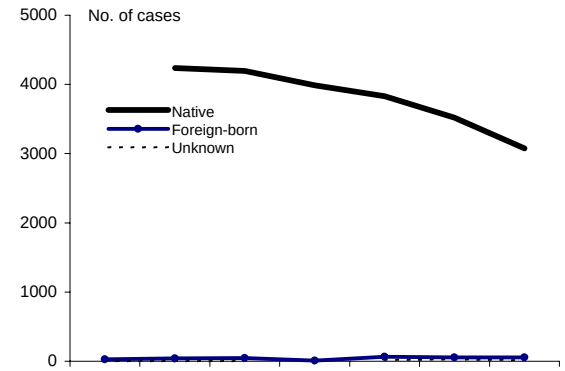
Tuberculosis notification rates by sex, 1995-2001 *



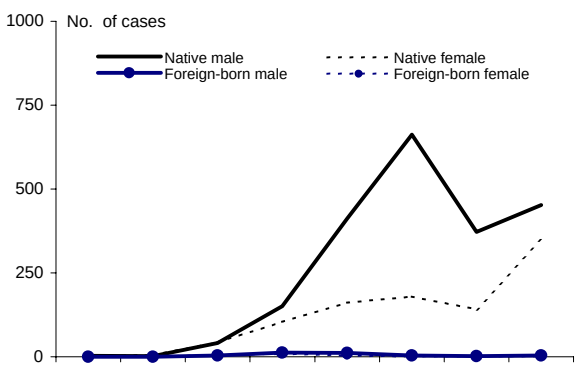
Tuberculosis notification rates by age group, 1995-2001 *



Tuberculosis cases by geographic origin, 1995-2001 *

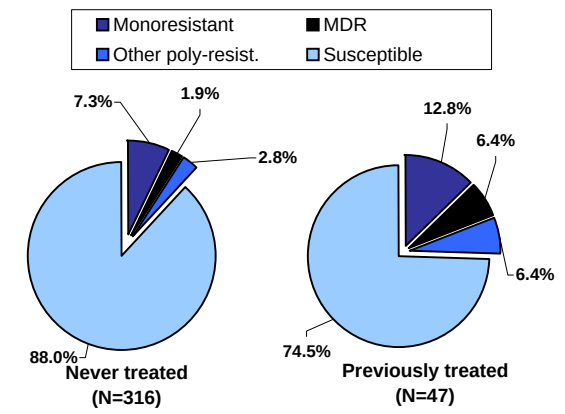


Tuberculosis cases by geographic origin, age group and sex, 2001



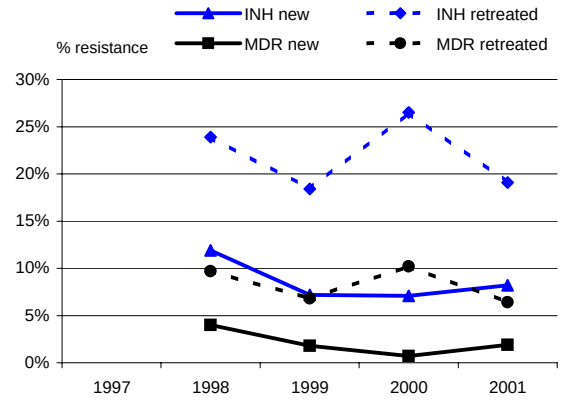
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



*** TB case definitions changed in 1997**

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	13	
Notification rate per 100 000	4.6	
Sex ratio (M:F)	1.2	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad	7	(53.8%)
New (never-treated)	12	(92.3%)
Culture positive	12	(92.3%)
Pulmonary	8	(61.5%)
of which sputum smear positive	3	(37.5%)

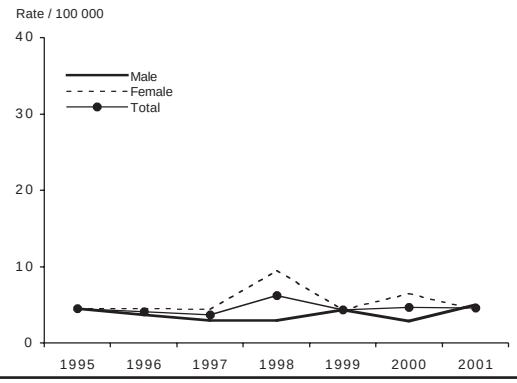
Drug Resistance Surveillance, 2001

International proficiency testing	_	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	12	
Cases resistant to INH	1	(8.3%)
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%)

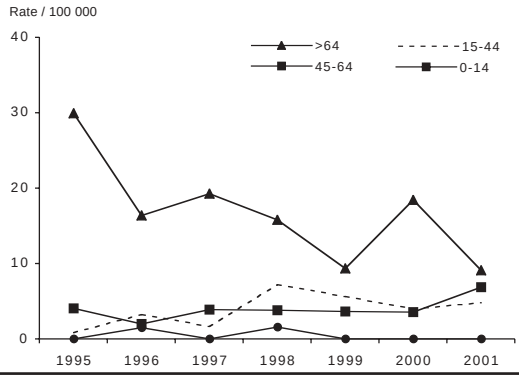
Treatment Outcome Monitoring, 2000

Geographic coverage	national	
Cohort	new pulmonary culture positive	
Included in TOM cohort	6	
Success	5	(83%)
Death	1	(17%)
Failure	0	(0%)
Default	0	(0%)
Transfer	0	(0%)
Other / not evaluated	0	(0%)

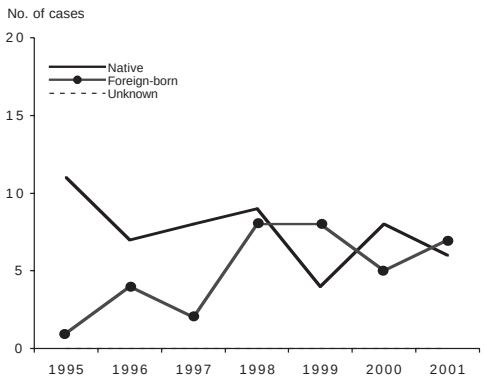
Tuberculosis notification rates by sex, 1995-2001



Tuberculosis notification rates by age group, 1995-2001



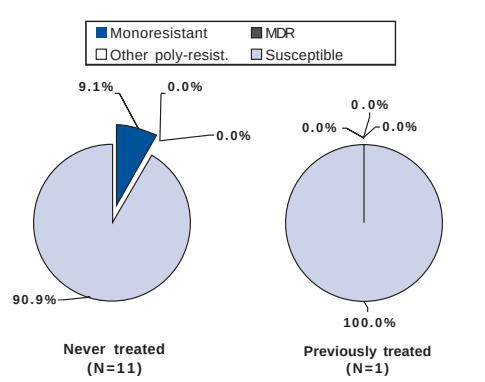
Tuberculosis cases by geographic origin, 1995-2001



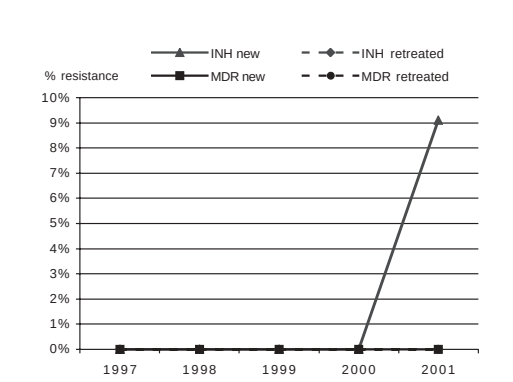
Tuberculosis cases by geographic origin, age group and sex, 2001

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



IRELAND

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	406	
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	65	(16.0%)
New (never-treated)	251	(61.8%)
Culture positive*	149	(36.7%)
Pulmonary	302	(74.4%)
of which sputum smear positive	125	(41.4%)

*** 56% reported with unknown culture result**

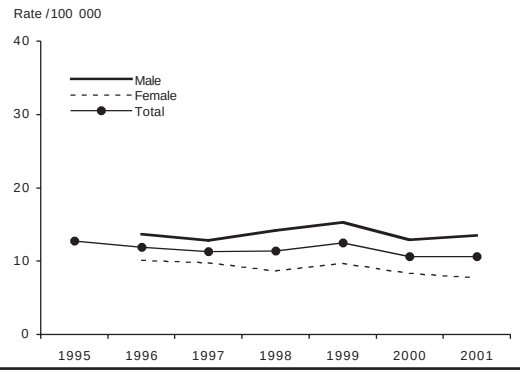
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	104	
Cases resistant to INH	2	(1.9%)
Cases resistant to RMP	1	(1.0%)
MDR cases	1	(1.0%)
Cases resistant to EMB	0	(0.0%)
Cases resistant to SM	4	(3.8%)

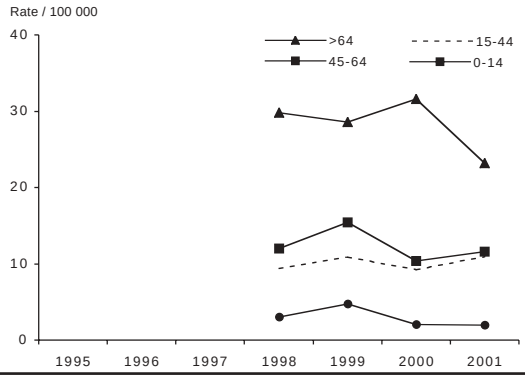
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	160	
Success	85	(53%)
Death	16	(10%)
Failure	0	(0%)
Default	59	(37%)
Transfer	0	(0%)
Other / not evaluated	0	(0%)

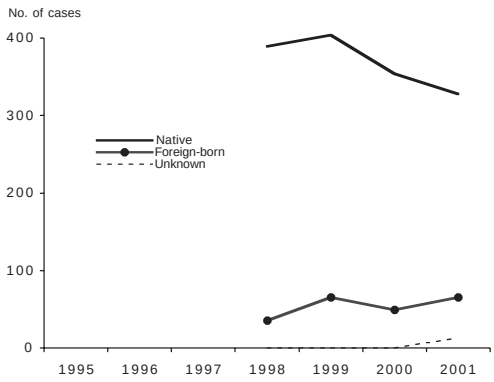
Tuberculosis notification rates by sex, 1995-2001*



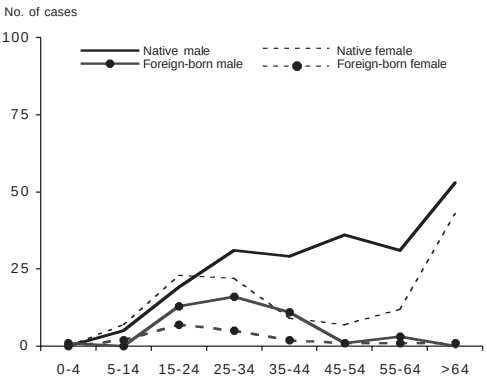
Tuberculosis notification rates by age group, 1995-2001*



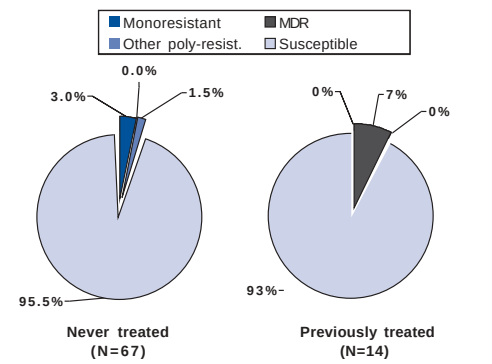
Tuberculosis cases by geographic origin, 1995-2001*



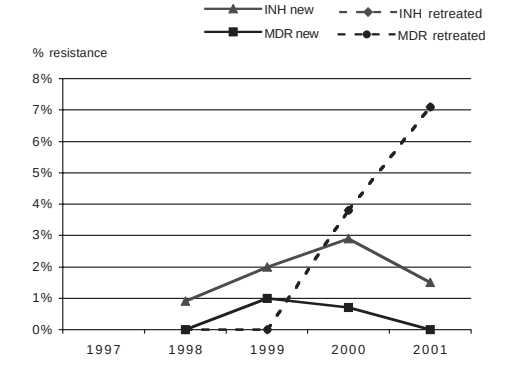
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



* Notification system reorganised in 1998

Tuberculosis case notifications, 2001

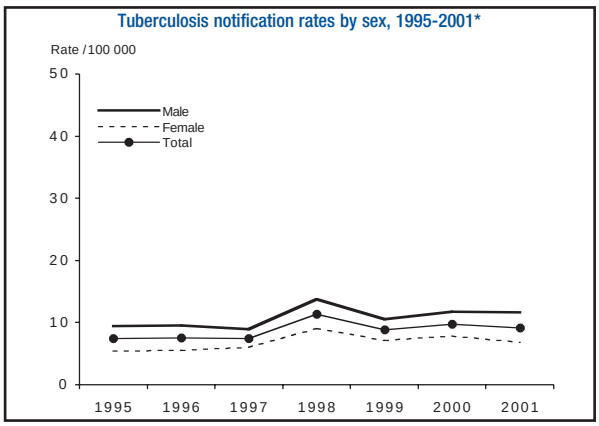
Type of data provided	Aggregate	
Total number of cases	564	
Notification rate per 100 000	9.1	
Sex ratio (M:F)	1.7	
Median age-group, nationals	25-34	years
Median age-group, non-nationals	45-54	years
Individuals born abroad	477	(84.6%)
New (never-treated)	530	(94.0%)
Culture positive	317	(56.2%)
Pulmonary	428	(75.9%)
of which sputum smear positive	191	(44.6%)

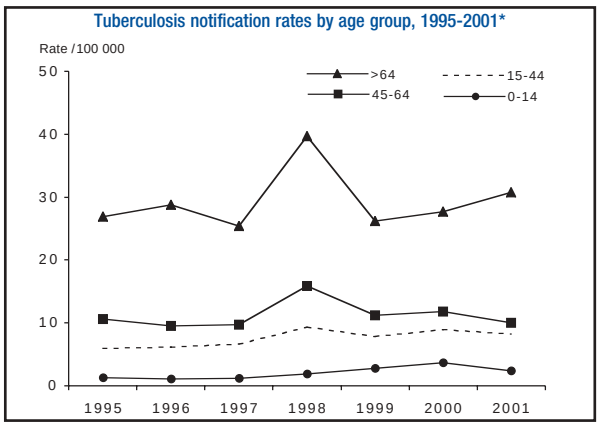
Drug Resistance Surveillance, 2001

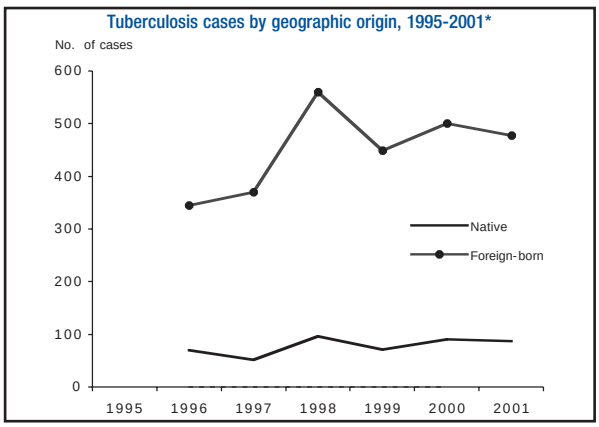
International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	317	
Cases resistant to INH	64	(20.2%)
Cases resistant to RMP	23	(7.3%)
MDR cases	22	(6.9%)
Cases resistant to EMB	17	(5.4%)
Cases resistant to SM	61	(19.2%)

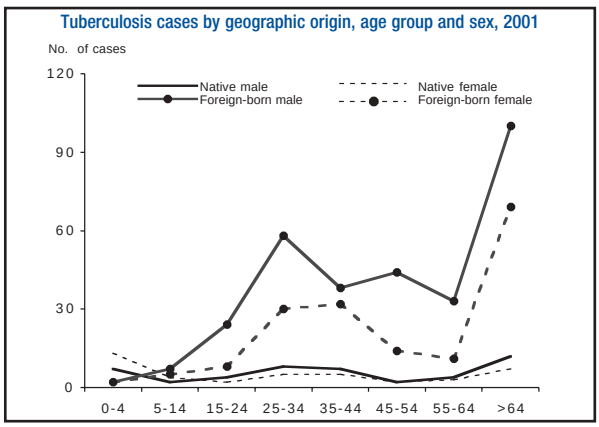
Treatment Outcome Monitoring, 2000

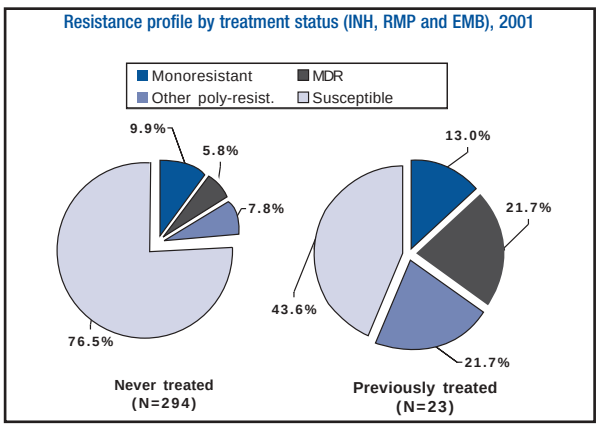
Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	320	
Success	248	(78%)
Death	34	(11%)
Failure	3	(1%)
Default	9	(3%)
Transfer	22	(7%)
Other / not evaluated	4	(1%)

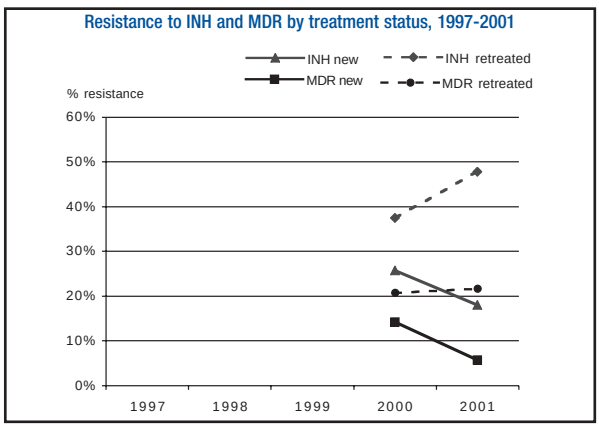












* TB notification system reorganised in 1998

ITALY

Tuberculosis case notifications, 2001

Type of data provided	Individual *	
Total number of cases	4 505	
Notification rate per 100 000	7.8	
Sex ratio (M:F)	1.6	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	1 391	(30.9%)
New (never-treated)	3 553	(78.9%)
Culture positive**	1 616	(35.9%)
Pulmonary	3 278	(72.8%)
of which sputum smear positive	1 143	(34.9%)

*** except for DRS**
**** 50% of cases with culture result unknown**

Drug Resistance Surveillance, 2001

International proficiency testing	yes	
Geographic coverage	8 / 21 regions	
Linkage with TB case notification	no §	
Cases with DST results	910	-
Cases resistant to INH	105	(11.5%)
Cases resistant to RMP	52	(5.7%)
MDR cases	38	(4.2%)
Cases resistant to EMB	28	(3.1%)
Cases resistant to SM	86	(9.5%)

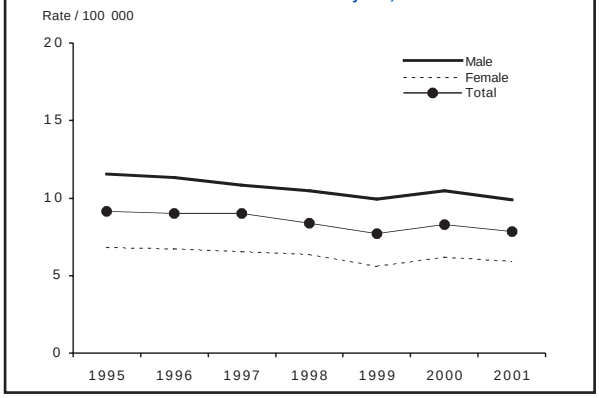
Data representativeness unknown
§ Cases diagnosed in 20 selected laboratories

