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

Report on tuberculosis cases notified in 2000

Institut de Veille Sanitaire

WHO Collaborating Centre for the Surveillance of Tuberculosis in Europe

Royal Netherlands Tuberculosis Association (KNCV)

European Commission

KNCV

Institut de Veille Sanitaire

Surveillance of tuberculosis in Europe: participating countries and national institutions (2001)

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 soziale Sicherheit und Generationen	Vienna
Azerbaijan	Ministry of Health	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
	Public Health Institute	Banja Luka
Bulgaria	Ministry of Health	Sofia
Croatia	Croatian National Institute of Public Health	Zagreb
Czech Republic	Clinic of Chest Diseases & Thoracic Surgery	Prague
	Institute of Health Information and Statistics	
Denmark	Statens Serum Institut	Copenhagen
Estonia	Tartu University Lung Hospital	Tartu
Finland	National Public Health Institute	Helsinki
France	Direction Générale de la Santé	Paris
	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 Pneumology & 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	Phtisiopneumology Institute	Chisinau
Monaco	Direction de l'Action Sanitaire et Sociale	Monaco
Netherlands	Royal Netherlands Tuberculosis Association (KNCV)	The Hague
Norway	National Health Screening Service	Oslo
Poland	National Tuberculosis & Lung Diseases Institute	Warsaw
Portugal	Ministério da Saúde	Lisbon
Romania	Institute of Pneumophtisiology "Marius Nasta"	Bucharest
Russian Federation	Russian Research Institute of Pneumophtisiology	Moscow
San Marino	Ospedale di Stato di San Marino	Cailungo
Slovakia	National Institute of TB and Respiratory Diseases	Bratislava
Slovenia	University Institute of Diseases of the Chest	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
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	Scottish Centre for Infection & Environmental Health	Glasgow
	Communicable Disease Surveillance Centre, NI	Belfast
Uzbekistan	Scientific Research Institute of Pthisiology and Pulmonology	Tashkent
Yugoslavia	Institute of Pulmonology & Protection against Tuberculosis	Belgrade

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1.1 SUMMARY

EuroTB is a European network for the surveillance of tuberculosis (TB) created in 1996 with the aim of improving the contribution of surveillance to TB control. Its main activities are the annual collection, validation, analysis and publication of standardised surveillance data provided from national surveillance institutions in the 51 countries of the WHO European Region. In 2000, 385 810 cases of TB were notified in the Region, with large differences in notification rates between three areas:

- 12 cases per 100 000 population in the West (the 15 EU countries, Andorra, Iceland, Israel, Malta, Monaco, Norway, San Marino and Switzerland);
- 90 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 2000, in the West, notification rates decreased by 3% yearly overall, but increased in Denmark, Luxembourg, Norway and the United Kingdom, due to an increase in foreign-born cases. In 10 countries with available data, average annual decreases in numbers of cases were more marked among nationals (-7%) than among persons of foreign origin (-1.5%). In the Centre, rates decreased by 3-6% yearly in nine countries, were stable in Albania, and increased by 2-4% annually in Bosnia-Herzegovina, Bulgaria and Romania. In the East, rates in 2000 were 57% higher than in 1995, with mean annual increases of 5-12% in most countries. Over the same period, TB cases diagnosed in specific population groups were increasingly included in TB notifications.

Age specific rates were highest in the age group over 64 years in the West (24% of cases) and in the Centre (26% of cases; Romania excluded), while in the East rates peaked in the age group 25-34 years (22% of cases). Rates were higher in men, with higher sex ratios in countries with higher notification rates. In the West, 30% of the cases were of foreign origin (>40% in nine countries). Overall, 10% of cases had already had a treated or untreated TB episode in the past. In countries using the pulmonary classification (n=34), pulmonary cases represented 70% of TB cases in the West, 82% in the East and 86% in the Centre. Nearly half of the pulmonary cases in the West and Centre, and one third in the East were sputum smear positive. Overall, 50% of all cases notified in the West, the Centre and the Baltic states were confirmed by culture (range: 19-100%). In the other countries in the East information on culture remained incomplete.

Nationwide, representative data on drug susceptibility testing at the start of treatment for TB cases notified in 2000 were provided from 24 countries. Among cases never treated, the proportions of primary multi-drug resistant (MDR) cases were very high in the Baltic states (9-12%), and Israel (14%), and averaged 0.7% in 20 countries in the West and Centre (range 0-1.9%). Among cases previously treated, 4.7% were MDR in the West and Centre, and 37% in the Baltic states. In the West, the global proportion of MDR cases was higher in persons of foreign origin (2.7%) than in nationals (0.5%).

Nationwide treatment outcome data for new smear positive TB cases notified in 1999 were available for 22 countries. The proportion of cases with no information on outcome was lower than 10% in the majority of the countries. Death was reported in 7-8% of cases in each geographic area. The median success rate (cure or treatment completion) was 84% in the Centre, 77% in the West, and 72% in the East. In the East, median proportions of failure (5%), default (5%) and transfer (2%) were higher than in the Centre and in the West.

Surveillance data indicate that in most countries in Western and Central Europe, TB control remains effective overall. In the West, the population of foreign origin is a risk group for both TB and drug resistance, deserving targeted control approaches. In the East, the huge increase in TB notification rates indicates increasing TB incidence and, in some countries, also improved completeness of notification and case detection, due to expanding implementation of the WHO recommended DOTS strategy for TB control. High levels of drug resistance, and in some countries, poor treatment outcomes indicate a sub-optimal past or present performance of TB control programmes, in a time of socio-economic hardship. These trends and the possible impact of the spreading HIV epidemic, call for urgent action to readapt and strengthen TB control programmes in the East.

1.2 RÉSUMÉ

EuroTB est un réseau européen de surveillance de la tuberculose (TB) créé en 1996 dans le but d'améliorer la contribution de la surveillance au contrôle de la TB. Ses activités principales sont le recueil, la validation, l'analyse et la publication de données de surveillance standardisées, fournies par les institutions nationales de surveillance dans les 51 pays de la Région Europe de l'OMS. En 2000, 385 810 cas de TB ont été déclarés dans la Région, avec des différences importantes dans les taux de déclaration selon trois zones :

- 12 cas pour 100 000 habitants à l'Ouest (les 15 pays de l'UE ainsi que Andorre, Islande, Israël, Malte, Monaco, Norvège, Saint Marin et Suisse) ;
- 90 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 2000, les taux de déclaration ont globalement diminué de 3 % par an à l'Ouest mais ont augmenté au Danemark, au Luxembourg, en Norvège et au Royaume-Uni, dus à une progression du nombre de cas nés à l'étranger. La diminution annuelle du nombre de cas est plus importante chez les nationaux (-7 %) par rapport aux individus d'origine étrangère (-1,5 %) (données de 10 pays). Au Centre, les taux annuels ont diminué de 3 à 6 % dans neuf pays, sont restés stables en Albanie et ont augmenté de 2 à 4 % par an en Bosnie-Herzégovine, en Bulgarie et en Roumanie. A l'Est, les taux en 2000 sont 57 % plus élevés qu'en 1995, avec des augmentations annuelles moyennes de 5 à 12 % dans la plupart des pays. Sur cette même période les cas de TB diagnostiqués dans des groupes de population spécifiques, sont de plus en plus inclus parmi les cas déclarés.

Les taux de déclaration par âge sont plus élevés dans le groupe d'âge au-dessus de 64 ans à l'Ouest (24 % des cas), et au Centre (26 % des cas ; Roumanie exclue) alors qu'à l'Est les taux sont plus élevés dans le groupe d'âge 25-34 ans (22 % des cas). Les taux sont plus élevés chez les hommes, avec des différences entre sexes plus importantes dans les pays où le taux de déclaration est plus élevé. A l'Ouest, 30 % des cas sont d'origine étrangère (>40 % dans neuf pays). Globalement, 10 % des cas ont un antécédent de TB traité ou non-traité. Dans les pays utilisant la classification pulmonaire (n=34), 70 % des cas sont pulmonaires à l'Ouest, 82 % à l'Est et 86 % au Centre. Globalement, environ 50 % des cas ont un frottis d'expectoration positif à l'Ouest et au Centre et un tiers à l'Est. Environ 50 % des cas à l'Ouest, au Centre et au pays Baltes ont été confirmés par la culture (19-100 %). L'information sur la culture reste incomplète dans les autres pays de l'Est.

Vingt-quatre pays ont fourni des données nationales représentatives sur les antibiogrammes en début de traitement pour les cas de TB déclarés. Parmi les cas sans antécédents de traitement, la proportion de cas multirésistants (MDR) est très élevée au pays Baltes (9 à 12 %) et en Israël (14 %) alors qu'elle est de 0,7 % en moyenne dans 20 pays à l'Ouest et au Centre (0 à 1,9 %). Parmi les cas déjà traités, 4,7 % sont MDR à l'Ouest et au Centre et 37 % dans les pays baltes. A l'Ouest, la proportion globale de cas MDR est plus élevée parmi les cas d'origine étrangère (2,7 %) que parmi les cas nationaux (0,5 %).

Des données nationales sur le résultat des traitements des cas de TB déclarés en 1999 sont disponibles pour 22 pays. La proportion de cas non renseignés est inférieure à 10 % dans la plupart des pays. La proportion médiane de décès est comparable dans les trois zones (7 à 8 %). La proportion médiane de résultats favorables (guérison ou traitement complété) est de 84 % au Centre, 77 % à l'Ouest, et 72 % à l'Est, où les proportions médianes de faillites (5 %), d'interruptions (5 %) et de transfers (2 %) sont plus élevées qu'à l'Ouest et au Centre.

Dans la plupart des pays de l'Ouest et du Centre de l'Europe, les données de surveillance indiquent que le contrôle de la TB reste globalement efficace. A l'Ouest, la population d'origine étrangère représente un groupe à risque de TB et de résistance et nécessite d'interventions spécifiques. A l'Est, l'augmentation massive des taux de déclaration indique une augmentation de l'incidence de la TB, et, dans certains pays, une meilleure exhaustivité et un diagnostic plus adapté dans le cadre de l'expansion de la stratégie de contrôle DOTS recommandée par l'OMS. Les niveaux élevés de résistance aux médicaments antituberculeux et les résultats de traitement peu favorables observés dans plusieurs pays montrent une performance réduite des programmes de lutte, dans une période de difficultés socio-économiques. Ces tendances, qui pourraient être accentuées par l'épidémie d'infections à VIH, appellent à une réadaptation et à un renforcement urgents des programmes de lutte anti-tuberculeuse à l'Est.

1.3 РЕЗЮМЕ

Европейская сеть ЕвроТБ по эпиднадзору за туберкулезом была создана в 1996 году с целью улучшить влияние эпиднадзора на контроль туберкулеза. Главные направления работы этой сети включают сбор, подтверждение, анализ и распространение стандартных данных по эпиднадзору за туберкулезом предоставленных национальными учреждениями по эпиднадзору за туберкулезом в 51 стране Европейского региона ВОЗ. В 2000 г. в регионе было зарегистрировано 385 810 случаев туберкулеза . Показатели зарегистрированных случаев значительно отличаются в трех географических регионах :

- 12 случаев на 100 000 в Западной Европе (15 стран Европейского Сообщества, Андорра, Исландия, Израиль, Мальта, Монако, Норвегия, Сан-Марино, Швейцария) ;
- 90 случаев 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 2000 гг., в Западной Европе показатели всех зарегистрированных случаев вообщем понизились на 3 %, но увеличились в Дании, Люксембурге, Норвегии и Соединенном Королевстве вследствие увеличения случаев туберкулеза у пациентов родившихся за границей. В 10 странах предоставивших данные, более значительное среднегодовое снижение показателей наблюдалось у местных жителей (-7 %) по сравнению с пациентами иностранного происхождения (-1.5 %). В Центре показатели снизились ежегодно на 3-6 % в 9 странах, но остались стабильными в Албании и увеличились ежегодно на 2-4 % в Босне и Герцеговине, Болгарии и Румынии. В Восточной Европе показатели увеличились в 2000 г. на 57 % по сравнению с 1995 г. с средним годовым ростом от 5 до 12 % в большинстве стран. За тот же период случаи туберкулеза зарегистрированные у отдельных групп населения в возрастающей мере включались в регистрацию туберкулеза.

В Западной Европе показатели зарегистрированных случаев были самыми высокими у пациентов в возрасте 64 лет (24 % случаев) и в Центральной Европе (26 % случаев, за исключением Румынии) тогда как в Восточной Европе значительно повысились в возрастной группе 25-34 лет. Показатели зарегистрированных случаев были выше у мужчин, с большей разницей по половому признаку в странах с более высокими показателями. Пациенты иностранного происхождения составляли 30 % от всех зарегистрированных случаев в Западной Европе (> 40 % в 9 странах). Вообщем, 10 % случаев имели леченный или нелеченный эпизод туберкулеза в прошлом. В странах использовавших легочную классификацию (n=34), легочные случаи составляли 70 % случаев туберкулеза в Западной Европе, 82 % в Восточной Европе и 86 % в Центральной Европе. Случаи с положительным мазком мокроты составляли приблизительно половину случаев на Западе и в Центре и треть случаев в Восточной Европе. Вообщем, 50 % всех зарегистрированных случаев на Западе и в Центре и в Балтийских странах были подтверждены культуральным исследованием (в пределах 19 – 100 %). В остальных странах Восточной Европы информации о культуральном исследовании неполны.

24 страны предоставили общенациональные репрезентативные данные о пробах на лекарственную устойчивость в начале лечения у зарегистрированных случаев туберкулеза. У никогда нелеченных случаев, пропорции случаев с первичной множественной лекарственной резистентностью (MDR) были самыми высокими в Балтийских странах (9-12 %) и в Израиле (14 %) и составляли 0. 7 % в среднем в 20 странах Западной и Центральной Европы (в ряду 0-1.9 %). На Западе множественная резистентность у случаев получавших лечение в прошлом составляла 4.7 % случаев в Западной и Центральной Европе и 37 % случаев в Балтийских странах. В Западной Европе глобальная пропорция случаев с MDR была выше у пациентов иностранного происхождения (2.7 %) по сравнении с местными жителями (0.5 %).

22 страны предоставили общенациональные данные о результатах лечения в 1999 г. у новых случаев туберкулеза с положительным мазком мокроты. Пропорция случаев у которых информации о результатах лечения не доступны была ниже 10 % в большинстве стран. В каждой географической области сообщалось о 7-8 % летальных исходов. Средние показатели успеха (лечение или завершение лечения) составляли 84 % в Центральной Европе, 77 % в Западной Европе и 72 % в Восточной Европе. В Восточной Европе средний показатель безуспешного лечения (5 %), прерванного лечения (5 %) и направления пациента в другое лечебное учреждение (2 %) был выше по сравнению с Центром и с Западом.

РЕЗЮМЕ

Данные по эпиднадзору за туберкулезом в большинстве стран Западной и Центральной Европы свидетельствуют, что контроль туберкулеза эффективным. На Западе граждане иностранного происхождения составляют группу риска для туберкулеза и лекарственной резистентности заслуживая 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 в некоторых странах вследствие лучшей интеграции стратегии ДОТС для контроля туберкулеза, рекомендуемой ВОЗ. Высокий уровень лекарственной резистентности и слабо доступные результаты лечения в некоторых странах свидетельствуют о ухудшении работы программ по эпиднадзору за туберкулезом в периоде социально-экономических трудностей. Вышесказанное и возможное влияние распространения эпидемии ВИЧ, вынуждают приятие срочных мер по приспособлению и усилению контроля туберкулеза в Восточной Европе.

2. TECHNICAL NOTE

All the 51 countries of the WHO European Region participate in the tuberculosis surveillance activities co-ordinated by EuroTB. National surveillance institutions are appointed for participation in EuroTB activities and 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 WHO and the International Union against Tuberculosis and Lung Disease (IUATLD) and approved by European country representatives **[1-3].**

2.1 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 and treatment outcome data more than 18 months after the end of the reporting year of interest. Data reported for previous years are not routinely updated.

TB case surveillance

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.

When individual data cannot be provided, data on TB cases notified are provided as aggregate data through 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 being collected jointly with the WHO Regional Office for Europe, using a common form which includes sections on characteristics of national surveillance and TB control policies and on treatment outcome monitoring. The form may be completed through the Internet, via the Computerised Information System for Infectious Diseases (CISID), an application developed by the WHO Regional Office for Europe, or using electronic or paper versions. Data provided are validated by both WHO and EuroTB teams. After validation, specific aggregate data sets are created (e.g. data by sex and age group) which also include data initially provided in individual form and constitute the basis for the analyses published in this report. Data presented in this report may differ from those published from WHO **[4],** mainly due to the later provision of individual data or to further validation of data.

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 for DST, resistance is defined as $\geq$ 1% colony growth at the critical concentrations of the drug being tested.

In countries providing individual data on TB cases, DST results are usually provided as part of the individual data set (see below). In countries unable to provide individual data or where DRS is not linked to TB case notification, DST results are provided in aggregate form including total number of cases with DST results and numbers of cases resistant to each drug or drug combination, by previous anti-TB treatment status and by geographic origin.

According to the characteristics of national DRS, data provided to EuroTB may be collected for all culture positive TB cases notified in the country or for TB cases diagnosed in selected laboratories or clinical centres, with variable geographic coverage. In the latter case the representativeness of data collected is frequently unknown. In countries where culture and/or DST are not routinely performed at TB diagnosis, results of DST done for diagnostic purposes may be unrepresentative. The geographic coverage of DRS is partial in some countries. Due to these differences DRS data are analysed and presented in two groups:

group A includes countries in which:

- culture and DST at the start of treatment are routinely performed at TB diagnosis

and

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

group B includes countries in which:

- culture and/or DST at the start of treatment are not routinely performed at TB diagnosis

or

- DST results are collected on TB cases diagnosed in selected laboratories / clinical centres, not linked to TB notification,

or

- DST data provided have partial geographic coverage.

Data in group A are considered as representative. Data in group B, unless deriving from well-designed surveys or sentinel surveillance systems, should not be considered as representative of the country situation, particularly in countries where culture and DST are not routinely performed for TB diagnosis.

In order to provide an indication of primary and acquired drug resistance, data are analysed by previous anti-TB treatment status. Resistance among cases never treated indicates primary resistance and resistance among cases previously treated indicates acquired drug resistance. In countries providing individual data with missing or incomplete information on previous anti-TB treatment status, DST results are presented by previous TB diagnosis instead of previous anti-TB treatment status.

Proportions of cases resistant to specific drugs 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.

Treatment outcome monitoring (TOM)

Treatment outcome information is collected in aggregate form separately 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 1999 for data collected in 2001). In each group of cases, outcome information is collected separately for new and retreated cases, for a total of four groups of cases (cohorts). Cases notified but non-eligible for TOM (e.g. reclassified during follow-up because of final diagnosis other than TB, clerical errors, elimination of duplicate reports, etc.) are excluded from analysis. The criteria for non-eligibility for TOM differ across countries. For example, cases diagnosed post mortem, or defaulting before the start of treatment may be excluded in some countries but not in others.

In order to estimate the "completeness of inclusion" of notified cases in TOM cohorts, the sum of new and retreated cases considered for TOM (i.e. eligible and non-eligible) was compared with the total number of smear positive or pulmonary culture positive TB cases notified to EuroTB for the same year (i.e. including those initially reported with unknown anti-TB treatment status). When large differences between those figures were observed, information on inclusion criteria in use was requested from the countries. In countries providing TOM data from selected areas the same comparison was made to estimate TOM coverage.

Outcome categories used for data collection are those internationally recommended **[3, 5]**, with an additional category "other / unknown" to classify cases with no information on outcome. However, outcome definitions in use at country level differ. For example, in some western European countries bacteriological information to distinguish cure from treatment completion is not available or incomplete and cases who are still on treatment at the time of outcome assessment are classified in a category "still on treatment" and reported internationally in the category "other / unknown". These differences limit the use of TOM data for international comparisons. Further harmonization of TOM in Europe is currently being discussed.

Data published may differ from those published from WHO **[4]** due to further validation and to inclusion in the cohorts of cases with no information on outcome.

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 as an AIDS indicative disease in Europe, available through the project "Surveillance of HIV/AIDS in Europe" (EuroHIV), provides an indication of TB morbidity at AIDS diagnosis. It should be emphasized that TB diagnosed at the time of AIDS represents an underestimate of HIV-associated TB, as TB diagnosed in HIV infected individuals after AIDS is not reported to AIDS notification systems.

Data from the European Non Aggregate AIDS Data Set (ENAADS), of which a public version is available are presented in Table 16. To be consistent with TB notification data, AIDS data from ENAADS are presented by year of report, which leads to figures different from those published by EuroHIV, which are based on year of diagnosis, adjusted for reporting delays.

2.2 Definitions

Case definition

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 tracheo-bronchial tree are affected and as extrapulmonary otherwise. In individual data, detailed information is collected on the major site and one minor site of disease. The pulmonary localisation is always classified as the major site.

As an alternative to the recommended "pulmonary" classification above, cases 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.

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

Cure: A patient who is culture or sputum smear-negative in the last month of treatment and on at least one previous occasion.

Treatment completion: A patient who has completed treatment, but who does not meet the criteria to be classified as cure or treatment failure.

Success: A patient who was cured or successfully completed treatment.

Treatment failure: A patient who is culture or sputum smear-positive at five months or later during treatment.

Death: A patient who dies for any reason during the course of treatment.

Default: A patient whose treatment was interrupted for two consecutive months or more.

Transfer: A patient who has been transferred to another recording and reporting unit and for whom the treatment outcome is not known.

Other / unknown: A patient who does not meet the criteria of the outcome categories above or for whom no outcome information is available.

2.3 Data presentation

The numbers of cases are not adjusted for under-notification or for over-notification, on which the most recent country estimates were provided for 1997 **[9]**. For calculation of notification rates, country population denominators by age and sex are taken from United Nations demographic estimates, 2000 update **[10]**, except for Andorra, Monaco and San Marino **[11]** and for Yugoslavia (provided by national correspondent). Population estimates by geographic origin (last updated in 1999) were provided from national correspondents.

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 of Macedonia, Poland, Romania, Slovakia, Slovenia, Turkey, Yugoslavia.
- 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, 185 and 291 million in 2000.

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: 20 000 000-.

3. TUBERCULOSIS CASES NOTIFIED IN 2000

3.1 Completeness of TB notification

Geographic coverage

All countries provided data on TB cases notified in the whole country, except Yugoslavia where cases in Kosovo were not included and Denmark, where cases from Greenland and the Faeroe islands were not included.

Previously treated cases

In all countries, both new and previously treated TB cases were notified. However, the criteria for notification of previously treated cases differ across countries **[8]**, which can affect the comparison of notification data for recurrent cases. Completeness of reporting improved in 2000 in the East, with only five countries providing parts of their data on new cases alone, down from 10 in 1999.

Site of disease

Countries notified TB cases with any disease localisation, except for Spain, where notification of extrarespiratory cases was limited to meningeal TB, and where total notification rates are therefore not comparable with those of other countries.

Inclusion of specific population groups

In 2000, 32 countries included in their TB notifications cases diagnosed in specific population groups (Table 1), i.e. foreigners, prisoners, military personnel, homeless, persons with HIV infection or AIDS and institutionalised persons. In the other countries one or more of the groups listed above were not included in TB notification, which directly affects completeness of reporting.

Sources of reporting

In 25 countries (14 in the West, 7 in the Centre and 4 in the East), both clinicians and laboratories notified TB cases whereas in the other countries only clinicians notified TB cases. Laboratory reporting is recommended **[2]** and may result in higher completeness of reporting for definite cases.

3.2 Information provided

All the 51 countries in the WHO European Region provided data on national notification systems and on TB cases notified in 2000 (Tables 1-3). No TB cases were notified in Monaco. Individual data on TB cases were provided from 24 countries (16 in the West, seven in the Centre and Estonia).

A breakdown of cases by sex was provided from all countries except Turkey (Table 4). The number of cases by age group was provided from all countries except Azerbaijan, Belarus, Kyrgyzstan and Turkey (Table 5). Paediatric age groups provided from the Russian Federation (0-6 and 7-14 years) were different from those requested (0-4 and 5-14 years). The distribution of cases by both age group and sex was also available for most countries (Country profiles). The distribution of cases by site of disease and sputum smear result was available for most countries, whereas information on previous anti-TB treatment status (43/51), geographic origin (34/51) and culture result (42/51) was less complete.

Geographic origin of cases was provided from 34 of the 42 countries that include cases of foreign origin in TB notifications (all 23 countries in the West, seven countries in the Centre and four countries in the East, Table 6). Cases were classified by country of birth, as recommended, in 25 countries, by citizenship in 8 countries and variably in the two parts of Bosnia-Herzegovina. In addition to the 43 countries providing case classification by previous anti-TB treatment status, three others provided only information by previous TB history (Table 9).

All countries notified cases with any anatomic localisation, except for Spain, which notified only respiratory and meningeal TB cases. Numbers of cases by site of disease were available for all countries except Turkmenistan and Uzbekistan (Table 10). The recommended pulmonary classification (see technical note) was used in 34 countries and the respiratory classification in 16 countries. In 2000, three countries in the East moved from respiratory to pulmonary classification. Information on the major site and one minor site of disease (see technical note)

was available for 15 countries, representing 63% of individual records reported (Table 11).

In 2000, culture for *Mycobacteria* was considered to be routinely performed for diagnosis of pulmonary TB in the whole country in 37 countries and in some areas in 11 countries. In Albania and Moldova culture was not routinely performed, while no information was provided from Turkey (Table 12). In countries providing individual data, information on culture was quite incomplete: 79% of pulmonary cases in the Centre and 61% in the West, and 42% of extrapulmonary cases in each area. Sputum smear was considered to be routinely used for TB diagnosis in the whole country in 43 countries (Table 15).

3.3 General figures and trends

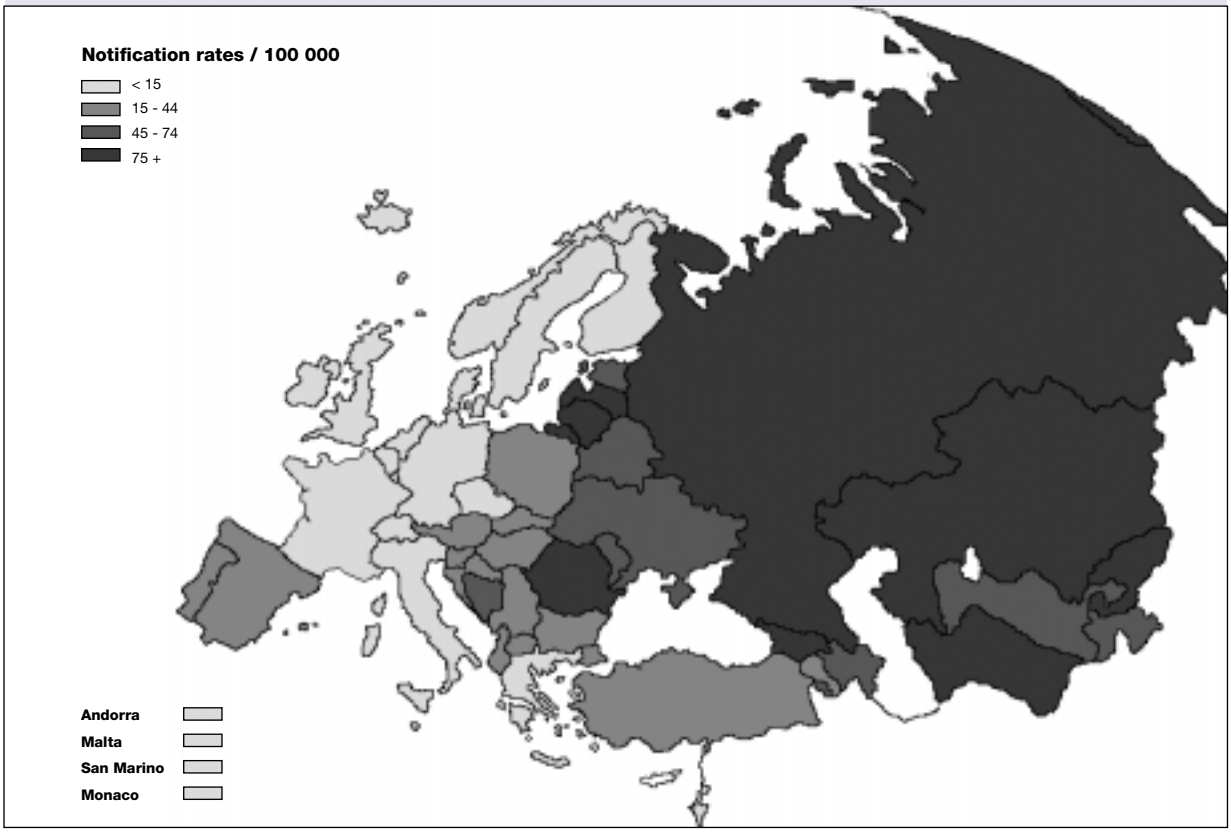
In 2000, 385 810 TB cases were notified by the 51 countries of the WHO European Region, representing 10.5% of notifications made to WHO worldwide in the same year **[4].** In the European Region, 68% of notifications derived from the East, 20% from the Centre and 13% from the West (Table 3). In the East, 55% of the cases were notified by the Russian Federation. In the Centre, 37% of the cases were from Romania and 24% from Turkey.

The overall notification rate was 44 per 100 000 population, with important geographic variations between areas and countries (Table 3, Map 1). TB notification rates in 2000 were:

- 12 per 100 000 population in the West, where rates were 15 or less in 21 countries, and were higher in Portugal (45) and in Spain (21);
- 41 per 100 000 population in the Centre, ranging between 20 and 44 in nine countries, lower in the Czech Republic (14) and Slovenia (19) and higher in Romania (124) and in Bosnia-Herzegovina (66);
- 90 per 100 000 population in the East, where rates were 45 or more in all countries except Armenia (36), and were highest in Kazakhstan (175), Kyrgyzstan (130) and Georgia (122).

Trends in notification rates between 1995 and 2000 varied widely across areas and countries (Table 3, Figures 1-3 and Country profiles). In the West, the overall notification rate was 14% lower in 2000 than in 1995, with an average annual decrease of 3.1%. This rate of decline was sharper than that observed between 1990 and 1995 (1.0%), when a net increase in notification rates was actually observed between

Map 1. Tuberculosis notification rates per 100 000 population, 2000



1991 and 1993, reflecting a tendency in six of the 19 countries depicted in Figure 3. However, the downward trend in mean annual rates between 1995 and 2000 was lower than that observed between 1985-1990 (4.5%), and from 1974 to 1985 (4.9%, 14 countries **[12]**). In countries reporting more than 20 cases in 2000, between 1995 and 2000, rates decreased by an annual average of 2% to 6% in 10 countries with stable surveillance by systems. Rates decreased by less than 2% yearly in Belgium and Italy, increased by less than 2% yearly in Norway and in the United Kingdom, and increased by more than 2% yearly in Denmark, and Luxembourg (Figure 2). In 10 countries with available data, average annual decreases in

Figure 1. Tuberculosis notification rates by geographic area, 1995-2000

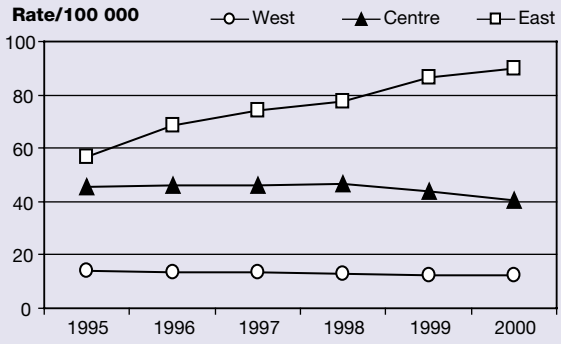
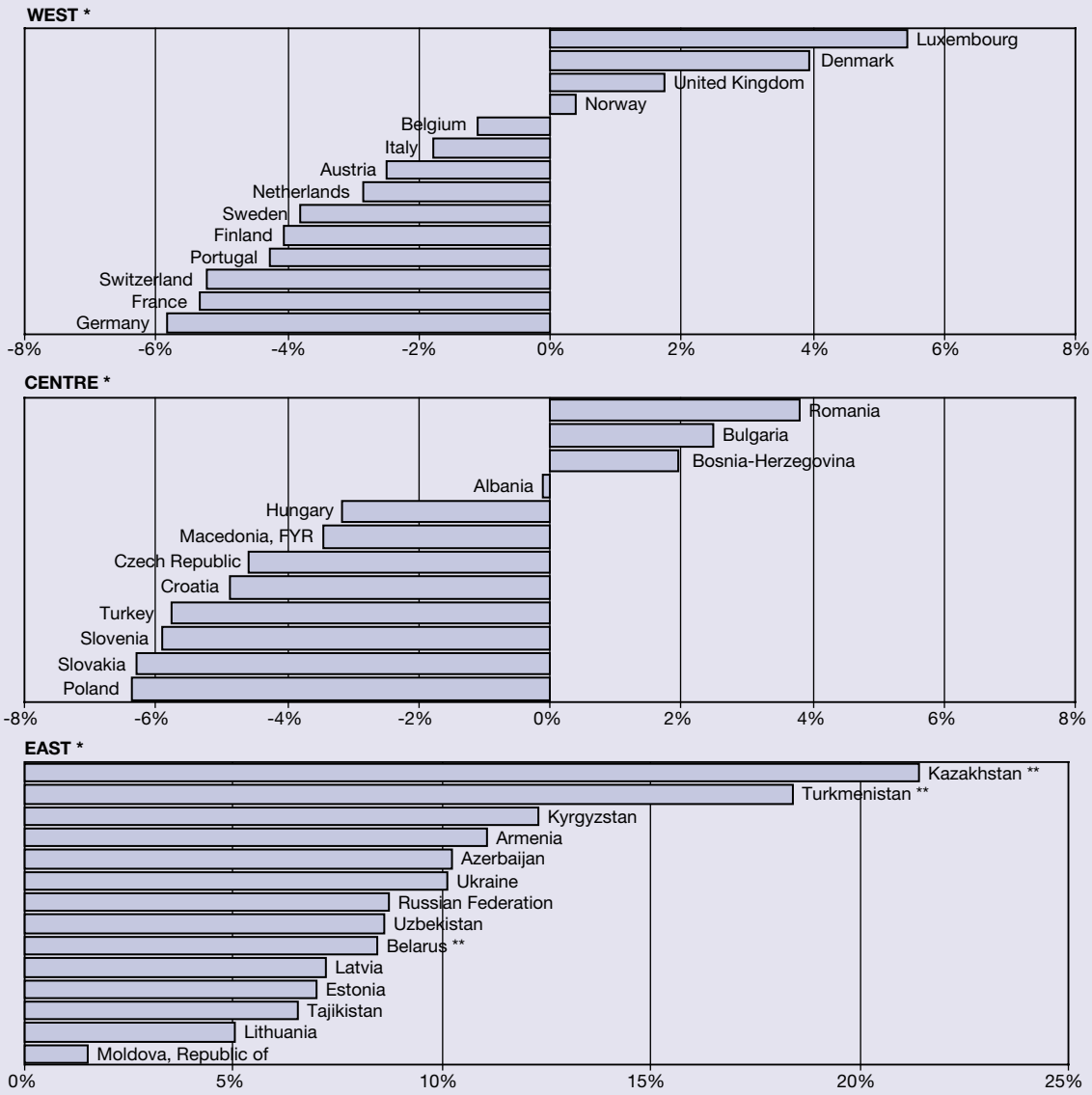
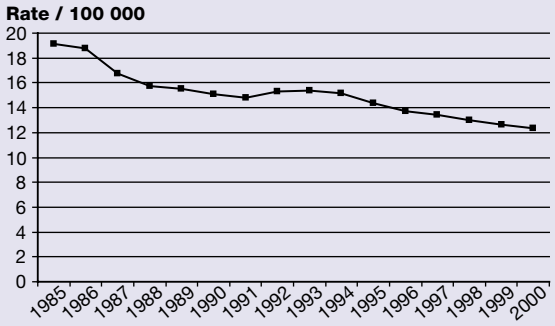


Figure 2. Mean annual percentage change in TB notification rates, 1995-2000



* Countries with > 20 cases notified in 2000 and stable TB notification system
** Calculated on selected years with comparable data.

Figure 3. Trends in TB notification rates, Western Europe *, 1985-2000 **



* Excluding Andorra, Greece, Monaco and San Marino (missing data points).
** Main source of data for 1985-1994: WHO (see ref. 5)

the numbers of notified cases between 1995 and 2000 were more marked among nationals (-7%) than among persons of foreign origin (-1.5%) (See Figure 6 and Section 3.5 below).

In the Centre, overall notification rates were 12% lower in 2000 than in 1995, with notification rates decreasing on average by 3 to 7% yearly in nine countries, stable in Albania and increasing by 2-4% yearly in Bosnia-Herzegovina, Bulgaria and Romania. Wide yearly fluctuations in rates in some countries may point to unstable notification systems, on which detailed information is not available. Stable or increasing rates, may indicate sub-optimal performance of TB control in Albania, Bulgaria and Romania, and the effects of the war in Bosnia-Herzegovina, where rates peaked in 1998-1999. The extremely high and increasing notification rates in all age groups in Romania indicate a persisting high level of TB transmission, making it distinct from other countries in the Centre.