Treatment Outcome Monitoring, 2000

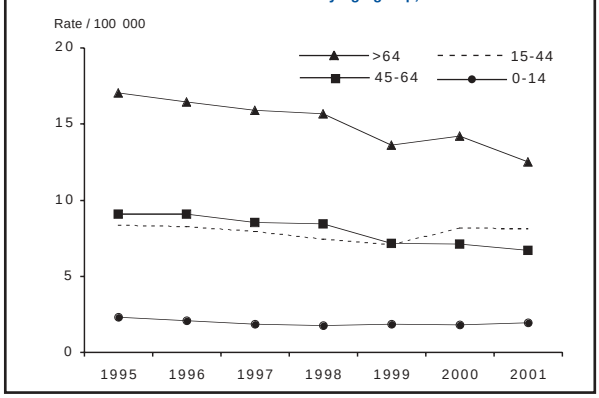
Geographic coverage	9 / 21 regions	
Cohort	new pulmonary culture positive	
Included in TOM cohort	301 #	
Success	220	(73%)
Death	7	(2%)
Failure	0	(0%)
Default	54	(18%)
Transfer	20	(7%)
Other / not evaluated	0	(0%)

 # Cases diagnosed in selected clinical centres

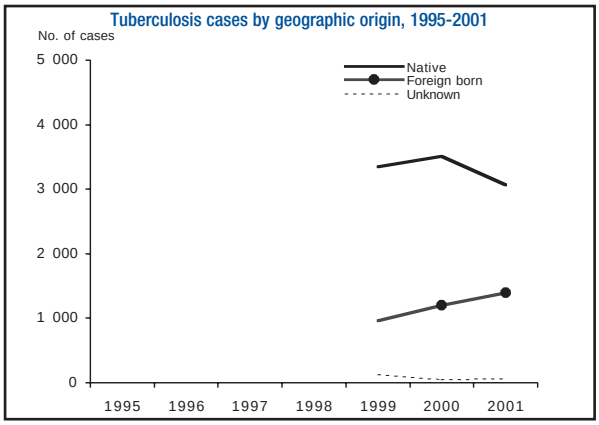
Tuberculosis notification rates by sex, 1995-2001



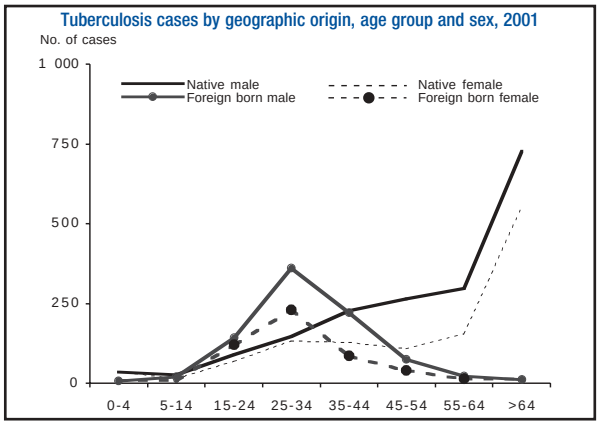
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

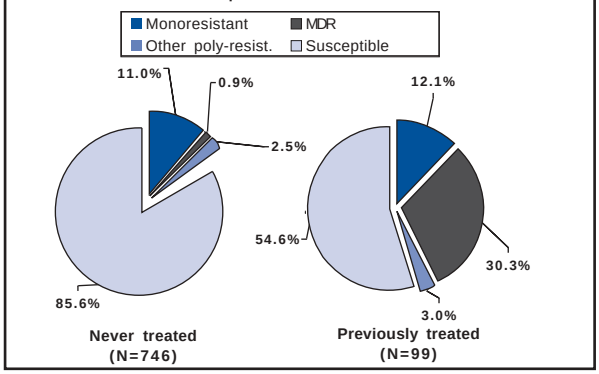


Tuberculosis cases by geographic origin, age group and sex, 2001



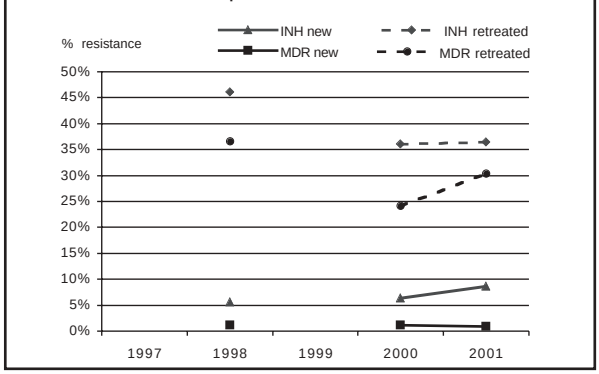
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	31 254	
Notification rate per 100 000	194.2	
Sex ratio (M:F)	1.3	
Median age-group, nationals	25-34 years	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	23 126	(74.0%)
Culture positive*	3 112	(10.0%)
Respiratory	29 932	(95.8%)
of which sputum smear positive	14 429	(48.2%)

*** 16% of cases with culture result**

Drug Resistance Surveillance, 2001

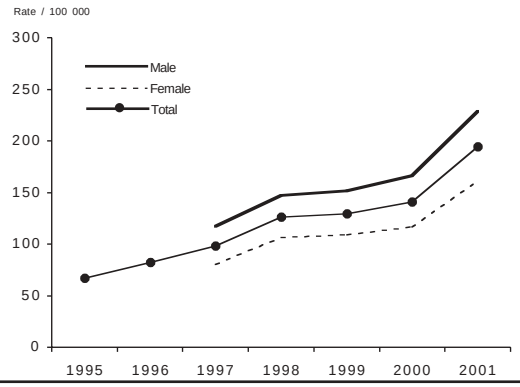
International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	No §	
Cases with DST results	8 953	-
Cases resistant to INH	2 834	(31.7%)
Cases resistant to RMP	2 300	(25.7%)
MDR cases	1 432	(16.0%)
Cases resistant to EMB	2 089	(23.3%)
Cases resistant to SM	3 945	(44.1%)

Data representativeness unknown
Culture and DST not routinely performed
§ Data from all laboratories performing DST

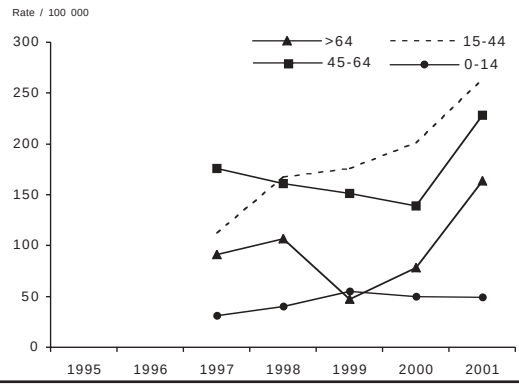
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	8 781	
Success	6 901	(79%)
Death	415	(5%)
Failure	883	(10%)
Default	288	(3%)
Transfer	294	(3%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates by sex, 1995-2001



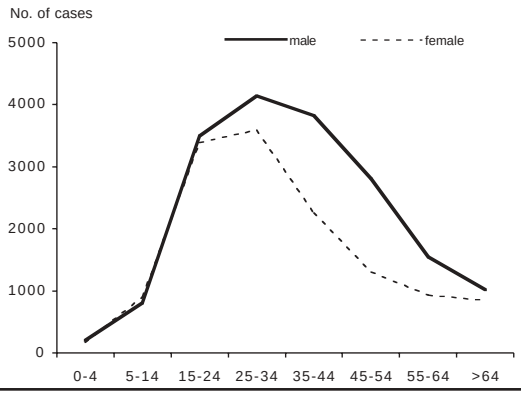
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

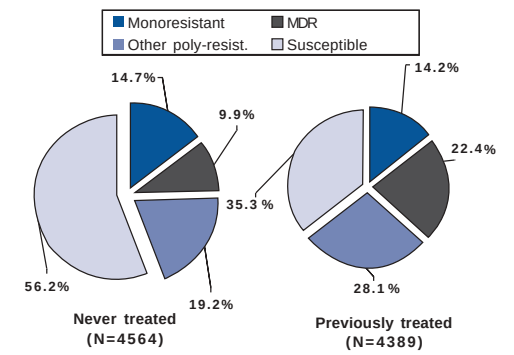
Foreigners not included in TB notifications

Tuberculosis cases by age group and sex, 2001



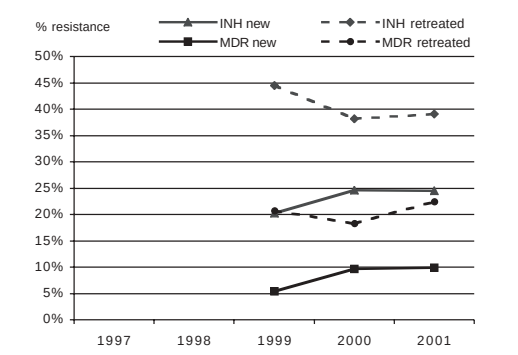
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



KYRGYZSTAN

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	6 901	
Notification rate per 100 000	138.4	
Sex ratio (M:F)*	1.3	
Median age-group, nationals*	25-34 years	
Median age-group, non-nationals	-	
Individuals born abroad	-	-
New (never-treated)	6 274	(90.9%)
Culture positive	-	-
Pulmonary	-	-
of which sputum smear positive	-	-

Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	_	
Linkage with TB case notification	No §	
Cases with DST results	699	
Cases resistant to INH	406	(58.1%)
Cases resistant to RMP	266	(38.1%)
MDR cases	262	(37.5%)
Cases resistant to EMB	283	(40.5%)
Cases resistant to SM	541	(77.4%)

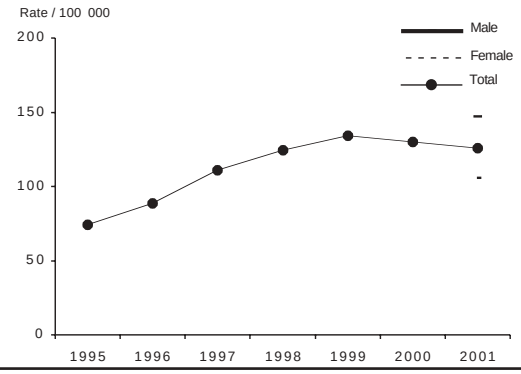
Data representativeness unknown
Culture and DST not routinely performed
§ Cases diagnosed at the NRL

Treatment Outcome Monitoring, 2000

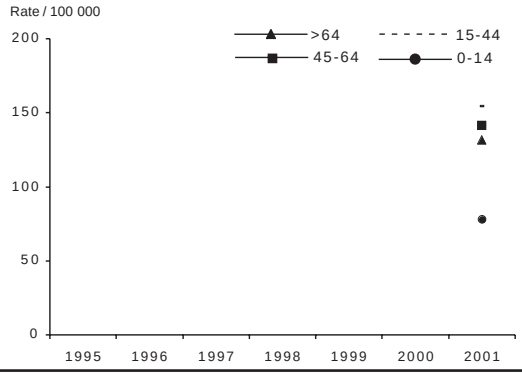
Geographic coverage	National	
Cohort	new sputum smear positive #	
Included in TOM cohort	1 233	
Success	1 013	(82%)
Death	43	(3%)
Failure	50	(4%)
Default	57	(5%)
Transfer	70	(6%)
Other / not evaluated	0	(0%)

 # Cases notified to MoH (prisons not included)

Tuberculosis notification rates by sex, 1995-2001*



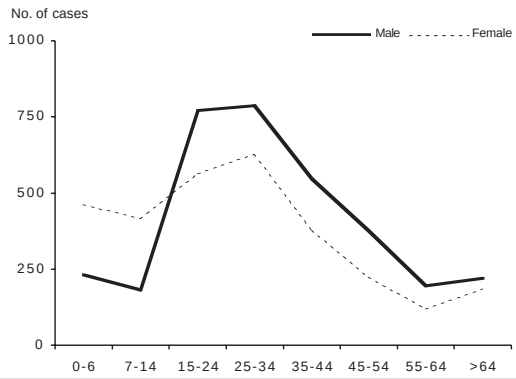
Tuberculosis notification rates by age group, 1995-2001*



Tuberculosis cases by geographic origin, 1995-2001

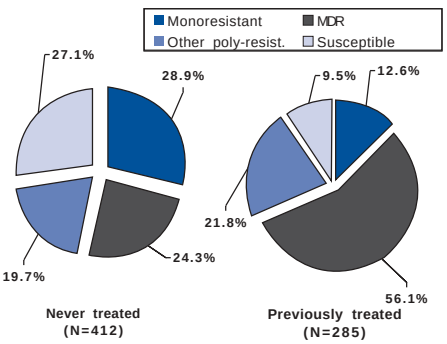
Foreigners not included in TB notifications

Tuberculosis cases by age group and sex, 2001*



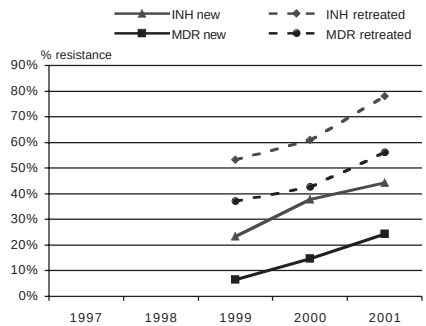
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



* New cases only (2001).

Tuberculosis case notifications, 2001

Type of data provided	Individual *	
Total number of cases	2 082	
Notification rate per 100 000	86.5	
Sex ratio (M:F)	2.6	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	45-54 years	
Individuals born abroad	122	(5.9%)
New (never-treated)	1 729	(83.0%)
Culture positive	1 288	(61.9%)
Pulmonary	1 756	(84.3%)
of which sputum smear positive	882	(50.2%)

*** except DST results**

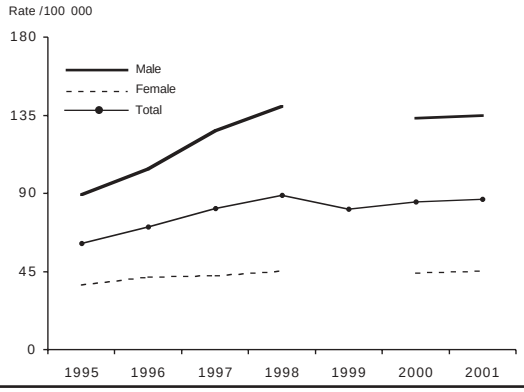
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	1 098	
Cases resistant to INH	327	(29.8%)
Cases resistant to RMP	153	(13.9%)
MDR cases	150	(13.7%)
Cases resistant to EMB	93	(8.5%)
Cases resistant to SM	287	(26.1%)

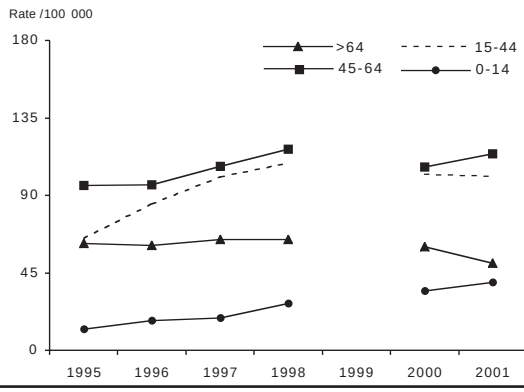
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	957	
Success	724	(76%)
Death	85	(9%)
Failure	22	(2%)
Default	61	(6%)
Transfer	4	(0%)
Other / not evaluated	61	(6%)

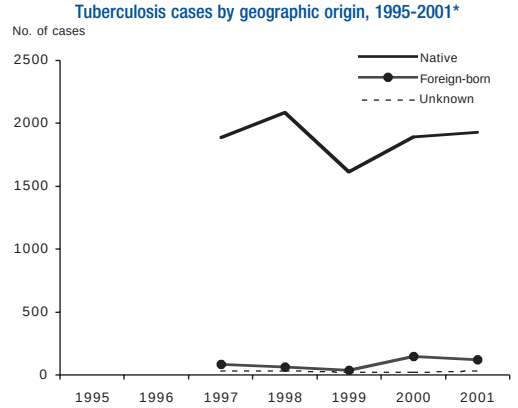
Tuberculosis notification rates by sex, 1995-2001*



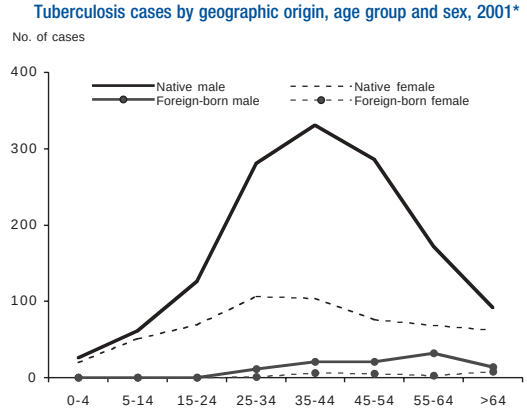
Tuberculosis notification rates by age group, 1995-2001*



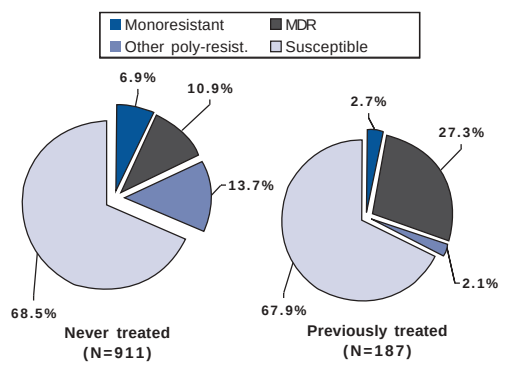
Tuberculosis cases by geographic origin, 1995-2001*



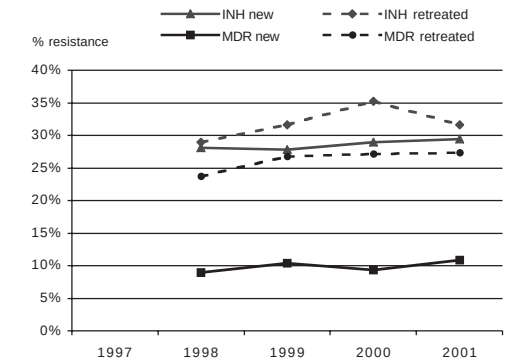
Tuberculosis cases by geographic origin, age group and sex, 2001*



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001*



* Retreated cases other than relapses included since 2000.

LITHUANIA

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	2 989	
Notification rate per 100 000	81.0	
Sex ratio (M:F)	2.2	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	45-54 years	
Individuals born abroad	174	(5.8%)
New (never-treated)	2 225	(74.4%)
Culture positive	1 771	(59.3%)
Pulmonary	2 480	(83.0%)
of which sputum smear positive	1 360	(54.8%)

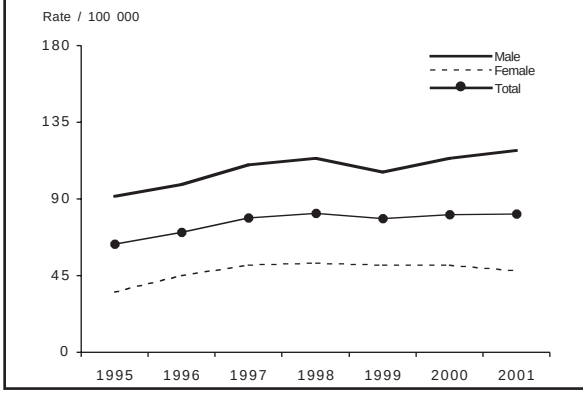
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	1 452	
Cases resistant to INH	455	(31.3%)
Cases resistant to RMP	279	(19.2%)
MDR cases	266	(18.3%)
Cases resistant to EMB	132	(9.1%)
Cases resistant to SM	381	(26.2%)

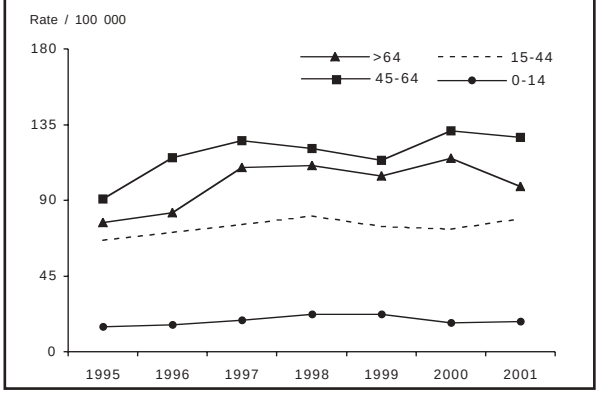
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	1 067	
Success	815	(76%)
Death	79	(7%)
Failure	29	(3%)
Default	131	(12%)
Transfer	6	(1%)
Other / not evaluated	7	(1%)

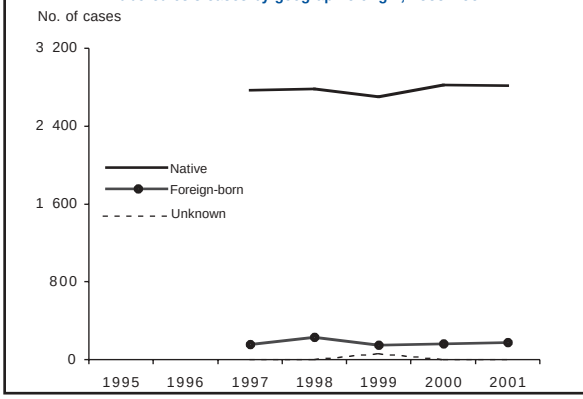
Tuberculosis notification rates by sex, 1995-2001



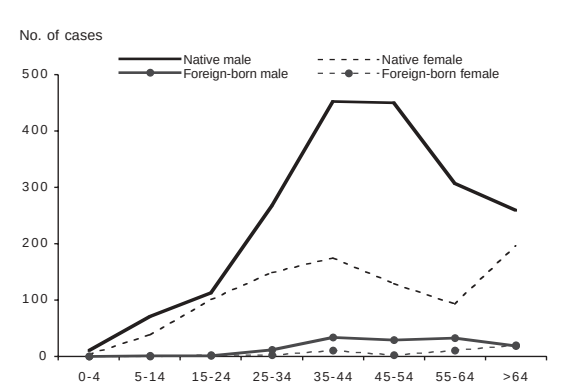
Tuberculosis notification rates by age group, 1995-2001



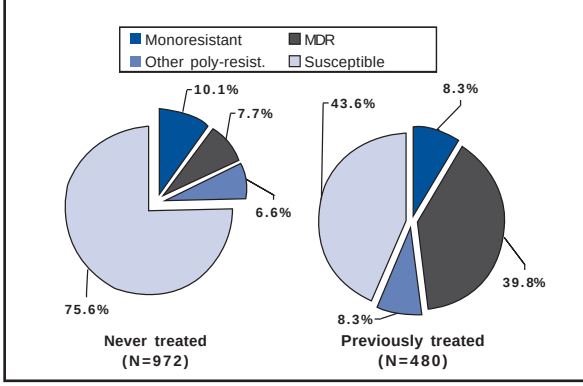
Tuberculosis cases by geographic origin, 1995-2001



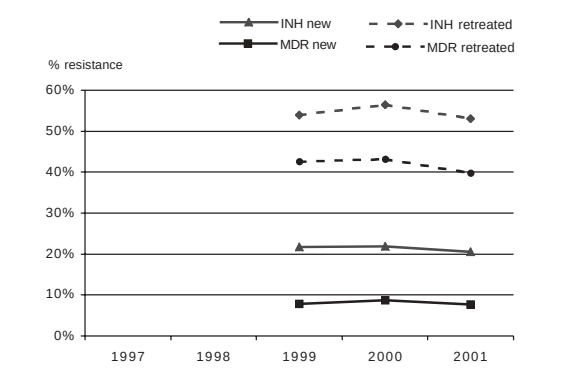
Tuberculosis cases by geographic origin and age group, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	32	
Notification rate per 100 000	7.2	
Sex ratio (M:F)	1.0	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad*	9	(28.1%)
New (never-treated)	31	(96.9%)
Culture positive	32	(100.0%)
Pulmonary	25	(78.1%)
of which sputum smear positive	12	(48.0%)

*** 44% of cases with origin unknown**

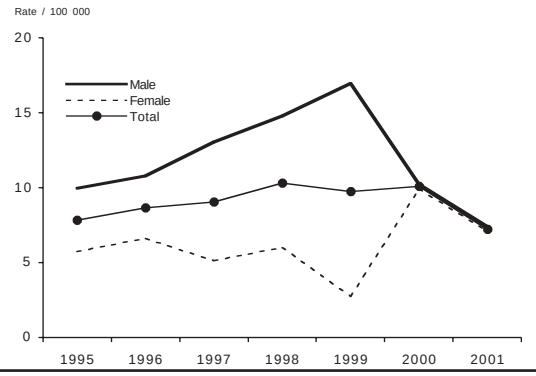
Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	29	
Cases resistant to INH	1	(3.4%)
Cases resistant to RMP	0	(0.0%)
MDR cases	0	(0.0%)
Cases resistant to EMB	0	(0.0%)
Cases resistant to SM	1	(3.4%)

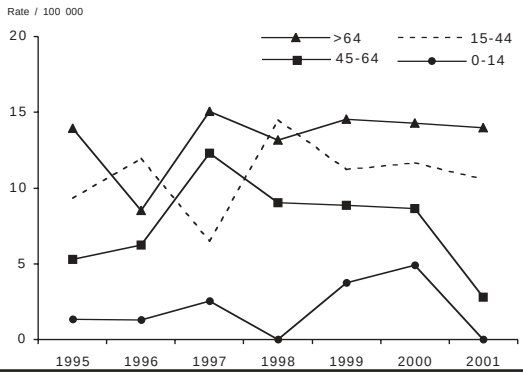
Treatment Outcome Monitoring, 2000

Not available

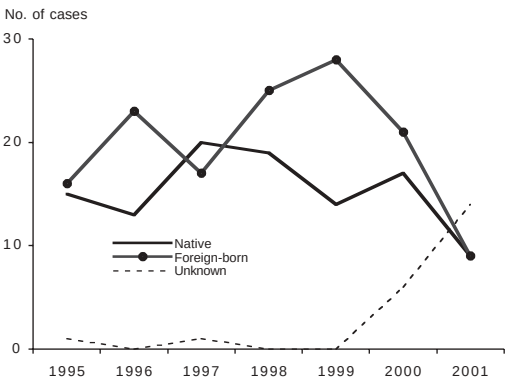
Tuberculosis notification rates by sex, 1995-2001



Tuberculosis notification rates by age group, 1995-2001



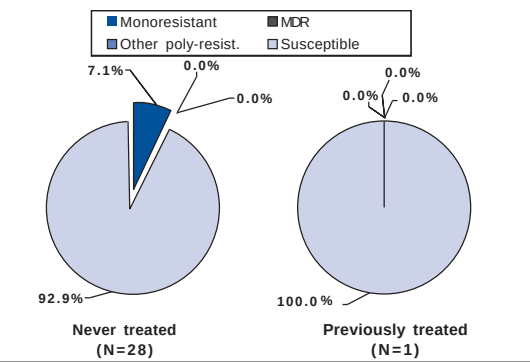
Tuberculosis cases by geographic origin, 1995-2001



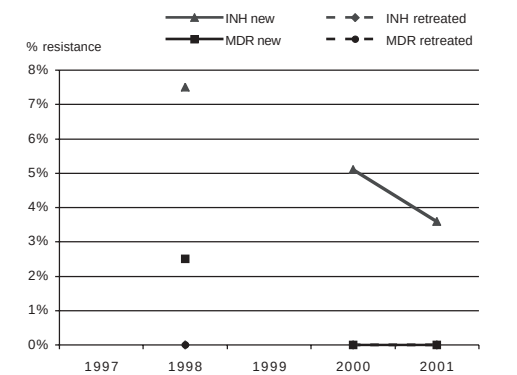
Tuberculosis cases by geographic origin, age group and sex, 2001

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001*



MACEDONIA, FYR OF

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	697	
Notification rate per 100 000	34.1	
Sex ratio (M:F)	1.3	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	622	(89.2%)
Culture positive	-	-
Pulmonary	556	(79.8%)
of which sputum smear positive	190	(34.2%)

Drug Resistance Surveillance, 2001

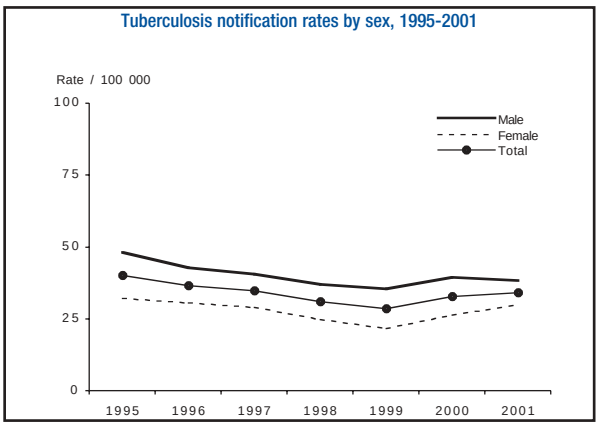
International proficiency testing	No	
Geographic coverage	_	
Linkage with TB case notification	No §	
Cases with DST results	141	
Cases resistant to INH	9	(6.4%)
Cases resistant to RMP	3	(2.1%)
MDR cases	3	(2.1%)
Cases resistant to EMB	3	(2.1%)
Cases resistant to SM	0	(0.0%)

Data representativeness unknown
Culture and DST not routinely used
§ cases diagnosed at the NRL

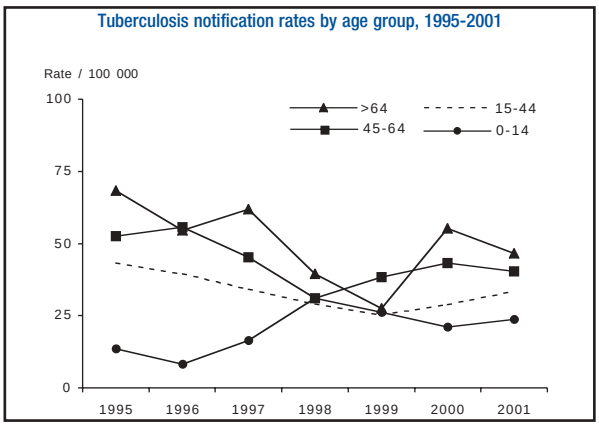
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	152	
Success	131	(86%)
Death	6	(4%)
Failure	3	(2%)
Default	11	(7%)
Transfer	1	(1%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates by sex, 1995-2001



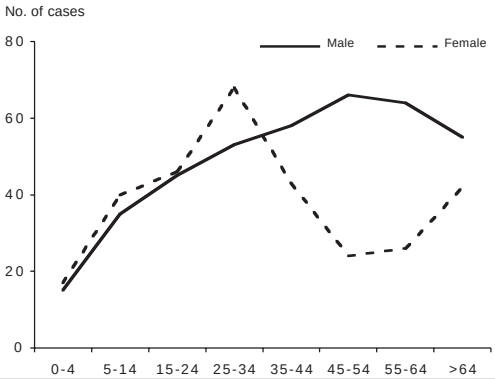
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

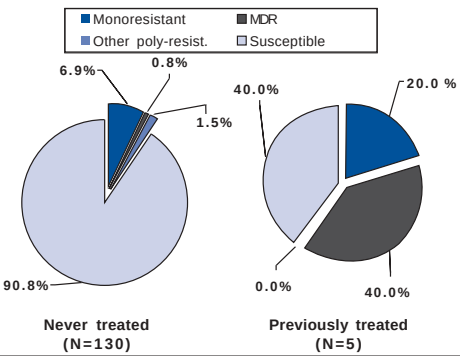
Not available

Tuberculosis cases by age group and sex, 2001



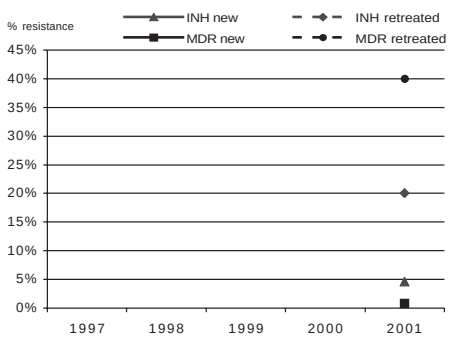
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	16	
Notification rate per 100 000	4.1	
Sex ratio (M:F)	1.7	
Median age-group, nationals	> 64 years	
Median age-group, non-nationals	35-44 years	
Foreign citizens	3	(18.8%)
New (never-treated)	15	(93.8%)
Culture positive	10	(62.5%)
Pulmonary	15	(93.8%)
of which sputum smear positive	3	(20.0%)

Drug Resistance Surveillance, 2001

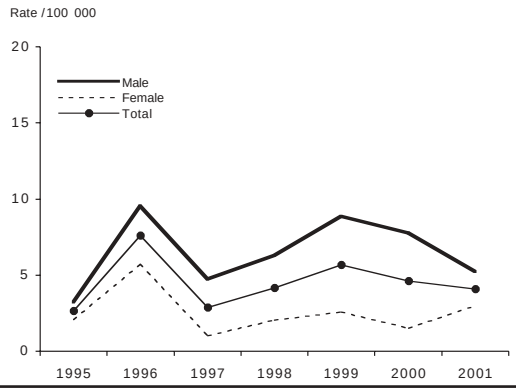
International proficiency testing	yes §	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	10	
Cases resistant to INH	0	(0.0%)
Cases resistant to RMP	0	(0.0%)
MDR cases	0	(0.0%)
Cases resistant to EMB	0	(0.0%)
Cases resistant to SM	0	(0.0%)

§ DST done in Sweden

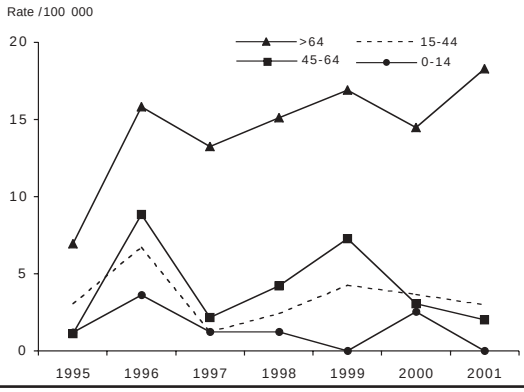
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	8	
Success	8	(100%)
Death	0	(0%)
Failure	0	(0%)
Default	0	(0%)
Transfer	0	(0%)
Other / not evaluated	0	(0%)

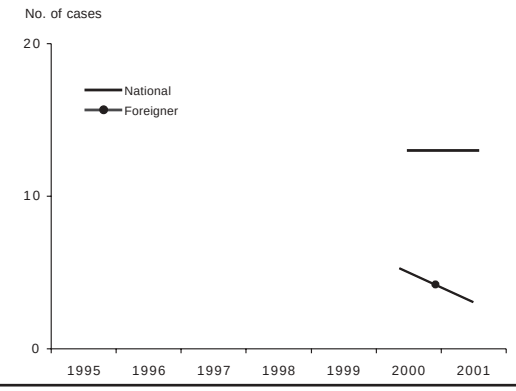
Tuberculosis notification rates by sex, 1995-2001



Tuberculosis notification rates by age group, 1995-2001



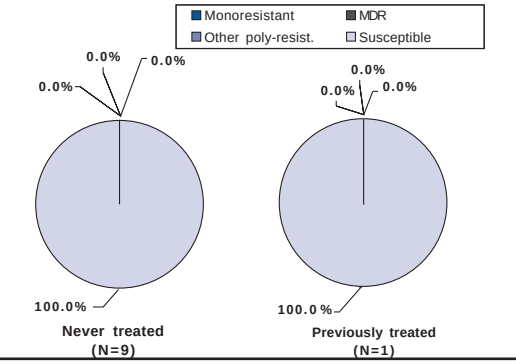
Tuberculosis cases by geographic origin, 1995-2001 (by citizenship)



Tuberculosis cases by geographic origin, age group and sex, 2001

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001

No resistance reported

MOLDOVA, REPUBLIC OF

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	3 820	
Notification rate per 100 000	89.2	
Sex ratio (M:F)	2.8	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	35-45 years	
Individuals born abroad	54	(1.4%)
New (never-treated)	3 418	(89.5%)
Culture positive	-	-
Pulmonary	3 165	(82.9%)
of which sputum smear positive	1 250	(39.5%)

Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	National	
Linkage with TB case notification	No §	
Cases with DST results	1 280	
Cases resistant to INH	313	(24.5%)
Cases resistant to RMP	297	(23.2%)
MDR cases	203	(15.9%)
Cases resistant to EMB	58	(4.5%)
Cases resistant to SM	407	(31.8%)

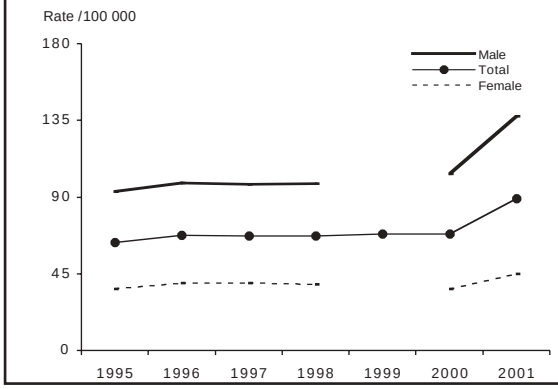
Data representativeness unknown
Culture not routinely performed
§ Data from all laboratories performing DST

Treatment Outcome Monitoring, 2000

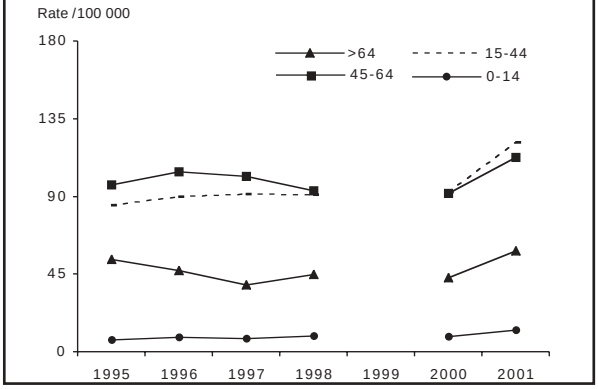
Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	651*	
Cure	408	(63%)
Death	0	(0%)
Failure	1	(0%)
Default / unknown	242	(37%)
Transfer	0	(0%)
Other / not evaluated	0	(0%)

*** 645 cases from non DOTS areas only reporting cure**

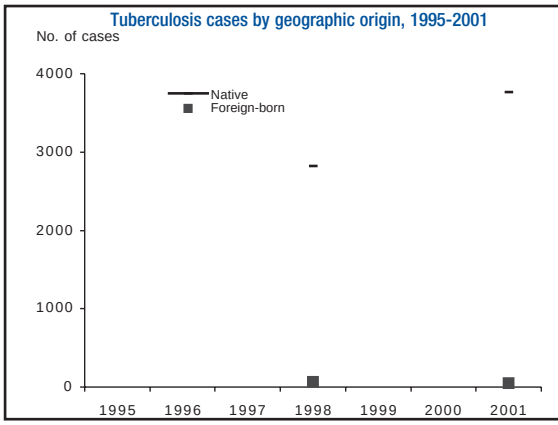
Tuberculosis notification rates by sex, 1995-2001