In the East notification rates were 57% higher in 2000 than in 1995 (excluding Georgia where no data were available for 1995), with mean annual increases of 5-12% in most countries. In Kazakhstan, the yearly increase since 1997 averaged 21%. Between 1999 and 2000, the increase of notification rates was higher than 5% in six countries, down from 12% between 1995 and 1996). In several of these countries, recent trends in notifications may have been variably affected by global changes in health and surveillance systems, including the increasing notification of cases diagnosed in specific population groups such as prisoners and foreigners, not previously included in statistics (see Section 3.1), and by increasing case detection in the context of expanding DOTS implementation.

In several countries in the East increasing incidence is coupled with high levels of multi-drug resistance (see Section 5 and **[13]**) and with the spread of HIV epidemics, starting in 1995 **[14].** HIV co-infection is expected to increase TB caseload in the coming years. In some countries in the East, TB represented a major cause of morbidity among AIDS cases reported in 2000 (see Section 4). These elements depict a serious situation, which deserves urgent large-scale public health interventions.

3.4 Sex and age

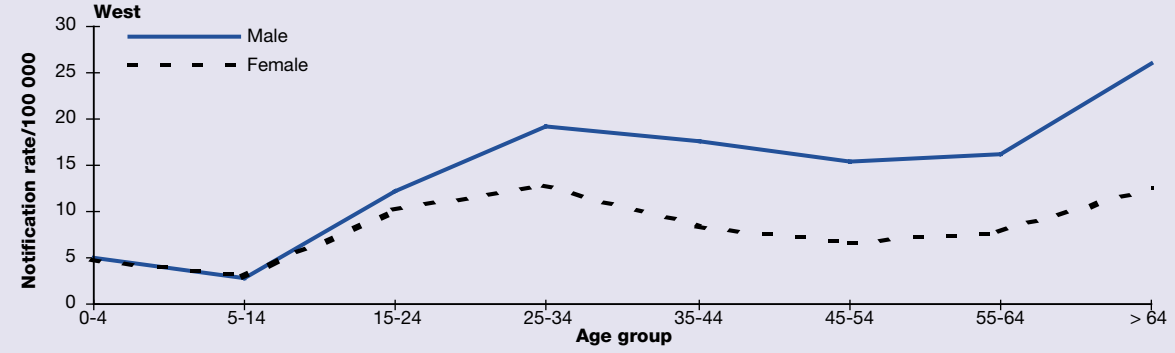
Sixty-nine percent of all TB cases notified in 2000 were males (Table 4). As in 1999, the proportion of male cases notified increased from West (62%) to Centre (66%) to East (71%). Twenty countries, of which 10 in the East, reported two times or more cases in males as in females. While this suggests regional differences in frequency of disease by sex, it may also be a result of differential notification practices and access to care.

Paediatric cases (0-14 years) accounted for 5% of cases overall (Table 5), with less than one third of these under 5 years. Notifications in the age-group 0-14 years represented more than 10% of cases notified in Israel, the FYR of Macedonia, Malta, Tajikistan, Turkmenistan and Uzbekistan, suggesting over-notification of paediatric TB cases in some of these countries. In the West, rates were higher in children under 5 than in children aged 5-14 (Figure 4), reflecting higher risk of developing TB after infection in younger children than in older children **[15]**. Rates were comparable in the two paediatric age groups in the Centre and the East, suggesting that over-reporting of paediatric cases, where occurring, concentrates in the age group 5-14 years.

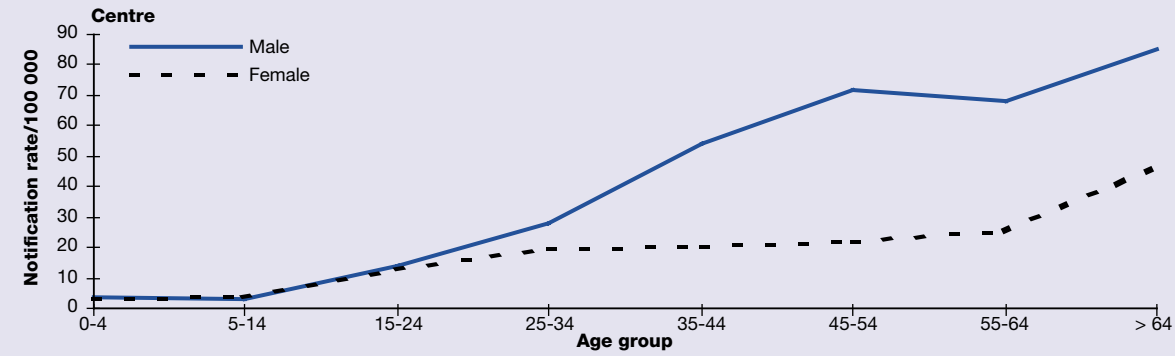
Among adults, the age group 15-44 years accounted for 48% of the cases notified in the West, 44% in the Centre and 63% in the East. Conversely, the age group over 64 years represented 24% of the cases in the West, 18% in the Centre and 6% in the East.

The ratio of males to females was found to vary by age. While it was 1.1 among those under 15 years, the ratio increased to 3.0 in the age group 45-54 years, decreasing to 1.4 amongst those over 64 years. The high sex ratio in the 45-54 age group was observed in all the three areas, but was more pronounced in the Centre and in the East (Figure 2) than in the West. While this trend was observed amongst

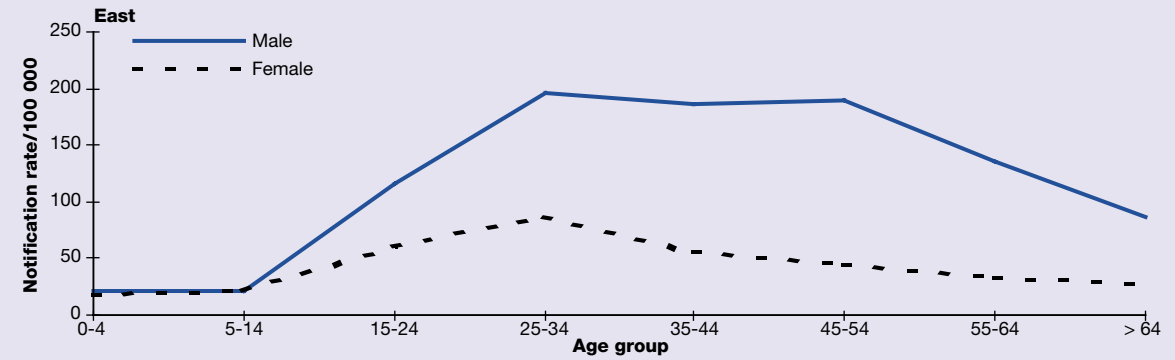
Figure 4. Notification rates by age group and sex, 2000



Excluding Andorra and San Marino



Excluding Romania and Turkey



Excluding Azerbaijan, Belarus and Kyrgyzstan
For Kazakstan, Russian Federation and Ukraine, new cases only
Paediatric age groups for the Russian Federation: 0-6 and 7-14 years

national cases, foreigners tended to have lower sex ratios at nearly all ages when compared to nationals, except in young adulthood (Figure 5 and Country profiles).

In the West, age specific notification rates among men were relatively stable across the age groups 25-34 years to 55-64 years and were highest among the elderly (over 64 years). In women, rates were highest in the age groups 25-34 years and among the elderly. In the Centre, rates increased markedly after age 14 in men but less so in women, resulting in large sex differences in the age groups 35-44 years and older. In the East, rates were highest in the age group 25-34 years in both sexes and decreased steadily from the age group 35-44 years in women. Among men rates remained high until the age group 45-54 years and decreased markedly in the older ages.

The higher TB notification rates in adult men compared to women observed in all countries result from higher prevalence of infection in men **[16]**. The larg-

er difference in notification rates by sex observed in the Centre and in the East could also be partly explained by under-reporting of female cases due to differences in the access to health services in some countries **[17]**.

The higher notification rate in the older age group in the West mainly reflects reactivation of old *M. tuberculosis* infection. Higher notification rates in young adults in the East indicate high levels of transmission in recent years in this area. However, it should be pointed out that a large proportion of cases from the East were new cases (82% of cases included in Figure 4), which have a median age 5 years lower than cases with previous TB episodes (based on individual data, not shown).

In the 32 countries providing the age distribution of TB cases by geographic origin, the proportion of cases aged 15 to 34 years was much higher in foreigners (46%) than in nationals (26%) (see Section 3.5 and Country profiles).

In the 15 countries in the West and Centre with decreasing total notification rates between 1995 and 2000, and with available data (Figure 2), the age specific rates decreased in the under-45 population, except in Austria, Macedonia and Slovenia (0-14) and Belgium (15-44) (Country profiles). This suggests decreasing transmission in the West and Centre. In the East, in contrast, age specific TB notification rates increased in the under-45 population in five countries with available data (Armenia, Estonia, Latvia, Lithuania and Rep. of Moldova), although decreasing in the 0-14 age group in Armenia. Trends in the East have to be interpreted with caution, considering the recent inclusion of cases from specific population groups (e.g. prisoners in the Rep. of Moldova), which may have variably affected the age distribution of cases over this time period.

3.5 Geographic origin

In the West, cases of foreign origin represented 30% of notified cases overall and more than 40% in nine countries (Table 6, Map 2). In the Centre and in the East, countries reporting the highest proportions of foreign-born cases were Slovenia (25%), Estonia (23%) and Croatia (11%).

Map 2. Proportion of tuberculosis cases of foreign origin, 2000

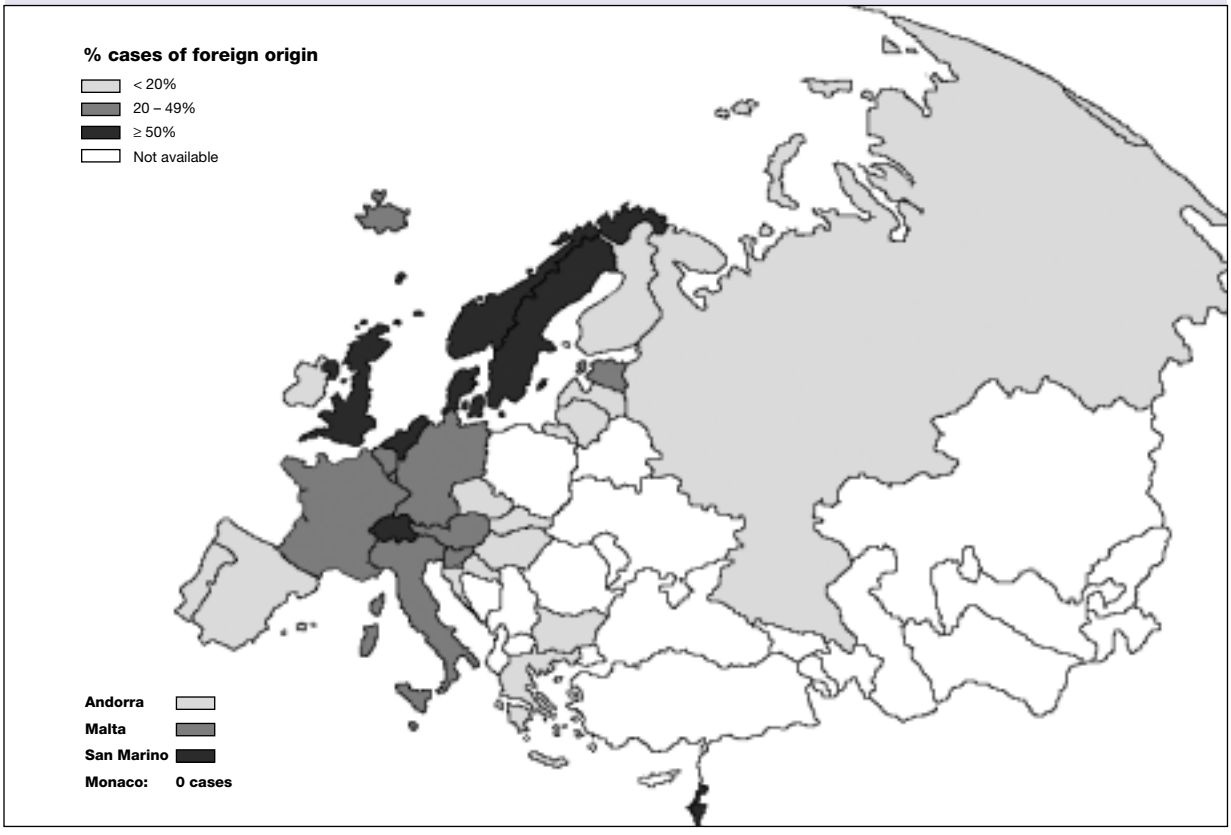
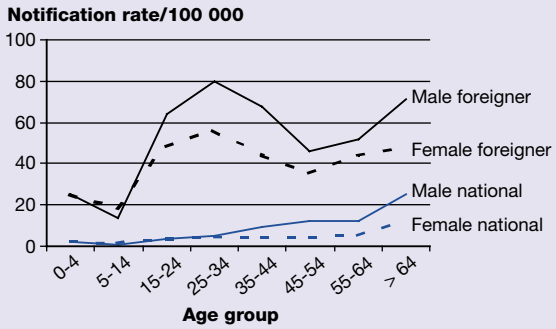
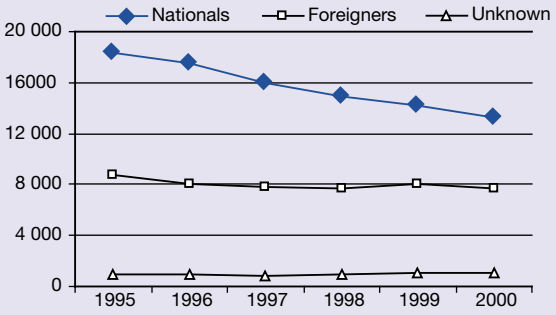


Figure 5. TB notification rates by age group, sex and geographic origin, 11 countries *, 2000



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

Figure 6. Tuberculosis cases by geographic origin, Western Europe *, 1995-2000



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

In 11 countries providing denominator population statistics (Austria, Belgium, Denmark, Finland, France, Germany, Iceland, The Netherlands, Norway, Slovenia, Sweden), notification rates were overall seven times higher in foreigners (49.7 per 100 000) than in nationals (7.2), with rate ratios ranging from 2.8 in Slovenia to 37 in The Netherlands and in Norway. In the population of foreign origin, age specific notification rates were higher in men than in women, and peaked in the age groups 25-34 and over 64 years (Figure 5). Among nationals, adult rates increased regularly with age and were highest in the age group over 64 years. Rates in nationals were much lower at all ages than those in the foreign population. These differences in rates by geographic origin depend on migration patterns, which vary widely across western Europe and should be interpreted with caution considering the difficulties in obtaining accurate denominators for the population of foreign origin.

Notifications in nationals in the West decreased progressively from 1995 to 2000 (Table 7 and Country profiles). The downward trend in total notifications in the West from 1995-2000 (Figure 6) was steeper in cases amongst nationals (28%) than amongst foreigners (12%), resulting in an increase in the proportion of TB notifications in persons of foreign origin from 31% in 1995 to 35% in 2000. TB among nationals decreased in five countries of the Centre over the period 1997-2000 and increased significantly in Romania. (Table 7)

In 22 countries providing information on country of origin (Table 8), 37% of cases of foreign origin were from Africa (10% from Somalia and 5% from Morocco), and 32% from Asia (20% from the Indian subcontinent). Twenty three percent were from a country of the WHO European Region other than the country of notification: 14% from the Centre (the majority from the countries of the former Yugoslavia), 5% from the West and 3% from the East.

3.6 Previous anti-tuberculosis treatment

Overall, 88% of TB cases notified in 2000 had never been treated for TB, 10% had been previously treated for TB and 2% had no information on previous anti-TB treatment (Table 9). Cases with missing information on previous anti-TB treatment were concentrated in the West, where they represented 18% of cases. A minority of these cases had been previously diagnosed with TB.

No clear West – East trend could be observed in the proportion of cases with a history of anti-TB treatment. Previously treated cases represented 7% of the cases in the West (range 0-14%), 12% in the Centre (6-17%) and 10% in the East (1-32%). Some of these variations may reflect differences in definitions used (e.g. previous TB history being used as a proxy for past treatment), as well as in completeness of notification of previously treated cases (see Section 3.1). Therefore, these data cannot be interpreted as an indicator of the effectiveness of previous anti-TB treatments.

3.7 Site of disease

In the 20 countries in the West using the pulmonary classification, the proportion of pulmonary cases was 70% (range 58-99%, Table 10). Pulmonary cases represented 86% (range 62-93%) of cases in the countries in the Centre and 82% (range 73-95%)

in the countries in the East using the pulmonary classification. Respiratory cases represented 94% of cases in the countries in the Centre (range 77-99%) and 95% in the countries in the East (range 85-96%) using the respiratory classification.

In the West in 2000, extra-pulmonary TB was much more frequent in cases of foreign origin than in nationals (37% versus 25%). This partly explains the higher frequency of extra-pulmonary cases in the West compared to the Centre and East, although there may also be differences in completeness of notification of extra-pulmonary cases within the Region.

In the countries providing individual data, the site of disease was analysed by age, sex and geographic origin. Cases with exclusive extra-pulmonary disease tended to be younger than those with pulmonary disease (40 years versus 45 years). Extra-pulmonary TB was also more frequent among children than among adults (27% versus 18%). Among adults, female cases were much more likely than male cases to have extra-pulmonary TB (24% versus 14%).

In 15 countries providing major and minor sites of disease (Table 11), 80.3% of all cases were classified as pulmonary, 19.5% as extra-pulmonary, and 0.2% as unknown. One or more extra-pulmonary localisations (as major and/or minor site of disease) were reported in 25% of the cases. The commonest extra-pulmonary localisations were the pleura (6.6% of cases), extra thoracic lymph nodes (3.8%) and the genito-urinary system (2.6%). Intra-thoracic lymphatic TB and meningeal TB were more frequently reported among children than among adults (respectively 16.7% versus 1.3% and 1.7% versus 0.5%).

3.8 Bacteriology results

3.8.1 Culture

In some countries in the Centre and in the East (e.g. Russian Federation, Ukraine), "bacteriological confirmation" of diagnosis is reported, without distinguishing between culture or sputum smear results. This information is not presented in the Tables.

While nearly half of all notified cases were culture positive in the West and in the Centre, only 21% were culture positive in the East, where data were available from only eight countries (Table 12). Proportions of culture positive cases were:

- 60% or higher in 12 countries in the West and in six countries in the Centre (Bosnia-Herzegovina, Czech Republic, Estonia, Latvia, Slovenia and Yugoslavia).
- 40% or lower in Italy and France in the West, in Albania and Hungary in the Centre and in Azerbaijan, Kazakhstan, Rep. of Moldova and Turkmenistan in the East.

Low proportions of cases with positive culture may be due to:

- difficult access to laboratories, as in several countries in the East,
- diagnostic practices such as request of culture in selected cases (e.g. Hungary), preferential use of radiology (as in some NIS) or of direct microscopy (as in NIS countries implementing DOTS);
- characteristics of surveillance, such as missing laboratory reporting leading to incomplete information on culture (e. g. France) (Table 12).

Culture results were further analysed by site of disease in countries providing individual data (Table 13). In countries using the pulmonary classification, culture results were available in a higher proportion of pulmonary cases in the Centre than in the West and positive culture results were commoner in the West (55%) than in the Centre (48%). This was also the case for extra-pulmonary cases (34% versus 12%). High proportions of "negative" culture results in some countries suggest that coding of culture results needs further validation.

3.8.2 Species identification

Species identification for culture positive TB cases notified was available for 20 countries providing individual data (Table 14). Excluding Romania, in which a large proportion of cases had no species identified, 91% of culture positive cases were due to *M. tuberculosis* and 8.7% had no information on species. In the West, *M. bovis* represented 0.5% of the cases and *M. africanum* 0.6%. The Netherlands reported the highest proportion of cases with non-*M. tuberculosis* strains, with 1.2% *M. bovis* and 2.3% *M. africanum*. In the Centre and East, all cases were due to *M. tuberculosis* apart from five cases due to *M. bovis* in the Czech Republic.

3.8.3 Sputum smear

The results of sputum smear microscopy were provided from 46 countries (Table 15). In the countries using the pulmonary classification, the proportion of pulmonary cases with sputum smear positive for

acid-fast bacilli was 50% in the Centre and 45% in the West. In the East, 34% of pulmonary cases were sputum smear positive (seven countries), compared to 30% of respiratory cases for the five countries submitting data using this classification. This lower proportion is to be expected since the respiratory classification includes forms of disease without lung involvement (pleural and intra-thoracic lymphatic cases). Low proportions of smear positive cases could also be due to:

- earlier diagnosis, with cases having lower bacillary loads at detection
- differences in the availability or in the quality of sputum microscopy
- use of microscopy of bronco-alveolar lavage specimens rather than sputum for diagnosis: results from such specimens are excluded under current definitions used in surveillance, since they would not be comparable in terms of test sensitivity and specificity with smear microscopy of spontaneous sputum
- non-inclusion of results of smear microscopy using auramine stain instead of Ziehl-Nielsen stain.

Differences in diagnostic practices and in the quality of the information on culture and on sputum smear available through TB notifications limit the use of these data for international comparisons. More complete and accurate information on laboratory confirmation of diagnosis could be obtained through laboratory reporting of TB cases, recommended in Europe **[1]** but still not implemented in several countries (Table 1) and possibly by the collection of complementary laboratory evidence of diagnosis (e.g. DNA-based tests).

4. HIV-ASSOCIATED TUBERCULOSIS IN 2000

Data on HIV prevalence among TB cases are not routinely collected at European level. Data on tuberculosis as AIDS indicative disease in Europe are available through AIDS case reporting data collected by EuroHIV (see technical note). AIDS indicative diseases are provided from all 51 countries except Romania. Excluding Romania, in 2000, a total of 12 008 AIDS cases were notified in the other countries of the WHO European Region (Table 16), with AIDS notification rates of 2.8 per 100 000 population in the West (range 0-11.9), 0.2 in the Centre (0.05-0.6) and 0.3 (range 0-1.3) in the East. No AIDS cases were notified in six countries (Andorra, Belarus, Kazakhstan, Monaco, Tajikistan and Turkmenistan). Information on AIDS indicative diseases was available for over 99% of the 12 008 cases, of which 3 067 (26%) had TB at the time of AIDS diagnosis.

Tuberculosis was the single most common AIDS indicative disease overall and its frequency varied widely across geographic areas and countries. The average proportions of AIDS cases with TB were:

- 22% in the West (range 0-55%; median: 16%, excluding countries reporting zero AIDS cases), with highest proportions in Portugal (55%), Israel (38%) and Spain (34%);
- 17% in the Centre (range: 0-56%; median: 9%), with highest proportions in Bulgaria (56 %);
- 73% in the East (range 0-100%; median 33%), with highest proportions in Kyrgyzstan (100%; 1 case), Ukraine (82%), Georgia (50%), Azerbaijan and Lithuania (42%).

These data indicate that TB significantly contributes to HIV-related morbidity in Europe, and more so in the East. High proportions of AIDS cases with TB at AIDS diagnosis reflect high prevalence of TB infection in the HIV infected population, the earlier appearance of TB compared to other AIDS defining conditions in countries where HIV epidemics are recent and possibly also better diagnosis of TB compared to other AIDS defining diseases in some countries. In some western European countries, high proportions of AIDS cases with TB may be also due to high proportions of HIV/AIDS cases among migrants from high incidence countries, among whom TB co-infection is frequent.

The contribution of HIV to total TB incidence is higher than that inferable from cases of TB reported as an AIDS indicative disease. Persons with AIDS can develop TB after initial AIDS diagnosis and yet this event will not be reported to AIDS surveillance. However, in the attempt to estimate a "minimum" proportion of HIV-associated TB, numbers of AIDS cases with TB were compared with total TB cases notified in 2000 (shown in Table 3). This comparison was not done for Spain where only respiratory and meningeal TB cases are notified whereas all TB sites are reported as AIDS indicative disease. In the other countries, AIDS cases with TB as AIDS indicative disease represented 15% of total TB cases in Portugal, 2-5% in nine countries in the West, 1-1.9% in three countries in the West and in Ukraine, and less than 1% in the other countries. These minimum estimates may be affected by different completeness of TB and AIDS case detection and notification at country level. AIDS notification may be particularly incomplete in some countries of the East where numbers of AIDS cases remain very low in spite of high numbers of HIV cases reported in recent years **[14].**

In order to improve coordination of TB and HIV prevention and care, surveillance of HIV-TB co-infection should be strengthened through an improved use of surveillance information already available at both national and international level and the implementation of specific HIV prevalence surveys, particularly in countries where both infections are prevalent.

5. DRUG RESISTANCE SURVEILLANCE IN 2000

5.1 Laboratory practices

Data on laboratory practices for drug susceptibility testing (DST) were provided from 43 countries (Table 17). DST was performed by a single laboratory in 11 countries (located abroad in two of these), 2-10 laboratories in 14 countries, 11-20 laboratories in nine countries and 20-300 laboratories in eight countries. A national DST proficiency-testing scheme existed in 18 of the 31 countries where more than one laboratory performed DST.

Twenty-nine countries participated in an international proficiency-testing scheme between 1999 and 2001. The concordance of DST results for isoniazid (INH) and rifampicin (RMP) between the national reference laboratory (NRL) and the supranational reference laboratory was not provided from Austria and Bosnia-Herzegovina, was 90% or over for both drugs in 26 countries, and was 90% for INH and 80% for RMP in the Russian Federation.

In 25 countries more than one DST method was used. Non-radiometric proportion was used in a total of 28 countries, radiometric proportion in 24 countries, absolute concentration in 14 countries and resistance ratio in four countries. Other methods were used in eight countries, including the Mycobacteria Growth Indicator Tube (MGIT®), a modified non-radiometric proportion method, in six countries.

5.2 Type of data provided

DST results at the start of treatment were provided from 39 of the 43 countries providing information on laboratory practices (Table 18). DST results from Luxembourg and Georgia were included in the analysis, although they may also refer to isolates taken during treatment.

In 30 countries DST data were linked to TB case notification, i.e. were provided on the initial isolate of TB cases notified countrywide (24 countries) or in selected areas (6 countries). In nine countries DST results were not linked to TB notifications and data were provided on cases diagnosed at the NRL (6 countries) or in other laboratories (3 countries) (Table 18). INH, RMP and ethambutol (EMB) were systematically tested in all countries while streptomycin (SM) was tested for less than 90% of the cases tested for INH and RMP in seven countries from the West (data not shown in the Tables). Data were provided for each combination of resistance from all countries except Belarus where only total numbers of mono-resistant, multi-drug resistant (MDR) and other poly-resistant cases were available.

Data by previous anti-TB treatment status were provided from all countries except Albania and Azerbaijan (Table 20-21). For Belarus and Spain data were provided only for never treated cases. When the information on previous treatment was not available or incomplete, DST data were presented and analysed according to previous TB diagnosis (see technical note). Therefore the terms “never treated” or “previously treated” should be taken to mean “never treated or diagnosed” and “previously treated or diagnosed” respectively. Data by geographic origin were provided from 33 countries (Tables 22-23).

Countries were classified in two groups, according to the TB case population included in DRS and the completeness of DST results provided (Tables 18-23). Group A includes countries in which culture and DST are routinely performed for TB diagnosis and in which DST results were provided for all or a large national sample of notified culture positive cases; group B includes countries in which data provided did not meet the conditions above and were not considered representative of the national situation (see also technical note).

5.3 DST results in countries providing representative national data (group A)

Of the 39 countries providing DRS data, 24 were included in this group: 16 in the West, five in the Centre and three in the East (the Baltic states) (Table 18). DST results were provided for all culture

positive cases notified at national level in 23 of these countries. In Germany DST results were provided for TB cases notified in two thirds of local health units accounting for 56% of cases notified nationwide. In 17 countries, DST data were provided as a part of the individual TB data set. Overall, in the countries of group A culture positive cases represented 61% of the TB cases notified (range: 45-100%). DST results for INH and RMP were available for 17 049 of the 19 815 culture positive cases (86%). The proportion of culture positive cases with missing DST results was highest in Lithuania (41%), Andorra (40%), Czech Republic (27%), Bosnia-Herzegovina (26%; incomplete information from Rep. Srpska), Belgium (25%) and Germany (19%).

Global proportions of resistant and MDR cases were much higher in the Baltic states and in Israel compared to the other countries in the West and the Centre (Table 19). Global proportions of resistance are not commented further, as priority is given to analysis of data according to history of previous anti-TB treatment, indicating respectively primary resistance among cases never treated and acquired resistance among cases previously treated.

5.3.1 Resistance by previous anti-TB treatment status

Data were analysed by previous treatment history in 14 countries and by previous TB diagnosis in 10 countries (Tables 20-21). Overall, of the 17 049 cases with DST results 78% were never treated, 12% had a history of previous anti-TB treatment and 11% were reported with no information on previous TB or anti-TB treatment history.

Proportions of resistant cases were generally higher among previously treated cases than among never treated cases. In both groups of cases, resistance to individual drugs and multi-drug resistance where much higher in the Baltic states and Israel than in the other countries in the West and in the Centre. The proportions of MDR cases among never treated cases were 9.7% (9-12%) in the Baltic states, 14.2% in Israel, 0.8% (0-2%) in the other countries in the West and 0.4% (0-1.1%) in the Centre (Table A, Figure 7).

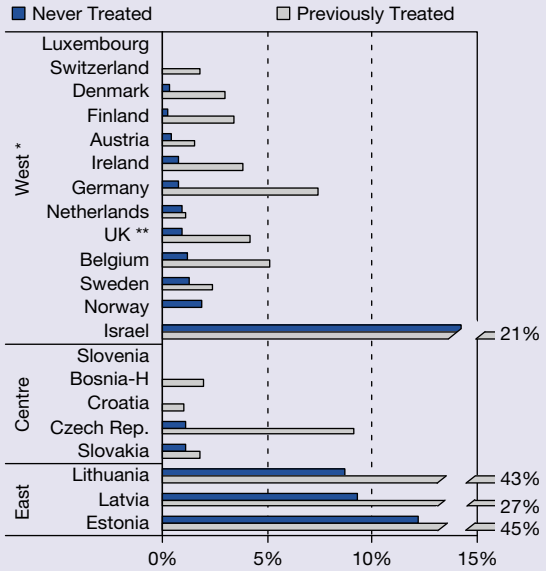
High proportions of both primary and acquired resistance in the Baltic states indicate a poor performance of treatment programmes in previous years. Between 1998 and 2000, proportions of primary and acquired MDR cases were relatively stable in Estonia and Latvia and increased markedly in Lithuania. The observed trend in Lithuania is possibly due to decreasing completeness of information on DST results (from 100% in 1998 to 59% in 2000) resulting in the increasing selection of cases with higher risk of resistance.

Table A. Anti-TB drug resistance by previous anti-TB treatment status, 2000, group A

Drug	Country / country group	Previous anti-TB treatment status: Never treated	Previously treated
INH	Baltic States	25.2%	47.1%
	Israel	25.7%	37.5%
	West, other	5.3%	11.3%
	Centre	1.8%	6.2%
RMP	Baltic States	10.0%	37.5%
	Israel	14.6%	20.8%
	West, other	1.0%	5.0%
	Centre	0.7%	4.0%
INH and RMP (MDR)	Baltic States	9.7%	36.8%
	Israel	14.2%	20.8%
	West, other	0.8%	4.3%
	Centre	0.4%	1.9%
EMB	Baltic States	7.1%	22.1%
	Israel	9.9%	8.3%
	West, other	0.7%	2.8%
	Centre	0.5%	3.3%
SM	Baltic States	22.3%	42.5%
	Israel	22.1%	29.2%
	West, other *	2.5%	5.7%
	Centre	1.1%	4.3%

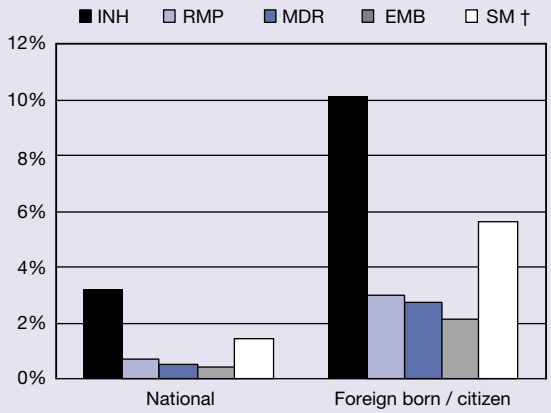
* Nine countries where SM was tested for at least 90% of cases tested for INH and RMP (see Tables 20-21)

Figure 7. Proportion of MDR-TB cases by previous anti-TB treatment status, 2000, group A



* Andorra, Iceland and Malta: ≤ 10 cases with DST results, all susceptible
** without Scotland

Figure 8. Anti-TB drug resistance by geographic origin, Western Europe *, 2000



* 16 countries
† 9 countries with DST results for >90% of the cases tested for INH & RMP

The high levels of resistance in Israel are likely to reflect prevalence of resistance in the countries of origin of recent immigrants, many of whom derive from the NIS **[18]**. In the other countries in the West and in the Centre the levels of resistance and MDR remained low and were associated with previous TB history and, in the West, with foreign origin (see below). The analysis of data for the period 1998-2000, available from 11 countries did not show any clear trend in the levels of drug resistance. A longer observation will be needed to get more conclusive indications on drug resistance trends.

5.3.2 Resistance by geographic origin

DST results by geographic origin were provided from all 24 countries in group A (Tables 22-23). Geographic origin was defined according to country of birth in 21 countries and to nationality in Austria, Belgium and the Netherlands.

In the West, among the 10 892 cases with DST results 46% were of foreign origin, 47% were nationals and 8% were notified without information on geographic origin. Proportions of resistant cases were overall higher among the cases of foreign origin (Figure 8). The proportion of MDR among cases of foreign origin was 2.7% compared to 0.5% among nationals. Cases of foreign origin represented overall 85% of MDR cases notified (136/160) in the West. In the five countries of the Centre and in the three Baltic states, 8% of cases with DST results were born abroad and proportions of resistant cases did not differ markedly when analysed by geographic origin.

5.4 DST results in countries providing data for selected cases (group B)

In the 15 countries classified in group B, data were considered as less representative than data from countries in group A. International comparisons based on these data should be made with caution.

- In France, data were collected through a stable sentinel network of university hospital laboratories covering 15 of the 23 regions (including Paris), not linked to case notification. Although the representativeness of this network has not been formally assessed, data collected show consistently low and stable levels of resistance over time **[19].**
- In Italy data were collected through a convenience sample of 20 laboratories located in 10 of the 20 regions, for which representativeness has not been assessed **[20]**. The denominator of culture positive cases diagnosed in these laboratories was not available to assess completeness of case inclusion.
- In six countries data were provided on TB cases notified but were not considered representative because of incomplete geographic coverage (Yugoslavia), or because of selective use of culture (Belarus and Republic of Moldova), DST (Portugal) or both (Romania and Hungary), leading to a selection of cases for which DST results were available. This can possibly affect the observed levels of resistance.
- In Albania, Armenia, Azerbaijan, Georgia, Kyrgyzstan and Spain, DST data were provided for cases diagnosed at the National Reference Laboratory, likely to be unrepresentative of TB cases both in regards of the geographic coverage and of the characteristics of patients included.
- In Kazakhstan data were provided from all laboratories performing DST but were not linked to case notifications and included all patients diagnosed, resulting in an over-representation of previously treated cases.

Among countries in group B, data from countries in the East showed very high levels of resistance, with primary multi-drug resistance reported in 5% of the cases or more. Although these data cannot be taken as representative of national situations they should further stimulate the implementation of representative anti-TB drug resistance surveys, a high priority for the orientation and monitoring of control measures **[21]**.

6. TREATMENT OUTCOME MONITORING IN 1999

6.1 Type of data provided

Thirty countries provided treatment outcome data on at least one cohort of cases notified in 1999: 11 countries in the West, seven in the Centre and 12 in the East (Table 23). Data were provided only for sputum smear positive cases in 10 countries, for both sputum smear positive and pulmonary culture positive cases in 18 countries, and only for pulmonary culture positive cases in Israel.

The Russian Federation provided data from selected DOTS areas for smear positive cases and nationwide data for culture positive cases notified to the Ministry of Health. Among the other countries, 24 provided outcome data for TB cases notified in the whole country and five countries provided data with incomplete geographic coverage, including cases notified in selected areas implementing DOTS (Armenia, Poland, Romania and Uzbekistan) or diagnosed in a network of clinical Centres (Italy).

Outcome categories used differed across countries. In several countries of the West:

- the category "cured" was not reported because information on sputum smear or culture result at the end of treatment is not routinely collected or incomplete. In these countries cases with favourable outcome were all reported in the category "treatment completed". For comparison of favourable outcomes, in Tables 25-28 a subtotal of cured and completed outcome (success) is presented.
- the category "failure" was not used. Failing cases still continuing treatment at the time of outcome assessment were rather classified at national level in a specific outcome category "still on treatment", reported here in the category "other / unknown".

In the Russian Federation, in the culture positive cohort all favourable outcomes were reported as cured. Different outcome definitions were reported from the Republic of Moldova where only cases "cured" (based on radiological improvement) were reported, while for the rest of the cases outcome information was not available and cases were all classified as "others" (not included in the analysis below).

6.2 Completeness of TOM cohorts

In order to assess the completeness of inclusion in TOM cohorts, total cases considered for TOM were compared with smear positive or pulmonary culture positive cases notified to EuroTB in 1999 (Table 24, see also technical note). In 13/22 countries providing nationwide data, the sum of new and retreated smear positive cases considered for TOM (including those non-eligible) was identical to the total number of smear positive cases notified to EuroTB. In seven countries, smear positive TOM cohorts were smaller compared to 1999 notifications (87-99% of notified cases), due to exclusion of cases for:

- administrative reasons (e.g. records lost, identification as duplicate report, erroneous initial report of positive laboratory results);
- missing information on anti-TB treatment history, as cases could not be entered in either the new or the retreated cohorts
- other case characteristics, e.g. death or default before starting treatment.