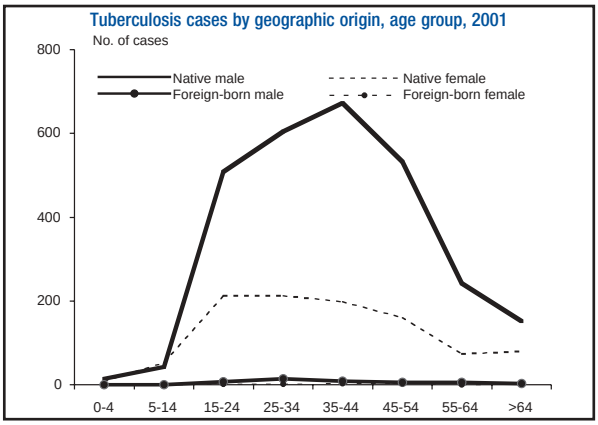
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

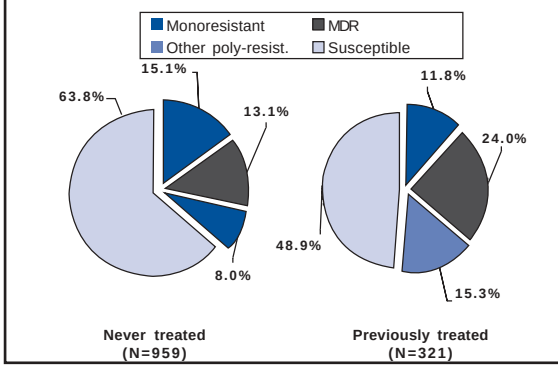


Tuberculosis cases by geographic origin, age group, 2001



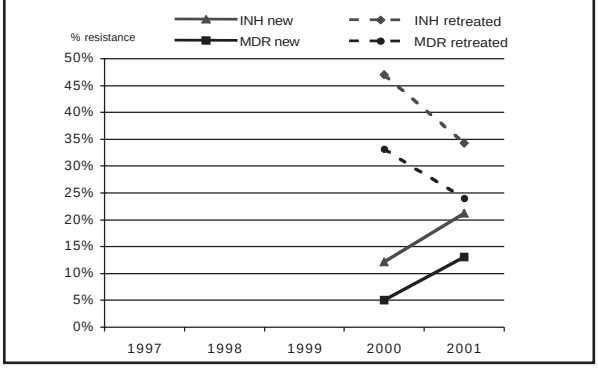
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



Tuberculosis case notifications, 2001

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

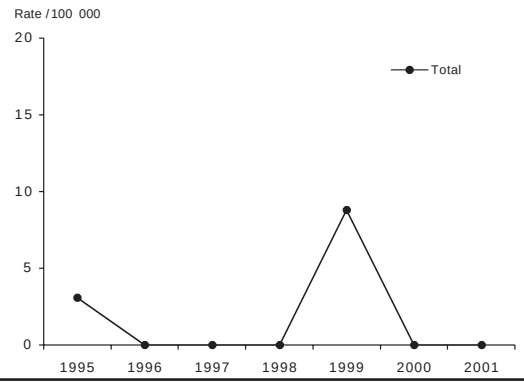
Drug Resistance Surveillance, 2001

Zero cases in 2001

Treatment Outcome Monitoring, 2000

Zero cases in 2001

Tuberculosis notification rates, 1995-2001



Tuberculosis notification rates by age group, 1995-2001

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, 1995-2001

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2001

Zero cases in 2001

Resistance profile by treatment status (INH, RMP and EMB), 2001

Zero cases in 2001

Resistance to INH and MDR by treatment status, 1997-2001

No resistance reported

THE NETHERLANDS

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	1 436	
Notification rate per 100 000	9.0	
Sex ratio (M:F)	1.5	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Foreign citizens	881	(61.4%)
New (never-treated)	1 395	(97.1%)
Culture positive*	503	(35.0%)
Pulmonary	950	(66.2%)
of which sputum smear positive	321	(33.8%)

*** 55% of cases with culture result unknown**

Drug Resistance Surveillance, 2001

International proficiency testing	yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	503 **	
Cases resistant to INH	24	(4.8%)
Cases resistant to RMP	2	(0.4%)
MDR cases	2	(0.4%)
Cases resistant to EMB	1	(0.2%)
Cases resistant to SM	17	(3.4%)

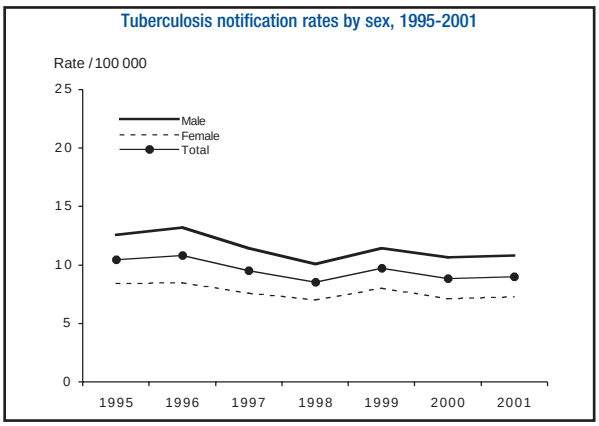
**** incomplete data**

Treatment Outcome Monitoring, 2000

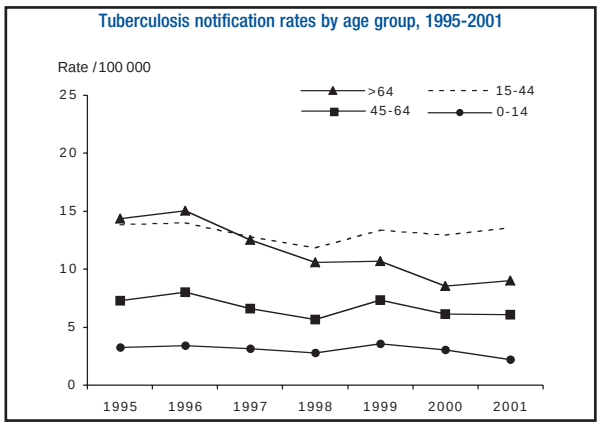
Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	543 **	
Success	471	(87%)
Death	35	(6%)
Failure	0	(0%)
Default	29	(5%)
Transfer	8	(1%)
Other / not evaluated	0	(0%)

**** incomplete data**

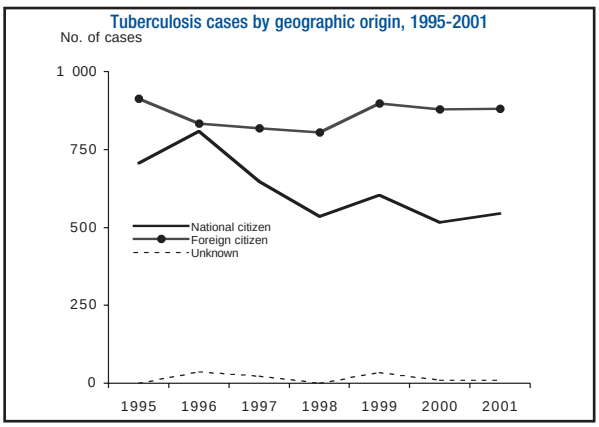
Tuberculosis notification rates by sex, 1995-2001



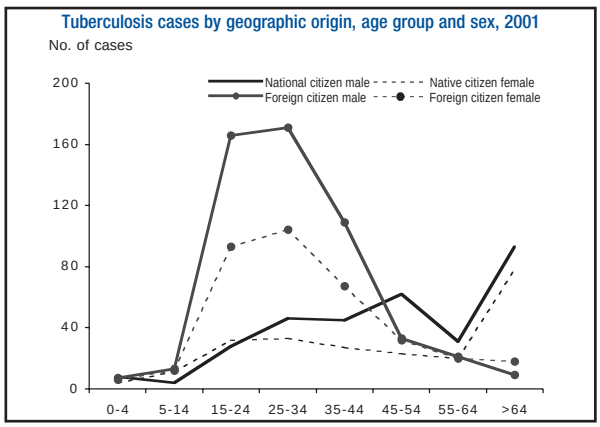
Tuberculosis notification rates by age group, 1995-2001



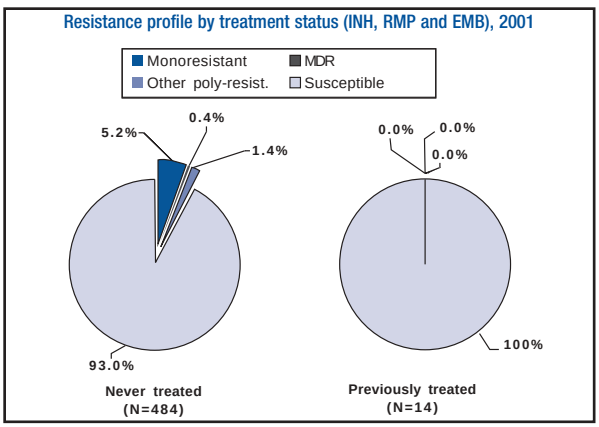
Tuberculosis cases by geographic origin, 1995-2001



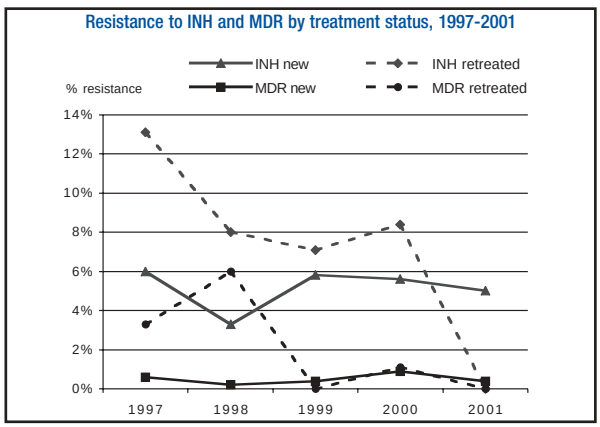
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



Norway

Tuberculosis case notifications, 2000

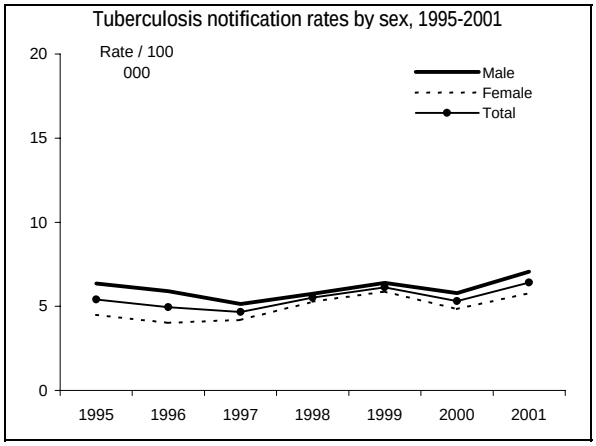
Type of data provided	Individual	
Total number of cases	288	
Notification rate per 100 000	6.4	
Sex ratio (M:F)	1.2	
Median age-group, nationals	> 64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	206	(71.5%)
New (never-treated)	268	(93.1%)
Culture positive	220	(76.4%)
Pulmonary	203	(70.5%)
among which sputum smear	61	(30.0%)

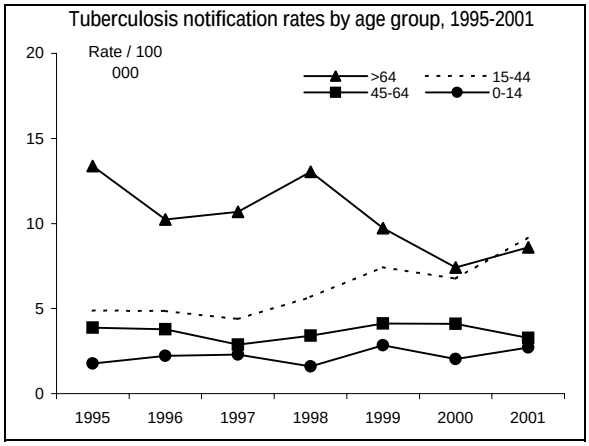
Drug Resistance Surveillance, 2001

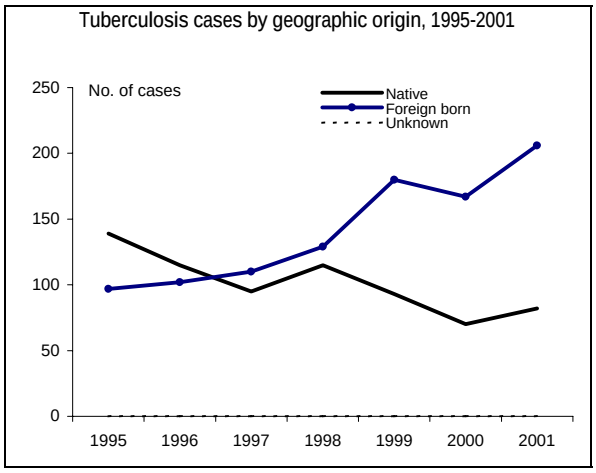
International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	214	
Cases resistant to INH	18	(8.4%)
Cases resistant to RMP	5	(2.3%)
MDR cases	5	(2.3%)
Cases resistant to EMB	2	(0.9%)
Cases resistant to SM	27	(12.6%)

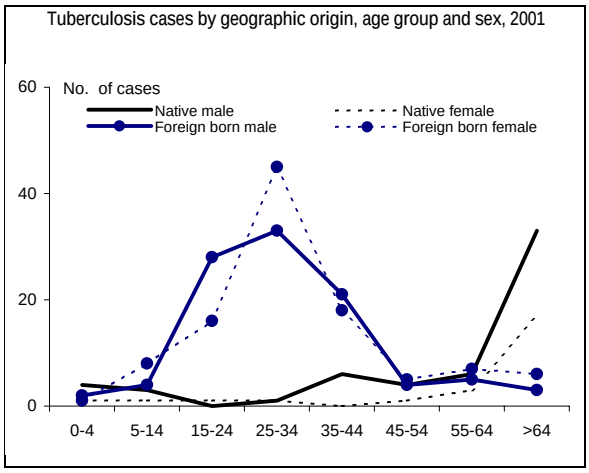
Treatment Outcome Monitoring, 2000

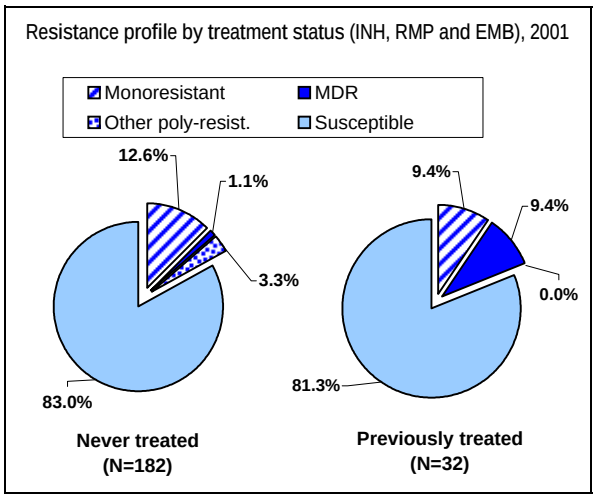
Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	105	
Success	82	(78%)
Death	10	(10%)
Failure	3	(3%)
Default	1	(1%)
Transfer	9	(9%)
Other / not evaluated	0	(0%)

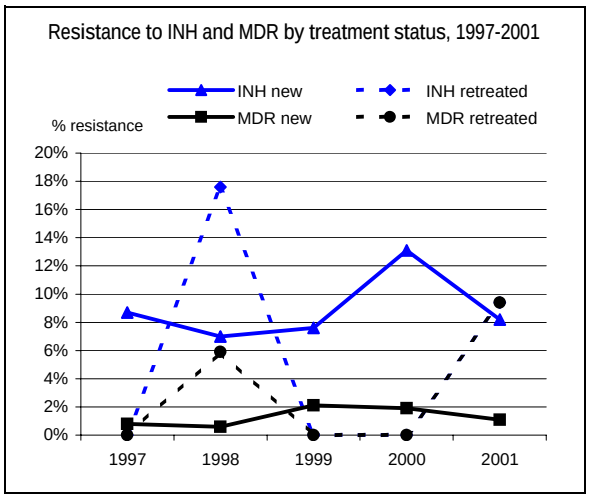












POLAND

Tuberculosis case notifications, 2001

Type of data provided	Individual *	
Total number of cases	10 672	
Notification rate per 100 000	27.7	
Sex ratio (M:F)	2.0	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	9 429	(88.4%)
Culture positive	5 965	(55.9%)
Respiratory	10 492	(98.3%)
of which sputum smear positive	3 699	(35.3%)

*** except for DRS results**

Drug Resistance Surveillance, 2001

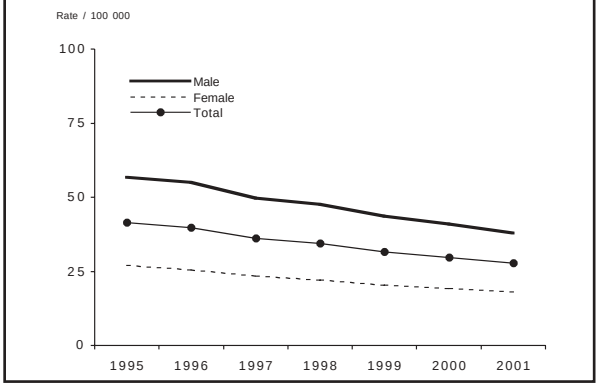
International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	No §	
Cases with DST results	3 705	
Cases resistant to INH	221	(6.0%)
Cases resistant to RMP	104	(2.8%)
MDR cases	92	(2.5%)
Cases resistant to EMB	41	(1.1%)
Cases resistant to SM	0	(0.0%)

§ 3950 cases diagnosed in 42 laboratories

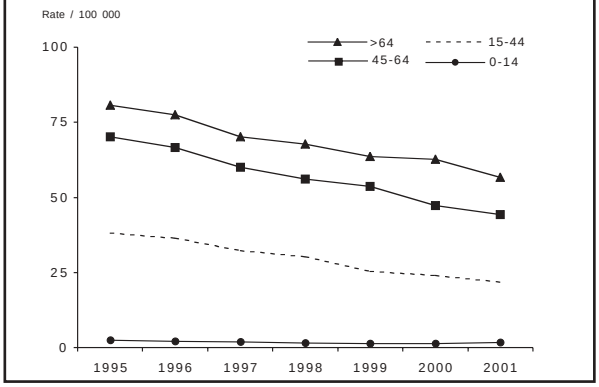
Treatment Outcome Monitoring, 2000

Geographic coverage	DOTS regions	
Cohort	new sputum smear positive	
Included in TOM cohort	214	
Success	155	(72%)
Death	23	(11%)
Failure	13	(6%)
Default	12	(6%)
Transfer	11	(5%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates by sex, 1995-2001



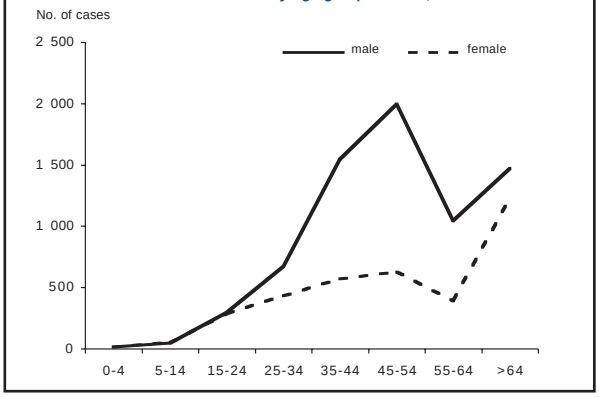
Tuberculosis notification rates by age group, 1995-2001



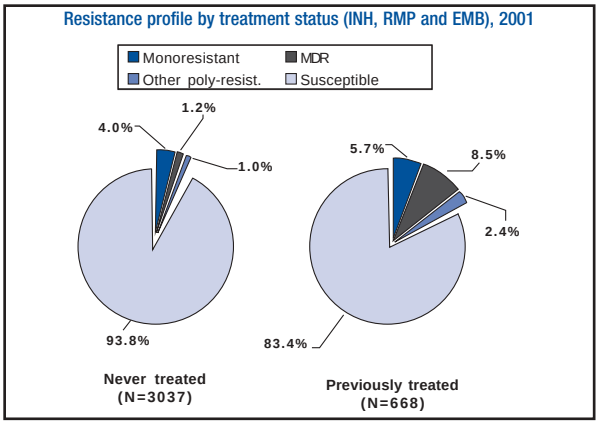
Tuberculosis cases by geographic origin, 1995-2001

Not available

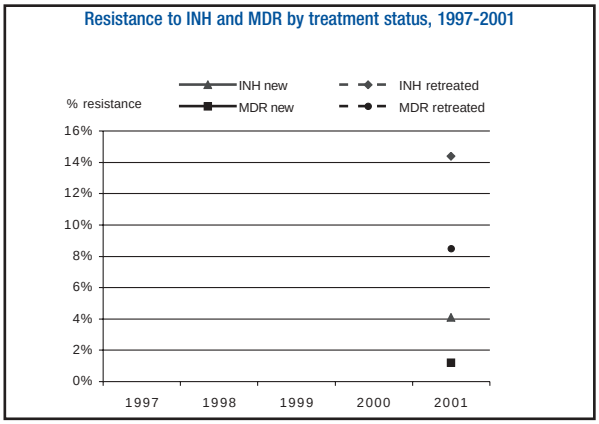
Tuberculosis cases by age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	4 399	
Notification rate per 100 000	43.8	
Sex ratio (M:F)	2.1	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	491	(11.2%)
New (never-treated)	3 889	(88.4%)
Culture positive	2 290	(52.1%)
Pulmonary	3 188	(72.5%)
of which sputum smear positive	2 097	(65.8%)

Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes §	
Cases with DST results	1 163	
Cases resistant to INH	80	(6.9%)
Cases resistant to RMP	34	(2.9%)
MDR cases	31	(2.7%)
Cases resistant to EMB	13	(1.1%)
Cases resistant to SM	125	(10.7%)

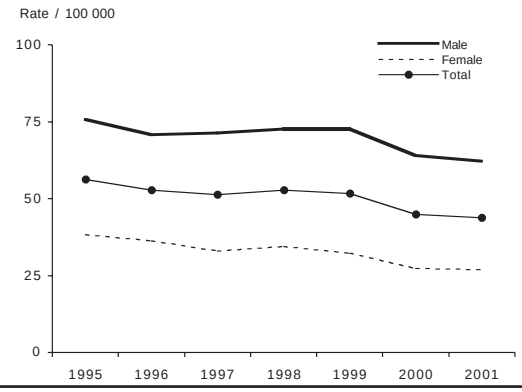
Data representativeness unknown

§ DST not routinely performed

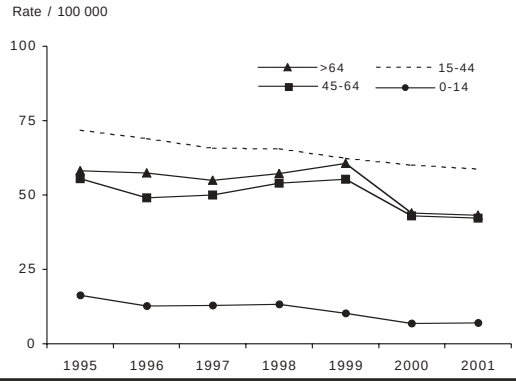
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	1 893	
Success	1 551	(82%)
Death	100	(5%)
Failure	2	(0%)
Default	82	(4%)
Transfer	39	(2%)
Other / not evaluated	119	(6%)

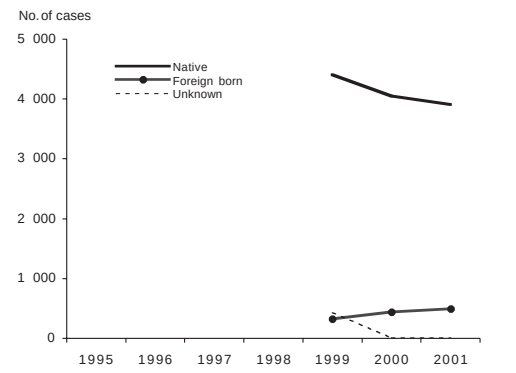
Tuberculosis notification rates by sex, 1995-2001



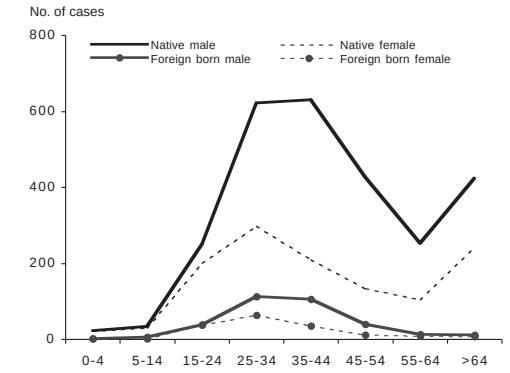
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

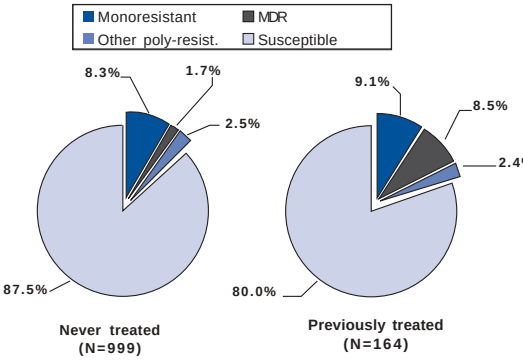


Tuberculosis cases by geographic origin, age group and sex, 2001



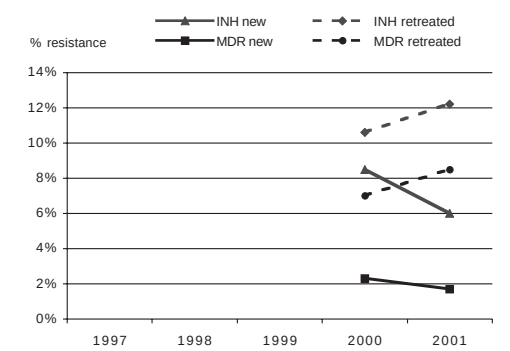
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



ROMANIA

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	30 440	
Notification rate per 100 000	136.0	
Sex ratio (M:F)	2.2	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	25-34 years	
Foreign citizens	4	(0.0%)
New (never-treated)	26 164	(86.0%)
Culture positive*	13 816	(45.4%)
Pulmonary	26 413	(86.8%)
of which sputum smear positive	14 115	(53.4%)

*** 69% of cases with culture result**

Drug Resistance Surveillance, 2001

International proficiency testing	No	
Geographic coverage	National	
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%)

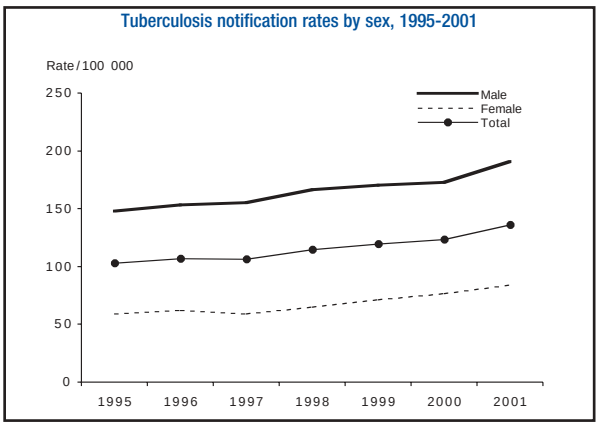
Data representativeness unknown

Culture and DST not routinely performed

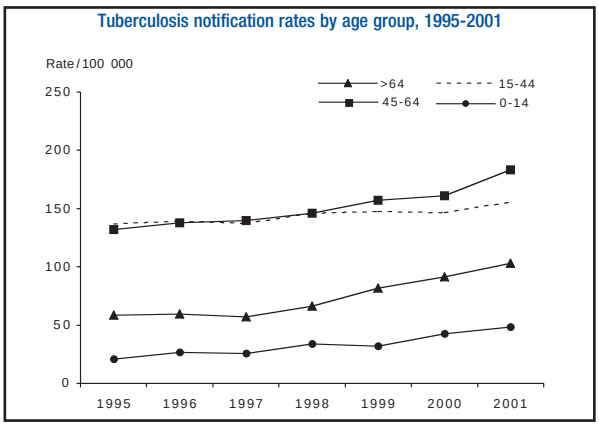
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	12 071	
Success	9 284	(77%)
Death	448	(4%)
Failure	922	(8%)
Default	931	(8%)
Transfer	54	(0%)
Other / not evaluated	432	(4%)

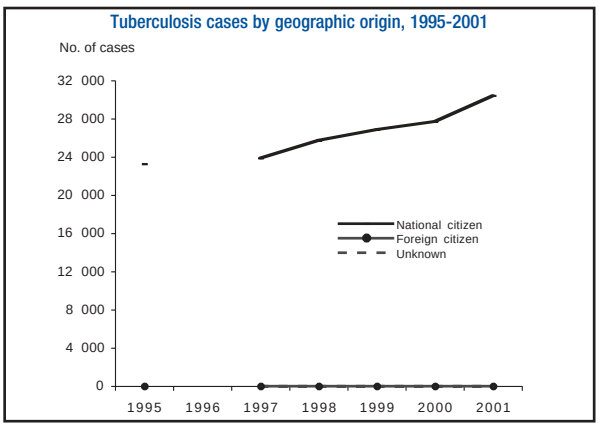
Tuberculosis notification rates by sex, 1995-2001



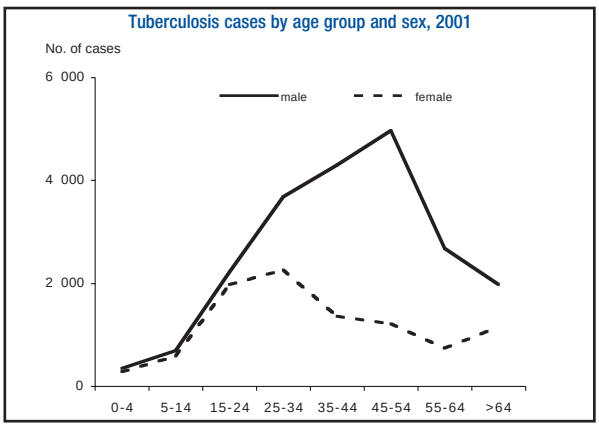
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

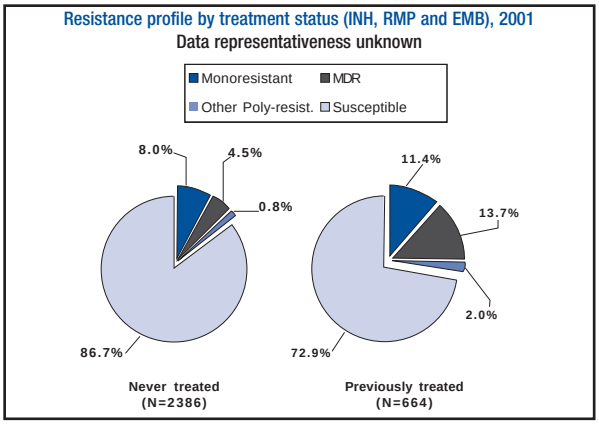


Tuberculosis cases by age group and sex, 2001



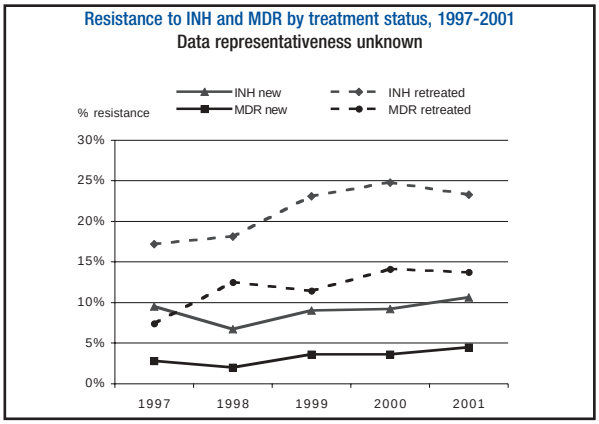
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



RUSSIAN FEDERATION

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	138 432	
Notification rate per 100 000	95.7	
Sex ratio (M:F)*	3.0	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign citizens*	541	(0.4%)
New (never-treated)	127 192	(91.9%)
Culture positive	-	-
Respiratory	132 864	(96.0%)
of which sputum smear positive	31 890	(24.0%)

Drug Resistance Surveillance, 1999

International proficiency testing	yes (2001)	
Geographic coverage	National	
Linkage with TB case notification	Yes §	
Cases with DST results	36 217	
Cases resistant to INH	_	_
Cases resistant to RMP	_	_
MDR cases	2 429	(6.7%)
Cases resistant to EMB	_	_
Cases resistant to SM	_	_

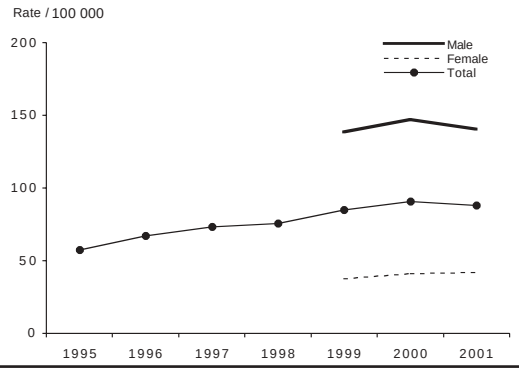
§ new respiratory cases notified to MoH; prisoners not included; data representativeness unknown

Treatment Outcome Monitoring, 2000

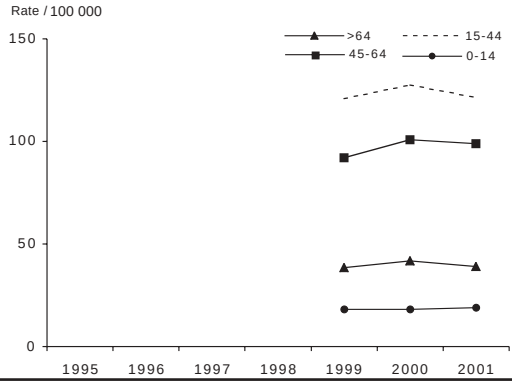
Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	38 084 *	
Success	26 524	(70%)
Death	5 169	(14%)
Failure	4 234	(11%)
Default	696	(2%)
Transfer	1 461	(4%)
Other / not evaluated	0	(0%)

*** cases notified to MoH; prisoners not included**

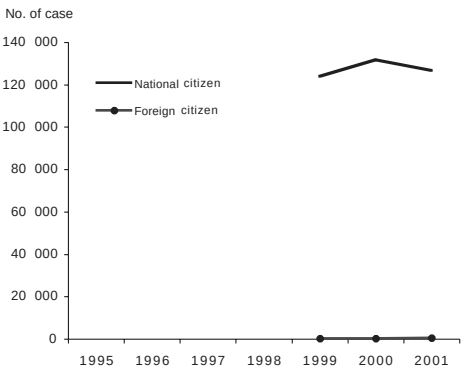
Tuberculosis notification rates, 1995-2001*



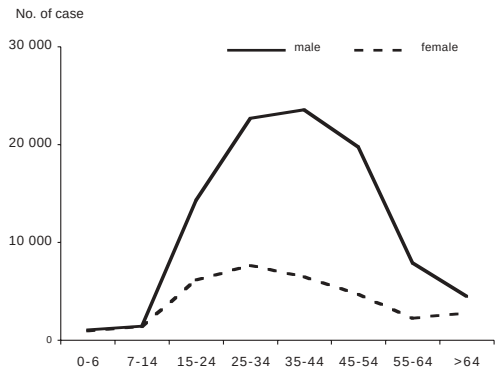
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001*



Tuberculosis cases by age group and sex, 2001*

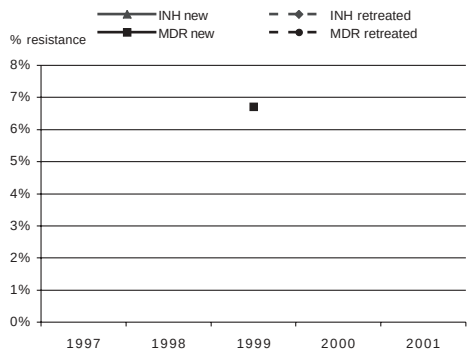


Resistance profile by treatment status (INH, RMP and EMB), 2001

Not available

Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



* New cases only

SAN MARINO

Tuberculosis case notifications, 2001

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

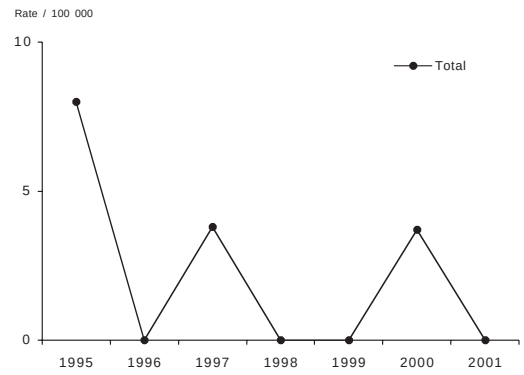
Drug Resistance Surveillance, 2001

zero cases

Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	1	
Success	0	(0%)
Death	1	(100%)
Failure	0	(0%)
Default	0	(0%)
Transfer	0	(0%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates, 1995-2001



Tuberculosis notification rates by age group, 1995-2001

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin (citizenship), 1995-2001

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2001

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2001

Zero cases in 2001

Resistance to INH and MDR by treatment status, 1997-2001

No resistance reported

SERBIA & MONTENEGRO

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	2 888	
Notification rate per 100 000	27.4	
Sex ratio (M:F)	1.8	
Median age-group, nationals	45-44 years	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	2 645	(91.6%)
Culture positive	-	-
Respiratory	2 660	(92.1%)
of which sputum smear positive	-	-

Drug Resistance Surveillance, 2001

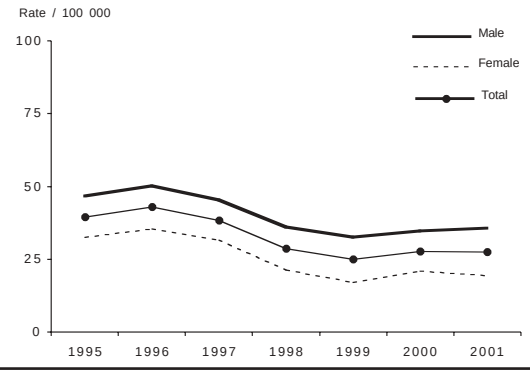
International proficiency testing	Yes	
Geographic coverage	Belgrade region	
Linkage with TB case notification	Yes	
Cases with DST results	389	
Cases resistant to INH	4	(1.0%)
Cases resistant to RMP	4	(1.0%)
MDR cases	2	(0.5%)
Cases resistant to EMB	6	(1.5%)
Cases resistant to SM	7	(1.8%)