In two countries, numbers of smear positive TOM cohorts were slightly larger than those of notified cases (102% in Azerbaijan and Ireland), possibly due to reclassification of smear status after notification or to double inclusion of some cases in the new and retreated cohorts. For pulmonary culture positive cases, the comparison of the sizes of TOM cohorts and notifications showed identical numbers in six countries. TOM cohorts were smaller than notifications in four countries (82-99%) and larger in four countries (107-145%).

In the majority of countries providing national data the numbers of cases considered for TOM are comparable to those of notified cases, which should ensure completeness and representativeness of the outcome data provided. However the large differ-

ences observed in some countries limit the use of TOM data for international comparisons. Further harmonization of TOM in Europe is needed and is currently being discussed.

In countries providing data with incomplete geographic coverage, numbers of cases notified in the areas included in TOM were not available. In these countries the comparison of the size of TOM cohorts with nationwide notifications provided an estimate of TOM coverage.

6.3 Outcome in countries providing nationwide data

6.3.1 Sputum smear positive cohorts

Nationwide outcome data for new smear positive cases were available for 22 countries (Table B and Table 25). The proportion of cases with unknown outcome was 0 in 11 countries and higher than 10% in Ireland (44%), Belgium (24%) and FYR of Macedonia (11%). Potentially unfavourable outcomes (default or transfer) were more frequently reported in the East (median: 13%) than in the West (3%) or in the Centre (4%). Death was reported in a comparable median proportion of cases in the three areas (7-8%). Failure was almost not reported in the West, and represented a median of 1% of cases in the Centre and 5% in the East. The median proportion of favourable outcomes (cure or completion) was 84% in the Centre, 77% in the West and 73% in the East.

Table B. Treatment outcome of new smear positive TB cases, 1999, countries providing nationwide data

outcome	West (9 countries)		Centre (5 countries)		East (8 countries) *	
	median %	range % **	median %	range %	median %	range %
cure	0	(0-45)	68	(26-81)	67	(47-83)
completion	67	(32-77)	14	(3-60)	6	(0-15)
success (cure + completion)	77	(48-85)	84	(74-90)	73	(61-83)
death	7	(6-13)	8	(2-16)	7	(2-15)
failure	0	(0)	1	(0-2)	5	(1-21)
default	3	(3-16)	2	(1-9)	5	(3-22)
transfer	0	(0-3)	1	(0-2)	2	(0-10)
other / unknown	0	(0-44)	4	(0-11)	0	(0-8)

* Rep. of Moldova excluded

** Does not include countries reporting < 10 cases (Andorra, Iceland and Malta)

Eighteen of the 22 countries providing outcome for the new sputum smear positive cohort also provided data on the corresponding cohort of retreated cases (Table 26). Among retreated cases the median proportions of successful outcomes were lower compared to new cases (73% in the Centre, 61% in the West and 62% in the East). Deaths represented a median of 15% of outcomes in the West, 14% in the Centre and 9% in the East. Proportions of potentially unfavourable outcomes were comparable to those of the cohort of new cases. Failure was more frequently reported among retreated cases than among new cases in the Centre (median 3% and 1% respectively) and in the East (10% and 5% respectively).

6.3.2 Pulmonary culture positive cohorts

Nationwide outcome data on new culture positive pulmonary cases were available for Israel, the Russian Federation and 15 countries providing also nationwide data on the new smear positive cohort (Tables 27-28 and Country profiles). In most of these countries culture is used routinely for TB diagnosis and cohorts of new culture positive pulmonary cases were larger than those of smear positive cases (Table 24), as they include most smear positive cases. Outcomes of culture positive cohorts provide a more complete picture of treatment outcome of all potentially infectious TB cases, and were roughly comparable to those of smear positive cohorts in most countries.

6.4 Outcome in countries providing data from selected areas

Outcome data with partial geographic coverage were provided from six countries for the smear positive cohorts and two countries for the culture positive cohorts. These data cannot be considered as representative of country situations. However, in countries with partial DOTS coverage, outcome data from DOTS areas provide an indication of the effectiveness of this strategy.

7. 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 C.S.B., Moro M.L., *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 H.L., *et al*. Standardised tuberculosis treatment outcome in Europe Eur. Resp. J. 1998; 12: 505-510.

4. World Health Organization. Global Tuberculosis Control: Surveillance, Planning, Financing. WHO Report 2002. Geneva, Switzerland, WHO/CDS/TB/2002.295.

5. 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.

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. 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 1997, September 1999.

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

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

12. Raviglione M.C., Sudre P., Rieder H.L., Spinaci S., Kochi A. Secular trends of tuberculosis in Western Europe. Bull World Health Organ 1993; 71: 297-306.

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

14. European Centre for the Epidemiological Monitoring of AIDS. HIV/AIDS Surveillance in Europe. Mid year report 2002. 2002. N° 67.

15. Comstock G.W., Livesay V.T., Woolpert S.F. The prognosis of a positive tuberculin reaction in childhood and adolescence. Am J Epidemiol 1974; 99: 131-138.

16. Rieder H. Epidemiologic basis of Tuberculosis control. First Edition, International Union against Tuberculosis and Lung Diseases, Paris 1999.

17. Holmes C.B., Hausler H., Nunn P. A review of sex differences in the epidemiology of tuberculosis. Int J Tuberc Lung Dis 1998; 2: 96-104.

18. 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).

19. 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.

20. Migliori G.B., 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.

21. World Health Organization. Guidelines for surveillance of drug resistance in tuberculosis. Geneva, Switzerland, 1997. WHO/TB/96.216.

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Table 1. Sources of TB notifications and inclusion of cases diagnosed in specific populations, WHO European Region, 2000

Geographic area Country	Source of TB notifications *	Populations included in TB notifications					
		Foreigners †	Prisoners	Military personnel	Homeless persons	Persons with HIV / AIDS	Institutionalised persons
West							
Austria	clin. + labs	☐	☐	☐	☐	☐	☐
Belgium	clin. + labs	☐	☐	☐	☐	☐	☐
Denmark	clin. + labs	☐	☐	☐	☐	☐	☐
Finland	clin. + labs	☐	☐	☐	☐	☐	☐
France	clin.	☐	☐	☐	☐	☐	☐
Germany	clin. + labs	☐	☐	☐	☐	☐	☐
Greece	clin. + labs	☐		☐	☐	☐	☐
Ireland	clin.	☐	☐	☐	☐	☐	☐
Italy	clin.	☐	☐	☐	☐	☐	☐
Luxembourg	clin.	☐	☐	☐	☐	☐	☐
Netherlands	clin.	☐	☐	☐	☐	☐	☐
Portugal	clin.	☐	☐	☐	☐	☐	☐
Spain	clin.	☐	☐	☐	☐	☐	☐
Sweden	clin. + labs	☐	☐	☐	☐	☐	☐
United Kingdom	clin. ‡	☐	☐	☐	☐	☐	☐
Subtotal EU		**15**	**14**	**15**	**15**	**15**	**15**
Andorra	clin. + labs	☐					
Iceland	clin. + labs	☐	☐	☐	☐	☐	☐
Israel	clin. + labs	☐	☐	☐	☐	☐	☐
Malta	clin. + labs	☐	☐	☐	☐	☐	☐
Monaco	clin.	☐	☐	☐	☐	☐	☐
Norway	clin. + labs	☐	☐	☐	☐	☐	☐
San Marino	clin. + labs	☐	☐	☐			☐
Switzerland	clin. + labs	☐	☐	☐	☐	☐	☐
Total West		**23**	**21**	**22**	**21**	**21**	**22**
Centre							
Albania	clin.	☐	☐	☐	☐	☐	☐
Bosnia-Herzegovina	clin. §	☐	☐	☐	☐	☐	☐
Bulgaria	clin. + labs	☐	☐	☐	☐	☐	☐
Croatia	clin. + labs	☐	☐	☐	☐	☐	☐
Czech Republic	clin. + labs	☐	☐	☐	☐	☐	☐
Hungary	clin. + labs	☐	☐	☐	☐	☐	☐
Macedonia, FYR	clin. + labs		☐				☐
Poland	clin.	☐	☐	☐			
Romania	clin. + labs	☐	☐	☐	☐	☐	
Slovakia	clin.	☐	☐	☐	☐	☐	☐
Slovenia	clin. + labs	☐	☐	☐	☐	☐	☐
Turkey ‖	–	–	–	–	–	–	–
Yugoslavia	clin.	☐	☐		☐	☐	☐
Total Centre		**11**	**12**	**10**	**10**	**10**	**10**
East							
Armenia	clin. + labs	☐	☐	☐	☐	☐	☐
Azerbaijan	clin.		☐	☐	☐	☐	☐
Belarus	clin.		☐	☐			☐
Estonia	clin. + labs	☐	☐	☐	☐	☐	☐
Georgia	clin.		☐	☐	☐	☐	☐
Kazakhstan	clin.		☐	☐	☐	☐	
Kyrgyzstan	clin. + labs	☐		☐	☐	☐	☐
Latvia	clin.	☐	☐	☐	☐	☐	☐
Lithuania	clin.	☐	☐	☐	☐	☐	☐
Moldova, Republic of	clin.		☐	☐			
Russian Federation	clin.	☐	☐	☐	☐	☐	☐
Tajikistan	clin.	☐		☐	☐		
Turkmenistan	clin. + labs			☐	☐		☐
Ukraine	clin.				☐	☐	
Uzbekistan	clin.						
Total East		**7**	**10**	**13**	**12**	**10**	**10**
Total WHO European Region		**41**	**43**	**45**	**43**	**41**	**42**

* clin. = clinicians; clin.+ labs. = clinicians and laboratories
† Foreigners = persons not born in the country of report, or non-citizens of the country
‡ clin. + labs in Scotland
§ clin. + labs in Republika Srpska
‖ no information provided

Table 2. Tuberculosis surveillance data provided to EuroTB, WHO European Region, 2000

Geographic area Country	Type of data	Data provided							
		Sex and age	Geographic origin	History of TB treatment or TB	Site of disease	Culture	Sputum smear	Drug resistance	Treatment outcome (1999)
West									
Austria	individual	☐	☐	☐	☐	☐	☐	☐	☐
Belgium	individual *	☐	☐	☐	☐	☐	☐	☐	☐
Denmark	individual *	☐	☐	☐	☐	☐	☐	☐	
Finland	individual	☐	☐	☐	☐	☐	☐	☐	
France	individual *	☐	☐	☐	☐	☐	☐	☐	
Germany	aggregate	☐	☐		☐	☐	☐	☐	
Greece	aggregate	☐	☐	☐	☐	☐	☐	☐	
Ireland	individual	☐	☐	☐	☐	☐	☐	☐	■
Italy	individual *	☐	☐	☐	☐	☐	☐	☐	☐
Luxembourg	individual	☐	☐	☐	☐	☐	☐	☐	
Netherlands	individual	☐	☐	☐	☐	☐	☐	☐	☐
Portugal	individual	☐	☐	☐	☐	☐	☐	☐	☐
Spain	aggregate	☐	☐	☐	☐	☐	☐	■	
Sweden	individual	☐	☐	☐	☐	☐	☐	☐	
United Kingdom	individual †	☐	☐	☐ †	☐	☐	☐ †	☐	
Subtotal EU		**15**	**15**	**14**	**15**	**15**	**15**	**15**	**6**
Andorra	aggregate	☐	☐	☐	☐	☐	☐	☐	☐
Iceland	individual	☐	☐	☐	☐	☐	☐	☐	☐
Israel	aggregate	☐	☐	☐	☐	☐	☐	☐	☐
Malta	individual	☐	☐	☐	☐	☐	☐	☐	☐
Monaco ‡	aggregate								
Norway	individual	☐	☐	☐	☐	☐	☐	☐	☐
San Marino	aggregate	☐	☐	☐	☐	☐	☐		
Switzerland	individual	☐	☐	☐	☐	☐	☐	☐	
Total West		**22**	**22**	**21**	**22**	**22**	**22**	**21**	**11**
Centre									
Albania	aggregate	☐		☐	☐	☐	☐	☐	
Bosnia-Herzegovina	aggregate	☐	☐	☐	☐	☐	☐	☐	☐
Bulgaria	aggregate	☐		☐	☐	☐	☐	☐	
Croatia	individual	☐	☐	☐	☐	☐	☐	☐	
Czech Republic	individual	☐	☐	☐	☐	☐	☐	☐	☐
Hungary	individual	☐	☐	☐	☐	☐	☐	☐	
Macedonia, FYR	aggregate	☐		☐	☐		☐		☐
Poland	individual *	☐		☐	☐	☐	☐		☐
Romania	individual	☐	☐	☐	☐	☐	☐	☐	☐
Slovakia	individual	☐	☐	☐	☐	☐	☐	☐	☐
Slovenia	individual	☐	☐	☐	☐	☐	☐	☐	☐
Turkey	aggregate				☐		☐		
Yugoslavia	aggregate	☐		☐	☐	☐		☐	
Total Centre		**12**	**7**	**12**	**13**	**11**	**12**	**9**	**7**
East									
Armenia	aggregate	☐		☐	☐	☐	☐	☐	☐
Azerbaijan	aggregate	■ §		☐	☐	☐	☐	☐	☐
Belarus	aggregate	■ §			☐	■	☐	■	
Estonia	individual	☐	☐	☐	☐	☐	☐	☐	☐
Georgia	aggregate	☐		☐	☐		☐	☐	☐
Kazakhstan	aggregate	■		☐	☐		☐	☐	☐
Kyrgyzstan	aggregate			☐	☐		☐	☐	☐
Latvia	aggregate	☐	☐	☐	☐	☐	☐	☐	☐
Lithuania	aggregate	☐	☐	☐	☐	☐	☐	☐	☐
Moldova, Republic of	aggregate	☐		☐	☐	☐	☐	☐	■
Russian Federation	aggregate	■ §	■	☐	☐		☐		☐
Tajikistan	aggregate	☐			☐		☐		
Turkmenistan	aggregate	☐		☐	☐	☐	☐		■
Ukraine	aggregate	■		☐	☐		☐		
Uzbekistan	aggregate	☐							☐
Total East		**14**	**4**	**12**	**14**	**8**	**14**	**10**	**12**
Total WHO European Region		**48**	**33**	**45**	**49**	**41**	**48**	**40**	**30**

* Except for drug resistance
† Data from Scotland aggregated; no data on TB history and sputum smear provided
‡ No cases notified in 2000
§ Age groups different from those requested

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

Table 3. Tuberculosis cases notified and rates per 100 000 population, WHO European Region, 1995-2000

Geographic area / Country	1995		1996		1997		1998		1999		2000	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	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
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
Denmark	448	8.6	484	9.2	554	10.5	529	10.0	536	10.1	548	10.3
Finland	662	13.0	644	12.6	573	11.1	629	12.2	566	11.0	537	10.4
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
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
Greece	939 *	9.0	945 *	9.0	767 *	7.3	1 152	10.9	952	9.0	703	6.6
Ireland	458	12.7	434	11.9	416	11.3	424	11.4	469	12.5	403	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
Luxembourg	32	7.8	36	8.7	38	9.0	44	10.3	42	9.7	44	10.1
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
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
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
Sweden	564	6.4	493	5.6	456	5.1	446	5.0	493	5.6	458	5.2
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
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**
Andorra	–	–	17	25.4	19	29.7	8	11.1	9	12.0	11	14.1
Iceland	12	4.5	11	4.1	10	3.7	17	6.2	12	4.3	13	4.7
Israel	398	7.4	415	7.5	422	7.5	656	11.4	520	8.8	591	9.8
Malta	10	2.6	29	7.6	11	2.9	16	4.1	22	5.7	18	4.6
Monaco	1	3.1	0	0.0	0	0.0	0	0.0	3	8.8	0	0.0
Norway	236	5.4	217	5.0	205	4.7	244	5.5	273	6.1	238	5.3
San Marino	2	8.0	0	0.0	1	3.8	0	0.0	0	0.0	1	3.7
Switzerland	830	11.7	764	10.7	747	10.4	749	10.4	772	10.8	629	8.8
Total West	**55 622**	**14.2**	**53 405**	**13.6**	**52 322**	**13.3**	**51 202**	**13.0**	**49 592**	**12.5**	**48 347**	**12.2**
Centre												
Albania	664	20.8	707	22.4	655	20.8	694	22.1	765	24.4	631	20.1
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
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
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
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
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
Macedonia, FYR	786	40.0	724	36.6	693	34.8	620	30.9	576	28.5	668	32.8
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
Romania	23 271	102.6	24 113	106.7	23 903	106.0	25 758	114.4	26 870	119.5	27 720	123.5
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
Slovenia	525	26.4	563	28.2	481	24.1	449	22.5	438	22.0	380	19.1
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
Yugoslavia	4 169	39.5	4 541	42.9	4 062	38.4	3 028 §	35.9 §	2 646 §	31.4 §	2 922 §	34.7 §
Total Centre	**83 627**	**45.7**	**84 755**	**46.1**	**85 178**	**46.1**	**85 744**	**46.7**	**80 700**	**43.7**	**75 572**	**40.7**
East												
Armenia	836	22.2	935	24.7	1 026	27.1	1 455	38.4	1 499	39.6	1 344	35.5
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
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
Estonia	608	41.0	683	46.6	744	51.5	818	57.3	754	53.5	791	56.8
Georgia	–	–	10 641	199.6	8 446	159.0	6 302	118.9	6 546	123.9	6 436	122.3
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
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
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
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
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
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
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
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
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
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
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**
Total WHO European Region	**302 413**	**34.9**	**339 426**	**39.0**	**353 871**	**40.6**	**363 521**	**41.7**	**381 975**	**43.8**	**385 810**	**44.1**

* New cases only
† Until 1996 new respiratory cases only; since 1997 new and recurrent respiratory and meningeal cases
‡ Source: Global Tuberculosis Control, WHO Report 2002, WHO / CDS / TB / 2002.295, p.178
§ Without Kosovo

Table 4. Tuberculosis cases by sex, WHO European Region, 2000

Geographic area / Country	Sex: Male N	Male (%)	Female N	Female (%)	Unknown N	Unknown (%)	Total N	Sex ratio M / F
West								
Austria	745	(61)	473	(39)	0	(0)	1 218	1.6
Belgium	876	(67)	437	(33)	0	(0)	1 313	2.0
Denmark	320	(58)	228	(42)	0	(0)	548	1.4
Finland	312	(58)	225	(42)	0	(0)	537	1.4
France	4 123	(61)	2 562	(38)	29	(0)	6 714	1.6
Germany	5 619	(62)	3 445	(38)	0	(0)	9 064	1.6
Greece	467	(66)	236	(34)	0	(0)	703	2.0
Ireland	244	(61)	159	(39)	0	(0)	403	1.5
Italy	2 925	(61)	1 823	(38)	11	(0)	4 759	1.6
Luxembourg	22	(50)	22	(50)	0	(0)	44	1.0
Netherlands	836	(60)	568	(40)	0	(0)	1 404	1.5
Portugal	3 079	(69)	1 415	(31)	0	(0)	4 494	2.2
Spain *	5 628	(67)	2 740	(33)	27	(0)	8 395	2.1
Sweden	227	(50)	231	(50)	0	(0)	458	1.0
United Kingdom	3 725	(55)	3 060	(45)	7	(0)	6 792	1.2
Subtotal EU	**29 148**	**(62)**	**17 624**	**(38)**	**74**	**(0)**	**46 846**	**1.7**
Andorra	9	(82)	1	(9)	1	(9)	11	9.0
Iceland	4	(31)	9	(69)	0	(0)	13	0.4
Israel	351	(59)	240	(41)	0	(0)	591	1.5
Malta	15	(83)	3	(17)	0	(0)	18	5.0
Monaco	0	(0)	0	(0)	0	(0)	0	–
Norway	129	(54)	109	(46)	0	(0)	238	1.2
San Marino	1	(100)	0	(0)	0	(0)	1	–
Switzerland	353	(56)	276	(44)	0	(0)	629	1.3
Total West	**30 010**	**(62)**	**18 262**	**(38)**	**75**	**(0)**	**48 347**	**1.6**
Centre								
Albania	352	(56)	279	(44)	0	(0)	631	1.3
Bosnia-Herzegovina	1 527	(59)	1 079	(41)	0	(0)	2 606	1.4
Bulgaria	2 202	(66)	1 030	(31)	117	(3)	3 349	2.1
Croatia	1 001	(61)	629	(39)	0	(0)	1 630	1.6
Czech Republic	916	(64)	526	(36)	0	(0)	1 442	1.7
Hungary	2 503	(70)	1 095	(30)	0	(0)	3 598	2.3
Macedonia, FYR	400	(60)	268	(40)	0	(0)	668	1.5
Poland	7 673	(67)	3 804	(33)	0	(0)	11 477	2.0
Romania	18 947	(68)	8 773	(32)	0	(0)	27 720	2.2
Slovakia	678	(61)	433	(39)	0	(0)	1 111	1.6
Slovenia	225	(59)	155	(41)	0	(0)	380	1.5
Turkey	–	–	–	–	–	–	–	–
Yugoslavia †	1 814	(62)	1 108	(38)	0	(0)	2 922	1.6
Total Centre	**38 238**	**(66)**	**19 179**	**(33)**	**117**	**(0)**	**57 534**	**2.0**
East								
Armenia	1 116	(83)	228	(17)	0	(0)	1 344	4.9
Azerbaijan ‡	3 789	(74)	1 324	(26)	0	(0)	5 113	2.9
Belarus	4 689	(77)	1 395	(23)	0	(0)	6 084	3.4
Estonia	562	(71)	229	(29)	0	(0)	791	2.5
Georgia	4 664	(72)	1 772	(28)	0	(0)	6 436	2.6
Kazakhstan ‡	13 057	(57)	9 725	(43)	0	(0)	22 782	1.3
Kyrgyzstan §	777	(62)	480	(38)	0	(0)	1 257	1.6
Latvia	1 486	(72)	577	(28)	0	(0)	2 063	2.6
Lithuania	1 983	(67)	998	(33)	0	(0)	2 981	2.0
Moldova, Republic of	2 127	(72)	808	(28)	0	(0)	2 935	2.6
Russian Federation ‡	100 176	(76)	31 895	(24)	0	(0)	132 071	3.1
Tajikistan	1 479	(53)	1 300	(47)	0	(0)	2 779	1.1
Turkmenistan	2 404	(61)	1 563	(39)	0	(0)	3 967	1.5
Ukraine ‡	21 184	(71)	8 569	(29)	0	(0)	29 753	2.5
Uzbekistan	9 392	(59)	6 520	(41)	0	(0)	15 912	1.4
Total East	**168 885**	**(71)**	**67 383**	**(29)**	**0**	**(0)**	**236 268**	**2.5**
Total WHO European Region	**237 133**	**(69)**	**104 824**	**(31)**	**192**	**(0)**	**342 149**	**2.3**

* Respiratory and meningeal cases only
† Without Kosovo
‡ new cases only
§ new pulmonary smear positive cases only

Table 5. Tuberculosis cases by age group, WHO European Region, 2000

Geographic area / Country	Age group (years) 0-4 N	(%)	5-14 N	(%)	15-24 N	(%)	25-34 N	(%)	35-44 N	(%)
West										
Austria	37	(3)	36	(3)	101	(8)	178	(15)	213	(17)
Belgium	34	(3)	35	(3)	132	(10)	233	(18)	184	(14)
Denmark	14	(3)	28	(5)	77	(14)	129	(24)	111	(20)
Finland	0	(0)	2	(0)	12	(2)	29	(5)	41	(8)
France	133	(2)	172	(3)	721	(11)	1 185	(18)	1 128	(17)
Germany	225	(2)	221	(2)	733	(8)	1 437	(16)	1 492	(16)
Greece	7	(1)	17	(2)	41	(6)	68	(10)	87	(12)
Ireland	5	(1)	12	(3)	46	(11)	63	(16)	54	(13)
Italy	56	(1)	92	(2)	444	(9)	871	(18)	674	(14)
Luxembourg	1	(2)	3	(7)	5	(11)	7	(16)	10	(23)
Netherlands	35	(2)	53	(4)	267	(19)	377	(27)	246	(18)
Portugal	52	(1)	63	(1)	553	(12)	1 181	(26)	943	(21)
Spain *	260	(3)	266	(3)	1 162	(14)	1 914	(23)	1 424	(17)
Sweden	0	(0)	22	(5)	66	(14)	88	(19)	76	(17)
United Kingdom	145	(2)	247	(4)	934	(14)	1 538	(23)	978	(14)
Subtotal EU	**1 004**	**(2)**	**1 269**	**(3)**	**5 294**	**(11)**	**9 298**	**(20)**	**7 661**	**(16)**
Andorra	0	(0)	1	(9)	0	(0)	2	(18)	7	(64)
Iceland	0	(0)	0	(0)	2	(15)	2	(15)	1	(8)
Israel	29	(5)	33	(6)	52	(9)	100	(17)	84	(14)
Malta	1	(6)	1	(6)	3	(17)	2	(11)	1	(6)
Monaco	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Norway	9	(4)	9	(4)	30	(13)	62	(26)	33	(14)
San Marino	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Switzerland	4	(1)	9	(1)	93	(15)	134	(21)	111	(18)
Total West	**1 047**	**(2)**	**1 322**	**(3)**	**5 474**	**(11)**	**9 600**	**(20)**	**7 898**	**(16)**
Centre										
Albania	5	(1)	43	(7)	95	(15)	98	(16)	88	(14)
Bosnia-Herzegovina	20	(1)	44	(2)	256	(10)	326	(13)	358	(14)
Bulgaria	39	(1)	109	(3)	365	(11)	499	(15)	488	(15)
Croatia	13	(1)	55	(3)	119	(7)	159	(10)	264	(16)
Czech Republic	9	(1)	12	(1)	71	(5)	106	(7)	169	(12)
Hungary	2	(0)	8	(0)	106	(3)	304	(8)	704	(20)
Macedonia, FYR	46	(7)	51	(8)	76	(11)	101	(15)	93	(14)
Poland	27	(0)	76	(1)	668	(6)	1 142	(10)	2 409	(21)
Romania	605	(2)	1 128	(4)	4 180	(15)	5 241	(19)	5 425	(20)
Slovakia	6	(1)	10	(1)	43	(4)	90	(8)	144	(13)
Slovenia	2	(1)	7	(2)	21	(6)	55	(14)	85	(22)
Turkey	–	–	–	–	–	–	–	–	–	–
Yugoslavia †	8	(0)	15	(1)	239	(8)	371	(13)	477	(16)
Total Centre	**783**	**(1)**	**1 557**	**(3)**	**6 239**	**(11)**	**8 492**	**(15)**	**10 704**	**(19)**
East										
Armenia	20	(1)	42	(3)	269	(20)	295	(22)	250	(19)
Azerbaijan	–	–	–	–	–	–	–	–	–	–
Belarus	–	–	–	–	–	–	–	–	–	–
Estonia	7	(1)	11	(1)	54	(7)	125	(16)	180	(23)
Georgia	123	(2)	495	(8)	1 057	(16)	1 401	(22)	1 287	(20)
Kazakhstan ‡	313	(1)	1 856	(8)	5 487	(24)	6 096	(27)	4 196	(18)
Kyrgyzstan	–	–	–	–	–	–	–	–	–	–
Latvia	43	(2)	102	(5)	218	(11)	404	(20)	449	(22)
Lithuania	19	(1)	105	(4)	215	(7)	396	(13)	597	(20)
Moldova, Republic of	31	(1)	54	(2)	513	(17)	641	(22)	706	(24)
Russian Federation ‡	1 963	(1) §	2 778	(2) §	21 788	(16)	31 420	(24)	31 765	(24)
Tajikistan	61	(2)	248	(9)	783	(28)	734	(26)	476	(17)
Turkmenistan	35	(1)	558	(14)	867	(22)	1 049	(26)	732	(18)
Ukraine ‡	153	(1)	637	(2)	3 908	(13)	5 821	(20)	6 803	(23)
Uzbekistan	138	(1)	2 075	(13)	3 077	(19)	4 517	(28)	2 648	(17)
Total East	**2 906**	**(1)**	**8 961**	**(4)**	**38 236**	**(17)**	**52 899**	**(24)**	**50 089**	**(22)**
Total WHO European Region	**4 736**	**(1)**	**11 840**	**(4)**	**49 949**	**(15)**	**70 991**	**(22)**	**68 691**	**(21)**

* Respiratory and meningeal cases only
† Without Kosovo
‡ Age group provided on new cases only
§ The paediatric age groups are 0-6 and 7-14 years

Table 5 (ctd). Tuberculosis cases by age group, WHO European Region, 2000

Age group (years)								Total	Geographic area
45-54		55-64		> 64		Unknown			
N	(%)	N	(%)	N	(%)	N	(%)	N	Country
									West
192	(16)	142	(12)	317	(26)	2	(0)	1 218	Austria
185	(14)	148	(11)	362	(28)	0	(0)	1 313	Belgium
79	(14)	45	(8)	65	(12)	0	(0)	548	Denmark
59	(11)	85	(16)	309	(58)	0	(0)	537	Finland
936	(14)	691	(10)	1 748	(26)	0	(0)	6 714	France
1 142	(13)	1 272	(14)	2 542	(28)	0	(0)	9 064	Germany
70	(10)	67	(10)	259	(37)	87	(12)	703	Greece
49	(12)	33	(8)	136	(34)	5	(1)	403	Ireland
466	(10)	561	(12)	1 475	(31)	120	(3)	4 759	Italy
5	(11)	4	(9)	9	(20)	0	(0)	44	Luxembourg
134	(10)	106	(8)	185	(13)	1	(0)	1 404	Netherlands
570	(13)	429	(10)	686	(15)	17	(0)	4 494	Portugal
930	(11)	684	(8)	1 577	(19)	178	(2)	8 395	Spain *
34	(7)	37	(8)	135	(29)	0	(0)	458	Sweden
802	(12)	745	(11)	1 403	(21)	0	(0)	6 792	United Kingdom
5 653	**(12)**	**5 049**	**(11)**	**11 208**	**(24)**	**410**	**(1)**	**46 846**	**Subtotal EU**
0	(0)	0	(0)	1	(9)	0	(0)	11	Andorra
1	(8)	1	(8)	6	(46)	0	(0)	13	Iceland
68	(12)	60	(10)	165	(28)	0	(0)	591	Israel
1	(6)	2	(11)	7	(39)	0	(0)	18	Malta
0	(0)	0	(0)	0	(0)	0	(0)	0	Monaco
23	(10)	21	(9)	51	(21)	0	(0)	238	Norway
0	(0)	0	(0)	1	(100)	0	(0)	1	San Marino
57	(9)	47	(7)	174	(28)	0	(0)	629	Switzerland
5 803	**(12)**	**5 180**	**(11)**	**11 613**	**(24)**	**410**	**(1)**	**48 347**	**Total West**
									Centre
99	(16)	103	(16)	100	(16)	0	(0)	631	Albania
347	(13)	405	(16)	809	(31)	41	(2)	2 606	Bosnia-Herzegovina
775	(23)	410	(12)	664	(20)	0	(0)	3 349	Bulgaria
286	(18)	231	(14)	503	(31)	0	(0)	1 630	Croatia
303	(21)	229	(16)	543	(38)		(0)	1 442	Czech Republic
962	(27)	641	(18)	870	(24)	1	(0)	3 598	Hungary
98	(15)	91	(14)	112	(17)	0	(0)	668	Macedonia, FYR
2 628	(23)	1 593	(14)	2 933	(26)	1	(0)	11 477	Poland
5 219	(19)	3 170	(11)	2 730	(10)	22	(0)	27 720	Romania
202	(18)	169	(15)	446	(40)	1	(0)	1 111	Slovakia
60	(16)	48	(13)	102	(27)	0	(0)	380	Slovenia
–	–	–	–	–	–	–	–	–	Turkey
614	(21)	421	(14)	777	(27)	0	(0)	2 922	Yugoslavia †
11 593	**(20)**	**7 511**	**(13)**	**10 589**	**(18)**	**66**	**(0)**	**57 534**	**Total Centre**
									East
255	(19)	93	(7)	120	(9)	0	(0)	1 344	Armenia
–	–	–	–	–	–	–	–	–	Azerbaijan
–	–	–	–	–	–	–	–	–	Belarus
186	(24)	119	(15)	109	(14)	0	(0)	791	Estonia
775	(12)	619	(10)	561	(9)	118	(2)	6 436	Georgia
2 578	(11)	1 386	(6)	870	(4)	0	(0)	22 782	Kazakhstan ‡
–	–	–	–	–	–	–	–	–	Kyrgyzstan
371	(18)	261	(13)	215	(10)	0	(0)	2 063	Latvia
606	(20)	474	(16)	569	(19)	0	(0)	2 981	Lithuania
523	(18)	295	(10)	172	(6)	0	(0)	2 935	Moldova, Republic of
24 104	(18)	10 690	(8)	7 563	(6)	0	(0)	132 071	Russian Federation ‡
229	(8)	136	(5)	112	(4)	0	(0)	2 779	Tajikistan
372	(9)	193	(5)	161	(4)	0	(0)	3 967	Turkmenistan
5 857	(20)	3 650	(12)	2 924	(10)	0	(0)	29 753	Ukraine ‡
1 555	(10)	1 076	(7)	826	(5)	0	(0)	15 912	Uzbekistan
37 411	**(17)**	**18 992**	**(8)**	**14 202**	**(6)**	**118**	**(0)**	**223 814**	**Total East**
54 807	**(17)**	**31 683**	**(10)**	**36 404**	**(11)**	**594**	**(0)**	**329 695**	**Total WHO European Region**

* Respiratory and meningeal cases only
† Without Kosovo
‡ Age group provided on new cases only

Table 6. Tuberculosis cases by geographic origin, WHO European Region, 2000

Geographic area / Country	Classification used	Geographic origin: Born in / citizen of the country N	(%)	Foreign born / non-citizen N	(%)	Unknown N	(%)	Total N
West								
Austria	citizenship	884	(73)	334	(27)	0	(0)	1 218
Belgium	citizenship	758	(58)	508	(39)	47	(4)	1 313
Denmark	birthplace §	198	(36)	350	(64)	0	(0)	548
Finland	birthplace	490	(91)	47	(9)	0	(0)	537
France	birthplace	3 198	(48)	2 193	(33)	1 323	(20)	6 714
Germany	citizenship	6 017	(66)	3 047	(34)	0	(0)	9 064
Greece	citizenship	635	(90)	68	(10)	0	(0)	703
Ireland	birthplace	354	(88)	49	(12)	0	(0)	403
Italy	birthplace	3 511	(74)	1 201	(25)	47	(1)	4 759
Luxembourg	birthplace	17	(39)	21	(48)	6	(14)	44
Netherlands	citizenship	516	(37)	879	(63)	9	(1)	1 404
Portugal	birthplace	4 047	(90)	434	(10)	13	(0)	4 494
Spain *	birthplace	3 734	(44)	451	(5)	4 210	(50)	8 395
Sweden	birthplace	151	(33)	305	(67)	2	(0)	458
United Kingdom	birthplace	2 369	(35)	3 384	(50)	1 039	(15)	6 792
Subtotal EU		**26 879**	**(57)**	**13 271**	**(28)**	**6 696**	**(14)**	**46 846**
Andorra	birthplace	2	(18)	8	(73)	1	(9)	11
Iceland	birthplace	8	(62)	5	(38)	0	(0)	13
Israel	birthplace	91	(15)	500	(85)	0	(0)	591
Malta	citizenship	13	(72)	5	(28)	0	(0)	18
Monaco	birthplace	0	(0)	0	(0)	0	(0)	0
Norway	birthplace	70	(29)	168	(71)	0	(0)	238
San Marino	birthplace	1	(100)	0	(0)	0	(0)	1
Switzerland	birthplace	228	(36)	341	(54)	60	(10)	629
Total West		**27 292**	**(56)**	**14 298**	**(30)**	**6 757**	**(14)**	**48 347**
Centre								
Albania	–	–	–	–	–	–	–	–
Bosnia-Herzegovina	both †	2 594	(100)	12	(0)	0	(0)	2 606
Bulgaria	–	–	–	–	–	–	–	–
Croatia	birthplace	895	(55)	185	(11)	550	(34)	1 630
Czech Republic	birthplace	1 299	(90)	143	(10)	0	(0)	1 442
Hungary	birthplace	3 521	(98)	56	(2)	21	(1)	3 598
Macedonia, FYR	–	–	–	–	–	–	–	–
Poland	–	–	–	–	–	–	–	–
Romania	citizenship	27 720	(100)	0	(0)	0	(0)	27 720
Slovakia	birthplace	1 103	(99)	8	(1)	0	(0)	1 111
Slovenia	birthplace	286	(75)	94	(25)	0	(0)	380
Turkey	–	–	–	–	–	–	–	–
Yugoslavia ‡	–	–	–	–	–	–	–	–
Total Centre		**37 418**	**(97)**	**498**	**(1)**	**571**	**(1)**	**38 487**
East								
Armenia	–	–	–	–	–	–	–	–
Azerbaijan	–	–	–	–	–	–	–	–
Belarus	–	–	–	–	–	–	–	–
Estonia	birthplace	608	(77)	183	(23)	0	(0)	791
Georgia	–	–	–	–	–	–	–	–
Kazakhstan	–	–	–	–	–	–	–	–
Kyrgyzstan	–	–	–	–	–	–	–	–
Latvia	birthplace	1 893	(92)	147	(7)	23	(1)	2 063
Lithuania	birthplace	2 821	(95)	160	(5)	0	(0)	2 981
Moldova, Republic of	–	–	–	–	–	–	–	–
Russian Federation ‡	citizenship	131 729	(100)	342	(0)	0	(0)	132 071
Tajikistan	–	–	–	–	–	–	–	–
Turkmenistan	–	–	–	–	–	–	–	–
Ukraine	–	–	–	–	–	–	–	–
Uzbekistan	–	–	–	–	–	–	–	–
Total East		**137 051**	**(99)**	**832**	**(1)**	**23**	**(0)**	**137 906**
Total WHO European Region		**201 761**	**(90)**	**15 628**	**(7)**	**7 351**	**(3)**	**224 740**

* Respiratory and meningeal cases only
† by birthplace in Republika Srpska; by citizenship in Bosnia & Herzegovina (Federation)
‡ New cases only
§ Cases aged 25 years or less and born in Denmark classified according to the place of birth of parents

Table 7. Tuberculosis cases in persons born in / citizens of the country, WHO European Region, 1995-2000 *

Geographic area Country	Classification used	1995	1996	1997	1998	1999	2000
West							
Austria	citizenship	1 037	1 098	1 029	1 023	889	882
Belgium	citizenship	919	906	849	776	809	758
Denmark	birthplace ¶	190	195	174	184	164	198
Finland	birthplace	611	596	524	568	517	490
France †	citizenship	5 402	4 929	4 408	4 103	4 041	3 906
Germany	citizenship	8 666	8 340	7 736	7 149	6 669	6 017
Greece	citizenship	–	–	–	1 026	704	635
Ireland	birthplace	–	–	–	389	404	354
Italy	birthplace	–	–	–	–	3 346	3 511
Luxembourg	birthplace	15	13	20	19	14	17
Netherlands	citizenship	706	808	647	536	603	516
Portugal	birthplace	–	–	–	–	4 406	4 047
Spain ‡	birthplace	–	–	–	3 624	3 259	3 734
Sweden	birthplace	249	198	156	177	174	151
United Kingdom	birthplace	–	–	–	2 355	2 087	2 369
Andorra	birthplace	–	5	3	2	7	2
Iceland	birthplace	11	7	8	9	4	8
Israel	birthplace	–	70	52	96	71	91
Malta	birthplace	6	19	8	12	15	–
Monaco	birthplace	–	0	0	0	1	0
Norway	birthplace	139	115	95	115	93	70
San Marino	birthplace	1	0	1	0	0	1
Switzerland †	citizenship	389	348	326	317	301	279
Centre							
Bosnia-Herzegovina	both §	–	–	–	–	3 065	2 594
Croatia	birthplace	–	1 052	960	1 042	963	895
Czech Republic	birthplace	1 834	1 936	1 726	1 695	1 496	1 299
Hungary	birthplace	–	4 236	4 196	–	3 832	3 521
Romania	citizenship	23 265	–	23 888	25 758	26 868	27 720
Slovakia	birthplace	–	1 497	1 298	1 281	1 214	1 103
Slovenia	birthplace	401	457	377	368	335	286
East							
Estonia	birthplace	–	681	716	704	587	608
Latvia	birthplace	–	–	1 889	2 087	1 614	1 893
Lithuania	birthplace	–	–	2 769	2 784	2 699	2 821
Russian Federation ‖	citizenship	–	–	–	–	123 903	131 729

* countries with at least two datapoints with the same classification of origin
† data shown by citizenship to show full series
‡ Respiratory and meningeal cases only; 50% reported with unknown origin in 2000
§ by birthplace in Republika Srpska; by citizenship in Fed. of Bosnia
‖ New cases only
¶ Cases aged 25 years or less and born in Denmark classified according to the place of birth of parents

Table 8. Tuberculosis cases of foreign origin by geographic region of origin, WHO European Region, 2000 (22 countries providing individual data)

Geographic area	classification	Geographic region of origin												
		Europe * †						Asia †		Africa		Other ‡ / Unknown		Total
		West		Centre		East								
Country	used	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N
West														
Austria	citizenship	13	(4)	232	(69)	7	(2)	63	(19)	18	(5)	1	(0)	334
Belgium	citizenship	51	(10)	87	(17)	21	(4)	71	(14)	269	(53)	9	(2)	508
Denmark ††	birthplace	2	(1)	34	(10)	1	(0)	102	(29)	187	(53)	24	(7)	350
Finland	birthplace	2	(4)	4	(9)	9	(19)	7	(15)	20	(43)	5	(11)	47
Ireland	birthplace	11	(22)	10	(20)	1	(2)	12	(24)	9	(18)	6	(12)	49
Italy	birthplace	49	(4)	184	(15)	20	(2)	238	(20)	501	(42)	209	(17)	1 201
Luxembourg	birthplace	17	(81)	2	(10)	0	(0)	1	(5)	0	(0)	1	(5)	21
Netherlands	citizenship	21	(2)	89	(10)	19	(2)	182	(21)	528	(60)	40	(5)	879
Portugal	birthplace	27	(6)	0	(0)	0	(0)	16	(4)	377	(87)	14	(3)	434
Sweden	birthplace	25	(8)	51	(17)	6	(2)	84	(28)	131	(43)	8	(3)	305
United Kingdom §	birthplace	128	(4)	80	(2)	9	(0)	1 813	(54)	1 002	(30)	295	(9) ‖	3 327
Subtotal EU		**346**	**(5)**	**773**	**(10)**	**93**	**(1)**	**2 589**	**(35)**	**3 042**	**(41)**	**612**	**(8)**	**7 455**
Iceland	birthplace	0	(0)	0	(0)	0	(0)	2	(40)	2	(40)	1	(20)	5
Malta	citizenship	0	(0)	0	(0)	0	(0)	5	(100)	0	(0)	0	(0)	5
Norway	birthplace	0	(0)	0	(0)	0	(0)	62	(37)	77	(46)	29	(17) ¶	168
Switzerland	birthplace	57	(17)	117	(34)	2	(1)	56	(16)	91	(27)	18	(5)	341
Total West		**403**	**(5)**	**890**	**(11)**	**95**	**(1)**	**2 714**	**(34)**	**3 212**	**(40)**	**660**	**(8)**	**7 974**
Centre														
Croatia	birthplace	4	(2)	180	(97)	1	(1)	0	(0)	0	(0)	0	(0)	185
Czech Republic	birthplace	3	(2)	50	(35)	50	(35)	33	(23)	6	(4)	1	(1)	143
Hungary	birthplace	1	(2)	30	(54)	4	(7)	18	(32)	2	(4)	1	(2)	56
Romania	birthplace	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0
Slovakia	birthplace	0	(0)	0	(0)	4	(50)	4	(50)	0	(0)	0	(0)	8
Slovenia	birthplace	2	(2)	88	(94)	1	(1)	0	(0)	1	(1)	2	(2) **	94
Total Centre		**10**	**(2)**	**348**	**(72)**	**60**	**(12)**	**55**	**(11)**	**9**	**(2)**	**4**	**(1)**	**486**
East														
Estonia	birthplace	1	(1)	1	(1)	181	(99)	0	(0)	0	(0)	0	(0)	183
Total		**414**	**(5)**	**1 239**	**(14)**	**336**	**(4)**	**2 769**	**(32)**	**3 221**	**(37)**	**664**	**(8)**	**8 643**

* 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
‡ 395 cases from America and Oceania
§ Except Scotland
‖ 13 cases from Europe, exact country unspecified
¶ 28 cases from Europe, exact country unspecified
** 2 cases from Europe, exact country unspecified.
†† Cases aged 25 years or less and born in Denmark classified according to the place of birth of parents

Table 9. Tuberculosis cases by previous anti-TB treatment status, WHO European Region, 2000

Geographic area Country	Previous anti-TB treatment status *								Total
	Never treated		Previously treated		Unknown				
					Previous TB diagnosis		Previous TB diagnosis unknown		
	N	(%)	N	(%)	N	(%)	N	(%)	N
West									
Austria	1 106	(91)	33	(3)	79	(6)	0	(0)	1 218
Belgium	1 009	(77)	–	–	124	(9)	180	(14)	1 313
Denmark	509	(93)	–	–	39	(7)	0	(0)	548
Finland	461	(86)	39	(7)	0	(0)	37	(7)	537
France	4 354	(65)	596	(9)	0	(0)	1 764	(26)	6 714
Germany	–	–	–	–	–	–	–	–	–
Greece	655	(93)	48	(7)	–	–	0	(0)	703
Ireland	275	(68)	16	(4)	–	–	112	(28)	403
Italy	3 137	(66)	412	(9)	110	(2)	1 100	(23)	4 759
Luxembourg	39	(91)	–	–	5	(9)	0	(0)	44
Netherlands	1 294	(92)	92	(7)	18	(1)	0	(0)	1 404
Portugal	4 033	(90)	461	(10)	0	(0)	0	(0)	4 494
Spain †	6 155	(73)	402	(5)	–	–	1 838	(22)	8 395
Sweden	403	(88)	27	(6)	26	(6)	2	(0)	458
United Kingdom ‡	4 923	(78)	245	(4)	196	(3)	959	(15)	6 323
Subtotal EU	**28 353**	**(76)**	**2 371**	**(6)**	**597**	**(2)**	**5 992**	**(16)**	**37 313**
Andorra	11	(100)	0	(0)	–	–	0	(0)	11
Iceland	12	(92)	1	(8)	0	(0)	0	(0)	13
Israel	88	(15)	46	(8)	–	–	457	(77)	591
Malta	15	(83)	2	(11)	1	(6)	0	(0)	18
Monaco	0	(0)	0	(0)	0	(0)	0	(0)	0
Norway	219	(92)	19	(8)	0	(0)	0	(0)	238
San Marino	1	(100)	0	(0)	–	–	0	(0)	1
Switzerland	425	(68)	85	(14)	0	(0)	119	(19)	629
Total West	**29 124**	**(75)**	**2 524**	**(7)**	**598**	**(2)**	**6 568**	**(17)**	**38 814**
Centre									
Albania	593	(94)	38	(6)	–	–	0	(0)	631
Bosnia-Herzegovina	2 291	(88)	299	(11)	–	–	16	(1)	2 606
Bulgaria	2 966	(89)	383	(11)	–	–	0	(0)	3 349
Croatia	1 489	(91)	137	(8)	4	(0)	0	(0)	1 630
Czech Republic	1 389	(96)	53	(4)	0	(0)	0	(0)	1 442
Hungary	2 994	(83)	604	(17)	0	(0)	0	(0)	3 598
Macedonia, FYR	625	(94)	43	(6)	–	–	0	(0)	668
Poland	10 091	(88)	1 386	(12)	0	(0)	0	(0)	11 477
Romania	23 864	(86)	3 572	(13)	284	(1)	0	(0)	27 720
Slovakia	925	(83)	186	(17)	0	(0)	0	(0)	1 111
Slovenia	336	(88)	43	(11)	0	(0)	1	(0)	380
Turkey	–	–	–	–	–	–	–	–	–
Yugoslavia §	2 661	(91)	261	(9)	–	–	0	(0)	2 922
Total Centre	**50 224**	**(87)**	**7 005**	**(12)**	**288**	**(1)**	**17**	**(0)**	**57 534**
East									
Armenia	1 279	(95)	65	(5)	–	–	0	(0)	1 344
Azerbaijan	5 113	(99)	74	(1)	–	–	0	(0)	5 187
Belarus	–	–	–	–	–	–	–	–	–
Estonia	642	(81)	149	(19)	0	(0)	0	(0)	791
Georgia	4 393	(68)	2 043	(32)	–	–	0	(0)	6 436
Kazakhstan	22 782	(81)	5 483	(19)	–	–	0	(0)	28 265
Kyrgyzstan	5 953	(93)	430	(7)	–	–	0	(0)	6 383
Latvia	1 715	(83)	348	(17)	–	–	0	(0)	2 063
Lithuania	2 330	(78)	651	(22)	–	–	0	(0)	2 981
Moldova, Republic of	2 561	(87)	374	(13)	–	–	0	(0)	2 935
Russian Federation	132 071	(92)	11 730	(8)	–	–	0	(0)	143 801
Tajikistan	–	–	–	–	–	–	–	–	–
Turkmenistan	3 896	(98)	71	(2)	–	–	0	(0)	3 967
Ukraine	29 753	(90)	3 210	(10)	–	–	0	(0)	32 963
Uzbekistan	–	–	–	–	–	–	–	–	–
Total East	**212 488**	**(90)**	**24 628**	**(10)**	**0**	**(0)**	**0**	**(0)**	**237 116**
Total WHO European Region	**291 836**	**(88)**	**34 157**	**(10)**	**886**	**(0)**	**6 585**	**(2)**	**333 464**

* See technical note
† Respiratory and meningeal cases only
‡ Excludes Scotland
§ Without Kosovo and Metohija

Table 10. Tuberculosis cases by site of disease, WHO European Region, 2000

Geographic area Country	Classification provided *	Site of disease: Pulmonary / Respiratory N	(%)	Extra-pulmonary / Extra-respiratory N	(%)	Unknown N	(%)	Total N
West								
Austria	pulm	1 003	(82)	215	(18)	0	(0)	1 218
Belgium	pulm	964	(73)	339	(26)	10	(1)	1 313
Denmark	pulm	397	(72)	150	(27)	1	(0)	548
Finland	pulm	370	(69)	163	(30)	4	(1)	537
France	pulm	4 838	(72)	1 796	(27)	80	(1)	6 714
Germany	resp	7 535	(83)	1 529	(17)	0	(0)	9 064
Greece	pulm	622	(88)	81	(12)	0	(0)	703
Ireland	pulm	289	(72)	107	(27)	7	(2)	403
Italy	pulm	3 604	(76)	1 134	(24)	21	(0)	4 759
Luxembourg	pulm	42	(95)	2	(5)	0	(0)	44
Netherlands	pulm	927	(66)	477	(34)	0	(0)	1 404
Portugal	pulm	3 247	(72)	1 242	(28)	5	(0)	4 494
Spain †	resp	8 270	(99)	125	(1)	0	(0)	8 395
Sweden	pulm	304	(66)	154	(34)	0	(0)	458
United Kingdom ‡	pulm	3 691	(58)	2 630	(42)	2	(0)	6 323
Subtotal EU		**36 103**	**(78)**	**10 144**	**(22)**	**130**	**(0)**	**46 377**
Andorra	pulm	10	(91)	1	(9)	0	(0)	11
Iceland	pulm	9	(69)	4	(31)	0	(0)	13
Israel	pulm	478	(81)	113	(19)	0	(0)	591
Malta	pulm	15	(83)	3	(17)	0	(0)	18
Monaco	pulm	0	(0)	0	(0)	0	(0)	0
Norway	pulm	150	(63)	88	(37)	0	(0)	238
San Marino	resp	1	(100)	0	(0)	0	(0)	1
Switzerland	pulm	477	(76)	152	(24)	0	(0)	629
Total West		**37 243**	**(78)**	**10 505**	**(22)**	**130**	**(0)**	**47 878**
Centre								
Albania	pulm	392	(62)	239	(38)	0	(0)	631
Bosnia-Herzegovina	pulm	2 337	(90)	269	(10)	0	(0)	2 606
Bulgaria	resp	2 907	(87)	442	(13)	0	(0)	3 349
Croatia	pulm	1 475	(90)	155	(10)	0	(0)	1 630
Czech Republic	resp	1 244	(86)	198	(14)	0	(0)	1 442
Hungary	pulm	3 354	(93)	244	(7)	0	(0)	3 598
Macedonia, FYR	resp	516	(77)	152	(23)	0	(0)	668
Poland	resp	11 327	(99)	150	(1)	0	(0)	11 477
Romania	pulm	23 434	(85)	4 195	(15)	91	(0)	27 720
Slovakia	pulm	904	(81)	207	(19)	0	(0)	1 111
Slovenia	pulm	319	(84)	61	(16)	0	(0)	380
Turkey	–	13 667	(76)	4 371	(24)	0	(0)	18 038
Yugoslavia §	resp	2 736	(94)	186	(6)	0	(0)	2 922
Total Centre		**64 612**	**(85)**	**10 869**	**(14)**	**91**	**(0)**	**75 572**
East								
Armenia	pulm	1 191	(89)	153	(11)	0	(0)	1 344
Azerbaijan	pulm	4 942	(95)	245	(5)	0	(0)	5 187
Belarus	resp	5 636	(93)	448	(7)	0	(0)	6 084
Estonia	pulm	721	(91)	70	(9)	0	(0)	791
Georgia	pulm	4 963	(77)	1 473	(23)	0	(0)	6 436
Kazakhstan	resp	25 498	(90)	2 767	(10)	0	(0)	28 265
Kyrgyzstan	pulm	4 655	(73)	1 683	(26)	45	(1)	6 383
Latvia	pulm	1 751	(85)	312	(15)	0	(0)	2 063
Lithuania	pulm	2 415	(81)	566	(19)	0	(0)	2 981
Moldova, Republic of	resp	2 813	(96)	122	(4)	0	(0)	2 935
Russian Federation	resp	138 600	(96)	5 201	(4)	0	(0)	143 801
Tajikistan	resp	2 352	(85)	427	(15)	0	(0)	2 779
Turkmenistan	resp	–	–	–	–	–	–	–
Ukraine	resp	31 206	(95)	1 739	(5)	18	(0)	32 963
Uzbekistan	resp	–	–	–	–	–	–	–
Total East		**226 743**	**(94)**	**15 206**	**(6)**	**63**	**(0)**	**242 012**
Total WHO European Region		**328 598**	**(90)**	**36 580**	**(10)**	**284**	**(0)**	**365 462**

* pulm = pulmonary; resp = respiratory
† Respiratory and meningeal cases only
‡ Excludes Scotland (N = 469, 73% respiratory)
§ Without Kosovo and Metohija

Table 11. Tuberculosis cases, by detailed site of disease * and age group, WHO European Region, 2000 (15 countries providing individual data †)

Site of disease	Age group (years)							
	0-14 (Cases = 580)		15-44 (Cases = 8 819)		45 and over (Cases = 11 094)		Total ‡ (Cases = 20 639)	
	Sites	(%) §	Sites	(%) §	Sites	(%) §	Sites	(%) §
Pulmonary	395	(68.1)	7 080	(80.3)	8 988	(81.0)	16 573	(80.3)
Extrapulmonary								
Pleura	37	(6.4)	674	(7.6)	656	(5.9)	1 371	(6.6)
Intrathoracic lymphnodes	97	(16.7)	148	(1.7)	118	(1.1)	363	(1.8)
Extrathoracic lymphnodes	38	(6.6)	413	(4.7)	325	(2.9)	779	(3.8)
Spine	3	(0.5)	32	(0.4)	63	(0.6)	98	(0.5)
Bone / joint other than spine	5	(0.9)	99	(1.1)	176	(1.6)	284	(1.4)
Meninges	10	(1.7)	65	(0.7)	45	(0.4)	122	(0.6)
CNS‖ other than meninges	3	(0.5)	14	(0.2)	15	(0.1)	32	(0.2)
Genito-urinary	5	(0.9)	112	(1.3)	408	(3.7)	532	(2.6)
Peritoneal / digestive	6	(1.0)	76	(0.9)	80	(0.7)	162	(0.8)
Disseminated ¶	16	(2.8)	238	(2.7)	153	(1.4)	414	(2.0)
Other	30	(5.2)	355	(4.0)	522	(4.7)	921	(4.5)
Unknown	2	(0.3)	18	(0.2)	23	(0.2)	43	(0.2)
Total sites	**645**	**(111.6)**	**9 306**	**(105.7)**	**11 549**	**(104.3)**	**21 651**	**(105.1)**

* 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)
† Austria, Belgium, Croatia, Estonia, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Norway, Portugal, Slovakia, Slovenia and Switzerland
‡ Includes 146 cases with unknown age
§ as a percentage of total cases in each column
‖ CNS = Central Nervous System
¶ Includes miliary TB, TB of more than two organ systems or isolate of *M. tuberculosis* complex from the blood

Table 12. Tuberculosis cases by culture result, WHO European Region, 2000

Geographic origin Country	Culture routinely performed	Laboratory criteria for «definite» TB case *	Culture result				Total
			Positive		Negative / not done / unknown		
			N	(%)	N	(%)	N
West							
Austria	yes	C & S	762	(63)	456	(37)	1 218
Belgium	yes	C	969	(74)	344	(26)	1 313
Denmark	yes	C	430	(78)	118	(22)	548
Finland	yes	C	451	(84)	86	(16)	537
France	yes	C	1 857	(28)	4 857	(72)	6 714
Germany †	yes	C	3 427	(67)	1 653	(33)	5 080
Greece	some areas	C & S	287	(41)	416	(59)	703
Ireland	yes	C	229	(57)	174	(43)	403
Italy	some areas	C	1 778	(37)	2 981	(63)	4 759
Luxembourg	yes	C	44	(100)	0	(0)	44
Netherlands	yes	C	863	(61)	541	(39)	1 404
Portugal	yes	C	2 281	(51)	2 213	(49)	4 494
Spain ‡	yes	C & S	3 436	(41)	4 959	(59)	8 395
Sweden	yes	C	371	(81)	87	(19)	458
United Kingdom	yes	C	3 644	(54)	3 148	(46)	6 792
Subtotal EU			**20 829**	**(49)**	**22 033**	**(51)**	**42 862**
Andorra	yes	C	6	(55)	5	(45)	11
Iceland	yes	C	9	(69)	4	(31)	13
Israel	yes	C	276	(47)	315	(53)	591
Malta	yes	C	10	(56)	8	(44)	18
Monaco	yes	C	0	(0)	0	(0)	0
Norway	yes	C	170	(71)	68	(29)	238
San Marino	yes	C	1	(100)	0	(0)	1
Switzerland	yes	C	494	(79)	135	(21)	629
Total West			**21 795**	**(49)**	**22 568**	**(51)**	**44 363**
Centre							
Albania	no	C & S	119	(19)	512	(81)	631
Bosnia-Herzegovina	some areas	C & S	1 554	(60)	1 052	(40)	2 606
Bulgaria	yes	C & S	1 408	(42)	1 941	(58)	3 349
Croatia	yes	C	883	(54)	747	(46)	1 630
Czech Republic	yes	C & S	873	(61)	569	(39)	1 442
Hungary	yes	C	912	(25)	2 686	(75)	3 598
Macedonia, FYR	some areas	C	–	–	–	–	–
Poland	yes	C	6 377	(56)	5 100	(44)	11 477
Romania	some areas	C	12 009	(43)	15 711	(57)	27 720
Slovakia	yes	C	596	(54)	515	(46)	1 111
Slovenia	yes	C	324	(85)	56	(15)	380
Turkey	–	–	–	–	–	–	–
Yugoslavia	yes	C & S	1 765	(60)	1 157	(40)	2 922
Total Centre			**26 820**	**(47)**	**30 046**	**(53)**	**56 866**
East							
Armenia	some areas	C & S	–	–	–	–	–
Azerbaijan	some areas	C & S	492	(9)	4 695	(91)	5 187
Belarus	yes	C & S	2 550	(42)	3 534	(58)	6 084
Estonia	yes	C	541	(68)	250	(32)	791
Georgia	some areas	C & S	–	–	–	–	–
Kazakhstan	yes	C & S	1 905	(7)	26 360	(93)	28 265
Kyrgyzstan	some areas	C	–	–	–	–	–
Latvia	yes	C	1 298	(63)	765	(37)	2 063
Lithuania	yes	C & S	1 556	(52)	1 425	(48)	2 981
Moldova, Republic of	no	C & S	989	(34)	1 946	(66)	2 935
Russian Federation	yes	C & S	–	–	–	–	–
Tajikistan	some areas	C	–	–	–	–	–
Turkmenistan	yes	C & S	1 975	(40)	3 010	(60)	4 985
Ukraine	yes	C & S	–	–	–	–	–
Uzbekistan	some areas	C & S	–	–	–	–	–
Total East			**11 306**	**(21)**	**41 985**	**(79)**	**53 291**
Total WHO European Region			**59 921**	**(39)**	**94 599**	**(61)**	**154 520**

* C = culture positive; C & S = culture or sputum smear positive
† Data from a national sample of TB cases notified
‡ Respiratory and meningeal cases only

Table 13. Tuberculosis cases by culture result and site of disease, WHO European Region, 2000 (24 countries providing individual data)

Country	Culture done: Positive N	Positive (%)	Negative N	Negative (%)	Unknown N	Unknown (%)	Culture not done N	Culture not done (%)	Unknown N	Unknown (%)	Total * N
a) Pulmonary cases											
West											
Austria	666	(66)	–	–	–	–	–	–	337	(34)	1 003
Belgium	758	(79)	93	(10)	39	(4)	0	(0)	74	(8)	964
Denmark	313	(79)	84	(21)	0	(0)	0	(0)	0	(0)	397
Finland	319	(86)	–	–	–	–	–	–	51	(14)	370
France	1 664	(34)	311	(6)	1 642	(34)	0	(0)	1 221	(25)	4 838
Iceland	7	(78)	2	(22)	0	(0)	0	(0)	0	(0)	9
Ireland	182	(63)	57	(20)	0	(0)	15	(5)	35	(12)	289
Italy	1 601	(44)	164	(5)	1 121	(31)	0	(0)	718	(20)	3 604
Luxembourg	42	(100)	0	(0)	0	(0)	0	(0)	0	(0)	42
Malta	9	(60)	6	(40)	0	(0)	0	(0)	0	(0)	15
Netherlands	591	(64)	74	(8)	11	(1)	36	(4)	215	(23)	927
Norway	111	(74)	21	(14)	0	(0)	0	(0)	18	(12)	150
Portugal	2 042	(63)	423	(13)	34	(1)	542	(17)	206	(6)	3 247
Sweden	250	(82)	40	(13)	0	(0)	0	(0)	14	(5)	304
Switzerland	369	(77)	–	–	–	–	89	(19)	19	(4)	477
United Kingdom †	2 206	(60)	–	–	–	–	–	–	1 485	(40)	3 691
Total West	**11 130**	**(55)**	**1 275**	**(6)**	**2 847**	**(14)**	**682**	**(3)**	**4 393**	**(22)**	**20 327**
Centre											
Croatia	826	(56)	250	(17)	0	(0)	1	(0)	398	(27)	1 475
Czech Republic ‡	815	(66)	429	(34)	0	(0)	0	(0)	0	(0)	1 244
Hungary	896	(27)	1 021	(30)	456	(14)	857	(26)	124	(4)	3 354
Poland ‡	6 259	(55)	4 809	(42)	0	(0)	0	(0)	259	(2)	11 327
Romania	11 607	(50)	5 158	(22)	6 237	(27)	432	(2)	0	(0)	23 434
Slovakia	528	(58)	360	(40)	0	(0)	7	(1)	9	(1)	904
Slovenia	285	(89)	24	(8)	0	(0)	10	(3)	0	(0)	319
Total Centre	**21 216**	**(50)**	**12 051**	**(29)**	**6 693**	**(16)**	**1 307**	**(3)**	**790**	**(2)**	**42 057**
East											
Estonia	516	(72)	203	(28)	0	(0)	2	(0)	0	(0)	721
Total pulmonary cases	**32 862**	**(52)**	**13 529**	**(21)**	**9 540**	**(15)**	**1 991**	**(3)**	**5 183**	**(8)**	**63 105**
b) Extrapulmonary cases											
West											
Austria	96	(45)	–	–	–	–	–	–	119	(55)	215
Belgium	211	(62)	28	(8)	67	(20)	10	(3)	23	(7)	339
Denmark	117	(78)	33	(22)	0	(0)	0	(0)	0	(0)	150
Finland	129	(79)	–	–	–	–	–	–	34	(21)	163
France	187	(10)	355	(20)	648	(36)	0	(0)	606	(34)	1 796
Iceland	2	(50)	1	(25)	0	(0)	0	(0)	1	(25)	4
Ireland	47	(44)	24	(22)	0	(0)	12	(11)	24	(22)	107
Italy	172	(15)	32	(3)	491	(43)	0	(0)	439	(39)	1 134
Luxembourg	2	(100)	0	(0)	0	(0)	0	(0)	0	(0)	2
Malta	1	(33)	2	(67)	0	(0)	0	(0)	0	(0)	3
Netherlands	272	(57)	54	(11)	4	(1)	32	(7)	115	(24)	477
Norway	59	(67)	8	(9)	0	(0)	0	(0)	21	(24)	88
Portugal	238	(19)	150	(12)	27	(2)	197	(16)	630	(51)	1 242
Sweden	121	(79)	21	(14)	0	(0)	0	(0)	12	(8)	154
Switzerland	125	(82)	–	–	–	–	24	(16)	3	(2)	152
United Kingdom †	1 135	(43)	–	–	–	–	–	–	1 495	(57)	2 630
Total West	**2 914**	**(34)**	**708**	**(8)**	**1 237**	**(14)**	**275**	**(3)**	**3 522**	**(41)**	**8 656**
Centre											
Croatia	57	(37)	50	(32)	0	(0)	1	(1)	47	(30)	155
Czech Republic ‡	58	(29)	140	(71)	0	(0)	0	(0)	0	(0)	198
Hungary	16	(7)	50	(20)	28	(11)	142	(58)	8	(3)	244
Poland ‡	118	(79)	32	(21)	0	(0)	0	(0)	0	(0)	150
Romania	397	(9)	1 059	(25)	1 248	(30)	1 408	(34)	83	(2)	4 195
Slovakia	68	(33)	123	(59)	0	(0)	10	(5)	6	(3)	207
Slovenia	39	(64)	19	(31)	0	(0)	3	(5)	0	(0)	61
Total Centre	**753**	**(14)**	**1 473**	**(28)**	**1 276**	**(24)**	**1 564**	**(30)**	**144**	**(3)**	**5 210**
East											
Estonia	25	(36)	45	(64)	0	(0)	0	(0)	0	(0)	70
Total extrapulmonary cases	**3 692**	**(26)**	**2 226**	**(16)**	**2 513**	**(18)**	**1 839**	**(13)**	**3 666**	**(26)**	**13 936**

* Excluding 221 cases with site unknown
† Without Scotland
‡ Respiratory classification

Table 14. Tuberculosis cases by *M. tuberculosis* complex species, 2000, WHO European Region (20 countries providing individual data)

Geographic area / Country	*M. tuberculosis* complex species								Total culture positive cases
	M. tuberculosis		*M. bovis*		*M. africanum*		Unknown / not done		
	N	(%)	N	(%)	N	(%)	N	(%)	
West									
Austria	149	(19.6)	1	(0.1)	0	(0.0)	612	(80.3)	762
Belgium	884	(91.2)	3	(0.3)	1	(0.1)	81	(8.4)	969
Finland	450	(99.8)	0	(0.0)	0	(0.0)	1	(0.2)	451
Ireland	221	(96.5)	2	(0.9)	0	(0.0)	6	(2.6)	229
Italy	1 744	(98.1)	5	(0.3)	29	(1.6)	0	(0.0)	1 778
Luxembourg	44	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	44
Netherlands	833	(96.5)	10	(1.2)	20	(2.3)	0	(0.0)	863
Sweden	366	(98.7)	5	(1.3)	0	(0.0)	0	(0.0)	371
United Kingdom	3 075	(92.0)	8	(0.2)	7	(0.2)	252	(7.5)	3 342
Subtotal EU	**7 766**	**(88.2)**	**34**	**(0.4)**	**57**	**(0.6)**	**952**	**(10.8)**	**8 809**
Iceland	8	(88.9)	0	(0.0)	0	(0.0)	1	(11.1)	9
Malta	10	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	10
Norway	168	(98.8)	2	(1.2)	0	(0.0)	0	(0.0)	170
Switzerland	423	(85.6)	7	(1.4)	1	(0.2)	63	(12.8)	494
Total West	**8 375**	**(88.2)**	**43**	**(0.5)**	**58**	**(0.6)**	**1 016**	**(10.7)**	**9 492**
Centre									
Croatia *	883	(100.0)	–	–	–	–	0	(0.0)	883
Czech Republic	717	(82.1)	5	(0.6)	0	(0.0)	151	(17.3)	873
Hungary	912	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	912
Romania	1 052	(8.8)	0	(0.0)	0	(0.0)	10 957	(91.2)	12 009
Slovakia	579	(97.1)	0	(0.0)	0	(0.0)	17	(2.9)	596
Slovenia	324	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	324
Total Centre	**4 467**	**(28.6)**	**5**	**(0.0)**	**0**	**(0.0)**	**11 125**	**(71.3)**	**15 597**
East									
Estonia	541	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	541
Total	**13 383**	**(52.2)**	**48**	**(0.2)**	**58**	**(0.2)**	**12 141**	**(47.4)**	**25 630**

* Cases with species other than *M. tuberculosis* excluded from dataset

Table 15. Pulmonary tuberculosis cases by sputum smear result, WHO European Region, 2000

Geographic area Country	Classification by site *	Routine use of sputum smear	Sputum smear result				Total
			Positive		Negative / not done / unknown		
			N	(%)	N	(%)	N
West							
Austria	pulm	yes	333	(33)	670	(67)	1 003
Belgium	pulm	yes	464	(48)	500	(52)	964
Denmark	pulm	yes	152	(38)	245	(62)	397
Finland	pulm	yes	227	(61)	143	(39)	370
France	pulm	yes	2 674	(55)	2 164	(45)	4 838
Germany	resp	yes	2 665	(35)	4 870	(65)	7 535
Greece	pulm	some areas	283	(45)	339	(55)	622
Ireland	pulm	yes	142	(49)	147	(51)	289
Italy	pulm	some areas	1 351	(37)	2 253	(63)	3 604
Luxembourg	pulm	yes	24	(57)	18	(43)	42
Netherlands	pulm	yes	324	(35)	603	(65)	927
Portugal	pulm	yes	2 106	(65)	1 141	(35)	3 247
Spain	resp	yes	3 646	(44)	4 624	(56)	8 270
Sweden	pulm	yes	128	(42)	176	(58)	304
United Kingdom †	pulm	yes	1 406	(38)	2 285	(62)	3 691
Subtotal EU			**15 925**	**(44)**	**20 178**	**(56)**	**36 103**
Andorra	pulm	yes	1	(11)	8	(89)	9
Iceland	pulm	yes	3	(33)	6	(67)	9
Israel	pulm	yes	222	(46)	256	(54)	478
Malta	pulm	yes	5	(33)	10	(67)	15
Monaco	pulm	yes	0	–	0	–	0
Norway	pulm	yes	40	(27)	110	(73)	150
San Marino	resp	yes	1	(100)	0	(0)	1
Switzerland	pulm	yes	134	(28)	343	(72)	477
Total West			**16 331**	**(44)**	**20 912**	**(56)**	**37 243**
Centre							
Albania	pulm	some areas	186	(47)	206	(53)	392
Bosnia-Herzegovina	pulm	yes	881	(38)	1 456	(62)	2 337
Bulgaria	resp	yes	2 907	(100)	0	(0)	2 907
Croatia	pulm	yes	504	(34)	971	(66)	1 475
Czech Republic	resp	yes	442	(36)	802	(64)	1 244
Hungary	pulm	yes	501	(15)	2 853	(85)	3 354
Macedonia, FYR	resp	yes	183	(35)	333	(65)	516
Poland	resp	yes	3 770	(33)	7 557	(67)	11 327
Romania	pulm	yes	12 322	(53)	11 112	(47)	23 434
Slovakia	pulm	yes	284	(31)	620	(69)	904
Slovenia	pulm	yes	169	(53)	150	(47)	319
Turkey	–	–	5 123	(37)	8 544	(63)	13 667
Yugoslavia	resp	yes	–	–	–	–	–
Total Centre			**27 272**	**(44)**	**34 604**	**(56)**	**61 876**
East							
Armenia	pulm	yes	686	(58)	505	(42)	1 191
Azerbaijan	pulm	some areas	964	(20)	3 978	(80)	4 942
Belarus	resp	yes	–	–	–	–	–
Estonia	pulm	yes	316	(44)	405	(56)	721
Georgia	pulm	yes	1 451	(29)	3 512	(71)	4 963
Kazakhstan	resp	yes	12 926	(51)	12 572	(49)	25 498
Kyrgyzstan	pulm	yes	1 726	(37)	2 929	(63)	4 655
Latvia	pulm	yes	842	(48)	909	(52)	1 751
Lithuania	pulm	yes	1 058	(44)	1 357	(56)	2 415
Moldova, Republic of	resp	no	1 025	(36)	1 788	(64)	2 813
Russian Federation	resp	yes	31 649	(23)	106 951	(77)	138 600
Tajikistan	resp	some areas	434	(18)	1 918	(82)	2 352
Turkmenistan	resp	yes	–	–	–	–	–
Ukraine	resp	yes	13 948	(45)	17 258	(55)	31 206
Uzbekistan	resp	–	–	–	–	–	–
Total East			**67 025**	**(30)**	**154 082**	**(70)**	**221 107**
Total WHO European Region			**110 628**	**(35)**	**209 598**	**(65)**	**320 226**

* pulm = pulmonary; resp = respiratory (see technical note)
† Except Scotland

Table 16. AIDS cases with tuberculosis as AIDS indicative disease, WHO European Region, 2000