National representativeness unknown

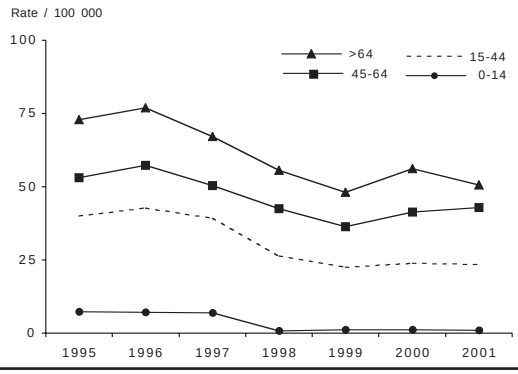
Treatment Outcome Monitoring, 2000

Geographic coverage	Belgrade region	
Cohort	new pulmonary culture positive	
Included in TOM cohort	251	
Success	225	(90%)
Death	11	(4%)
Failure	1	(0%)
Default	12	(4%)
Transfer	2	(1%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates by sex, 1995-2001*



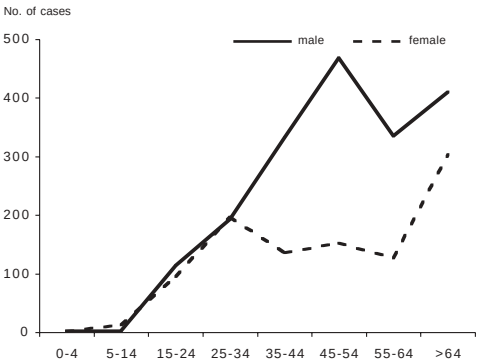
Tuberculosis notification rates by age group, 1995-2001*



Tuberculosis cases by geographic origin, 1995-2001

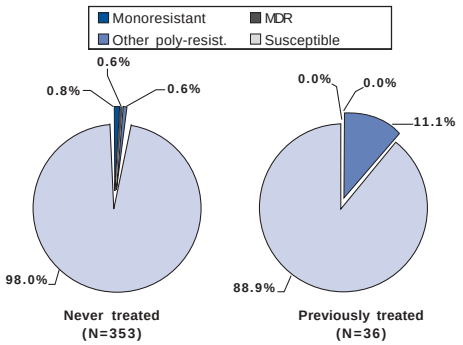
Foreigners not included in TB notifications

Tuberculosis cases by age group and sex, 2001



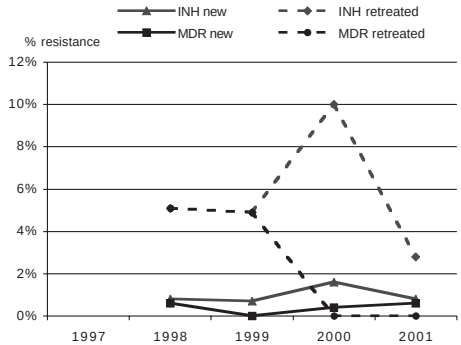
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



* Including Kosovo between 1995-1997

SLOVAKIA

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	1 076	
Notification rate per 100 000	19.9	
Sex ratio (M:F)	1.5	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	13	(1.2%)
New (never-treated)	878	(81.6%)
Culture positive	575	(53.4%)
Pulmonary	879	(81.7%)
of which sputum smear positive	269	(30.6%)

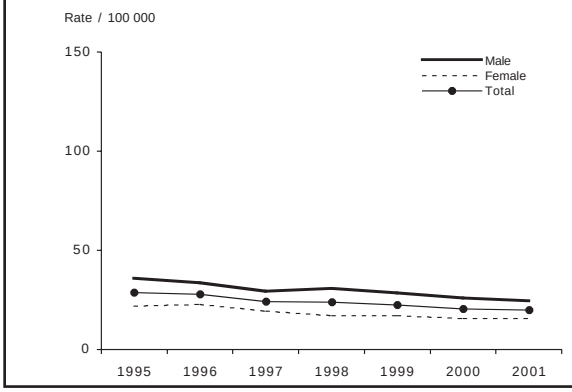
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	575	
Cases resistant to INH	22	(3.8%)
Cases resistant to RMP	6	(1.0%)
MDR cases	6	(1.0%)
Cases resistant to EMB	2	(0.3%)
Cases resistant to SM	8	(1.4%)

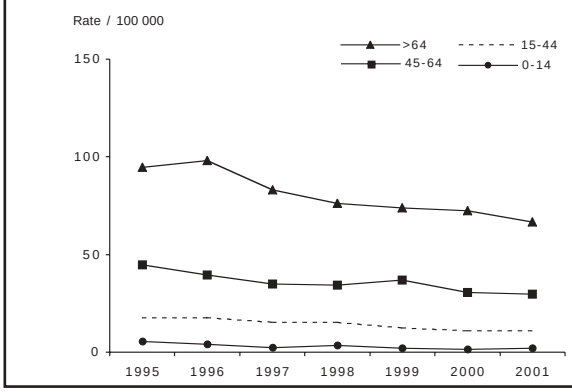
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	421	
Success	348	(83%)
Death	58	(14%)
Failure	3	(1%)
Default	9	(2%)
Transfer	0	(0%)
Other / not evaluated	3	(1%)

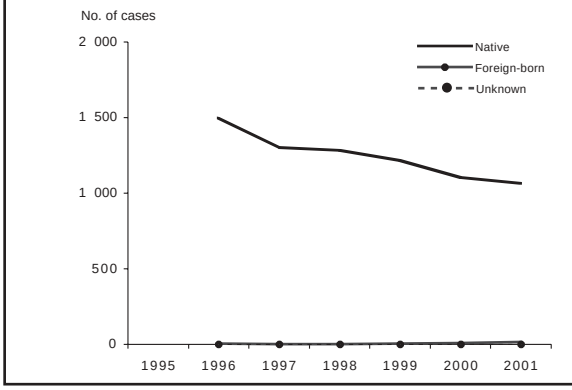
Tuberculosis notification rates by sex, 1995-2001*



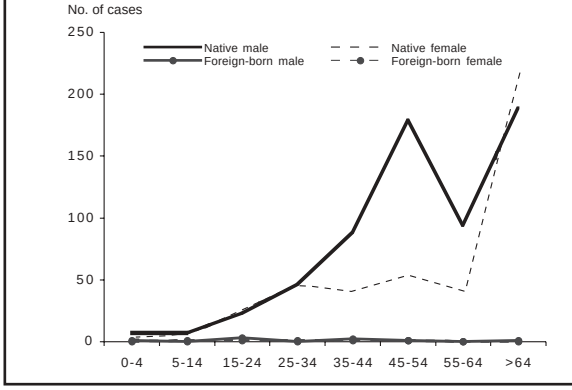
Tuberculosis notification rates by age group, 1995-2001



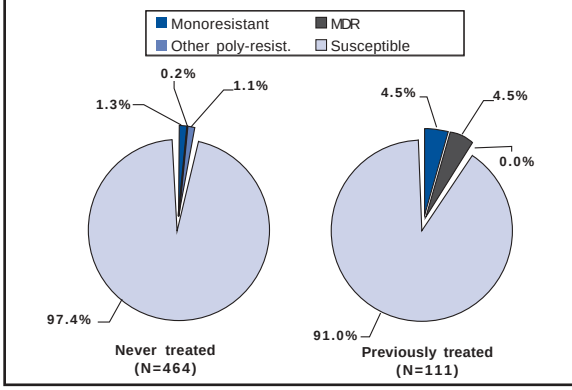
Tuberculosis cases by geographic origin, 1995-2001



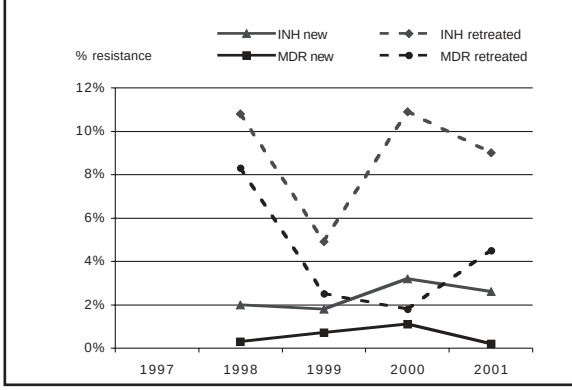
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	371	
Notification rate per 100 000	18.7	
Sex ratio (M:F)	1.5	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	45-54 years	
Individuals born abroad	84	(22.6%)
New (never-treated)	341	(91.9%)
Culture positive	308	(83.0%)
Pulmonary	306	(82.5%)
of which sputum smear positive	154	(50.3%)

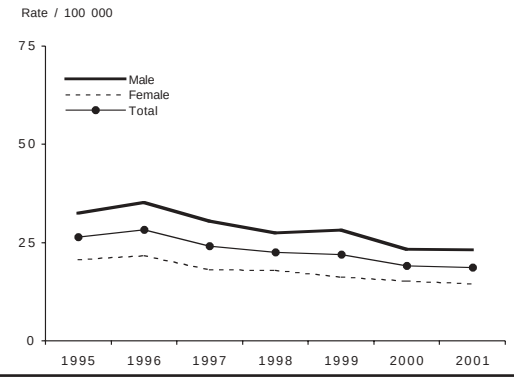
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	307	
Cases resistant to INH	12	(3.9%)
Cases resistant to RMP	4	(1.3%)
MDR cases	3	(1.0%)
Cases resistant to EMB	3	(1.0%)
Cases resistant to SM	8	(2.6%)

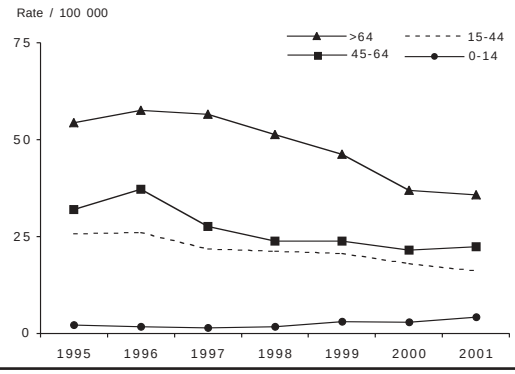
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	247	
Success	207	(84%)
Death	24	(10%)
Failure	1	(0%)
Defaulter	8	(3%)
Transfers out	7	(3%)
Other / not evaluated	0	(0%)

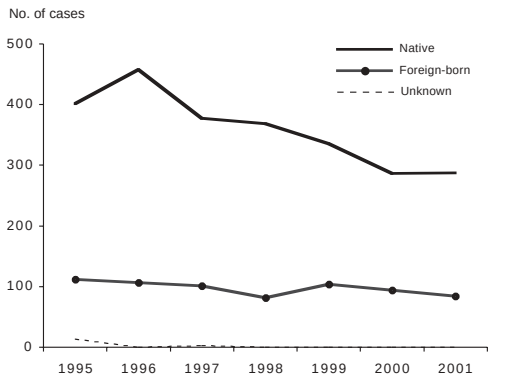
Tuberculosis notification rates by sex, 1995-2001



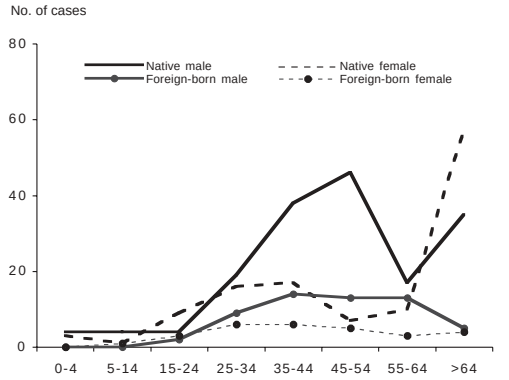
Tuberculosis notification rates by age group, 1995-2001



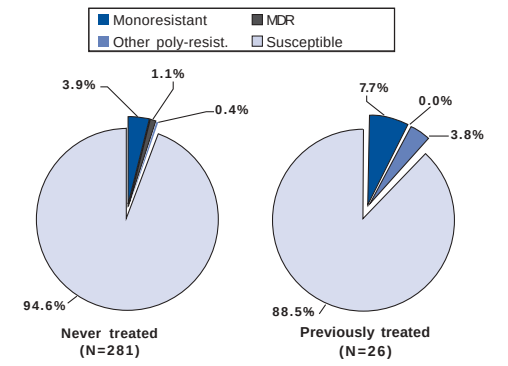
Tuberculosis cases by geographic origin, 1995-2001



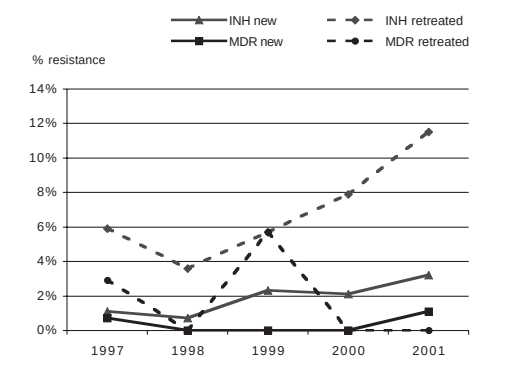
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



SPAIN

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	7 453 *	
Notification rate per 100 000	18.7	
Sex ratio (M:F)	2.0	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad §	412	(5.5%)
New (never-treated)	4 410	(59.2%)
Culture positive	2 693	(36.1%)
Respiratory	7 374	(98.9%)
of which sputum smear positive	2 780	(37.7%)

*** respiratory and meningeal cases only**
§ 64% of notifications with missing information

Drug Resistance Surveillance, 2001

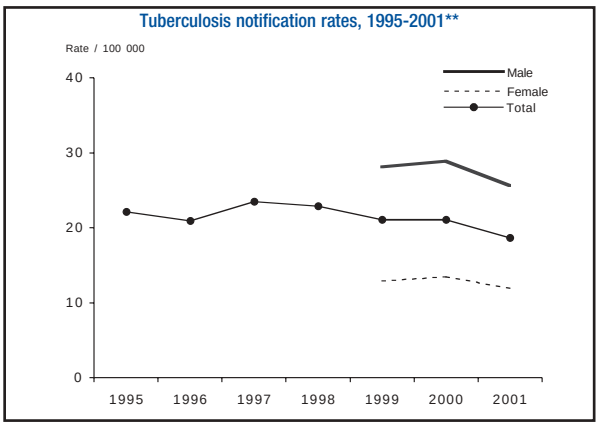
International proficiency testing	Yes	
Geographic coverage	16 regions	
Linkage with TB case notification	No §	
Cases with DST results	1 722	-
Cases resistant to INH	109	(6.3%)
Cases resistant to RMP	68	(3.9%)
MDR cases	51	(3.0%)
Cases resistant to EMB	31	(1.8%)
Cases resistant to SM	45	(2.6%)

Data representativeness unknown
§ TB cases referred to NRL

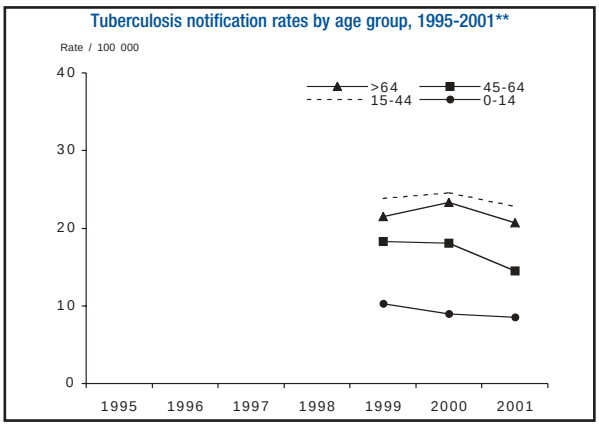
Treatment Outcome Monitoring, 2000

Not available

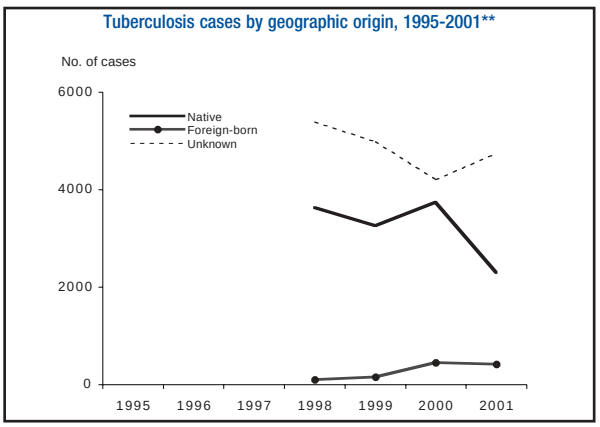
Tuberculosis notification rates, 1995-2001**



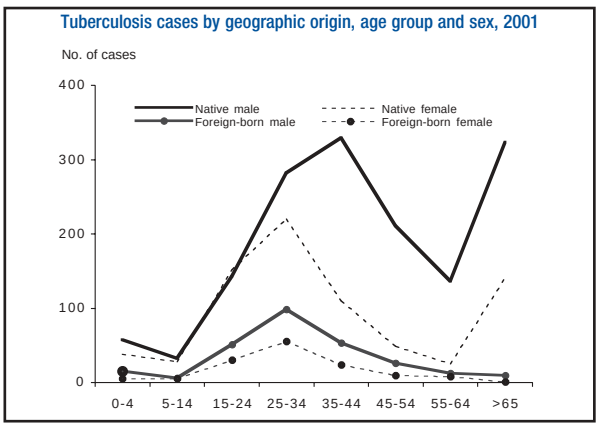
Tuberculosis notification rates by age group, 1995-2001**



Tuberculosis cases by geographic origin, 1995-2001**

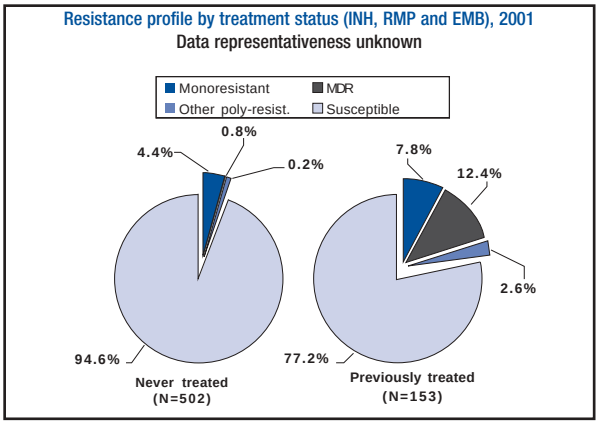


Tuberculosis cases by geographic origin, age group and sex, 2001



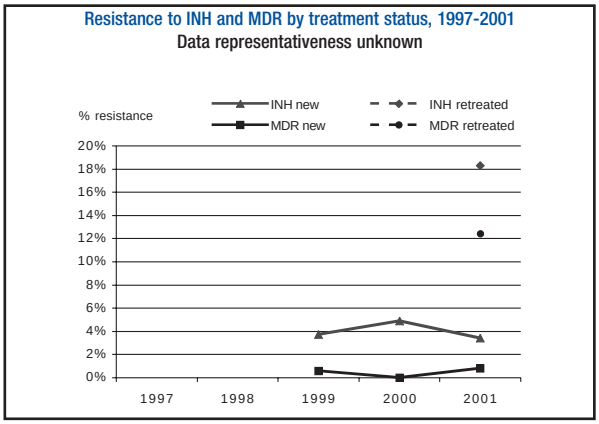
Resistance profile by treatment status (INH, RMP and EMB), 2001

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Data representativeness unknown



** TB case definition changed in 1997

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	428	
Notification rate per 100 000	4.8	
Sex ratio (M:F)	0.9	
Median age-group, nationals	> 64 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad	286	(66.8%)
New (never-treated)	394	(92.1%)
Culture positive	359	(83.9%)
Pulmonary	279	(65.2%)
of which sputum smear positive	111	(39.8%)