Source: EuroHIV, European Non Aggregate AIDS Data Set (ENAADS), update June 2002

Geographic area / Country	Total AIDS cases notified in 2000 *		AIDS cases with TB as AIDS indicative disease					
			Pulmonary TB †		Extrapulmonary TB ‡ only		Total	
	N	Rate / 100 000	N	(%)	N	(%)	N	(%)
West								
Austria	84	1.0	2	(2)	1	(1)	3	(4)
Belgium	105	1.0	17	(16)	9	(9)	26	(25)
Denmark	61	1.1	8	(13)	2	(3)	10	(16)
Finland	16	0.3	2	(13)	1	(6)	3	(19)
France	1 771	2.9	160	(9)	120	(7)	280	(16)
Germany	1 433	1.7	46	(3)	38	(3)	84	(6)
Greece	143	1.3	19	(13)	5	(3)	24	(17)
Ireland	21	0.6	0	(0)	0	(0)	0	(0)
Italy	1 904	3.3	94	(5)	71	(4)	165	(9)
Luxembourg	10	2.3	0	(0)	1	(10)	1	(10)
Netherlands	192	1.2	31	(16)	8	(4)	39	(20)
Portugal	1 194	11.9	421	(35)	241	(20)	662	(55)
Spain	2 843	7.1	513	(18)	441	(16)	954	(34)
Sweden	54	0.6	7	(13)	1	(2)	8	(15)
United Kingdom	736	1.2	84	(11)	43	(6)	127	(17)
Subtotal EU	**10 567**	**2.8**	**1 404**	**(13)**	**982**	**(9)**	**2 386**	**(23)**
Andorra	0	0.0	0	(0)	0	(0)	0	(0)
Iceland	1	0.4	0	(0)	0	(0)	0	(0)
Israel	50	0.8	15	(30)	4	(8)	19	(38)
Malta	3	0.8	0	(0)	0	(0)	0	(0)
Monaco	0	0.0	0	(0)	0	(0)	0	(0)
Norway	38	0.9	8	(21)	1	(3)	9	(24)
San Marino	1	3.7	0	(0)	0	(0)	0	(0)
Switzerland	257	3.6	23	(9)	6	(2)	29	(11)
Total West	**10 917**	**2.8**	**1 450**	**(13)**	**993**	**(9)**	**2 443**	**(22)**
Centre								
Albania	4	0.1	0	(0)	0	(0)	0	(0)
Bosnia & Herzegovina	2	0.1	0	(0)	0	(0)	0	(0)
Bulgaria	16	0.2	9	(56)	0	(0)	9	(56)
Croatia	14	0.3	0	(0)	0	(0)	0	(0)
Czech Rep.	13	0.1	1	(8)	0	(0)	1	(8)
Hungary	27	0.3	3	(11)	0	(0)	3	(11)
Macedonia, FYR	5	0.2	0	(0)	0	(0)	0	(0)
Poland	109	0.3	14	(13)	4	(4)	18	(17)
Romania §	(494)	(2.2)	–	–	–	–	–	–
Slovakia	4	0.1	0	(0)	0	(0)	0	(0)
Slovenia	7	0.4	2	(29)	0	(0)	2	(29)
Turkey	47	0.1	7	(15)	4	(9)	11	(23)
Yugoslavia	66	0.6	7	(11)	3	(5)	10	(15)
Total Centre	**314**	**0.2**	**43**	**(14)**	**11**	**(4)**	**54**	**(17)**
East								
Armenia	3	0.1	0	(0)	1	(33)	1	(33)
Azerbaijan	19	0.2	8	(42)	0	(0)	8	(42)
Belarus	0	0.0	0	(0)	0	(0)	0	(0)
Estonia	3	0.2	0	(0)	0	(0)	0	(0)
Georgia	14	0.3	5	(36)	2	(14)	7	(50)
Kazakhstan	0	0.0	0	(0)	0	(0)	0	(0)
Kyrgyzstan	1	0.0	1	(100)	0	(0)	1	(100)
Lithuania	24	1.0	9	(38)	1	(4)	10	(42)
Latvia	8	0.2	2	(25)	0	(0)	2	(25)
Moldova, Rep. of	4	0.1	0	(0)	0	(0)	0	(0)
Russian Federation ‖	50	0.0	8	(16)	1	(2)	9	(18)
Tajikistan	0	0.0	0	(0)	0	(0)	0	(0)
Turkmenistan	0	0.0	0	(0)	0	(0)	0	(0)
Ukraine	648	1.3	523	(81)	9	(1)	532	(82)
Uzbekistan	3	0.0	0	(0)	0	(0)	0	(0)
Total East	**777**	**0.3**	**556**	**(72)**	**14**	**(2)**	**570**	**(73)**
Total WHO European Region	**12 008**	**1.4**	**2 049**	**(17)**	**1 018**	**(8)**	**3 067**	**(26)**

* Numbers and rates differ from those in EuroHIV reports, usually presented by year of diagnosis, adjusted for reporting delays; includes 77 cases with AIDS indicative opportunistic infection not specified
† 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
‖ AIDS indicative disease not reported for 23 / 50 cases (46%)

Table 17. Laboratory practices for Drug Susceptibility Testing (DST), WHO European Region, 2000

Geographic area Country	No. labs. performing:		DST methods used					Proficiency testing					
								National *		International			
	Culture	DST	non radiometric proportion	radiometric proportion	resistance ratio	absolute concentr.	other		No. labs		Year	% concordance of results for:	
												INH †	RMP †
West													
Andorra	1	1	■	–	–	–	–	–	–	no	–	–	–
Austria	10	10	■	■	–	–	–	yes	5	yes	2001	–	–
Belgium	100	17	■	■	–	–	–	yes	16	yes	2000	100	100
Denmark	1	1	–	■	–	–		–	–	yes	2001	100	100
Finland	18	2	■	■	–	–	–	no	–	yes	2000	100	100
France	322	122	■	■	–	–	■	n / a	–	yes	2000	100	100
Germany	220	80	■	■	–	–	■	yes	80	yes	2001	100	100
Greece ‡	11	3	■	■	–	–	■	no	–	no	–	–	–
Iceland §	1	0	–	–	–	–	–	–	–	yes §	2001	100	100
Ireland	n / a	8	■	■	■	■	–	yes	8	yes	n / a	–	–
Israel	2	2	■	–	■	–	■	yes	2	yes	2000	100	95
Italy	200	~200	■	■	■	■	■	yes	20	yes	2001	100	100
Luxembourg	2	1	■	■	–	–	–	–	–	no	–	–	–
Malta ‖	1	0	–	–	–	–	–	–	–	yes ‖	2000	100	100
Netherlands	43	20	–	–	–	–	■	n / a	–	yes	2001	100	90
Norway	12	3	■	■	–	–	–	no	–	yes	2000	100	100
Portugal	110	12	■	■	–	–	■	no	–	yes	2001	100	100
Spain	198	n / a	■	■	–	–	–	n / a	–	no	–	–	–
Sweden	6	6	–	■	–	–	–	yes	6	yes	2001	100	100
Switzerland	42	42	■	■	–	–	–	yes	21	yes	2001	99	100
United Kingdom	~250	7	–	■	■	■	–	yes	6	yes	2000	100	100
Centre													
Albania	1	1	■	–	–	–	–	–	–	yes	2001	90	90
Bosnia-Herzegovina	10	7	■	■	–	–	–	yes	7	yes	2001 ¶	–	–
Bulgaria ‡	30	17	■	■	–	–	–	n / a	–	no	–	–	–
Croatia	16	11	■	–	–	–	–	yes	10	yes	2001	100	100
Czech Republic	45	14	■	■	–	■	–	yes	14	yes	2001	100	100
Hungary	23	15	■	–	–	■	–	no	–	yes	2000	100	100
Romania	127	73	–	–	–	■	–	no	–	no	–	–	–
Slovakia	17	6	■	■	–	–	–	yes	6	yes	2000	100	99
Slovenia	7	1	■	–	–	–	■	–	–	yes	1999	100	100
Yugoslavia	32	12	–	■	–	–	–	no	–	yes	2001	100	90
East													
Armenia	1	1	■	–	–	–	–	no	–	no	–	–	–
Azerbaijan	8	8	–	–	–	■	–	yes	8	no	–	–	–
Belarus	110	30	–	–	–	■	–	no		no	–	–	–
Estonia	3	2	■	■	–	–	–	yes	2	yes	2000	100	100
Georgia	1	1	–	–	–	■	–	–	–	no	no	–	–
Kazakhstan	21	20	–	–	–	■	–	no	–	yes	2001	100	100
Kyrgyzstan	9	1	■	–	–	–	–	–	–	no	–	–	–
Latvia	13	1	–	■	–	■	–	–	–	yes	2000	90	100
Lithuania	8	8	■	■	–	–	–	yes	7	yes	2000	100	100
Moldova, Rep. of	3	2	–	–	–	■	–	yes	2	no	–	–	–
Russian Federation **	~600	~300	–	–	–	■	–	yes	3	yes	2001	90	80
Ukraine **	67	23	■	–	–	■	–	no	–	no	–	–	–

n / a = not available
* for countries with more than one laboratory performing DST
† INH = isoniazid; RMP = rifampicin
‡ DST results on isolates collected during treatment included, data not shown
§ DST done in Denmark
‖ DST done in the United Kingdom
¶ Federation of Bosnia
** DST results not provided

Table 18. Characteristics of Drug Resistance Surveillance (DRS), WHO European Region, 2000

Geographic area Country	Routine use of culture	Source of data	Geographic Coverage	% of culture confirmed cases *	Cases included		
					Culture Positive	Cases with DST result	
					N	N	(%)
A) Culture and DST performed routinely; national data on notified TB cases							
West							
Andorra	yes	TB notifications	national	45%	5	3	(60)
Austria	yes	TB notifications	national	63%	762	761	(100)
Belgium	yes	TB notifications	national	74%	969	730	(75)
Denmark	yes	TB notifications	national	78%	430	425	(99)
Finland	yes	TB notifications	national	84%	451	439	(97)
Germany	yes	TB notifications †	national	67%	3 427	2 780	(81)
Iceland	yes	TB notifications	national	69%	9	9	(100)
Ireland	yes	TB notifications	national	57%	229	216	(94)
Israel	yes	TB notifications	national	53%	312	281	(90)
Luxembourg ‡	yes	TB notifications	national	100%	44	44	(100)
Malta	yes	TB notifications	national	56%	10	10	(100)
Netherlands	yes	TB notifications	national	61%	863	863	(100)
Norway	yes	TB notifications	national	71%	170	170	(100)
Sweden	yes	TB notifications	national	81%	371	367	(99)
Switzerland	yes	TB notifications	national	79%	494	492	(100)
United Kingdom	yes	TB notifications	national	54%	3 644	3 310	(91)
Centre							
Bosnia-Herzegovina	yes	TB notifications §	national	60%	1 554	1 153	(74)
Croatia	yes	TB notifications	national	54%	883	879	(100)
Czech Republic	yes	TB notifications	national	61%	873	640	(73)
Slovakia	yes	TB notifications	national	54%	596	575	(96)
Slovenia	yes	TB notifications	national	85%	324	320	(99)
East							
Estonia	yes	TB notifications	national	68%	541	527	(97)
Latvia	yes	TB notifications	national	63%	1 298	1 144	(88)
Lithuania	yes	TB notifications	national	52%	1 556	921	(59)
B) Culture / DST not routinely performed, data on selected cases / areas							
West							
France	yes	23 Univ. hosp. labs	15 / 23 regions	–	1 201	1 191	(99)
Italy	no	20 labs.	10 / 20 regions	–	–	806	–
Portugal	yes	TB notifications	national	51%	2 281	1 002	(44)
Spain ‖	yes	NRL	national	–	–	364	–
Centre							
Albania	no	NRL	some areas	–	119	98	(82)
Hungary	yes	TB notifications	national	25%	912	316	(35)
Romania	no	TB notifications	national	43%	12 009	2 728	(23)
Yugoslavia	yes	TB notifications	Belgrade	52%	279	279	(100)
East							
Armenia	no	NRL	some areas	–	–	167	–
Azerbaijan	no	NRL	Baku	–	184	184	(100)
Belarus	yes	TB notifications ¶	national	42%	2 550	2 060	(81) ¶
Georgia ‡	no	NRL	Tbilisi	–	213	212	(100)
Kazakhstan	no	laboratories	national	–	–	7 263	–
Kyrgyzstan	no	NRL	Bishkek	–	–	279	–
Moldova, Rep. of	no	TB notifications	national	43%	989	989	(100)

NRL = National Reference Laboratory
* In the areas included in DRS
† Cases notified in 2 / 3rd of local health units, accounting for 56% of culture positive cases notified
‡ No confirmation that DST results refer only to isolates taken at start of treatment
§ For Rep. Srpska, only 3 laboratories where DST is performed
‖ New cases only
¶ DST results for new cases notified to MoH; penitentiary care centres not included

Table 19. Global drug resistance among tuberculosis cases, WHO European Region, 2000

Geographic area / Country	Cases with DST results (INH & RMP)	Cases resistant to at least: Isoniazid (INH) N	(%)	Rifampicin (RMP) N	(%)	INH & RMP (MDR) N	(%)	Ethambutol * N	(%)	Streptomicin * N	(%)
A) Culture and DST performed routinely; national data on notified TB cases											
West											
Andorra	3	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Austria	761	22	(2.9)	6	(0.8)	4	(0.5)	1	(0.1)	23	(3.0)
Belgium	730	47	(6.4)	14	(1.9)	11	(1.5)	12	(1.6)	–	–
Denmark	425	37	(8.7)	3	(0.7)	2	(0.5)	4	(0.9)	42	(9.9)
Finland	437	15	(3.4)	4	(0.9)	2	(0.5)	1	(0.2)	–	–
Germany	2 780	166	(6.0)	54	(1.9)	47	(1.7)	43	(1.5)	151	(5.4)
Iceland	9	0	(0)	0	(0)	0	(0)	0	(0)	–	–
Ireland	216	6	(2.8)	3	(1.4)	3	(1.4)	0	(0)	–	–
Israel	281	74	(26.3)	42	(14.9)	41	(14.6)	28	(10.0)	63	(22.4)
Luxembourg †	44	2	(4.5)	0	(0.0)	0	(0.0)	0	(0.0)	1	(2.3)
Malta	10	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	863	51	(5.9)	8	(0.9)	8	(0.9)	7	(0.8)	57	(6.6)
Norway	170	21	(12.4)	4	(2.4)	3	(1.8)	11	(6.5)	19	(11.2)
Sweden	365	37	(10.1)	5	(1.4)	5	(1.4)	2	(0.5)	–	–
Switzerland	492	24	(4.9)	3	(0.6)	2	(0.4)	0	(0)	–	–
United Kingdom	3 306	203	(6.1)	48	(1.5)	37	(1.1)	19	(1)	–	–
Centre											
Bosnia-Herzegovina	1 153	11	(1.0)	17	(1.5)	5	(0.4)	21	(1.8)	15	(1.3)
Croatia	879	12	(1.4)	4	(0.5)	2	(0.2)	1	(0.1)	8	(0.9)
Czech Republic	638	23	(3.6)	10	(1.6)	9	(1.4)	6	(0.9)	13	(2.0)
Slovakia	575	27	(4.7)	9	(1.6)	7	(1.2)	2	(0.3)	12	(2.1)
Slovenia	320	9	(2.8)	0	(0)	0	(0)	1	(0.3)	5	(1.6)
East											
Estonia	527	158	(30.0)	103	(19.5)	103	(19.5)	103	(19.5)	149	(28.3)
Latvia	1 144	347	(30.3)	150	(13.1)	150	(13.1)	93	(8.1)	300	(26.2)
Lithuania	921	277	(30.1)	166	(18.0)	156	(16.9)	76	(8.3)	247	(26.8)
B) Culture / DST not routinely performed, data on selected cases / areas											
West											
France	1 191	45	(3.8)	18	(1.5)	15	(1.3)	23	(1.9)	88	(7.4)
Italy	806	86	(10.7)	44	(5.5)	35	(4.3)	22	(2.7)	80	(9.9)
Portugal	1 002	88	(8.8)	35	(3.5)	30	(3.0)	16	(1.6)	–	–
Spain ‡	–	–	–	–	–	–	–	–	–	–	–
Centre											
Albania	98	8	(8.2)	7	(7.1)	6	(6.1)	4	(4.1)	12	(12.2)
Hungary	316	32	(10.1)	10	(3.2)	7	(2.2)	9	(2.8)	20	(6.3)
Romania	2 728	352	(12.9)	246	(9.0)	166	(6.1)	7	(0.3)	61	(2.2)
Yugoslavia	279	7	(2.5)	5	(1.8)	1	(0.4)	4	(1.4)	7	(2.5)
East											
Armenia	167	22	(13.2)	30	(18.0)	11	(6.6)	25	(15.0)	49	(29.3)
Azerbaijan	184	10	(5.4)	8	(4.3)	3	(1.6)	4	(2.2)	21	(11.4)
Belarus ‡	–	–	–	–	–	–	–	–	–	–	–
Georgia †	212	102	(48.1)	72	(34.0)	65	(30.7)	61	(28.8)	102	(48.1)
Kazakhstan	7 263	2 391	(32.9)	1 804	(24.8)	1 088	(15.0)	1 483	(20.4)	3 213	(44.2)
Kyrgyzstan	279	138	(49.5)	84	(30.1)	76	(27.2)	111	(39.8)	193	(69.2)
Moldova, Rep. of	989	251	(25.4)	253	(25.6)	155	(15.7)	87	(8.8)	359	(36.3)

* 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
‡ New cases only

Table 20. Drug resistance, tuberculosis cases never treated (primary resistance), WHO European Region, 2000

Geographic area / Country	Definition used *		cases with DST result	Cases resistant to at least:									
	never treated	never diagnosed		Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol †		Streptomicin †	
				N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
A) Culture and DST performed routinely; national data on notified TB cases													
West													
Andorra	■		3	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Austria		■	694	20	(2.9)	5	(0.7)	3	(0.4)	1	(0.1)	18	(2.6)
Belgium		■	562	30	(5.3)	9	(1.6)	7	(1.2)	6	(1.1)	–	–
Denmark		■	392	29	(7.4)	2	(0.5)	1	(0.3)	3	(0.8)	34	(8.7)
Finland	■		374	10	(2.7)	3	(0.8)	1	(0.3)	1	(0.3)	–	–
Germany	■		1 743	67	(3.8)	17	(1.0)	14	(0.8)	17	(1.0)	72	(4.1)
Iceland	■		8	0	(0)	0	(0)	0	(0)	0	(0)	–	–
Ireland		■	136	4	(2.9)	1	(0.7)	1	(0.7)	0	(0)	–	–
Israel	■		253	65	(25.7)	37	(14.6)	36	(14.2)	25	(9.9)	56	(22.1)
Luxembourg		■	39	2	(5.1)	0	(0)	0	(0.0)	0	(0)	1	(2.6)
Malta		■	9	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands		■	768	43	(5.6)	7	(0.9)	7	(0.9)	5	(0.7)	53	(6.9)
Norway	■		160	21	(13.1)	4	(2.5)	3	(1.9)	11	(6.9)	18	(11.3)
Sweden		■	322	35	(10.9)	4	(1.2)	4	(1.2)	2	(0.6)	–	–
Switzerland	■		330	18	(5.5)	0	(0.0)	0	(0.0)	0	(0)	–	–
United Kingdom ‡	■		2 312	139	(6.0)	28	(1.2)	21	(0.9)	11	(0.5)	–	–
Centre													
Bosnia-Herzegovina	■		993	5	(0.5)	7	(0.7)	1	(0.1)	11	(1.1)	5	(0.5)
Croatia		■	780	8	(1.0)	1	(0.1)	1	(0.1)	0	(0)	7	(0.9)
Czech Republic	■		616	21	(3.4)	7	(1.1)	7	(1.1)	5	(0.8)	12	(1.9)
Slovakia		■	465	15	(3.2)	7	(1.5)	5	(1.1)	1	(0.2)	6	(1.3)
Slovenia	■		282	6	(2.1)	0	(0)	0	(0)	0	(0)	3	(1.1)
East													
Estonia	■		410	94	(22.9)	50	(12.2)	50	(12.2)	54	(13.2)	92	(22.4)
Latvia	■		897	260	(29.0)	83	(9.3)	83	(9.3)	56	(6.2)	219	(24.4)
Lithuania	■		701	153	(21.8)	67	(9.6)	61	(8.7)	33	(4.7)	137	(19.5)
B) Culture / DST not routinely performed, data on selected cases / areas													
West													
France	■		947	24	(2.5)	8	(0.8)	8	(0.8)	20	(2.1)	61	(6.4)
Italy	■		688	44	(6.4)	11	(1.6)	8	(1.2)	10	(1.5)	54	(7.8)
Portugal	■		860	73	(8.5)	23	(2.7)	20	(2.3)	9	(1.0)	–	–
Spain	■		364	18	(4.9)	0	(0)	0	(0)	0	(0)	3	(0.8)
Centre													
Albania			–	–	–	–	–	–	–	–	–	–	–
Hungary		■	267	19	(7.1)	4	(1.5)	2	(0.7)	5	(1.9)	13	(4.9)
Romania	■		2 084	192	(9.2)	131	(6.3)	75	(3.6)	4	(0.2)	30	(1.4)
Yugoslavia	■		249	4	(1.6)	5	(2.0)	1	(0.4)	2	(0.8)	6	(2.4)
East													
Armenia	■		104	9	(8.7)	7	(6.7)	3	(2.9)	12	(11.5)	23	(22.1)
Azerbaijan			–	–	–	–	–	–	–	–	–	–	–
Belarus	■		2 060	–	–	–	–	220	(10.7)	–	–	–	–
Georgia	■		121	40	(33.1)	23	(19.0)	16	(13.2)	16	(13.2)	47	(38.8)
Kazakhstan	■		2 807	691	(24.6)	487	(17.3)	272	(9.7)	422	(15.0)	1 001	(35.7)
Kyrgyzstan	■		156	59	(37.8)	28	(17.9)	23	(14.7)	52	(33.3)	97	(62.2)
Moldova, Rep. of	■		615	75	(12.2)	65	(10.6)	31	(5.0)	20	(3.3)	132	(21.5)

* See technical note
† Data presented if DST results were available for ≥ 90% of cases tested for INH and RMP
‡ Without Scotland

Table 21. Drug resistance, tuberculosis cases previously treated (acquired resistance), WHO European Region, 2000

Geographic area / Country	Definition used * previously treated	Definition used * previously diagnosed	cases with DST result	Cases resistant to at least: Isoniazid (INH) N	(%)	Rifampicin (RMP) N	(%)	INH & RMP (multidrug resistant) N	(%)	Ethambutol † N	(%)	Streptomicin † N	(%)
A) Culture and DST performed routinely; national data on notified TB cases													
West													
Andorra	■		0	–	–	–	–	–	–	–	–	–	–
Austria		■	67	2	(3.0)	1	(1.5)	1	(1.5)	0	(0)	5	(7.5)
Belgium		■	78	10	(12.8)	5	(6.4)	4	(5.1)	4	(5.1)	–	–
Denmark		■	33	8	(24.2)	1	(3.0)	1	(3.0)	1	(3.0)	8	(24.2)
Finland		■	29	4	(13.8)	1	(3.4)	1	(3.4)	0	(0)	–	–
Germany	■		257	44	(17.1)	21	(8.2)	19	(7.4)	14	(5.4)	35	(13.6)
Iceland	■		1	0	(0.0)	0	(0.0)	0	(0.0)	0	(0)	–	–
Ireland		■	26	1	(3.8)	1	(3.8)	1	(3.8)	0	(0.0)	–	–
Israel	■		24	9	(37.5)	5	(20.8)	5	(20.8)	2	(8.3)	7	(29.2)
Luxembourg		■	5	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)
Netherlands		■	95	8	(8.4)	1	(1.1)	1	(1.1)	2	(2.1)	4	(4.2)
Norway	■		10	0	(0.0)	0	(0.0)	0	(0.0)	0	(0)	1	(10.0)
Sweden		■	42	2	(4.8)	1	(2.4)	1	(2.4)	0	(0)	–	–
Switzerland	■		57	2	(3.5)	2	(3.5)	1	(1.8)	0	(0)	–	–
United Kingdom ‡		■	237	25	(10.5)	13	(5.5)	10	(4.2)	5	(2.1)	–	–
Centre													
Bosnia-Herzegovina	■		153	5	(3.3)	9	(5.9)	3	(2.0)	10	(6.5)	8	(5.2)
Croatia		■	99	4	(4.0)	3	(3.0)	1	(1.0)	1	(1.0)	1	(1.0)
Czech Republic	■		22	2	(9.1)	3	(13.6)	2	(9.1)	1	(4.5)	1	(4.5)
Slovakia		■	110	12	(10.9)	2	(1.8)	2	(1.8)	1	(0.9)	6	(5.5)
Slovenia	■		38	3	(7.9)	0	(0)	0	(0)	1	(2.6)	2	(5.3)
East													
Estonia		■	117	64	(54.7)	53	(45.3)	53	(45.3)	49	(41.9)	57	(48.7)
Latvia	■		247	87	(35.2)	67	(27.1)	67	(27.1)	37	(15.0)	81	(32.8)
Lithuania	■		220	124	(56.4)	99	(45.0)	95	(43.2)	43	(19.5)	110	(50.0)
B) Culture / DST not routinely performed, data on selected cases / areas													
West													
France	■		82	15	(18.3)	9	(11.0)	7	(8.5)	2	(2.4)	13	(15.9)
Italy	■		108	39	(36.1)	32	(29.6)	26	(24.1)	12	(11.1)	25	(23.1)
Portugal	■		142	15	(10.6)	12	(8.5)	10	(7.0)	7	(4.9)	–	–
Spain			–	–	–	–	–	–	–	–	–	–	–
Centre													
Albania			–	–	–	–	–	–	–	–	–	–	–
Hungary		■	49	13	(26.5)	6	(12.2)	5	(10.2)	4	(8.2)	7	(14.3)
Romania	■		644	160	(24.8)	115	(17.9)	91	(14.1)	3	(0.5)	31	(4.8)
Yugoslavia	■		30	3	(10.0)	0	(0)	0	(0)	2	(6.7)	1	(3.3)
East													
Armenia	■		63	13	(20.6)	23	(36.5)	8	(12.7)	13	(20.6)	26	(41.3)
Azerbaijan			–	–	–	–	–	–	–	–	–	–	–
Belarus	■		–	–	–	–	–	–	–	–	–	–	–
Georgia	■		91	62	(68.1)	49	(53.8)	49	(53.8)	45	(49.5)	55	(60.4)
Kazakhstan	■		4 456	1 700	(38.2)	1 317	(29.6)	816	(18.3)	1 061	(23.8)	2 212	(49.6)
Kyrgyzstan	■		87	53	(60.9)	40	(46.0)	37	(42.5)	41	(47.1)	63	(72.4)
Moldova, Rep. of	■		374	176	(47.1)	188	(50.3)	124	(33.2)	67	(17.9)	227	(60.7)

* See technical note
† Data presented if DST results were available for > 90% of cases tested for INH and RMP
‡ Without Scotland

Table 22. Drug resistance, tuberculosis cases in persons born in / citizens of the country, WHO European Region, 2000

Geographic area Country	Definition used *	cases with DST result	Cases resistant to at least: Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol †		Streptomicin †	
			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
A) Culture and DST performed routinely; national data on notified TB cases												
West												
Andorra	birth	3	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Austria	citiz	564	10	(1.8)	3	(0.5)	1	(0.2)	1	(0.2)	11	(2.0)
Belgium	citiz	420	12	(2.9)	3	(0.7)	1	(0.2)	2	(0.5)	–	–
Denmark ‡	birth	165	5	(3.0)	0	(0)	0	(0)	0	(0)	7	(4.2)
Finland	birth	397	9	(2.3)	1	(0.3)	0	(0.0)	0	(0)	–	–
Germany	birth	1 686	40	(2.4)	12	(0.7)	8	(0.5)	9	(0.5)	33	(2.0)
Iceland	birth	6	0	(0)	0	(0)	0	(0)	0	(0)	–	–
Ireland	birth	191	4	(2.1)	2	(1.0)	2	(1.0)	0	–	–	–
Israel	birth	38	9	(23.7)	4	(10.5)	4	(10.5)	3	(7.9)	9	(23.7)
Luxembourg	birth	17	0	(0)	0	(0)	0	(0.0)	0	(0)	0	(0)
Malta	birth	7	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	citiz	307	13	(4.2)	0	(0)	0	(0)	1	(0.3)	7	(2.3)
Norway	birth	49	3	(6.1)	1	(2.0)	1	(2.0)	3	(6.1)	4	(8.2)
Sweden	birth	109	8	(7.3)	2	(1.8)	2	(1.8)	0	(0)	–	–
Switzerland	birth	178	7	(3.9)	1	(0.6)	0	(0)	0	(0)	–	–
United Kingdom §	birth	933	41	(4.4)	8	(0.9)	5	(0.5)	1	(0.1)	–	–
Centre												
Bosnia-Herzegovina	birth	1 153	11	(1.0)	17	(1.5)	5	(0.4)	21	(1.8)	15	(1.3)
Croatia	birth	590	7	(1.2)	1	(0.2)	1	(0.2)	0	(0.0)	5	(0.8)
Czech Republic	birth	618	23	(3.7)	10	(1.6)	9	(1.5)	5	(0.8)	13	(2.1)
Slovakia	birth	568	26	(4.6)	9	(1.6)	7	(1.2)	2	(0.4)	11	(1.9)
Slovenia	birth	239	6	(2.5)	0	(0)	0	(0)	0	(0)	3	(1.3)
East												
Estonia	birth	408	118	(28.9)	78	(19.1)	78	(19.1)	78	(19.1)	108	(26.5)
Latvia	birth	1 058	326	(30.8)	139	(13.1)	139	(13.1)	87	(8.2)	273	(25.8)
Lithuania	birth	868	260	(30.0)	159	(18.3)	149	(17.2)	73	(8.4)	233	(26.8)
B) Culture / DST not routinely performed, data on selected cases / areas												
West												
France	birth	621	11	(1.8)	2	(0.3)	2	(0.3)	4	(0.6)	51	(8.2)
Italy	birth	496	44	(8.9)	29	(5.8)	24	(4.8)	15	(3.0)	42	(8.5)
Portugal	birth	882	75	(8.5)	29	(3.3)	25	(2.8)	13	(1.5)	–	–
Spain	–											
Centre												
Albania	–	–	–	–	–	–	–	–	–	–	–	–
Hungary	birth	312	32	(10.3)	10	(3.2)	7	(2.2)	9	(2.9)	20	(6.4)
Romania	citiz	2 728	352	(12.9)	246	(9.0)	166	(6.1)	7	(0.3)	61	(2.2)
Yugoslavia	–	–	–	–	–	–	–	–	–	–	–	–
East												
Armenia	–	–	–	–	–	–	–	–	–	–	–	–
Azerbaijan ‖	citiz	184	10	(5.4)	8	(4.3)	3	(1.6)	4	(2.2)	21	(11.4)
Belarus ‖	–	–	–	–	–	–	–	–	–	–	–	–
Georgia	birth	212	102	(48.1)	72	(34.0)	65	(30.7)	61	(28.8)	102	(48.1)
Kazakhstan ‖	–	–	–	–	–	–	–	–	–	–	–	–
Kyrgyzstan	citiz	279	138	(49.5)	84	(30.1)	76	(27.2)	111	(39.8)	193	(69.2)
Moldova, Rep. of ‖	citiz	989	251	(25.4)	253	(25.6)	155	(15.7)	87	(8.8)	359	(36.3)

* birth = place of birth; citiz = citizenship
† data presented if DST results are available for ≥ 90% of cases tested for INH and RMP
‡ Up to the age of 25 years, cases are classified according to the place of birth of their parents
§ Without Scotland
‖ foreigners not included in the notification

Table 23. Drug resistance, tuberculosis cases in persons born abroad / non citizens of the country, WHO European Region, 2000

Geographic area Country	Definition used *	cases with DST result	Cases resistant to at least: Isoniazid (INH)		Rifampicin (RMP)		INH & RMP (multidrug resistant)		Ethambutol †		Streptomicin †	
			N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
A) Culture and DST performed routinely; national data on notified TB cases												
West												
Andorra	birth	0	–	–	–	–	–	–	–	–	–	–
Austria	citiz	197	12	(6.1)	3	(1.5)	3	(1.5)	0	(0)	12	(6.1)
Belgium	citiz	310	35	(11.3)	11	(3.5)	10	(3.2)	10	(3.2)	–	–
Denmark ‡	birth	260	32	(12.3)	3	(1.2)	2	(0.8)	4	(1.5)	35	(13.5)
Finland	birth	40	6	(15.0)	3	(7.5)	2	(5.0)	1	(2.5)	–	–
Germany	birth	1 055	124	(11.8)	41	(3.9)	38	(3.6)	33	(3.1)	114	(10.8)
Iceland	birth	3	0	(0)	0	(0)	0	(0)	0	(0)	–	–
Ireland	birth	25	2	(8.0)	1	(4.0)	1	(4.0)	0	(0)	–	–
Israel	birth	235	64	(27.2)	38	(16.2)	37	(15.7)	24	(10.2)	53	(22.6)
Luxembourg	birth	21	1	(4.8)	0	(0)	0	(0)	0	(0)	1	(4.8)
Malta	birth	3	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	citiz	550	38	(6.9)	8	(1.5)	8	(1.5)	6	(1.1)	50	(9.1)
Norway	birth	121	18	(14.9)	3	(2.5)	2	(1.7)	8	(6.6)	15	(12.4)
Sweden	birth	254	29	(11.4)	3	(1.2)	3	(1.2)	2	(0.8)	–	–
Switzerland	birth	266	15	(5.6)	2	(0.8)	2	(0.8)	0	(0)	–	–
United Kingdom §	birth	1 625	125	(7.7)	33	(2.0)	28	(1.7)	16	(1.0)	–	–
Centre												
Bosnia-Herzegovina	birth	0	–	–	–	–	–	–	–	–	–	–
Croatia	birth	146	3	(2.1)	1	(0.7)	1	(0.7)	1	(0.7)	2	(1.4)
Czech Republic	birth	20	0	(0)	0	(0)	0	(0)	1	(5.0)	0	(0)
Slovakia	birth	7	1	(14.3)	0	(0)	0	(0)	0	(0)	1	(14.3)
Slovenia	birth	81	3	(3.7)	0	(0)	0	(0)	1	(1.2)	2	(2.5)
East												
Estonia	birth	119	40	(33.6)	25	(21.0)	25	(21.0)	25	(21.0)	41	(34.5)
Latvia	birth	86	21	(24.4)	11	(12.8)	11	(12.8)	6	(7.0)	27	(31.4)
Lithuania	birth	53	17	(32.1)	7	(13.2)	7	(13.2)	3	(5.7)	14	(26.4)
B) Culture / DST not routinely performed, data on selected cases / areas												
West												
France	birth	526	33	(6.3)	16	(3.0)	13	(2.5)	19	(3.6)	35	(6.7)
Italy	birth	310	42	(13.5)	15	(4.8)	11	(3.5)	7	(2.3)	38	(12.3)
Portugal	birth	118	13	(11.0)	6	(5.1)	5	(4.2)	3	(2.5)	–	–
Spain	–	–	–	–	–	–	–	–	–	–	–	–
Centre												
Albania	–	–	–	–	–	–	–	–	–	–	–	–
Hungary	birth	4	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Romania	citiz	0	–	–	–	–	–	–	–	–	–	–
Yugoslavia	–	–	–	–	–	–	–	–	–	–	–	–
East												
Armenia	–	–	–	–	–	–	–	–	–	–	–	–
Azerbaijan ‖	–	–	–	–	–	–	–	–	–	–	–	–
Belarus ‖	–	–	–	–	–	–	–	–	–	–	–	–
Georgia	–	–	–	–	–	–	–	–	–	–	–	–
Kazakhstan ‖	–	–	–	–	–	–	–	–	–	–	–	–
Kyrgyzstan	–	–	–	–	–	–	–	–	–	–	–	–
Moldova, Rep. of ‖	birth	0	–	–	–	–	–	–	–	–	–	–

* birth = place of birth; citiz = citizenship
† data presented if DST results are available for ≥ 90% of cases tested for INH and RMP
‡ Up to the age of 25 years, cases are classified according to the place of birth of their parents
§ Without Scotland
‖ foreigners not included in the notification

Table 24. Characteristics of treatment outcome monitoring (TOM) and completeness of TOM cohorts, WHO European Region, 1999

Geographic area Country	TB control strategy in the country / area * DOTS	Other	Type of cohort: Sputum smear positive cases — Total notified nationwide (A) †	Total TOM denominator (B) ‡	Completeness / coverage of TOM cohort (B / A)	Pulmonary culture positive cases — Total notified nationwide (C) †	Total TOM denominator (D) ‡	Completeness / coverage of TOM cohort (D / C)
A) National data								
West								
Andorra	■		3	3	100%	3	3	100%
Austria	■		352	334	95%	651	590	91%
Belgium		■	417	377 ‖	90%	760	667 ‖	88%
Iceland		■	4	4	100%	7	7	100%
Ireland		■	124 §	126 §	102%	–	–	–
Israel	■		–	–	–	233	338	145%
Malta	■		5	5	100%	10	10	100%
Netherlands	■		345	345	100%	588 §	627 §	107%
Norway	■		34	34	100%	106	106	100%
Portugal ¶	■		1 046	1 013	97%	1 038	995	96%
Centre								
Bosnia & Herzegovina	■		931	931	100%	–	1 474	–
Czech Republic	■		410	378	92%	830	677	82%
Macedonia, F.Y.R.		■	147	147	100%	–	–	–
Slovakia	■		303	301	99%	578	567	98%
Slovenia	■		191	191	100%	312	312	100%
East								
Azerbaijan	■	■	808	822	102%	–	–	–
Estonia	■		305	305	100%	507	502	99%
Georgia	■		1 399	1 399	100%	–	–	–
Kazakhstan	■		9 801	9 801	100%	–	–	–
Kyrgyzstan	■		1 642	1 424 **	87%	–	–	–
Latvia	■		780	780	100%	1 111	1 191	107%
Lithuania	■	■	984	981	100%	1 253	1 350	108%
Moldova, Rep. of		■	764 §	764 §	100%	–	–	–
Russian Fed. ††		■	–	–	–	36 217 §	36 217 §	100%
Turkmenistan		■	992 §	964 §	97%	–	–	–
B) Data from selected areas								
West								
Italy ‡‡	■		1 637	333	20%	2 164	296	14%
Centre								
Poland	■		4 636	205	4%	–	–	–
Romania	■	■	12 788	1 930	15%	13 210	1 468	11%
East								
Armenia	■		641	465	73%	–	–	–
Russian Fed.	■		27 283	3 120	11%	–	–	–
Uzbekistan	■		4 096	320	8%	–	–	–

* As reported by the country
† The sum of all cases notified in 1999 including those with unknown treatment history (see technical note)
‡ The sum of eligible and ineligible (e.g. final diagnosis other than TB) cases of both new and retreatment cohorts (see technical note)
§ new cases only
‖ Some TOM records lost due to computer problems
¶ cases notified in January-June 1999
** Penitentiary cases not included in TOM cohorts
†† New culture positive cases notified to the Ministry of Health; outcome of smear positive cases provided from selected DOTS areas (see below)
‡‡ Network of 48 clinical centres in 10 / 20 regions

Table 25. Treatment outcome, new (never treated) pulmonary sputum smear positive TB cases, WHO European Region, 1999

Geographic area / Country	Total eligible cases	Treatment outcome															
		Success						Death		Failure		Default		Transfer		Other / unknown	
		Cure		Completion		Subtotal (cure or completion)											
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
A) National data																	
West																	
Andorra	3	0	(0)	2	(67)	2	(67)	0	(0)	0	(0)	1	(33)	0	(0)	0	(0)
Austria	307	0	(0)	235	(77)	235	(77)	32	(10)	0	(0)	21	(7)	0	(0)	19	(6)
Belgium	312	66	(21)	120	(38)	186	(60)	42	(13)	0	(0)	5	(2)	5	(2)	74	(24)
Iceland	2	0	(0)	2	(100)	2	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Ireland	126	0	(0)	60	(48)	60	(48)	9	(7)	0	(0)	1	(1)	0	(0)	56	(44)
Malta	5	0	(0)	4	(80)	4	(80)	1	(20)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	308	69	(22)	175	(57)	244	(79)	20	(6)	0	(0)	9	(3)	8	(3)	27	(9)
Norway	31	14	(45)	10	(32)	24	(77)	2	(6)	0	(0)	5	(16)	0	(0)	0	(0)
Portugal *	911	74	(8)	704	(77)	778	(85)	66	(7)	1	(0)	41	(5)	22	(2)	3	(0)
Centre																	
Bosnia-Herzegovina	786	578	(74)	131	(17)	709	(90)	12	(2)	2	(0)	11	(1)	5	(1)	47	(6)
Czech Republic	352	239	(68)	34	(10)	273	(78)	55	(16)	3	(1)	5	(1)	3	(1)	13	(4)
Macedonia, F.Y.R.	122	73	(60)	17	(14)	90	(74)	3	(2)	2	(2)	11	(9)	2	(2)	14	(11)
Slovakia	239	193	(81)	8	(3)	201	(84)	24	(10)	4	(2)	5	(2)	0	(0)	5	(2)
Slovenia	165	43	(26)	99	(60)	142	(86)	14	(8)	0	(0)	9	(5)	0	(0)	0	(0)
East																	
Azerbaijan †	763	631	(83)	5	(1)	636	(83)	19	(2)	43	(6)	53	(7)	12	(2)	0	(0)
Estonia	266	170	(64)	17	(6)	187	(70)	39	(15)	8	(3)	32	(12)	0	(0)	0	(0)
Georgia	746	347	(47)	110	(15)	457	(61)	38	(5)	41	(5)	161	(22)	14	(2)	35	(5)
Kazakhstan	6 827	4 909	(72)	498	(7)	5 407	(79)	316	(5)	591	(9)	229	(3)	284	(4)	0	(0)
Kyrgyzstan	1 272	988	(78)	65	(5)	1 053	(83)	38	(3)	63	(5)	47	(4)	71	(6)	0	(0)
Latvia	588	395	(67)	41	(7)	436	(74)	67	(11)	8	(1)	23	(4)	5	(1)	49	(8)
Lithuania ‡	787	570	(72)	0	(0)	570	(72)	89	(11)	24	(3)	94	(12)	0	(0)	10	(1)
Moldova, Rep. of §	764	457	(60)	–	–	457	(60)	–	–	–	–	–	–	–	–	307	(40)
Turkmenistan	964	579	(60)	0	(0)	579	(60)	80	(8)	207	(21)	0	(0)	98	(10)	0	(0)
B) Data from selected areas																	
West																	
Italy	261	139	(53)	47	(18)	186	(71)	9	(3)	0	(0)	27	(10)	28	(11)	11	(4)
Centre																	
Poland	173	103	(60)	17	(10)	120	(69)	18	(10)	12	(7)	2	(1)	2	(1)	19	(11)
Romania ‖	1 373	829	(60)	223	(16)	1 052	(77)	78	(6)	121	(9)	76	(6)	39	(3)	7	(1)
East																	
Armenia	391	313	(80)	30	(8)	343	(88)	8	(2)	18	(5)	20	(5)	2	(1)	0	(0)
Russian Fed. ¶	1 542	967	(63)	42	(3)	1 009	(65)	145	(9)	144	(9)	97	(6)	115	(7)	32	(2)
Uzbekistan	135	98	(73)	8	(6)	106	(79)	9	(7)	10	(7)	9	(7)	1	(1)	0	(0)

* Data collected for the first semester 1999
† 25% of cases from DOTS areas
‡ 4% of cases from DOTS areas
§ Two outcome categories: cured and other / unknown
‖ 95% of cases from DOTS areas
¶ DOTS areas only

Table 26. Re-treatment outcome, retreated pulmonary sputum smear positive TB cases, WHO European Region, 1999

Geographic area Country	Total eligible cases	Re-Treatment outcome															
		Success						Death		Failure		Default		Transfer		Other / unknown	
		Cure		Completion		Subtotal (cure or completion)											
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
A) National data																	
West																	
Andorra	0	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–
Austria	27	0	(0)	16	(59)	16	(59)	3	(11)	0	(0)	5	(19)	0	(0)	3	(11)
Belgium	56	12	(21)	20	(36)	32	(57)	10	(18)	0	(0)	0	(0)	0	(0)	14	(25)
Iceland	2	0	(0)	1	(50)	1	(50)	1	(50)	0	(0)	0	(0)	0	(0)	0	(0)
Ireland	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Malta	0	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–
Netherlands	37	7	(19)	16	(43)	23	(62)	6	(16)	0	(0)	3	(8)	1	(3)	4	(11)
Norway	2	0	(0)	2	(100)	2	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Portugal *	102	13	(13)	69	(68)	82	(80)	7	(7)	0	(0)	8	(8)	5	(5)	0	(0)
Centre																	
Bosnia-Herzegovina	145	106	(73)	13	(9)	119	(82)	4	(3)	5	(3)	6	(4)	3	(2)	8	(6)
Czech Republic	26	9	(35)	2	(8)	11	(42)	12	(46)	0	(0)	1	(4)	1	(4)	1	(4)
Macedonia, F.Y.R.	25	13	(52)	6	(24)	19	(76)	1	(4)	3	(12)	0	(0)	0	(0)	2	(8)
Slovakia	62	38	(61)	7	(11)	45	(73)	9	(15)	3	(5)	2	(3)	0	(0)	3	(5)
Slovenia †	26	8	(31)	10	(38)	18	(69)	4	(15)	0	(0)	4	(15)	0	(0)	0	(0)
East																	
Azerbaijan †	59	41	(69)	0	(0)	41	(69)	5	(8)	6	(10)	4	(7)	3	(5)	0	(0)
Estonia	39	23	(59)	1	(3)	24	(62)	11	(28)	1	(3)	3	(8)	0	(0)	0	(0)
Georgia	653	203	(31)	75	(11)	278	(43)	46	(7)	116	(18)	141	(22)	9	(1)	63	(10)
Kazakhstan	2 708	1 527	(56)	263	(10)	1 790	(66)	244	(9)	387	(14)	142	(5)	145	(5)	0	(0)
Kyrgyzstan	146	106	(73)	5	(3)	111	(76)	10	(7)	13	(9)	9	(6)	3	(2)	0	(0)
Latvia	192	78	(41)	8	(4)	86	(45)	33	(17)	2	(1)	24	(13)	0	(0)	47	(24)
Lithuania ‡	194	96	(49)	0	(0)	96	(49)	29	(15)	24	(12)	43	(22)	1	(1)	1	(1)
Moldova, Rep. of §	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Turkmenistan	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B) Data from selected areas																	
West																	
Italy	72	25	(35)	13	(18)	38	(53)	5	(7)	1	(1)	4	(6)	19	(26)	5	(7)
Centre																	
Poland	31	18	(58)	3	(10)	21	(68)	4	(13)	1	(3)	0	(0)	1	(3)	4	(13)
Romania ‖	539	207	(38)	58	(11)	265	(49)	56	(10)	105	(19)	79	(15)	13	(2)	21	(4)
East																	
Armenia	72	29	(40)	8	(11)	37	(51)	5	(7)	15	(21)	13	(18)	2	(3)	0	(0)
Russian Fed. ¶	1 578	339	(21)	368	(23)	707	(45)	124	(8)	236	(15)	205	(13)	163	(10)	143	(9)
Uzbekistan	185	79	(43)	44	(24)	123	(66)	19	(10)	29	(16)	14	(8)	0	(0)	0	(0)

* Data collected for the first semester 1999
† 37% of cases from DOTS areas
‡ 4% of cases from DOTS areas
§ Two outcome categories: cured and other / unknown
‖ 97% of cases from DOTS areas
¶ DOTS areas only

Table 27. Treatment outcome, new (never treated) pulmonary culture positive TB cases, WHO European Region, 1999

Geographic area / Country	Total eligible cases	Treatment outcome															
		Success															
		Cure		Completion		Subtotal (cure or completion)		Death		Failure		Default		Transfer		Other / unknown	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
A) National data																	
West																	
Andorra	3	0	(0)	2	(67)	2	(67)	0	(0)	0	(0)	1	(33)	0	(0)	0	(0)
Austria	544	0	(0)	417	(77)	417	(77)	61	(11)	0	(0)	33	(6)	0	(0)	33	(6)
Belgium	558	105	(19)	217	(39)	322	(58)	80	(14)	0	(0)	9	(2)	9	(2)	138	(25)
Iceland	6	0	(0)	6	(100)	6	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Israel	289	211	(73)	26	(9)	237	(82)	30	(10)	6	(2)	8	(3)	5	(2)	3	(1)
Malta	10	0	(0)	8	(80)	8	(80)	2	(20)	0	(0)	0	(0)	0	(0)	0	(0)
Netherlands	627	147	(23)	394	(63)	541	(86)	38	(6)	0	(0)	29	(5)	19	(3)	0	(0)
Norway	101	45	(45)	33	(33)	78	(77)	11	(11)	1	(1)	7	(7)	4	(4)	0	(0)
Portugal *	890	70	(8)	699	(79)	769	(86)	62	(7)	0	(0)	35	(4)	20	(2)	4	(0)
Centre																	
Bosnia-Herzegovina	1 269	1 017	(80)	159	(13)	1 176	(93)	11	(1)	5	(0)	32	(3)	8	(1)	37	(3)
Czech Republic	606	389	(64)	49	(8)	438	(72)	123	(20)	3	(0)	9	(1)	12	(2)	21	(3)
Slovakia	430	339	(79)	14	(3)	353	(82)	60	(14)	5	(1)	7	(2)	0	(0)	5	(1)
Slovenia	277	81	(29)	150	(54)	231	(83)	32	(12)	0	(0)	12	(4)	2	(1)	0	(0)
East																	
Estonia	414	280	(68)	16	(4)	296	(71)	54	(13)	12	(3)	52	(13)	0	(0)	0	(0)
Latvia	919	653	(71)	63	(7)	716	(78)	70	(8)	9	(1)	41	(4)	9	(1)	74	(8)
Lithuania †	1 073	807	(75)	0	(0)	807	(75)	93	(9)	29	(3)	127	(12)	3	(0)	14	(1)
Russian Fed. §	36 166	25 100	(69)	–	–	25 100	(69)	5 158	(14)	5 209	(14)	0	(0)	457	(1)	242	(1)
B) Data from selected areas																	
West																	
Italy	231	125	(54)	38	(16)	163	(71)	7	(3)	0	(0)	27	(12)	24	(10)	10	(4)
Centre																	
Romania ‖	1 062	478	(45)	397	(37)	875	(82)	41	(4)	59	(6)	64	(6)	18	(2)	5	(0)

* Data collected for the first semester 1999
† 37% of cases from DOTS areas (33 / 1 040)
§ Category «completed» not used
‖ 97% of cases from DOTS areas

Table 28. Re-treatment outcome, retreated pulmonary culture positive TB cases, WHO European Region, 1999

Geographic area Country	Total eligible cases	Re-treatment outcome															
		Success															
		Cure		Completion		Subtotal (cure or completion)		Death		Failure		Default		Transfer		Other / unknown	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
A) National data																	
West																	
Andorra	0	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–
Austria	46	0	(0)	35	(76)	35	(76)	5	(11)	0	(0)	4	(9)	0	(0)	2	(4)
Belgium	92	15	(16)	34	(37)	49	(53)	17	(18)	0	(0)	1	(1)	0	(0)	25	(27)
Iceland	1	0	(0)	0	(0)	0	(0)	1	(100)	0	(0)	0	(0)	0	(0)	0	(0)
Israel	36	18	(50)	0	(0)	18	(50)	4	(11)	8	(22)	3	(8)	3	(8)	0	(0)
Malta	0	0	–	0	–	0	–	0	–	0	–	0	–	0	–	0	–
Netherlands	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Norway	5	2	(40)	3	(60)	5	(100)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Portugal *	105	15	(14)	72	(69)	87	(83)	6	(6)	0	(0)	7	(7)	5	(5)	0	(0)
Centre																	
Bosnia-Herzegovina	191	130	(68)	29	(15)	159	(83)	4	(2)	3	(2)	9	(5)	2	(1)	14	(7)
Czech Republic	71	31	(44)	11	(15)	42	(59)	19	(27)	2	(3)	2	(3)	2	(3)	4	(6)
Slovakia	137	91	(66)	15	(11)	106	(77)	21	(15)	2	(1)	5	(4)	0	(0)	3	(2)
Slovenia	35	12	(34)	14	(40)	26	(74)	4	(11)	0	(0)	5	(14)	0	(0)	0	(0)
East																	
Estonia	88	56	(64)	2	(2)	58	(66)	15	(17)	3	(3)	12	(14)	0	(0)	0	(0)
Latvia	272	111	(41)	12	(4)	123	(45)	43	(16)	4	(1)	34	(13)	0	(0)	68	(25)
Lithuania †	277	144	(52)	0	(0)	144	(52)	34	(12)	28	(10)	69	(25)	1	(0)	1	(0)
Russian Fed.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B) Data from selected areas																	
West																	
Italy	65	23	(35)	9	(14)	32	(49)	5	(8)	1	(2)	4	(6)	18	(28)	5	(8)
Centre																	
Romania ‡	403	145	(36)	76	(19)	221	(55)	38	(9)	51	(13)	66	(16)	6	(1)	21	(5)

* Data collected for the first semester 1999
† All cases from non-DOTS areas
‡ All cases from DOTS areas

COUNTRY PROFILES

Albania	69	Lithuania	95
Andorra	70	Luxembourg	96
Armenia	71	Macedonia, FYR of	97
Austria	72	Malta	98
Azerbaijan	73	Moldova, Republic of	99
Belarus	74	Monaco	100
Belgium	75	Netherlands	101
Bosnia & Herzegovina	76	Norway	102
Bulgaria	77	Poland	103
Croatia	78	Portugal	104
Czech Republic	79	Romania	105
Denmark	80	Russian Federation	106
Estonia	81	San Marino	107
Finland	82	Slovakia	108
France	83	Slovenia	109
Georgia	84	Spain	110
Germany	85	Sweden	111
Greece	86	Switzerland	112
Hungary	87	Tajikistan	113
Iceland	88	Turkey	114
Ireland	89	Turkmenistan	115
Israel	90	Ukraine	116
Italy	91	United Kingdom	117
Kazakhstan	92	Uzbekistan	118
Kyrgyzstan	93	Yugoslavia	119
Latvia	94		

ALBANIA

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	631	
Notification rate per 100 000	20.1	
Sex ratio (M:F)	1.3	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	–	
Foreign citizens	–	–
New (never treated)	593	(94.0%)
Culture positive	119	(18.9%)
Pulmonary	392	(62.1%)
of which sputum smear positive	186	(47.4%)

Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage §	Some areas	
Linkage with notification	No §	
Cases with DST results	98	
Cases resistant to INH	8	(8.2%)
Cases resistant to RMP	7	(7.1%)
MDR cases	6	(6.1%)
Cases resistant to EMB	4	(4.1%)
Cases resistant to SM	12	(12.2%)

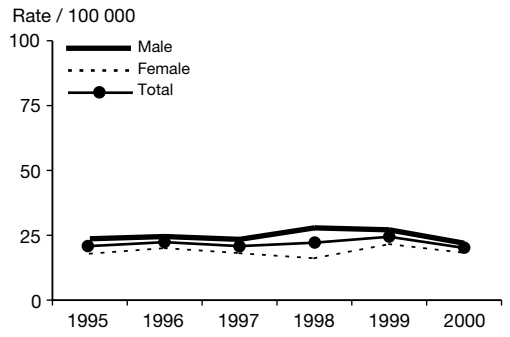
Culture and DST not routinely performed

§ Cases diagnosed at the NRL

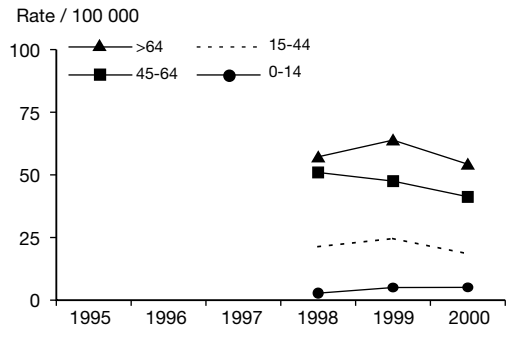
Treatment Outcome Monitoring, 1999

Not available

Tuberculosis notification rates by sex, 1995-2000



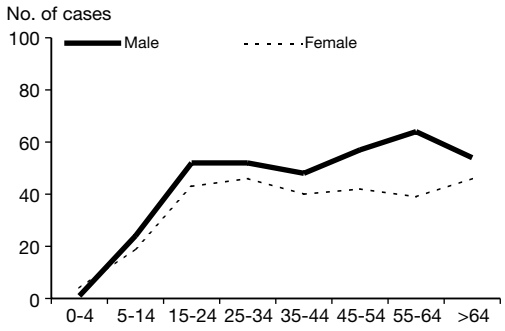
Tuberculosis notification rates by age group, 1995-2000



Tuberculosis cases by geographic origin, 1995-2000

Not available

Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	11	
Notification rate per 100 000	14.1	
Sex ratio (M:F)	9.0	
Median age-group, nationals	05-14	
Median age-group, non-nationals	35-44 years	
Individuals born abroad	8	(72.7%)
New (never treated)	11	(100.0%)
Culture positive	6	(54.5%)
Pulmonary	10	(90.9%)
of which sputum smear positive	1	(11.1%)

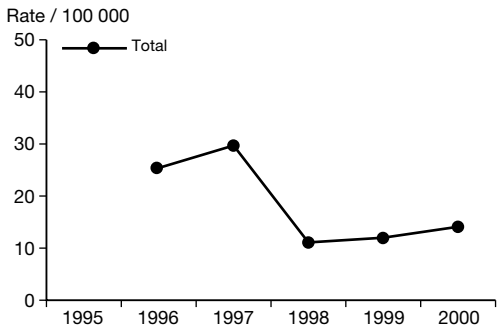
Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	3 / 5	(60%)
Cases resistant to INH	0	(0.0%)
Cases resistant to RMP	0	(0.0%)
MDR cases	0	(0.0%)
Cases resistant to EMB	0	(0.0%)
Cases resistant to SM	0	(0.0%)

Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	3	
Success	2	(67%)
Death	0	(0%)
Failure	0	(0%)
Default	1	(33%)
Transfer	0	(0%)
Other / unknown	0	(0%)

TB notification rates, 1995-2000



Tuberculosis notification rates by age group, 1995-2000

Insufficient number of cases for graphic presentation

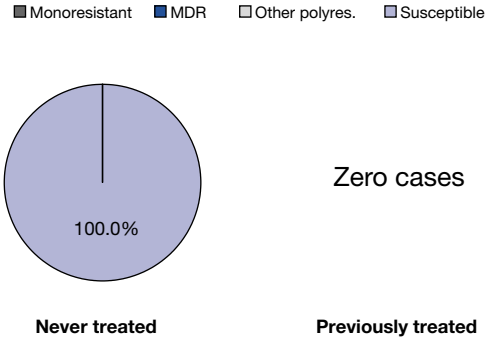
Tuberculosis cases by geographic origin, 1995-2000

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2000

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000

No resistance reported

ARMENIA

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	1 344	
Notification rate per 100 000	35.5	
Sex ratio (M:F)	4.9	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	–	
Foreign citizens	0	(0.0%)
New (never treated)	1 279	(95.2%)
Culture positive	–	–
Pulmonary	1 191	(88.6%)
of which sputum smear positive	686	(57.6%)

Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	–	
Linkage with notification	No §	
Cases with DST results	167	–
Cases resistant to INH	22	(13.2%)
Cases resistant to RMP	30	(18.0%)
MDR cases	11	(6.6%)
Cases resistant to EMB	25	(15.0%)
Cases resistant to SM	49	(29.3%)

Culture and DST not routinely performed

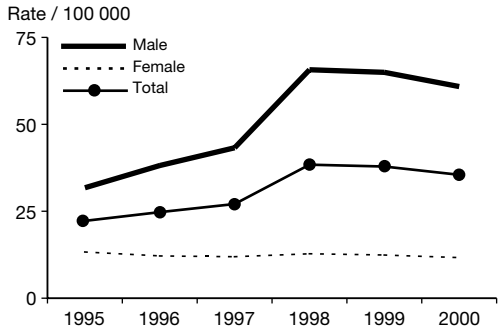
§ Cases diagnosed at the NRL

Treatment Outcome Monitoring, 1999

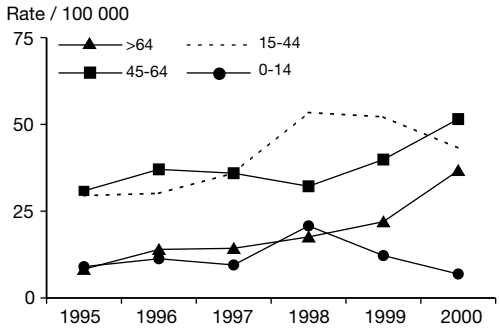
Geographic coverage	Some areas §	
Cohort	new sputum smear positive	
Included in TOM cohort	391	
Success	343	(88%)
Death	8	(2%)
Failure	18	(5%)
Default	20	(5%)
Transfer	2	(1%)
Other / unknown	0	(0%)

§ DOTS areas, representing 73% of smear positive cases

Tuberculosis notification rates by sex, 1995-2000



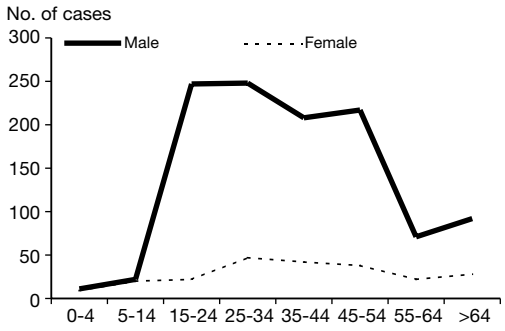
Tuberculosis notification rates by age group, 1995-2000



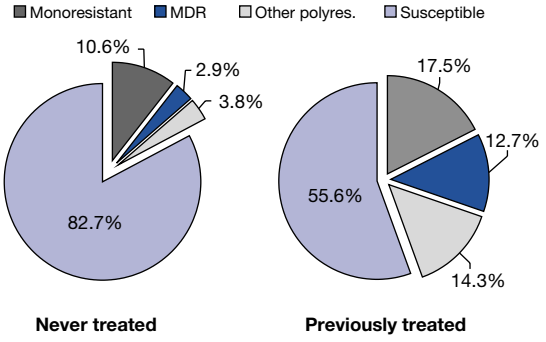
Tuberculosis cases by geographic origin, 1995-2000

Not available

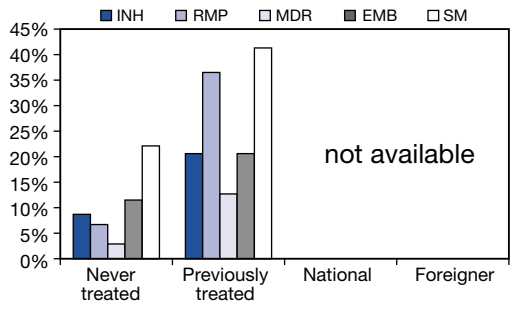
Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	1 218	
Notification rate per 100 000	15.1	
Sex ratio (M:F)	1.6	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Foreign citizens	334	(27.4%)
New (never treated)	1 106	(90.8%)
Culture positive	762	(62.6%)
Pulmonary	1 003	(82.3%)
of which sputum smear positive	333	(33.2%)

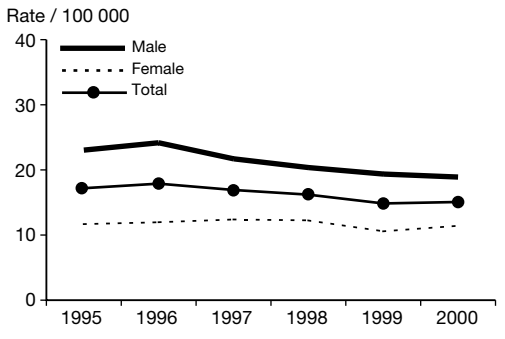
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	761 / 762	(100%)
Cases resistant to INH	22	(2.9%)
Cases resistant to RMP	6	(0.8%)
MDR cases	4	(0.5%)
Cases resistant to EMB	1	(0.1%)
Cases resistant to SM	23	(3.0%)

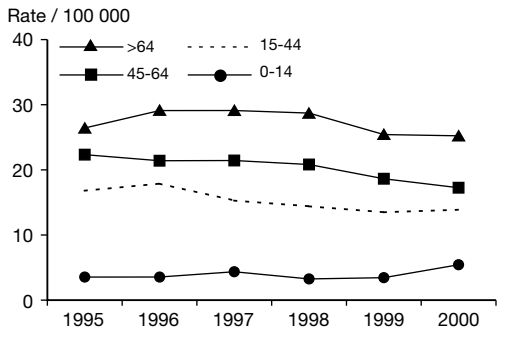
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	544	
Success	417	(77%)
Death	61	(11%)
Failure	0	(0%)
Default	33	(6%)
Transfer	0	(0%)
Other / unknown	33	(6%)

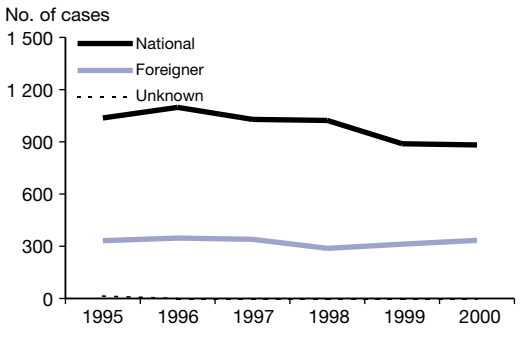
Tuberculosis notification rates by sex, 1995-2000



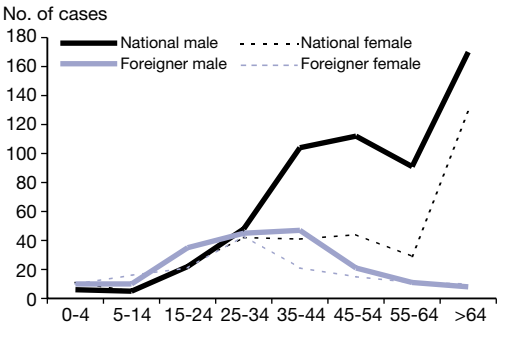
Tuberculosis notification rates by age group, 1995-2000



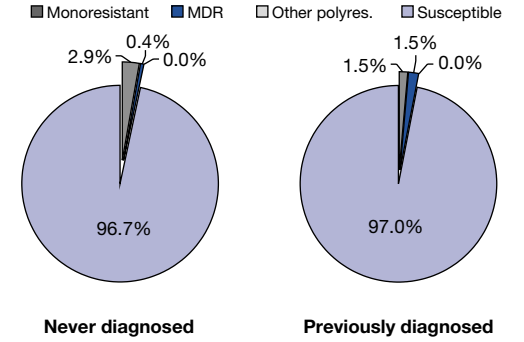
Tuberculosis cases by geographic origin, 1995-2000



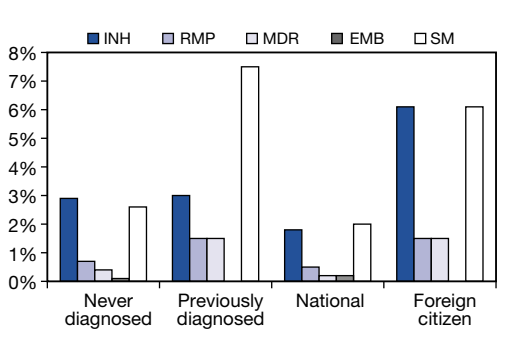
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



AZERBAIJAN

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	5 187	
Notification rate per 100 000	64.5	
Sex ratio (M:F)*	2.9	
Median age-group, nationals	–	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	5 113	(98.6%)
Culture positive	492	(9.5%)
Pulmonary	4 942	(95.3%)
of which sputum smear positive	964	(19.5%)

*** for new cases**

Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	Baku	
Linkage with notification	No §	
Cases with DST results	184 / 184	(100%)
Cases resistant to INH	10	(5.4%)
Cases resistant to RMP	8	(4.3%)
MDR cases	3	(1.6%)
Cases resistant to EMB	4	(2.2%)
Cases resistant to SM	21	(11.4%)

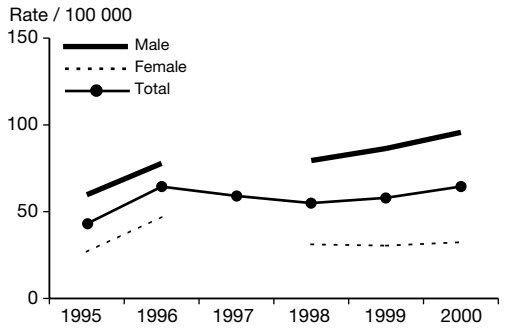
Culture and DST not routinely performed

§ Cases diagnosed at the NRL

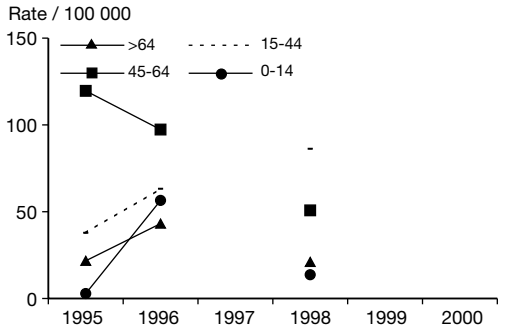
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	763	
Success	636	(83%)
Death	19	(2%)
Failure	43	(6%)
Default	53	(7%)
Transfer	12	(2%)
Other / unknown	0	(0%)

Tuberculosis notification rates by sex, 1995-2000



Tuberculosis notification rates by age group, 1995-2000



Tuberculosis cases by geographic origin, 1995-2000

Foreigners not included in TB notifications

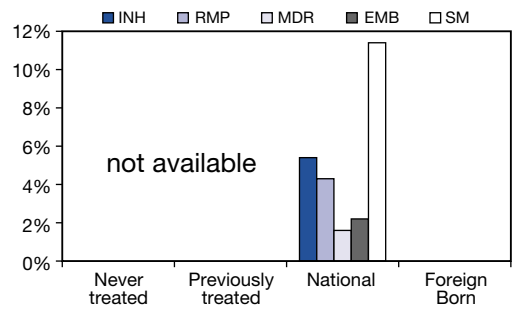
Tuberculosis cases by geographic origin, age group and sex, 2000

Not available

Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	6 084	
Notification rate per 100 000	59.7	
Sex ratio (M:F)	3.4	
Median age-group, nationals	–	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	–	–
Culture positive *	2 550	(41.9%)
Respiratory	5 636	–
of which sputum smear positive	–	–

*** new cases notified to MoH**

Drug Resistance Surveillance, 2000

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

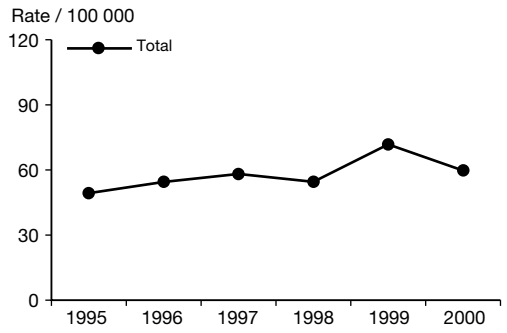
Culture not routinely perfomed

§ New cases notified to MoH (prisons not included)

Treatment Outcome Monitoring, 1999

Not available

Tuberculosis notification rates, 1995-2000



Tuberculosis notification rates by age group, 1995-2000

Not available

Tuberculosis cases by geographic origin, 1995-2000

Foreigners not included in TB notifications

Tuberculosis cases by geographic origin, age group and sex, 2000

Not available

Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

BELGIUM

Tuberculosis case notifications, 2000

Type of data provided	Individual *	
Total number of cases	1 313	
Notification rate per 100 000	12.8	
Sex ratio (M:F)	2.0	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Foreign citizens	508	(38.7%)
New (never treated)	1 009	(76.8%)
Culture positive	969	(73.8%)
Pulmonary	964	(73.4%)
of which sputum smear positive	464	(48.1%)

*** except for DRS**

Drug Resistance Surveillance, 2000

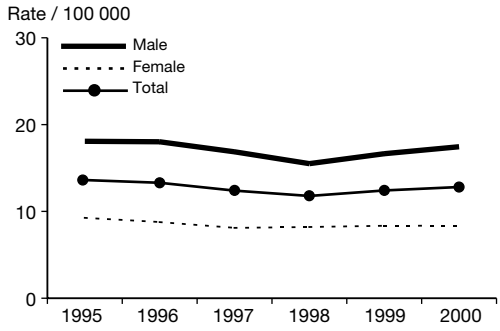
International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	730 / 969	(75.3%)
Cases resistant to INH	47	(6.4%)
Cases resistant to RMP	14	(1.9%)
MDR cases	11	(1.5%)
Cases resistant to EMB	12	(1.6%)
Cases resistant to SM	–	–

Treatment Outcome Monitoring, 1999

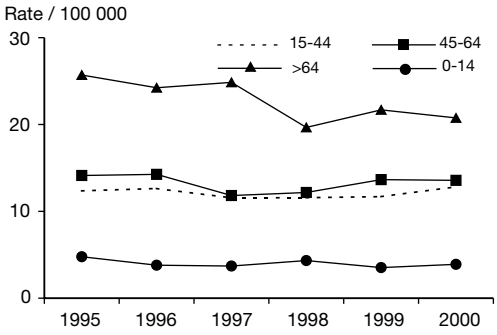
Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	558 §	
Success	322	(58%)
Death	80	(14%)
Failure	0	(0%)
Default	9	(2%)
Transfer	9	(2%)
Other / unknown	138	(25%)

§ some patient records lost, excluded

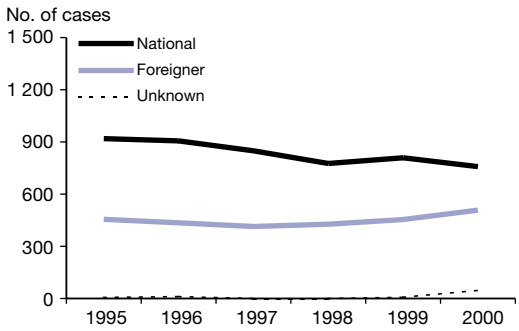
Tuberculosis notification rates by sex, 1995-2000



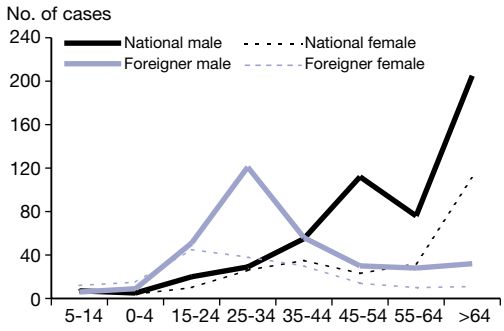
Tuberculosis notification rates by age group, 1995-2000



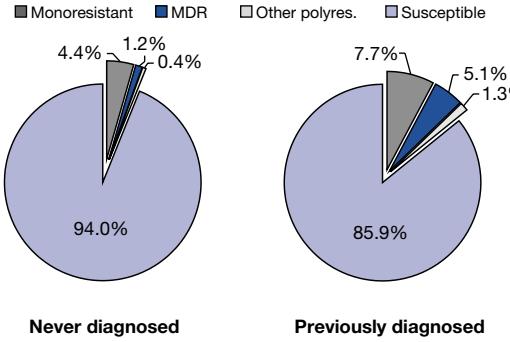
Tuberculosis cases by geographic origin, 1995-2000