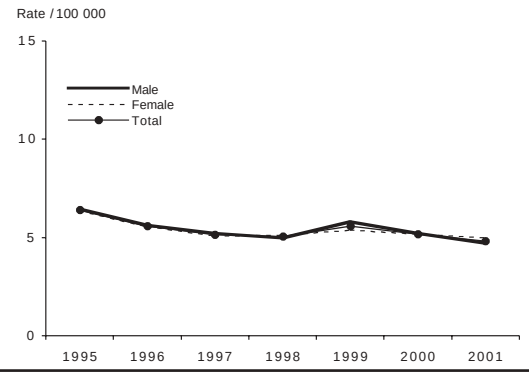
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	359	
Cases resistant to INH	31	(8.6%)
Cases resistant to RMP	6	(1.7%)
MDR cases	4	(1.1%)
Cases resistant to EMB	3	(0.8%)
Cases resistant to SM	25	(7.0%)

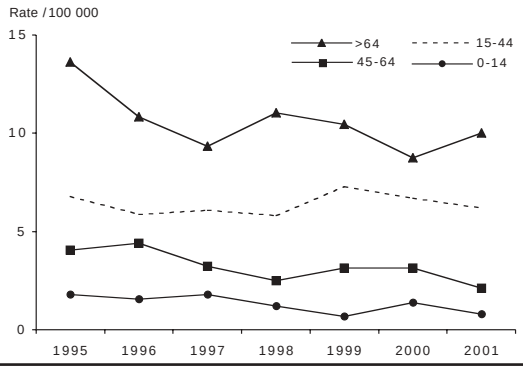
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	112	
Success	89	(79%)
Death	12	(11%)
Failure	0	(0%)
Defaulter	2	(2%)
Transfers out	0	(0%)
Other / not evaluated	9	(8%)

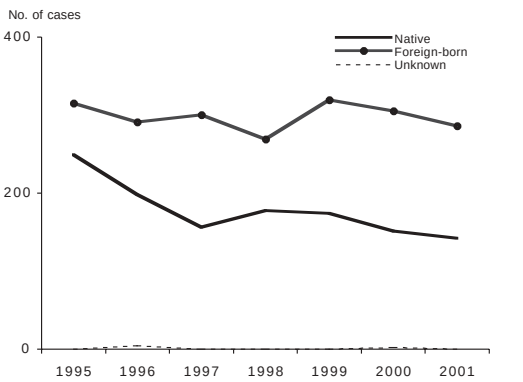
Tuberculosis notification rates by sex, 1995-2001



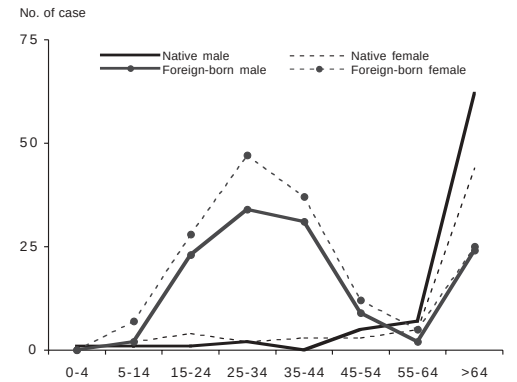
Tuberculosis notification rates by age group, 1995-2001



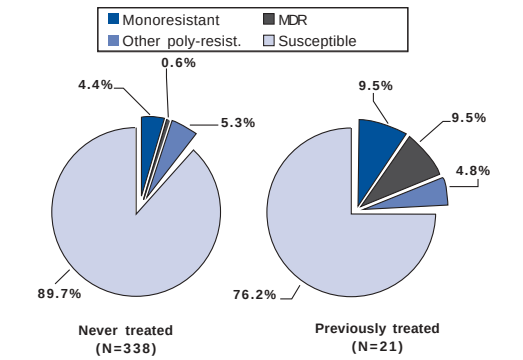
Tuberculosis cases by geographic origin, 1995-2001



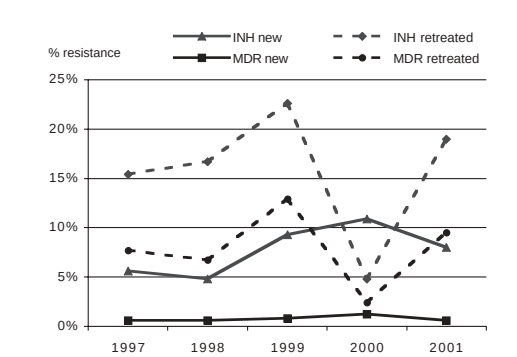
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



Switzerland

Tuberculosis case notifications, 2001

Type of data provided	Individual	
Total number of cases	611	
Notification rate per 100 000	8.5	
Sex ratio (M:F)	1.3	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	338	(55.3%)
New (never-treated)	414	(67.8%)
Culture positive	504	(82.5%)
Pulmonary	455	(74.5%)
of which sputum smear positive	129	(28.4%)

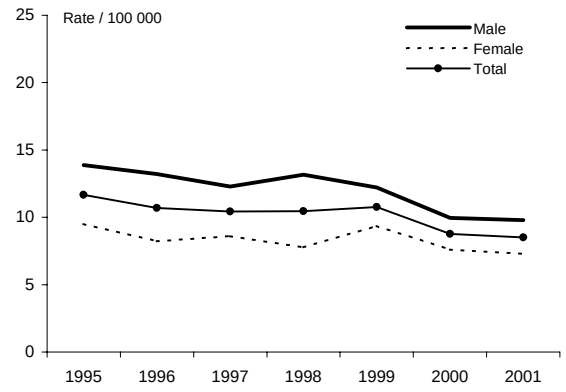
Drug Resistance Surveillance, 2001

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with TB case notification	Yes	
Cases with DST results	502	
Cases resistant to INH	23	(4.6%)
Cases resistant to RMP	9	(1.8%)
MDR cases	7	(1.4%)
Cases resistant to EMB	5	(1.0%)
Cases resistant to SM	0	(0.0%)

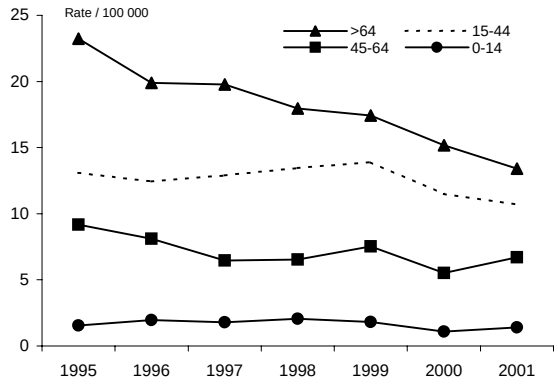
Treatment Outcome Monitoring, 2000

NOT AVAILABLE

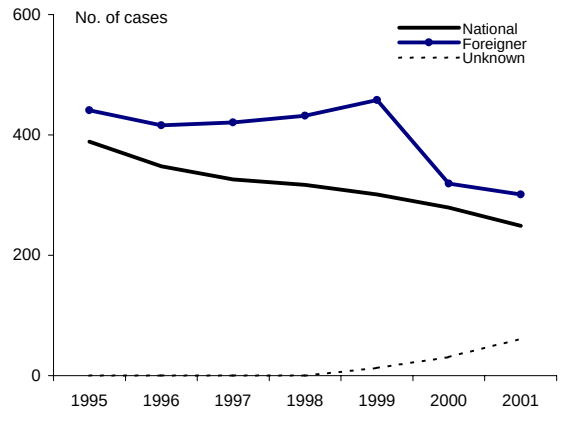
Tuberculosis notification rates by sex, 1995-2001



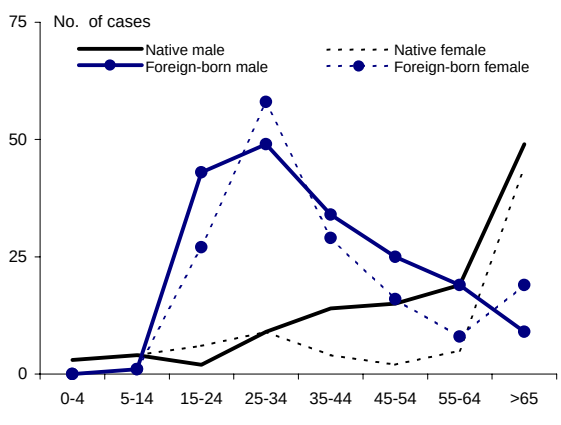
Tuberculosis notification rates by age group, 1995-2001



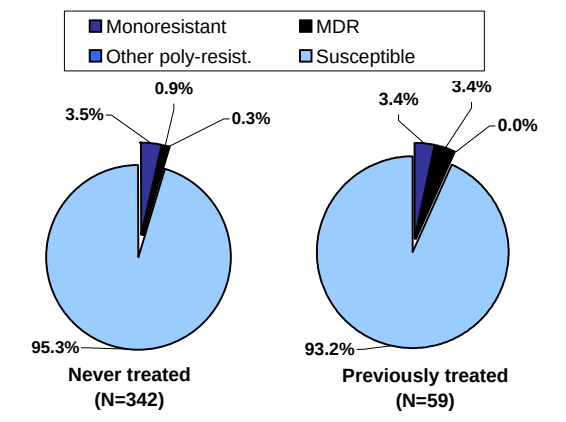
Tuberculosis cases by geographic origin, 1995-2001 (by citizenship)



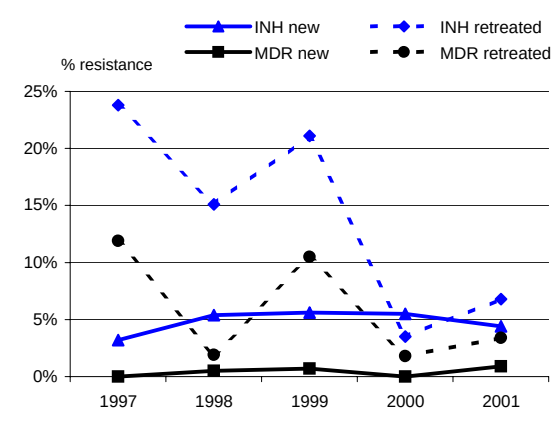
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001



Resistance to INH and MDR by treatment status, 1997-2001



Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	3 508	
Notification rate per 100 000	57.2	
Sex ratio (M:F)	1.7	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	3 446	(98.2%)
Culture positive	-	-
Respiratory	3 127	(89.1%)
of which sputum smear positive	781	(25.0%)

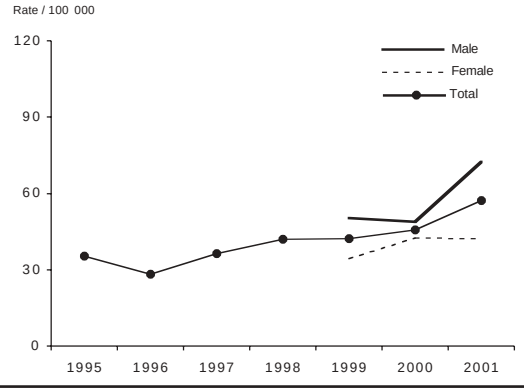
Drug Resistance Surveillance, 2001

Not available

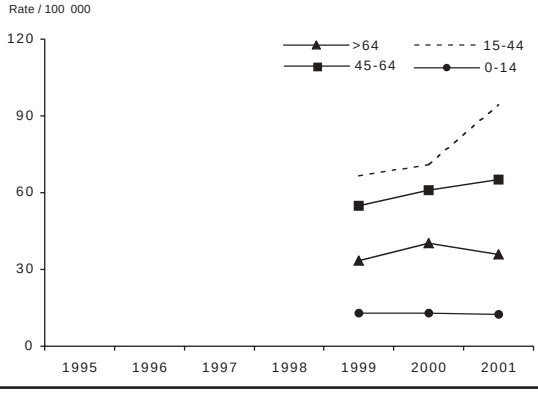
Treatment Outcome Monitoring, 2000

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	665	
Success	510	(77%)
Death	103	(15%)
Failure	52	(8%)
Default	0	(0%)
Transfer	0	(0%)
Other / not evaluated	0	(0%)

Tuberculosis notification rates by sex, 1995-2001



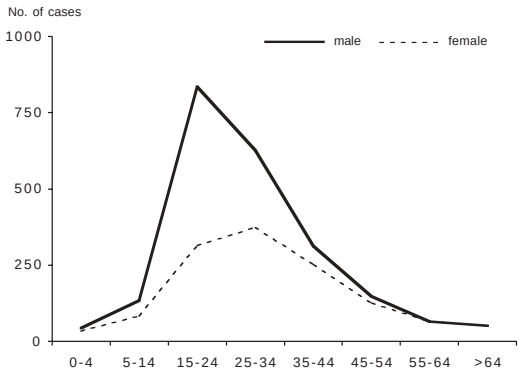
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

Not available

Tuberculosis cases by age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001

Not available

Resistance to INH and MDR by treatment status, 1997-2001

Not available

TURKEY

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	18 890	
Notification rate per 100 000	27.9	
Sex ratio (M:F)	-	
Median age-group, nationals	-	
Median age-group, non-nationals	-	
Foreign born/citizens	-	-
New (never-treated)	17 263	(91.4%)
Culture positive	-	-
Pulmonary	-	-
of which sputum smear positive	-	-

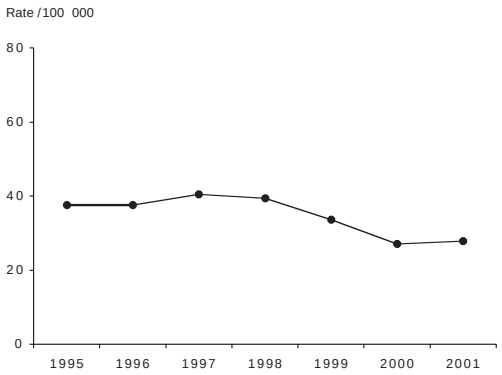
Drug Resistance Surveillance, 2001

Not available

Treatment Outcome Monitoring, 2000

Geographic coverage	not available	
Cohort	new sputum smear positive	
Included in TOM cohort	3 461	
Success	2 521	(73%)
Death	90	(3%)
Failure	0	(0%)
Default	209	(6%)
Transfer	221	(6%)
Other / not evaluated	420	(12%)

Tuberculosis notification rates, 1995-2001



Tuberculosis notification rates by age group, 1995-2001

Not available

Tuberculosis cases by geographic origin, 1995-2001

Not available

Tuberculosis cases by geographic origin, age group and sex, 2001

Not available

Resistance profile by treatment status (INH, RMP and EMB), 2001

Not available

Resistance to INH and MDR by treatment status, 1997-2001

Not available

TURKMENISTAN

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	4 922	
Notification rate per 100 000	101.8	
Sex ratio (M:F)	1.8	
Median age-group, nationals	25-34 years	
Median age-group, non-nationals	-	
Individuals born abroad	-	-
New (never-treated)	3 833	(77.9%)
Culture positive	-	-
Pulmonary	3 971	(80.7%)
of which sputum smear positive	1 797	(45.3%)

Drug Resistance Surveillance, 2001

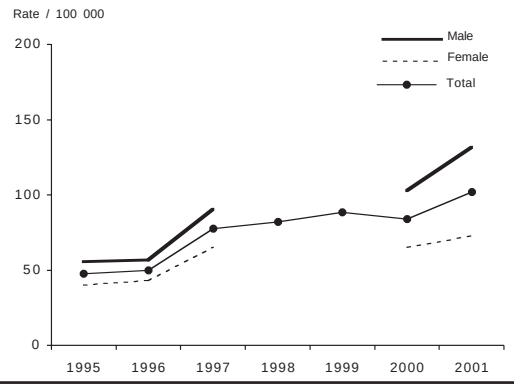
Not available

Treatment Outcome Monitoring, 2000

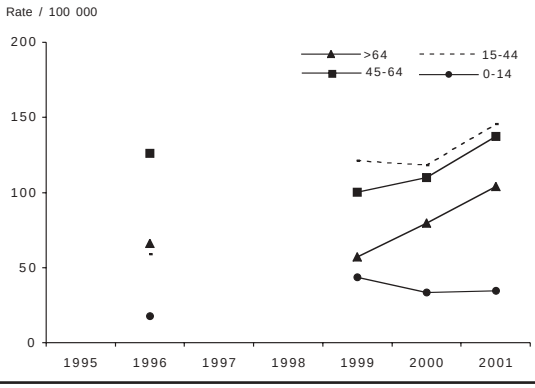
Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	1 017 *	
Success	824	(81%)
Death	89	(9%)
Failure	65	(6%)
Default	27	(3%)
Transfer	12	(1%)
Other / not evaluated	0	(0%)

*** cohort completeness unkown**

Tuberculosis notification rates by sex, 1995-2001



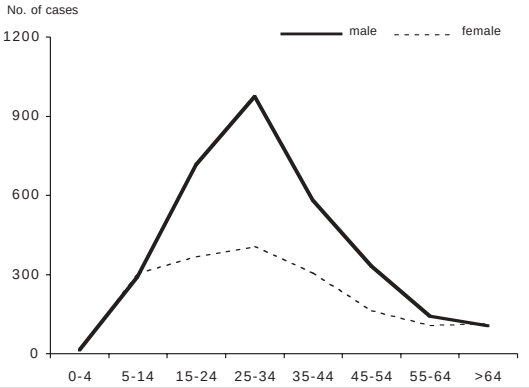
Tuberculosis notification rates by age group, 1995-2001 §



Tuberculosis cases by geographic origin, 1995-2001

Foreigners not included in TB notifications

Tuberculosis cases by age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001

Not available

Resistance to INH and MDR by treatment status, 1997-2001

Not available

§ New cases only

UKRAINE

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	36 784	
Notification rate per 100 000	74.9	
Sex ratio (M:F)*	2.5	
Median age-group, nationals*	35-44 years	
Median age-group, non-nationals	-	
Individuals born abroad	-	-
New (never-treated)	33 634	(91.4%)
Culture positive	-	-
Pulmonary	-	-
of which sputum smear positive	-	-

Drug Resistance Surveillance, 1999

International proficiency testing	No	
Geographic coverage	Kiev	
Linkage with notification	no §	
Cases with DST results	484	
Cases resistant to INH	116	(24.0%)
Cases resistant to RMP	102	(21.1%)
MDR cases	86	(17.8%)
Cases resistant to EMB	10	(2.1%)
Cases resistant to SM	110	(22.7%)

Data representativeness unknown

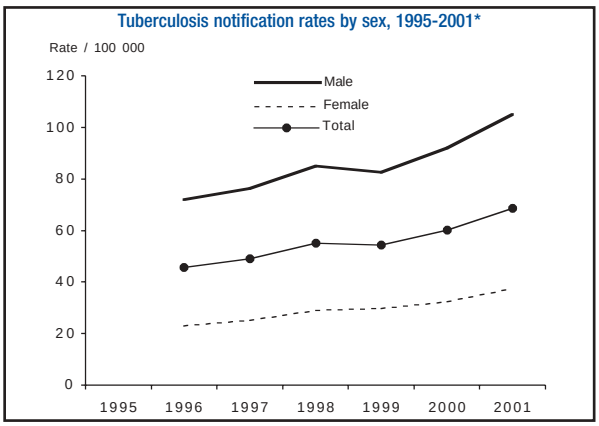
Culture and DST not routinely performed

§ Cases diagnosed at the NRL

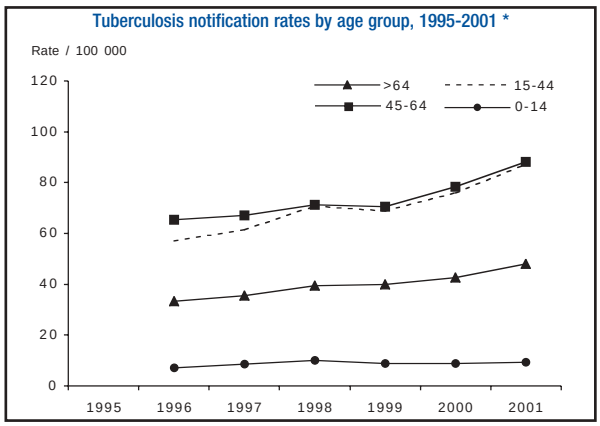
Treatment Outcome Monitoring, 2000

Not available

Tuberculosis notification rates by sex, 1995-2001*



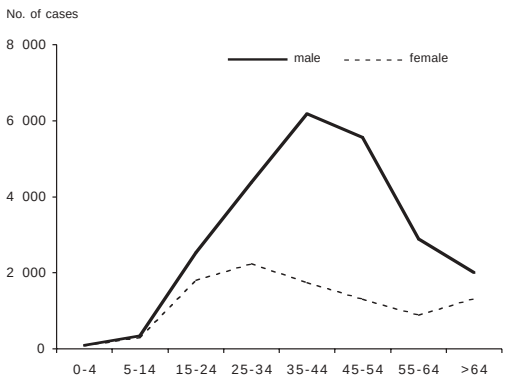
Tuberculosis notification rates by age group, 1995-2001 *