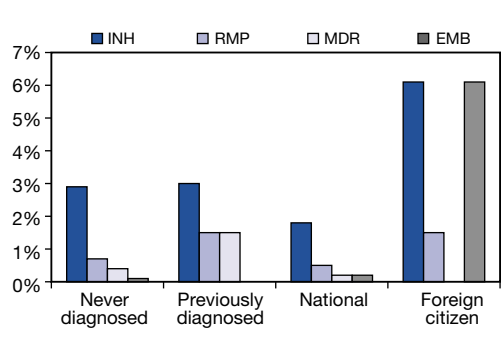
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



BOSNIA & HERZEGOVINA

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	2 606	
Notification rate per 100 000	65.5	
Sex ratio (M:F)	1.4	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	25-34 years	
Foreign born / citizens	12	(0.5%)
New (never treated)	2 291	(87.9%)
Culture positive	1 554	(59.6%)
Pulmonary	2 337	(89.7%)
of which sputum smear positive	881	(37.7%)

Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes *	
Cases with DST results	1 153 / 1 554 §	(74%)
Cases resistant to INH	11	(1.0%)
Cases resistant to RMP	17	(1.5%)
MDR cases	5	(0.4%)
Cases resistant to EMB	21	(1.8%)
Cases resistant to SM	15	(1.3%)

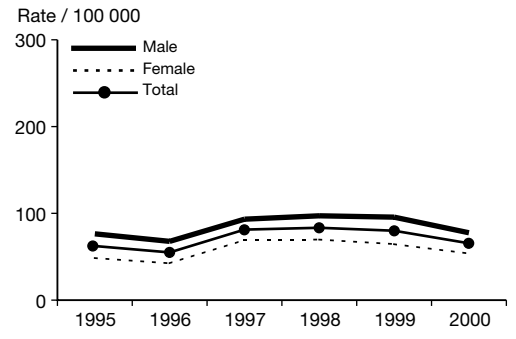
*** Not in Rep. Srpska (cases diagnosed in 3 labs)**

§ incomplete data for Rep. Srpska (119 / 520)

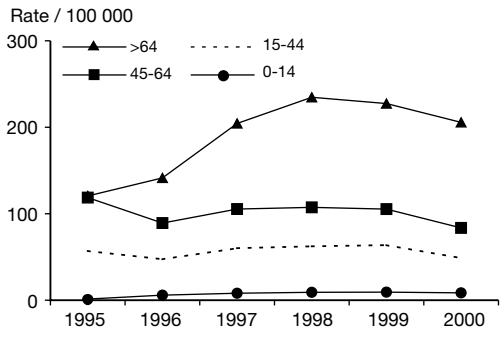
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	1 269	
Success	1 176	(93%)
Death	11	(1%)
Failure	5	(0%)
Default	32	(3%)
Transfer	8	(1%)
Other / unknown	37	(3%)

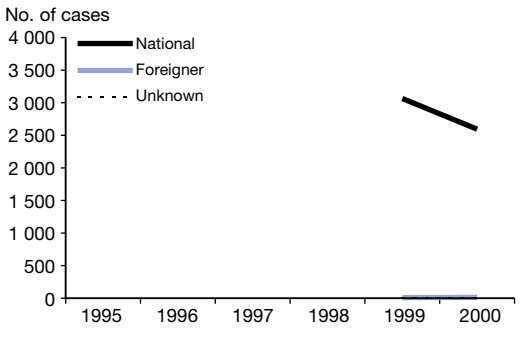
Tuberculosis notification rates by sex, 1995-2000



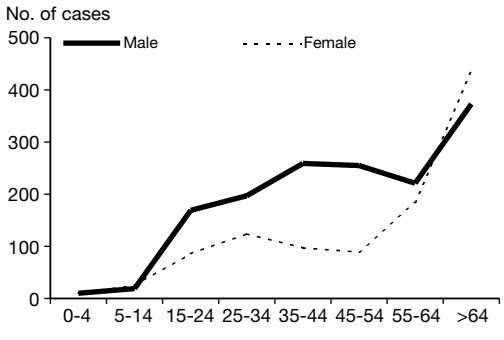
Tuberculosis notification rates by age group, 1995-2000



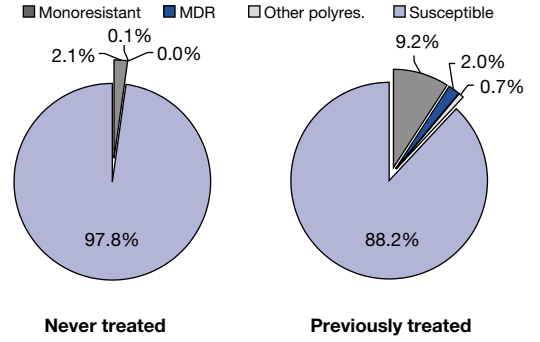
Tuberculosis cases by geographic origin, 1995-2000



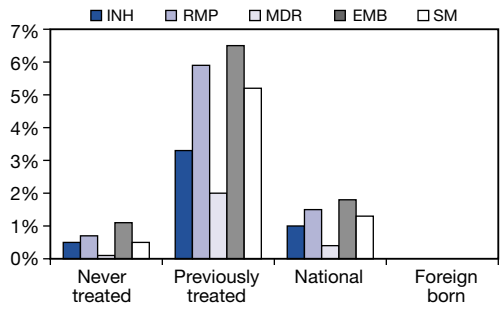
Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



BULGARIA

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	3 349	
Notification rate per 100 000	42.1	
Sex ratio (M:F)	2.1	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	2 966	(88.6%)
Culture positive	1 408	(42.0%)
Respiratory	2 907	(86.8%)
of which sputum smear positive	2 907	(100.0%)

Drug Resistance Surveillance, 2000

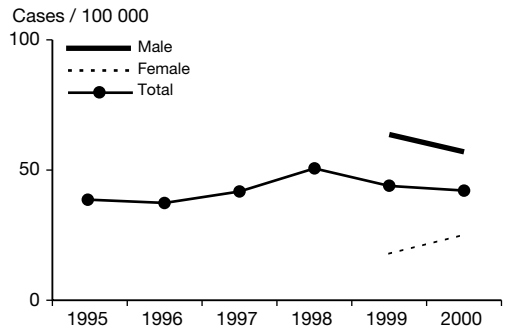
International proficiency testing	No
Geographic coverage	National
Linkage with notification	No
Cases with DST results	369
Cases resistant to INH	–
Cases resistant to RMP	–
MDR cases	–
Cases resistant to EMB	–
Cases resistant to SM	–

DST performed at start or during treatment in case of poor clinical response; data not shown

Treatment Outcome Monitoring, 1999

Not available

Tuberculosis notification rates by sex, 1995-2000



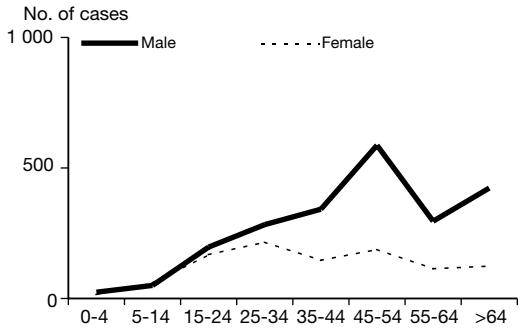
Tuberculosis notification rates by age group, 1995-2000

Not available

Tuberculosis cases by geographic origin, 1995-2000

Not available

Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000

Data not shown

Resistance by treatment status and geographic origin, 2000

Data not shown

CROATIA

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	1 630	
Notification rate per 100 000	35.0	
Sex ratio (M:F)	1.6	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	55-64 years	
Individuals born abroad*	185	(11.3%)
New (never treated)	1 489	(91.3%)
Culture positive	883	(54.2%)
Pulmonary	1 475	(90.5%)
of which sputum smear positive	504	(34.2%)

*** 34% of cases origin unknown**

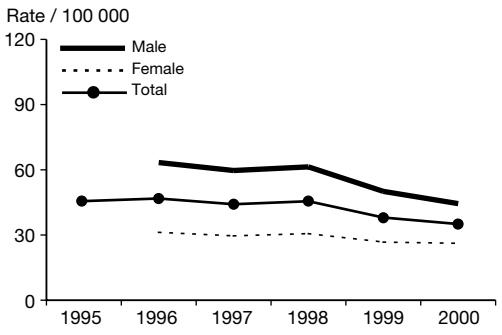
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	879 / 883	(99.5%)
Cases resistant to INH	12	(1.4%)
Cases resistant to RMP	4	(0.5%)
MDR cases	2	(0.2%)
Cases resistant to EMB	1	(0.1%)
Cases resistant to SM	8	(0.9%)

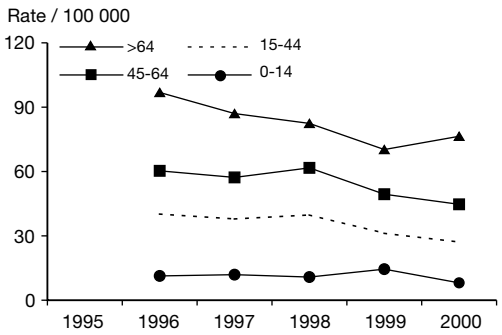
Treatment Outcome Monitoring, 1999

Not available

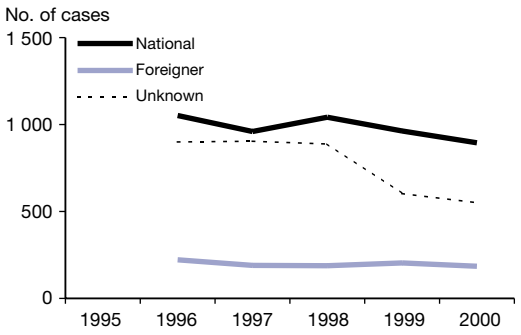
Tuberculosis notification rates by sex, 1995-2000



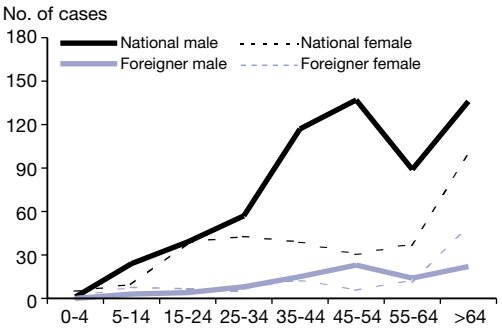
Tuberculosis notification rates by age group, 1995-2000



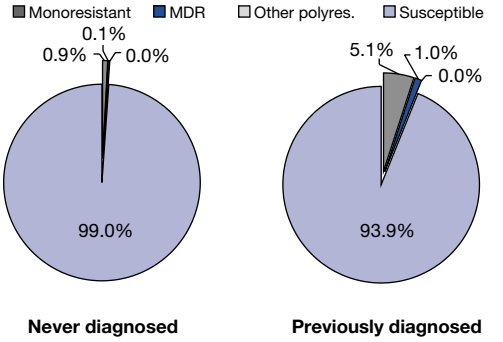
Tuberculosis cases by geographic origin, 1995-2000



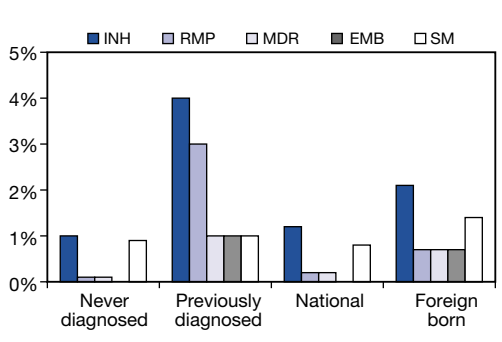
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



CZECH REPUBLIC

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	1 442	
Notification rate per 100 000	14.0	
Sex ratio (M:F)	1.7	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad	143	(9.9%)
New (never treated)	1 389	(96.3%)
Culture positive	873	(60.5%)
Respiratory	1 244	(86.3%)
of which sputum smear positive	442	(35.5%)

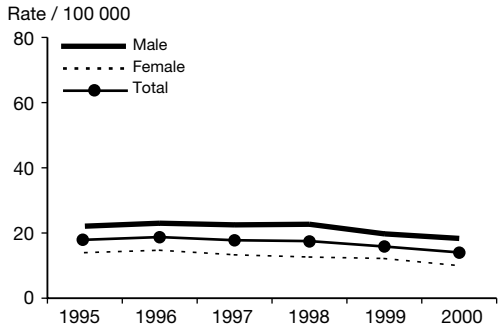
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	640 / 873	(73%)
Cases resistant to INH	23	(3.6%)
Cases resistant to RMP	10	(1.6%)
MDR cases	9	(1.4%)
Cases resistant to EMB	6	(0.9%)
Cases resistant to SM	13	(2.0%)

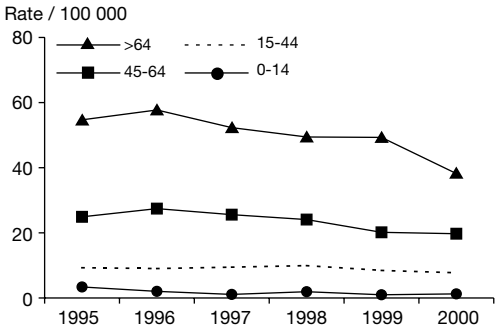
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	606	
Success	438	(72%)
Death	123	(20%)
Failure	3	(0%)
Default	9	(1%)
Transfer	12	(2%)
Other / unknown	21	(3%)

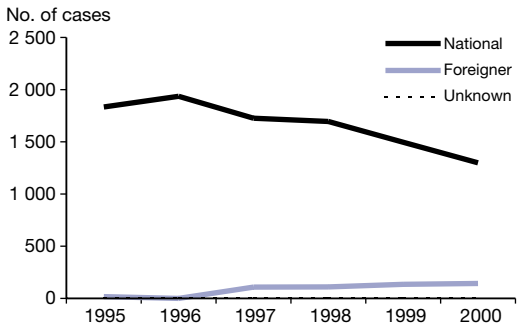
Tuberculosis notification rates by sex, 1995-2000



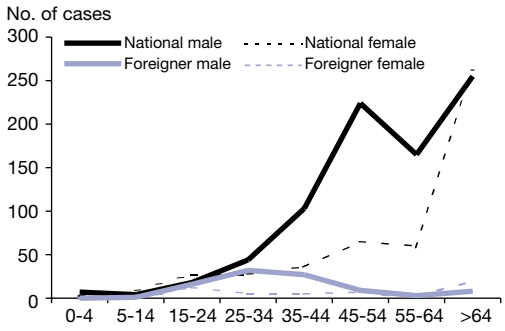
Tuberculosis notification rates by age group, 1995-2000



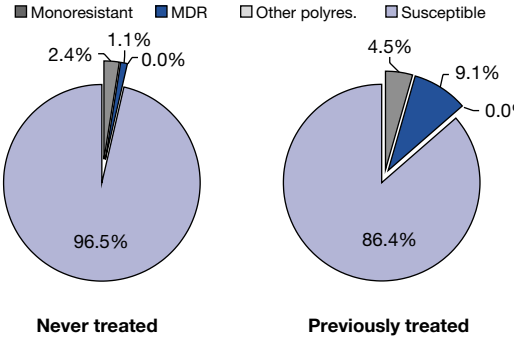
Tuberculosis cases by geographic origin, 1995-2000



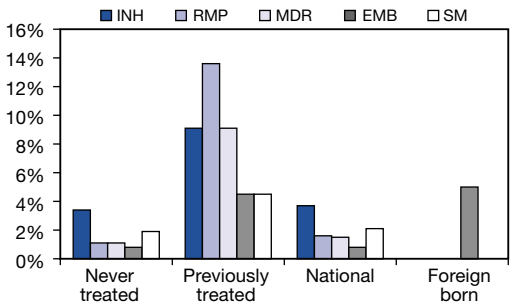
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Individual *	
Total number of cases	548	
Notification rate per 100 000	10.3	
Sex ratio (M:F)	1.4	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	350	(63.9%)
New (never treated)	509	(92.9%)
Culture positive	430	(78.5%)
Pulmonary	397	(72.4%)
of which sputum smear positive	152	(38.3%)

*** except DST results**

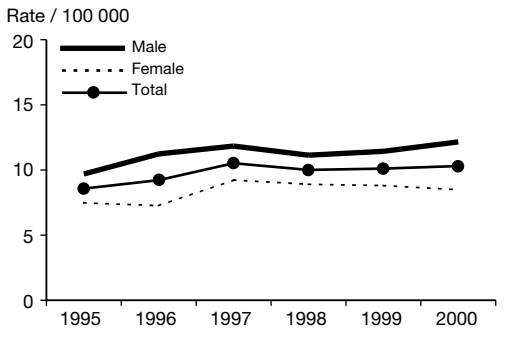
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	425 / 430	(99%)
Cases resistant to INH	37	(8.7%)
Cases resistant to RMP	3	(0.7%)
MDR cases	2	(0.5%)
Cases resistant to EMB	4	(0.9%)
Cases resistant to SM	42	(9.9%)

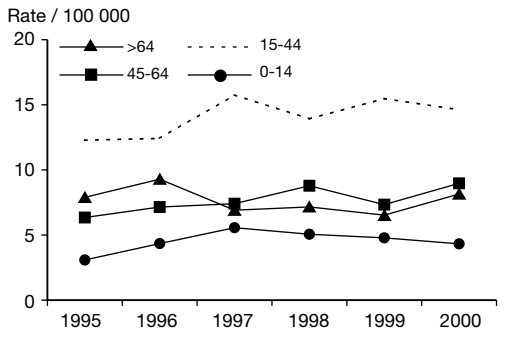
Treatment Outcome Monitoring, 1999

Not available

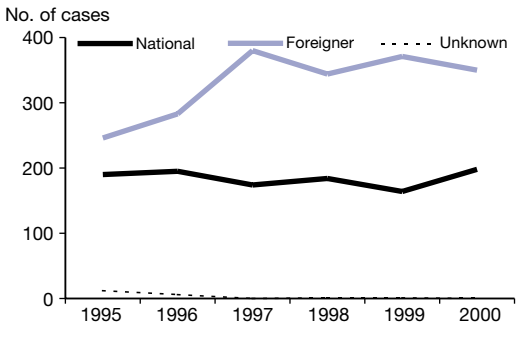
Tuberculosis notification rates by sex, 1995-2000



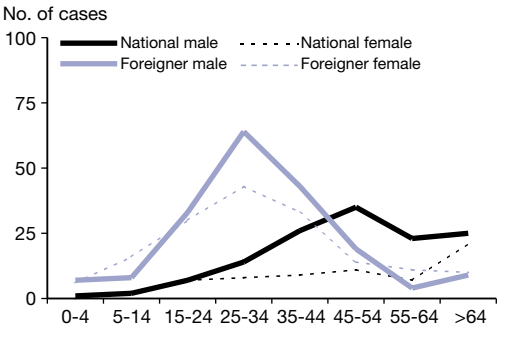
Tuberculosis notification rates by age group, 1995-2000



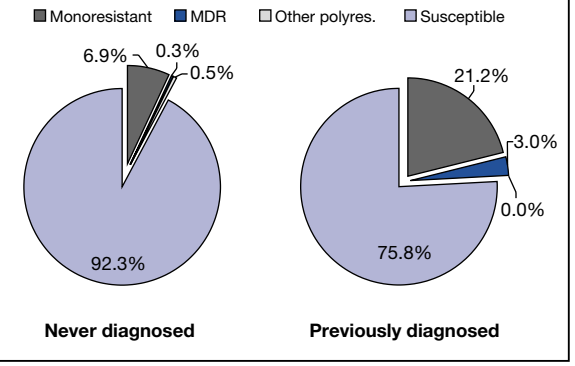
Tuberculosis cases by geographic origin, 1995-2000



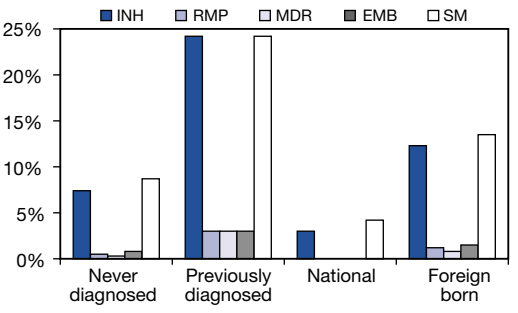
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



ESTONIA

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	791	
Notification rate per 100 000	56.8	
Sex ratio (M:F)	2.5	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	45-54 years	
Individuals born abroad	183	(23.1%)
New (never treated)	642	(81.2%)
Culture positive	541	(68.4%)
Pulmonary	721	(91.2%)
of which sputum smear positive	316	(43.8%)

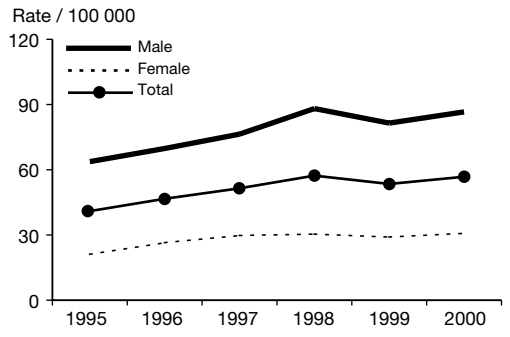
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	527 / 541	(97%)
Cases resistant to INH	158	(30.0%)
Cases resistant to RMP	103	(19.5%)
MDR cases	103	(19.5%)
Cases resistant to EMB	103	(19.5%)
Cases resistant to SM	149	(28.3%)

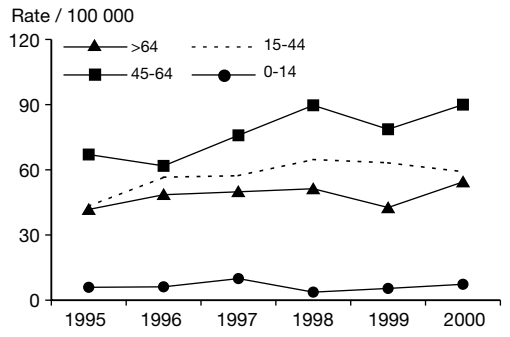
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	414	
Success	296	(71%)
Death	54	(13%)
Failure	12	(3%)
Default	52	(13%)
Transfer	0	(0%)
Other / unknown	0	(0%)

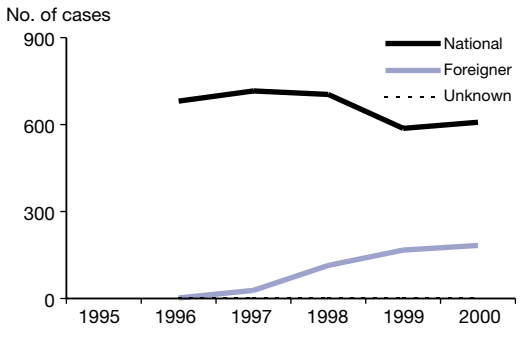
Tuberculosis notification rates by sex, 1995-2000



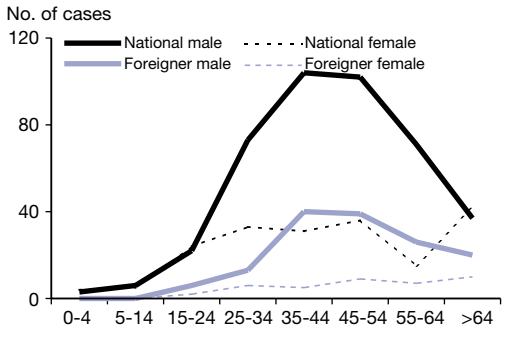
Tuberculosis notification rates by age group, 1995-2000



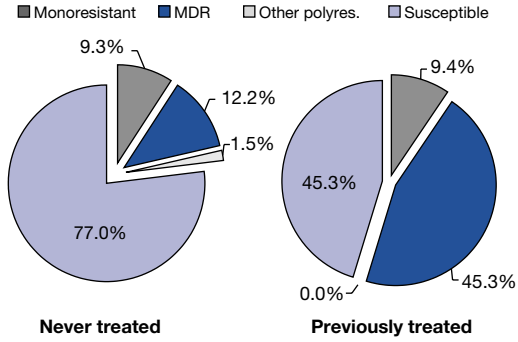
Tuberculosis cases by geographic origin, 1995-2000



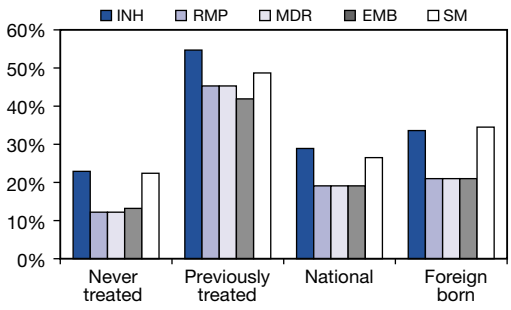
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	537	
Notification rate per 100 000	10.4	
Sex ratio (M:F)	1.4	
Median age-group, nationals	65+ years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	47	(8.8%)
New (never treated)	461	(85.8%)
Culture positive	451	(84.0%)
Pulmonary	370	(68.9%)
of which sputum smear positive	227	(61.4%)

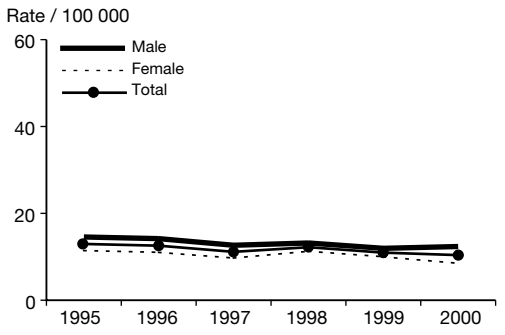
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	439 / 451	(97%)
Cases resistant to INH	15	(3.4%)
Cases resistant to RMP	4	(0.9%)
MDR cases	2	(0.5%)
Cases resistant to EMB	1	(0.2%)
Cases resistant to SM	–	–

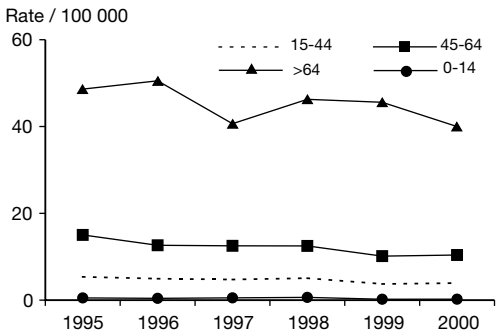
Treatment Outcome Monitoring, 1999

Not available

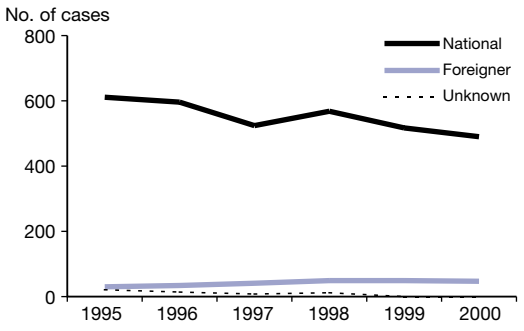
Tuberculosis notification rates by sex, 1995-2000



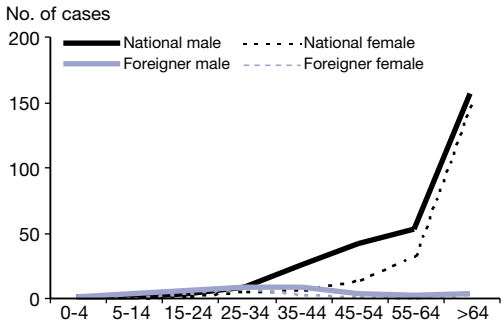
Tuberculosis notification rates by age group, 1995-2000



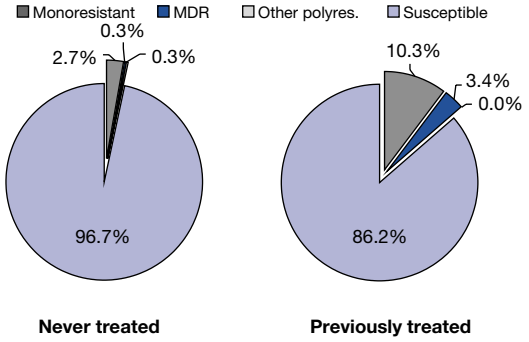
Tuberculosis cases by geographic origin, 1995-2000



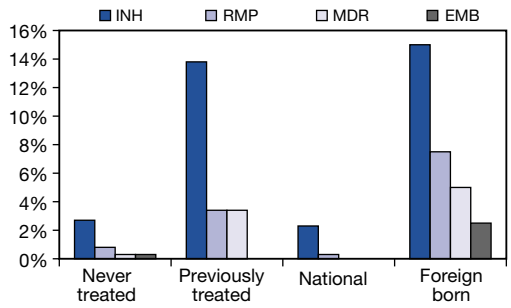
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



FRANCE

Tuberculosis case notifications, 2000

Type of data provided	Individual *	
Total number of cases	6 714	
Notification rate per 100 000	11.0	
Sex ratio (M:F)	1.6	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad §	2 193	(32.7%)
New (never treated)	4 354	(64.8%)
Culture positive **	1 857	(27.7%)
Pulmonary	4 838	(72.1%)
of which sputum smear positive	2 674	(55.3%)

*** except DST results**
§ 20% of cases with missing information
**** culture done, result unknown in 34%**

Drug Resistance Surveillance, 2000

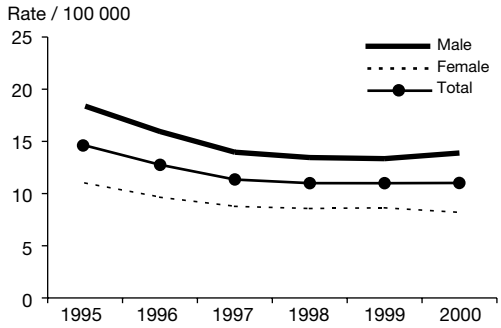
International proficiency testing	Yes	
Geographic coverage	15 / 23 regions	
Linkage with notification	No §	
Cases with DST results	1 189 / 1 201	(99%)
Cases resistant to INH	45	(3.8%)
Cases resistant to RMP	18	(1.5%)
MDR cases	15	(1.3%)
Cases resistant to EMB	23	(1.9%)
Cases resistant to SM	88	(7.4%)

§ TB cases diagnosed in a sentinel network of 23 teaching hospital laboratories

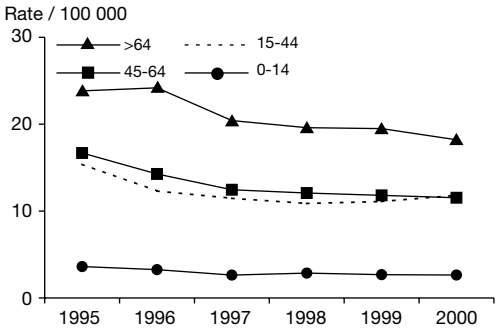
Treatment Outcome Monitoring, 1999

Not available

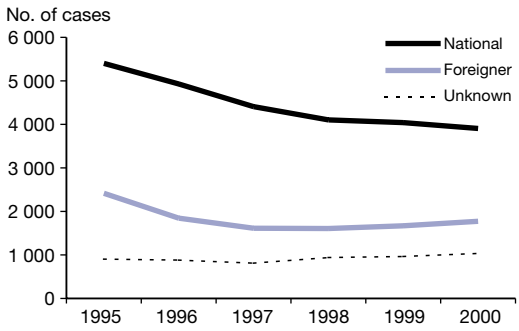
Tuberculosis notification rates by sex, 1995-2000



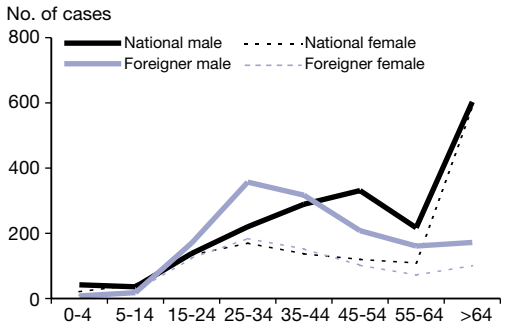
Tuberculosis notification rates by age group, 1995-2000



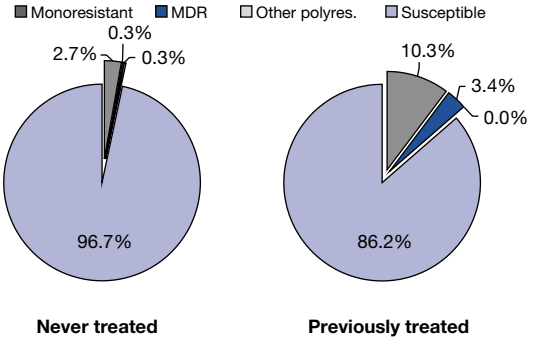
Tuberculosis cases by geographic origin, 1995-2000 (by citizenship)



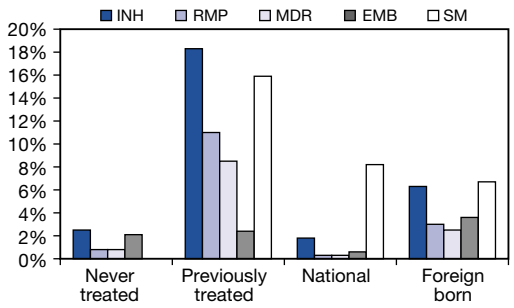
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	6 436	
Notification rate per 100 000	122.3	
Sex ratio (M:F)	2.6	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	4 393	(68.3%)
Culture positive	–	–
Pulmonary	4 963	(77.1%)
of which sputum smear positive	1 451	(29.2%)

Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	Tbilisi	
Linkage with notification	No §	
Cases with DST results	212 / 213	(99.5%)
Cases resistant to INH	102	(48.1%)
Cases resistant to RMP	72	(34.0%)
MDR cases	65	(30.7%)
Cases resistant to EMB	61	(28.8%)
Cases resistant to SM	102	(48.1%)

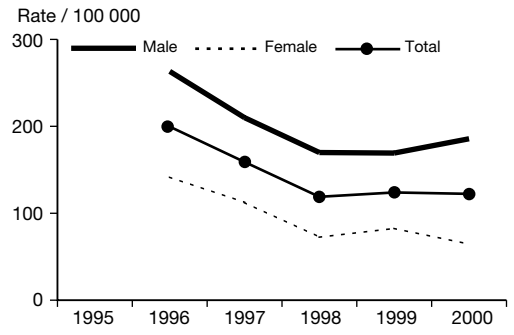
Culture and DST not routinely performed

§ Cases diagnosed at the NRL

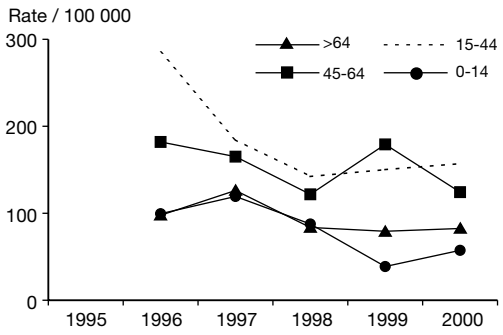
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	746	
Success	457	(61%)
Death	38	(5%)
Failure	41	(5%)
Default	161	(22%)
Transfer	14	(2%)
Other / unknown	35	(5%)

Tuberculosis notification rates by sex, 1995-2000



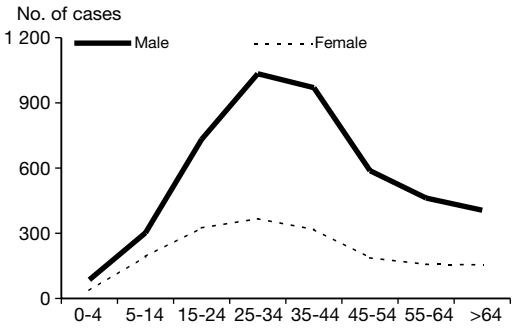
Tuberculosis notification rates by age group, 1995-2000



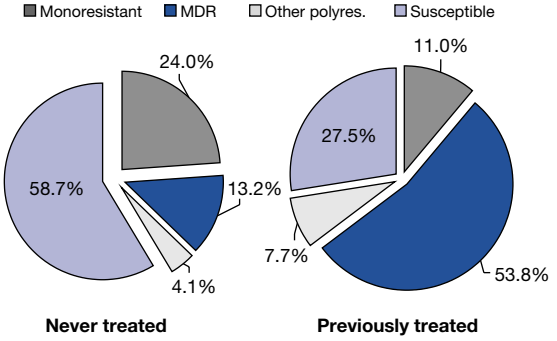
Tuberculosis cases by geographic origin, 1995-2000

Not available

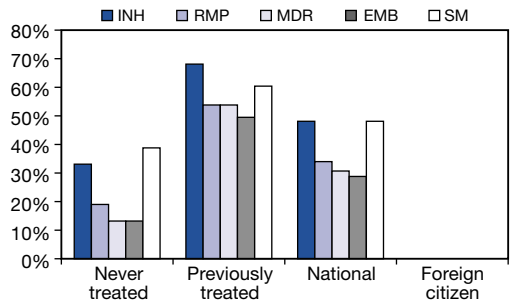
Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



GERMANY

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	9 064	
Notification rate per 100 000	11.1	
Sex ratio (M:F)	1.6	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	–	
Foreign citizens	3 047	(33.6%)
New (never treated)	–	–
Culture positive*	3 427	(67.5%)
Respiratory	7 535	(83.1%)
of which sputum smear positive	2 665	(35.4%)