Tuberculosis cases by geographic origin, 1995-2001

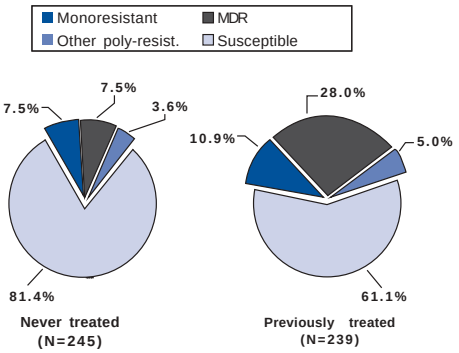
Foreigners not included in TB notifications

Tuberculosis cases by age group and sex, 2001*



Resistance profile by treatment status (INH, RMP and EMB), 1999

Data representativeness unknown



Resistance to INH and MDR by treatment status, 1997-2001

Not available

* New cases only

UNITED KINGDOM

Tuberculosis case notifications, 2001

Type of data provided	Individual *	
Total number of cases	7 017	
Notification rate per 100 000	11.8	
Sex ratio (M:F)	1.2	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad **	3 585	(51.1%)
New (never-treated) *	5 003	(71.3%)
Culture positive***	4 053	(57.8%)
Pulmonary *	3 907	(55.7%)
of which sputum smear positive*	1 394	(35.7%)

*** Scotland not included**
**** 15% missing data**
***** 41% result unknown**

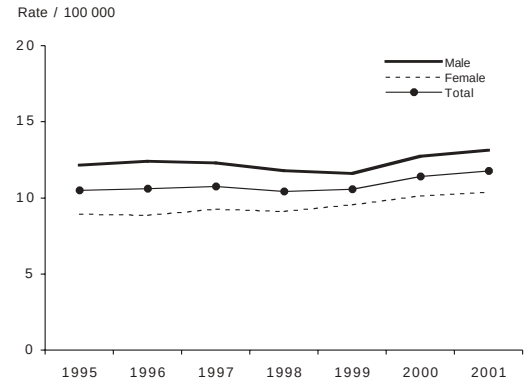
Drug Resistance Surveillance, 2001

International proficiency testing	yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	3 549	
Cases resistant to INH	229	(6.5%)
Cases resistant to RMP	40	(1.1%)
MDR cases	27	(0.8%)
Cases resistant to EMB	15	(0.4%)
Cases resistant to SM	-	-

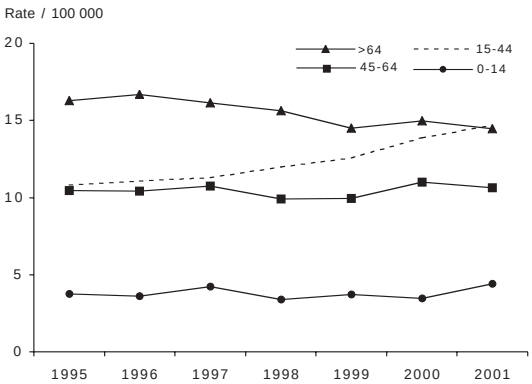
Treatment Outcome Monitoring, 2000

Not available

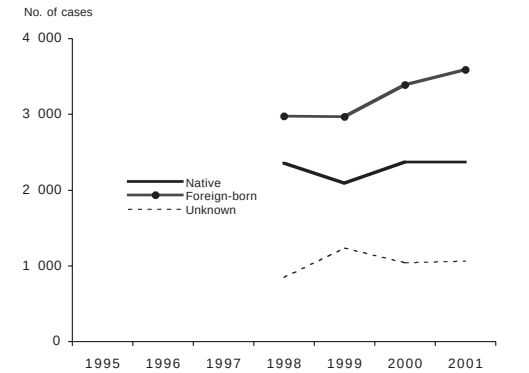
Tuberculosis notification rates by sex, 1995-2001



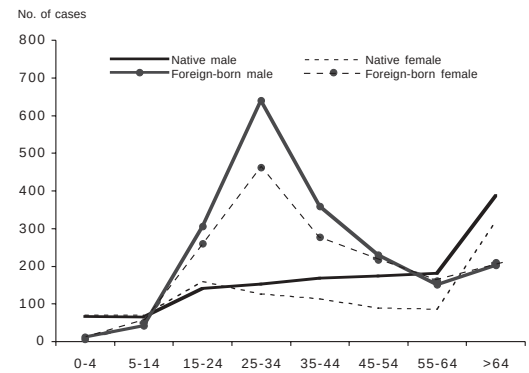
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001



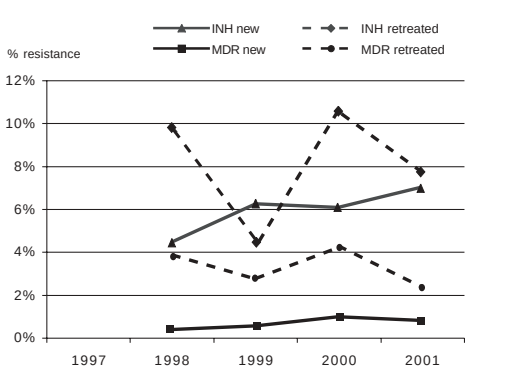
Tuberculosis cases by geographic origin, age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001*

Not available

Resistance to INH and MDR by treatment status, 1997-2001*



* Excluding Scotland

UZBEKISTAN

Tuberculosis case notifications, 2001

Type of data provided	Aggregate	
Total number of cases	18 106	
Notification rate per 100 000	71.7	
Sex ratio (M:F)	1.6	
Median age-group, nationals	25-34 years	
Median age-group, non-nationals	-	
Individuals born abroad	-	-
New (never-treated)	15 718	(86.8%)
Culture positive	-	-
Respiratory	-	-
of which sputum smear positive	-	-

Drug Resistance Surveillance, 2001

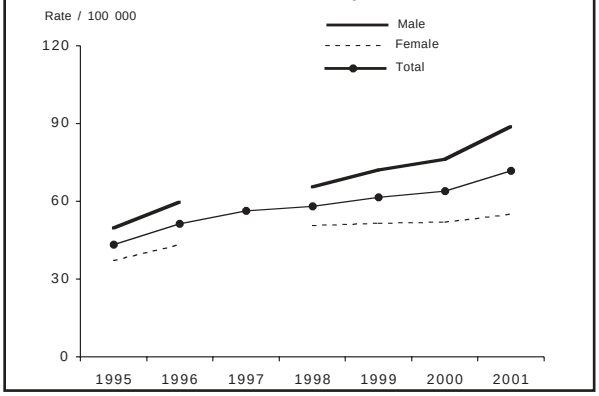
Not available

Treatment Outcome Monitoring, 2000

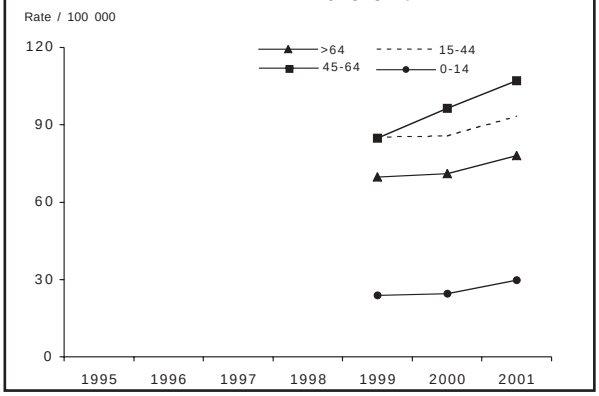
Geographic coverage	DOT areas	
Cohort	new sputum smear positive	
Included in TOM cohort	1 030 *	
Success	829	(80%)
Death	28	(3%)
Failure	64	(6%)
Default	47	(5%)
Transfer	6	(1%)
Other / not evaluated	56	(5%)

*** cohort completeness uknown**

Tuberculosis notification rates by sex, 1995-2001



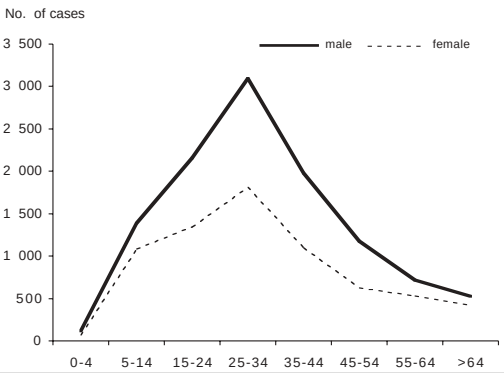
Tuberculosis notification rates by age group, 1995-2001



Tuberculosis cases by geographic origin, 1995-2001

Foreigners not included in TB notifications

Tuberculosis cases by age group and sex, 2001



Resistance profile by treatment status (INH, RMP and EMB), 2001

Not available

Resistance to INH and MDR by treatment status, 1997-2001

Not available

6. TECHNICAL NOTE

All the 52 countries of the WHO European Region participate in the tuberculosis surveillance activities co-ordinated by EuroTB. Cyprus joined the European Region in 2003 and did not participate in the data collection on which this report is based. National surveillance institutions are responsible for the quality of data provided. Country participation is on a voluntary basis. The principles, methods and definitions guiding EuroTB activities are those recommended by working groups including European experts, WHO and the International Union against Tuberculosis and Lung Disease (IUATLD) **[1-4].**

Data collection and management

Data are collected once per year. In order to allow for validation and consolidation at national level, data are collected several months after the end of the reporting year of interest or of the observation period for treatment outcome cohorts. Data reported for previous years are not routinely updated.

TB case notification

Individual, anonymous data, according to standardised definitions and data file specification are collected yearly on TB cases notified at the national level in the previous calendar year. Individual data are validated by the EuroTB team in collaboration with national correspondents and then collated in a European data set.

Countries not providing individual data supply instead aggregate data as standard tables including numbers of TB cases by age and sex, geographic origin, previous anti-TB treatment status (never treated / previously treated), site of disease and bacteriological confirmation (culture and sputum smear results). Since 1999, aggregate data are collected jointly with the WHO Regional Office for Europe, using a common form which also includes sections on characteristics of national TB surveillance and policies. The form may be completed through the Internet, via the Computerised Information System for Infectious Diseases (CISID website, 2003 : http://data.euro.who.int/), or using electronic or paper versions. Data are validated by both WHO and EuroTB teams and then aggregated in data sets (e.g. data by sex and age group) - which also include individual data – used to produce this report. Differences with data published by WHO **[5]** are mainly due to validation continuing after the deadlines of publication of WHO report.

Drug resistance surveillance (DRS)

Since 1998, data on the results of drug susceptibility testing (DST) at the start of treatment for isoniazid, rifampicin, ethambutol and streptomycin are collected yearly, together with information on the organisation of DRS and on laboratory practices for DST. DST results are provided as “susceptible” or “resistant”. If the proportion method is used, resistance is defined as > 1% colony growth at the critical concentrations of the drug being tested.

In countries providing individual data on TB cases, DST results are usually part of the individual data set (see above). In countries without individual data or where DRS is not linked to TB case notification, DST results are provided as aggregate tables with numbers of cases resistant to each drug or drug combination, by previous anti-TB treatment status and by geographic origin. Proportions of resistant cases are calculated using as a denominator cases with available DST results for at least rifampicin and isoniazid. 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.

In order to describe primary and acquired drug resistance, data are analysed by previous anti-TB treatment status or, when unfeasible due to incomplete information, by TB history. Resistance among cases never treated indicates primary drug resistance due to infection with resistant bacilli. Resistance among cases previously treated usually indicates acquired drug resistance emerging during treatment as a consequence of selection of drug-resistant mutant bacilli. It can also result from exogenous re-infection with resistant bacilli.

Depending on the characteristics of national DRS, DST data provided to EuroTB may be collected for all culture positive TB cases notified in the country, or for cases included in specific surveys or diagnosed in / referred to specific laboratories. Finally,

geographic coverage of DRS is partial in some countries. On the basis of these differences, DRS data are analysed and presented in two groups:

group A includes countries in which:
- culture and DST are routinely performed at TB diagnosis

and
- DST results are collected for all or large national samples of culture positive TB cases notified or included in representative surveys;

group B includes countries in which:
- culture and/or DST are not routinely performed at TB diagnosis
- DST results refer to TB cases diagnosed in selected laboratories and are not linked to TB notification,
- DST data provided have partial geographic coverage.

Data in group A are considered representative and comparable across countries, whereas data in group B are not considered representative of national situations, particularly in countries where culture and DST are not a diagnostic routine at TB diagnosis.

Treatment outcome monitoring (TOM)

Treatment outcome information is collected jointly with WHO (see above) in aggregate form for sputum smear positive cases and for pulmonary culture positive cases (regardless of sputum smear status) notified in the calendar year before the last (i.e. in 2000 for data collected in 2002). In each group of cases, outcome information is collected separately for new and retreated cases, for a total of four groups of cases (cohorts).

Cohorts include all cases notified in the calendar year of interest after exclusion of cases found not to be eligible at follow-up (e.g. final diagnosis other than TB or exclusion of double reports) or reported with missing information on TB treatment history. However, in some countries cases with missing information on outcome or with specific characteristics (e.g. post mortem diagnosis) are excluded from cohorts, resulting in biased calculation of proportions of outcomes and of success rates.

Completeness of cohorts is essential to ensure comparability of data. In order to assess completeness of cohorts, the sum of new and retreated cases included in TOM cohorts after exclusion of non-eligible cases is compared with the total numbers of smear positive or pulmonary culture positive cases notified to EuroTB in the same year. In case of differences between figures, countries are requested to provide information on exclusion criteria. On the basis of this information, TOM data are classified in two groups for data presentation:

- group A, cohorts including at least 85% of TB cases notified, considered as representative

- group B, cohorts including less than 85% of TB cases notified, or cases from selected areas or for which notification data for assessing completeness of TOM cohorts were not available.

Outcome categories for 2000 data collection, were those internationally recommended [3,4], with an additional category “other not evaluated” to classify cases still on treatment at 12 months, and the recommendation to include under “default” all cases lost to follow-up or reported with no information on outcome (see definitions below). However, classification of outcomes differs across countries and, particularly, incomplete follow-up laboratory information results in more frequent use of “treatment completion” instead of “cure” and of “still on treatment” instead of “failure”. These differences, among others, limit the international comparisons of treatment outcome data. Cases are observed until meeting an outcome or for a maximum of 12 months after the start of treatment.

TOM data published in this report may differ from those published from WHO **[5]** due to longer validation, inclusion in cohorts of cases classified as “other not evaluated” and pooling of data from DOTS and non-DOTS areas. .

Surveillance of TB-HIV coinfection

HIV serostatus of TB cases is collected through TB notification in some European countries **[6]** but this information is not routinely reported at the European level. TB is an AIDS indicative disease **[7]** and information on TB morbidity at diagnosis in Europe is available through the project “Surveillance of HIV/AIDS in Europe” (EuroHIV) and presented in Table 15. The contribution of HIV to total TB incidence is higher than that inferable from these data, since TB diagnosed after AIDS is not reported to AIDS notification systems. However, in an attempt to estimate a “minimum” proportion of HIV-associated TB, numbers of AIDS cases with TB were compared with total TB cases notified in the year. AIDS data are presented here by year of report and differ from those published by EuroHIV, which are based on year of diagnosis, adjusted for reporting delays.

Definitions

Laboratory confirmation

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 complex.

- 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 case 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

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 previously treated cases, relapses are included in notifications in all countries whereas the notification of other previously treated cases (failures, returns after default and chronic cases) varies across countries **[8]**. In countries where information on previous anti-TB treatment is not available or is incomplete, previous treatment status is classified according to previous TB diagnosis.

Site of disease

Pulmonary case

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

Extrapulmonary case

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

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

As an alternative to the recommended "pulmonary" classification above, cases can be classified according to the "respiratory" classification, in which pleural and intrathoracic lymphatic TB cases are classified as "respiratory" cases together with pulmonary cases (as defined above), and cases with disease of any other site as extrarespiratory.

Geographic origin

The geographic origin of TB cases is provided according to place of birth (born in the country / foreign born) or, if unavailable, citizenship (citizen / non citizen). The specific country or continent of origin is collected in individual data. The term "foreigner" as used in this report refers to both cases of foreign citizenship and cases born outside 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.

Treatment outcome categories

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

Other, not evaluated
Patient still on treatment at 12 months and meeting any of the following conditions:
- treatment prolonged because of side effects / complications
- initial regimen planned for > 12 months
- information on the reasons for being still on treatment not available
- treatment changed due to polyresistance (i.e. resistance to at least two first line drugs) on the initial isolate.

Data presentation

Numbers of cases are not adjusted for under-reporting or for over-reporting of TB cases. Among 28 European countries which provided recent estimates of completeness of TB notification, 21 reported completeness of reporting of 95% or over **[EuroTB, unpublished data]**.

For calculation of notification rates, country population denominators by age and sex are taken from United Nations demographic estimates, 2000 update **[9]**, except for Andorra and San Marino **[10, 11]** and Monaco (2000, provided by national correspondent). Population estimates by geographic origin, provided by national correspondents, were updated in 2002-3.

Based on epidemiological and geographical considerations, the 51 countries of the WHO European Region have been grouped into three geographic areas:
- West: the 15 European Union countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom) plus Andorra, Iceland, Israel, Malta, Monaco, Norway, San Marino, Switzerland;
- Centre: Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, the Former Yugoslav Republic (FYR) of Macedonia, Poland, Romania, Serbia & Montenegro, Slovakia, Slovenia, Turkey;
- East: the 15 Newly Independent States of the former Soviet Union: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

The respective total populations of the three areas were 397, 188 and 290 million in 2001.

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

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 Resp 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 Resp J* 2000; 16: 364-371.

3. Veen J, Raviglione M., Rieder HL, et al. Standardised tuberculosis treatment outcome in Europe Eur. Resp. J. 1998; 12: 505-510.

4. World Health Organization, The International Union against Tuberculosis and Lung diseases and the Royal Netherlands Tuberculosis Association. Revised international definitions in tuberculosis control. Int. J. Tuberc Lung Dis 2001; 5; 213-215.

5. World Health Organization. Global Tuberculosis Control: Surveillance, Planning, Financing. WHO Report 2003. Geneva, Switzerland, WHO/CDS/TB/2003.316.

6. European Centre for the Epidemiological Monitoring of AIDS. HIV testing and surveillance among tuberculosis patients and tuberculosis prevention in HIV-infected persons in Europe. HIV/AIDS Surveillance in Europe. 1995. Quarterly report N° 46: 49-57.

7. Ancelle Park R. Expanded European AIDS case definition. Lancet 1993; 341-2.

8. EuroTB (InVS/KNCV) and the national coordinators for tuberculosis surveillance in the WHO European Region. Surveillance of tuberculosis in Europe. Report on tuberculosis cases notified in 1998, January 2001.

9. United Nations Population Division. Annual Populations 1950-2050 (The 2000 Revision), United Nations, New York, 2000.

10. United Nations Population Division. Annual Populations 1950-2050 (The 1998 Revision), United Nations, New York, 1998.

11. Council of Europe. Recent demographic developments in Europe, 2002. December, 2002.