*** 5 080 cases notified in two thirds of local health units**

Drug Resistance Surveillance, 2000

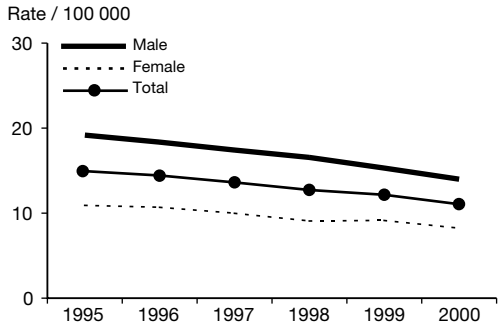
International proficiency testing	Yes	
Geographic coverage §	National	
Linkage with notification	Yes §	
Cases with DST results	2 780 / 3 427	(81%)
Cases resistant to INH	166	(6.0%)
Cases resistant to RMP	54	(1.9%)
MDR cases	47	(1.7%)
Cases resistant to EMB	43	(1.5%)
Cases resistant to SM	151	(5.4%)

§ Cases notified in two thirds of local health units

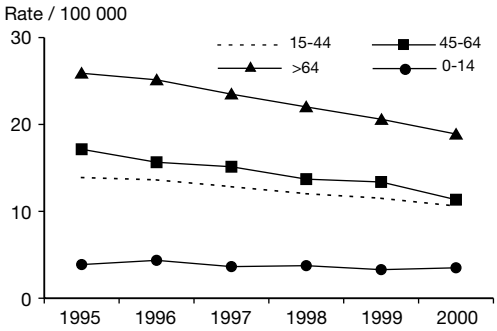
Treatment Outcome Monitoring, 1999

Not available

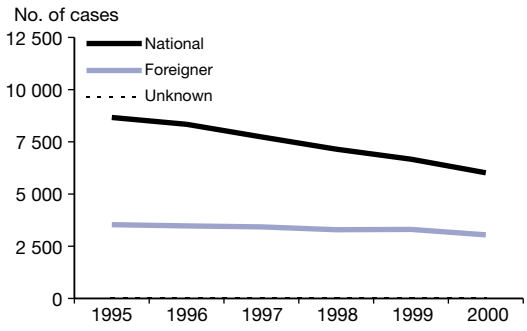
Tuberculosis notification rates by sex, 1995-2000



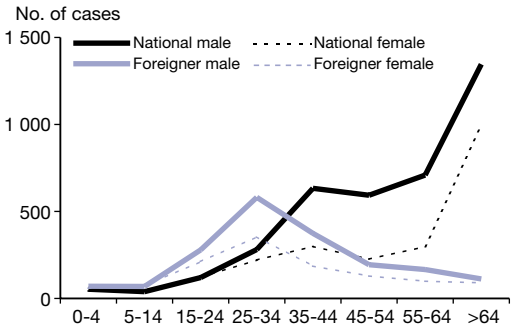
Tuberculosis notification rates by age group, 1995-2000



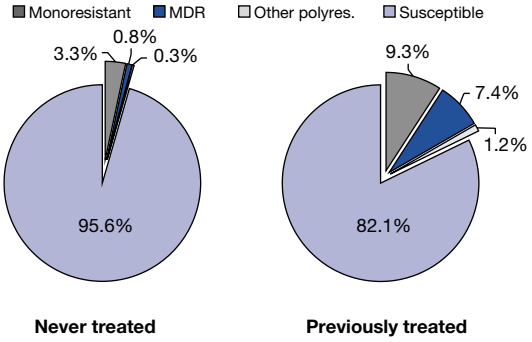
Tuberculosis cases by geographic origin, 1995-2000



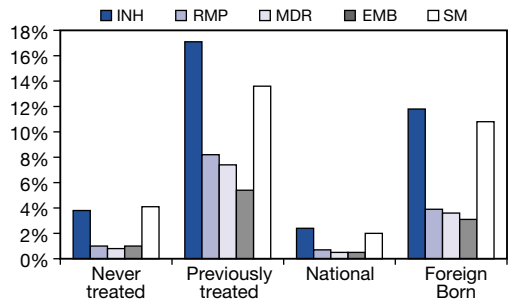
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	703	
Notification rate per 100 000	6.6	
Sex ratio (M:F)	2.0	
Median age-group, nationals	65+ years	
Median age-group, non-nationals	35-44 years	
Foreign citizens	68	(9.7%)
New (never treated)	655	(93.2%)
Culture positive	287	(40.8%)
Pulmonary	622	(88.5%)
of which sputum smear positive	283	(45.5%)

Drug Resistance Surveillance, 2000

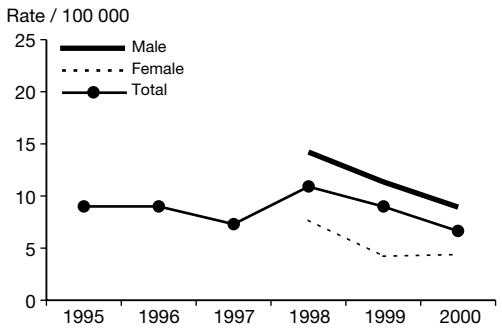
International proficiency testing	No	
Geographic coverage	Some areas	
Linkage with notification	No §	
Cases with DST results	861	–
Cases resistant to INH	–	–
Cases resistant to RMP	–	–
MDR cases	–	–
Cases resistant to EMB	–	–
Cases resistant to SM	–	–

§ **Data from 3 labs; DST results at start or during treatment done for selected cases; not shown**

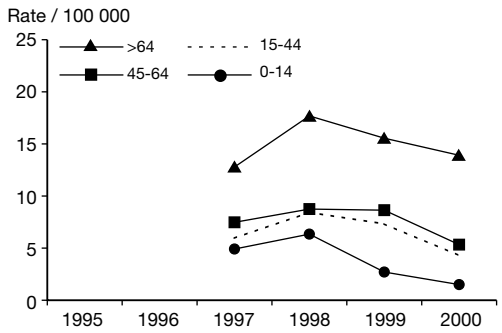
Treatment Outcome Monitoring, 1999

Not available

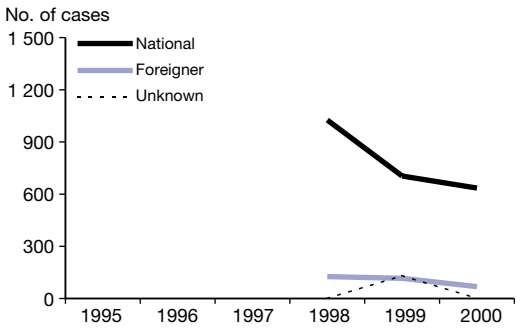
Tuberculosis notification rates by sex, 1995-2000*



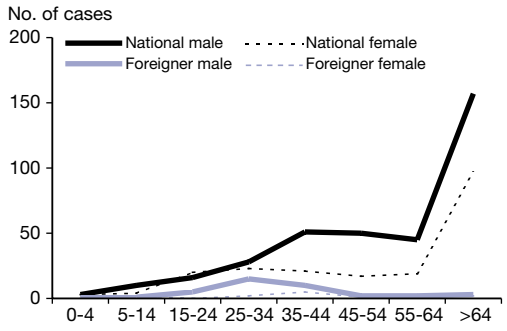
Tuberculosis notification rates by age group, 1995-2000*



Tuberculosis cases by geographic origin, 1995-2000*



Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000

Data not shown

Resistance by treatment status and geographic origin, 2000

Data not shown

* TB case definition changed in 1998

HUNGARY

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	3 598	
Notification rate per 100 000	36.1	
Sex ratio (M:F)	2.3	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	56	(1.6%)
New (never treated)	2 994	(83.2%)
Culture positive	912	(25.3%)
Pulmonary	3 354	(93.2%)
of which sputum smear positive	501	(14.9%)

Drug Resistance Surveillance, 2000

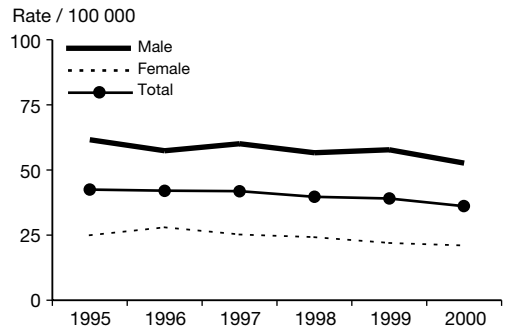
International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	316 / 912	(35%)
Cases resistant to INH	32	(10.1%)
Cases resistant to RMP	10	(3.2%)
MDR cases	7	(2.2%)
Cases resistant to EMB	9	(2.8%)
Cases resistant to SM	20	(6.3%)

Culture and DST not routinely performed

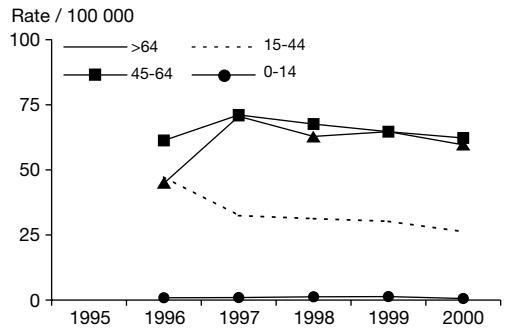
Treatment Outcome Monitoring, 1999

Not available

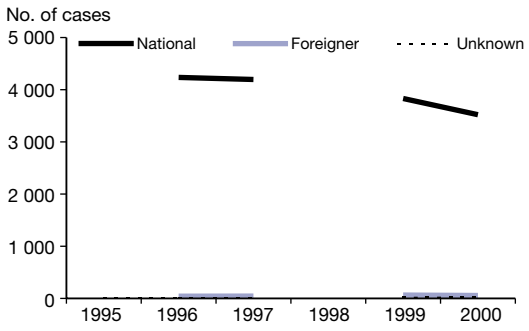
Tuberculosis notification rates by sex, 1995-2000*



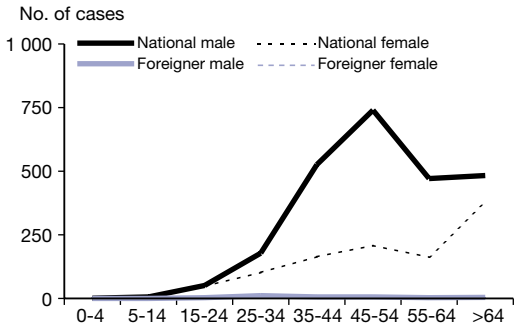
Tuberculosis notification rates by age group, 1995-2000*



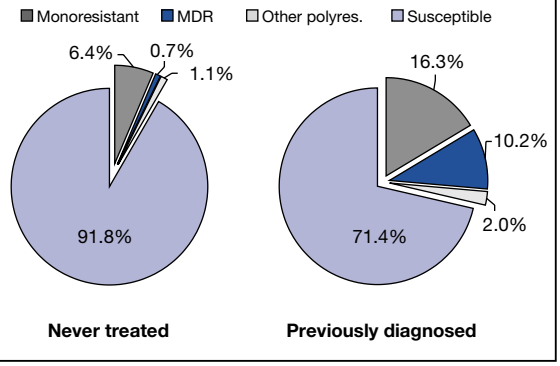
Tuberculosis cases by geographic origin, 1995-2000*



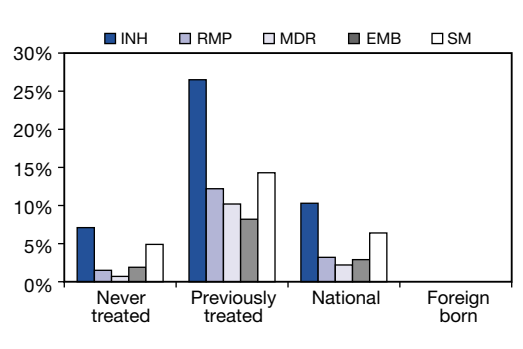
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



* TB case definitions changed in 1997

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	13	
Notification rate per 100 000	4.7	
Sex ratio (M:F)	0.4	
Median age-group, nationals	65+ years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	5	(38.5%)
New (never treated)	12	(92.3%)
Culture positive	9	(69.2%)
Pulmonary	9	(69.2%)
of which sputum smear positive	3	(33.3%)

Drug Resistance Surveillance, 2000

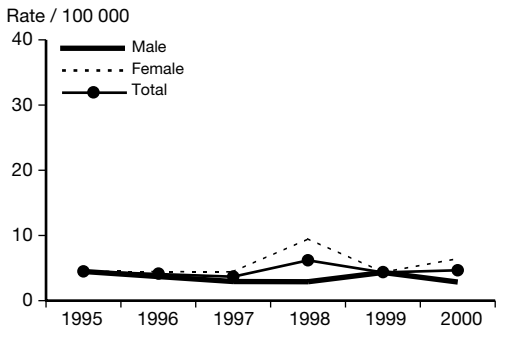
International proficiency testing	Yes §	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	9 / 9	(100%)
Cases resistant to INH	0	(0%)
Cases resistant to RMP	0	(0%)
MDR cases	0	(0%)
Cases resistant to EMB	0	(0%)
Cases resistant to SM	0	(0%)

§ DST performed in Denmark

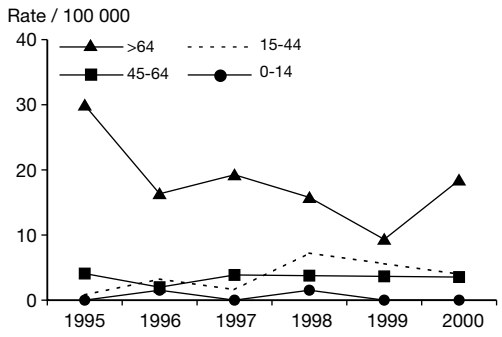
Treatment Outcome Monitoring, 1999

Geographic coverage	national	
Cohort	new pulmonary culture positive	
Included in TOM cohort	6	
Success	6	(100%)
Death	0	(0%)
Failure	0	(0%)
Default	0	(0%)
Transfer	0	(0%)
Other / unknown	0	(0%)

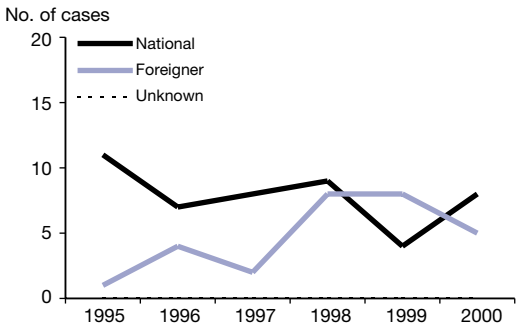
Tuberculosis notification rates by sex, 1995-2000



Tuberculosis notification rates by age group, 1995-2000



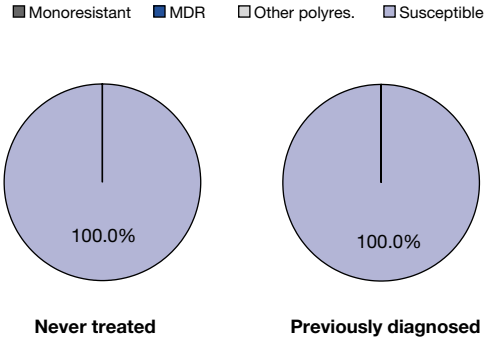
Tuberculosis cases by geographic origin, 1995-2000



Tuberculosis cases by geographic origin, age group and sex, 2000

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000

No resistance reported

IRELAND

Tuberculosis case notifications*, 2000

Type of data provided	Individual	
Total number of cases	403	
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	25-34 years	
Individuals born abroad	49	(12.2%)
New (never treated)	275	(68.2%)
Culture positive	229	(56.8%)
Pulmonary	289	(71.7%)
of which sputum smear positive	142	(49.1%)

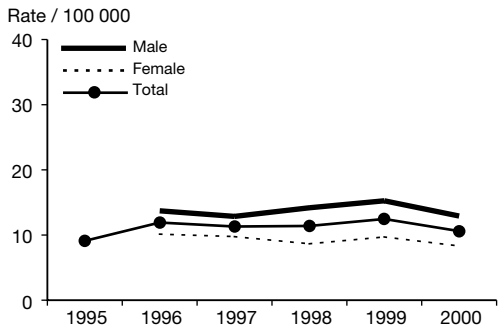
Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	216 / 229	(94%)
Cases resistant to INH	6	(2.8%)
Cases resistant to RMP	3	(1.4%)
MDR cases	3	(1.4%)
Cases resistant to EMB	0	(0%)
Cases resistant to SM	–	–

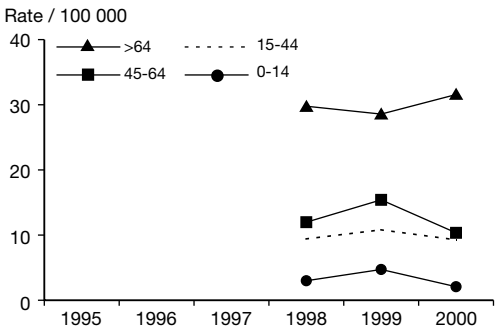
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	126	
Success	60	(48%)
Death	9	(7%)
Failure	0	(0%)
Default	1	(1%)
Transfer	0	(0%)
Other / unknown	56	(44%)

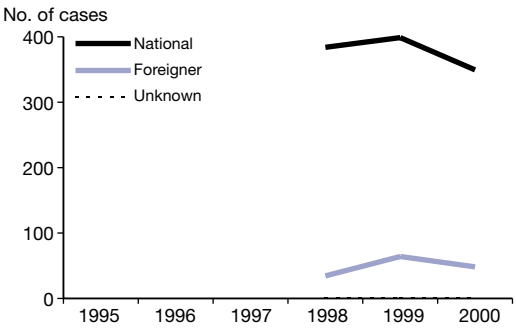
Tuberculosis notification rates by sex, 1995-2000*



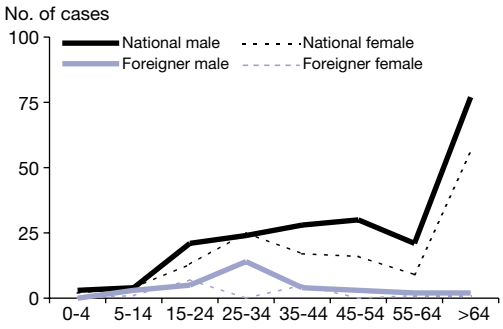
Tuberculosis notification rates by age group, 1995-2000*



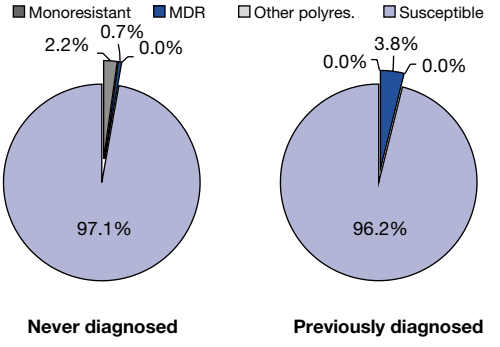
Tuberculosis cases by geographic origin, 1995-2000*



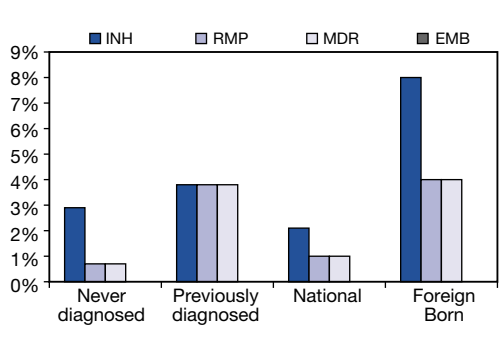
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



* Notification system reorganised in 1998

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	591	
Notification rate per 100 000	9.8	
Sex ratio (M:F)	1.5	
Median age-group, nationals	25-34 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad	500	(84.6%)
New (never treated)	88	(14.9%)
Culture positive	276	(46.7%)
Pulmonary	478	(80.9%)
of which sputum smear positive	222	(46.4%)

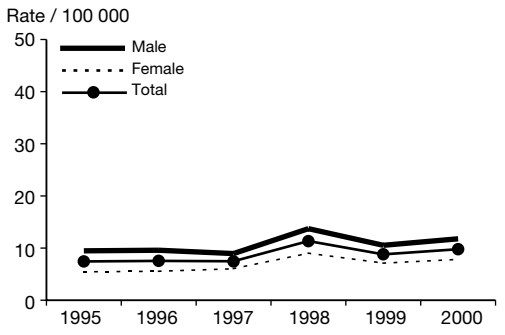
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	2000
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	279 / 312	(89%)
Cases resistant to INH	74	(26.3%)
Cases resistant to RMP	42	(14.9%)
MDR cases	41	(14.6%)
Cases resistant to EMB	28	(10.0%)
Cases resistant to SM	63	(22.4%)

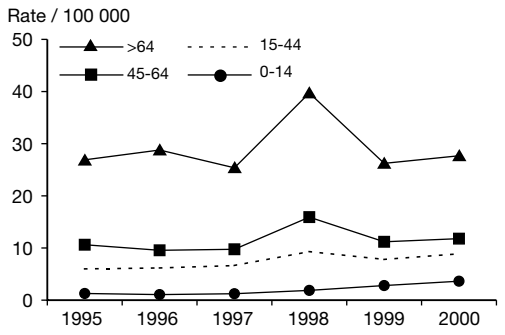
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	289	
Success	237	(82%)
Death	30	(10%)
Failure	6	(2%)
Default	8	(3%)
Transfer	5	(2%)
Other / unknown	3	(1%)

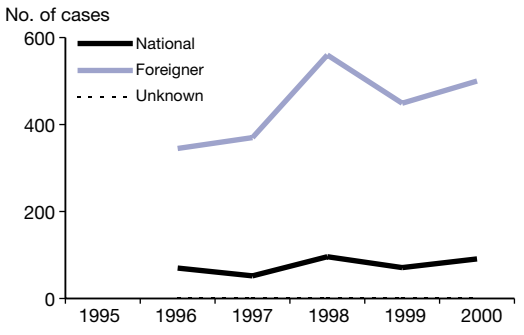
Tuberculosis notification rates by sex, 1995-2000*



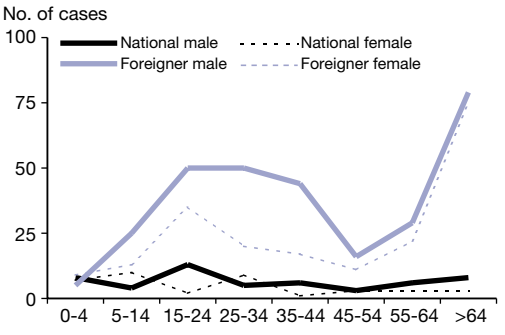
Tuberculosis notification rates by age group, 1995-2000*



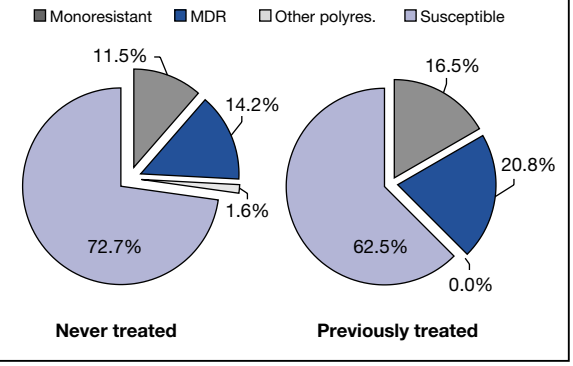
Tuberculosis cases by geographic origin, 1995-2000*



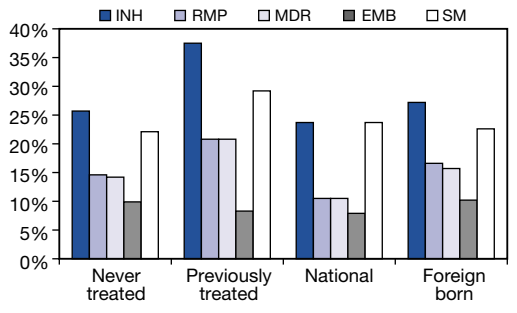
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



* TB notification system reorganised in 1998

ITALY

Tuberculosis case notifications, 2000

Type of data provided	Individual *	
Total number of cases	4 759	
Notification rate per 100 000	8.3	
Sex ratio (M:F)	1.6	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	1 201	(25.2%)
New (never treated)	3 137	(65.9%)
Culture positive**	1 778	(37.4%)
Pulmonary	3 604	(75.7%)
of which sputum smear positive	1 351	(37.5%)

*** except for DRS**

**** culture done, result unknown in 34% of cases**

Drug Resistance Surveillance, 2000

International proficiency testing	yes	
Geographic coverage	10 / 20 regions	
Linkage with notification	no §	
Cases with DST results	806	–
Cases resistant to INH	86	(10.7%)
Cases resistant to RMP	44	(5.5%)
MDR cases	35	(4.3%)
Cases resistant to EMB	22	(2.7%)
Cases resistant to SM	80	(9.9%)

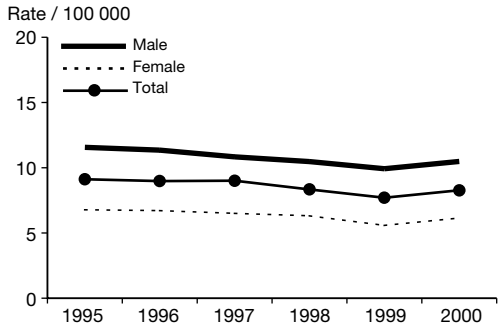
§ Cases diagnosed in 20 selected laboratories

Treatment Outcome Monitoring, 1999

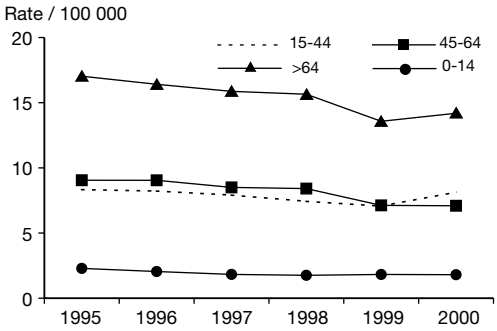
Geographic coverage	Some areas #	
Cohort	new pulmonary culture positive	
Included in TOM cohort	231	
Success	163	(71%)
Death	7	(3%)
Failure	0	(0%)
Default	27	(12%)
Transfer	24	(10%)
Other / unknown	10	(4%)

 # Cases diagnosed in 46 clinical centres in 10 regions

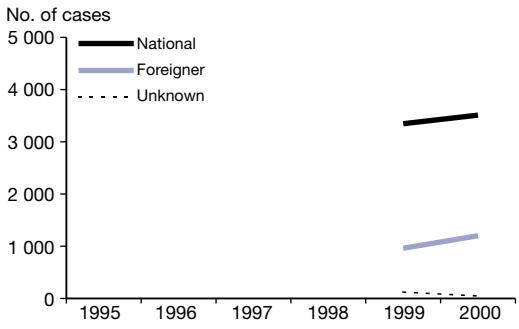
Tuberculosis notification rates by sex, 1995-2000



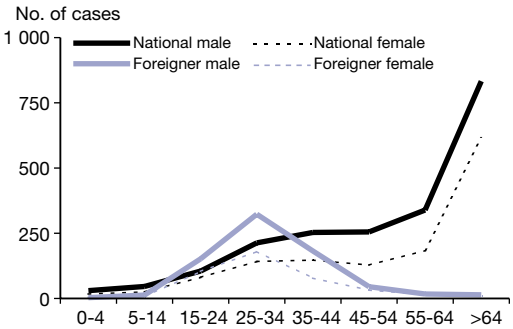
Tuberculosis notification rates by age group, 1995-2000



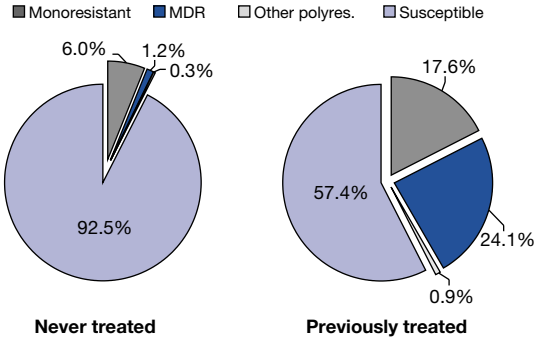
Tuberculosis cases by geographic origin, 1995-2000



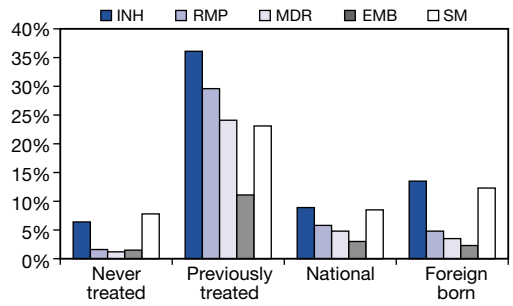
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	28 265	
Notification rate per 100 000	174.8	
Sex ratio (M:F)*	1.3	
Median age-group, nationals*	25-34 years	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	22 782	(80.6%)
Culture positive	1 905	(6.7%)
Respiratory	25 498	(90.2%)
of which sputum smear positive	12 926	(50.7%)

* ????

Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	National	
Linkage with notification	No §	
Cases with DST results	7 263	–
Cases resistant to INH	2 391	(32.9%)
Cases resistant to RMP	1 804	(24.8%)
MDR cases	1 088	(15.0%)
Cases resistant to EMB	1 483	(20.4%)
Cases resistant to SM	3 213	(44.2%)

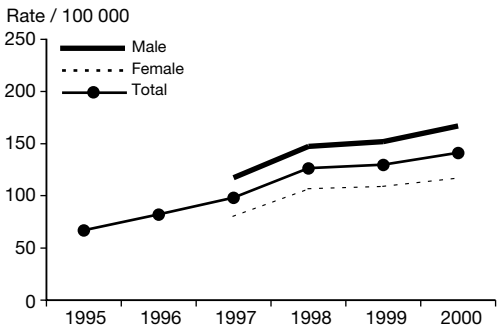
Culture and DST not routinely performed

§ Data from all laboratories performing DST

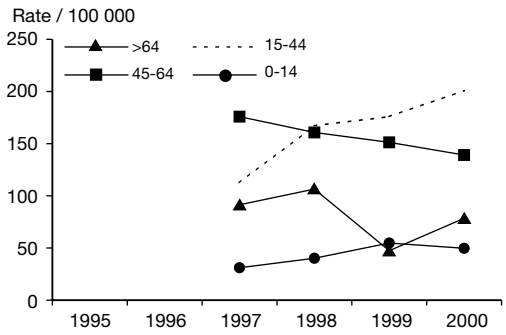
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	6 827	
Success	5 407	(79%)
Death	316	(5%)
Failure	591	(9%)
Default	229	(3%)
Transfer	284	(4%)
Other / unknown	0	(0%)

Tuberculosis notification rates by sex, 1995-2000



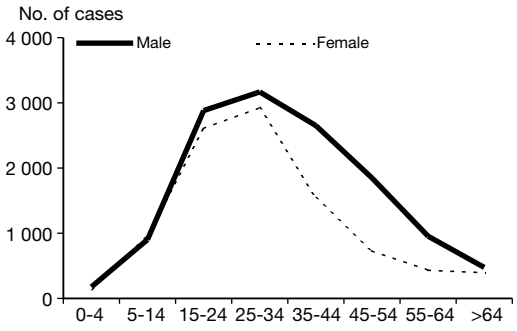
Tuberculosis notification rates by age group, 1995-2000



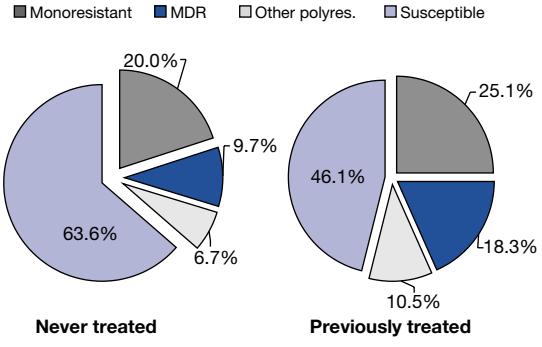
Tuberculosis cases by geographic origin, 1995-2000

Not available

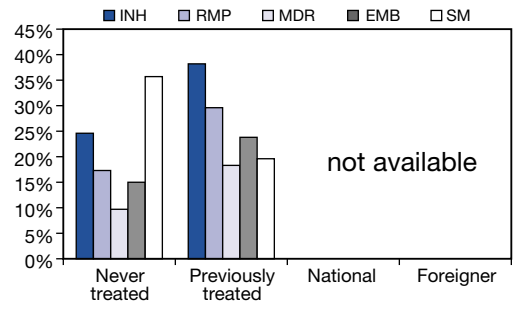
Tuberculosis cases by age group and sex, 2000*



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



KYRGYZSTAN

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	6 383	
Notification rate per 100 000	129.7	
Sex ratio (M:F)*	1.6	
Median age-group, nationals	–	
Median age-group, non-nationals	–	
Individuals born abroad	–	–
New (never treated)	5 953	(93.3%)
Culture positive	–	–
Pulmonary	4 655	(72.9%)
of which sputum smear positive	1 726	(37.1%)

*** New sputum smear positive cases only**

Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	Bishkek	
Linkage with notification	No	
Cases with DST results	279	
Cases resistant to INH	138	(49.5%)
Cases resistant to RMP	84	(30.1%)
MDR cases	76	(27.2%)
Cases resistant to EMB	111	(39.8%)
Cases resistant to SM	193	(69.2%)

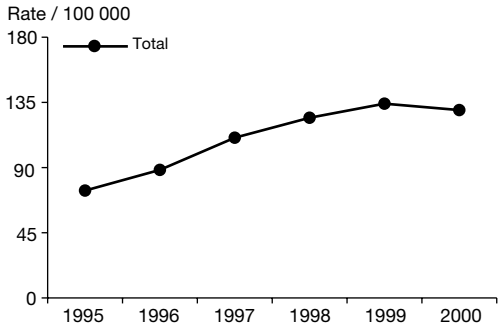
Culture and DST not routinely performed

Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new sputum smear positive #	
Included in TOM cohort	1 272	
Success	1 053	(83%)
Death	38	(3%)
Failure	63	(5%)
Default	47	(4%)
Transfer	71	(6%)
Other / unknown	0	(0%)

 # Cases from prisons not included

Tuberculosis notification rates, 1995-2000



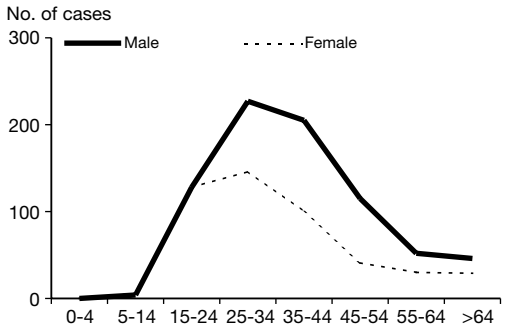
Tuberculosis notification rates by age group, 1995-2000

Not available

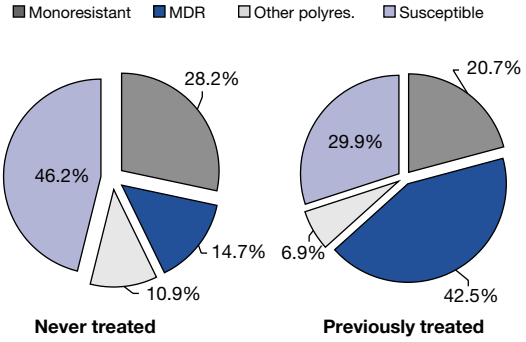
Tuberculosis cases by geographic origin, 1995-2000

Not available

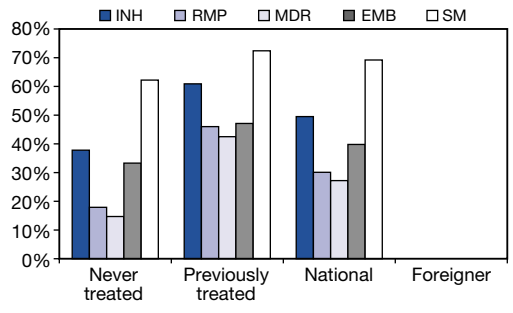
Tuberculosis cases by age group and sex, 2000*



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



* New sputum smear positive cases only

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	2 063	
Notification rate per 100 000	85.2	
Sex ratio (M:F)	2.6	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	45-54 years	
Individuals born abroad	147	(7.1%)
New (never treated)	1 715	(83.1%)
Culture positive	1 298	(62.9%)
Pulmonary	1 751	(84.9%)
of which sputum smear positive	842	(48.1%)

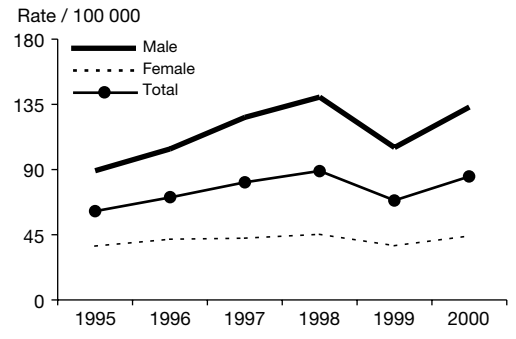
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	1 144 / 1 298	(88%)
Cases resistant to INH	347	(30.3%)
Cases resistant to RMP	150	(13.1%)
MDR cases	150	(13.1%)
Cases resistant to EMB	93	(8.1%)
Cases resistant to SM	300	(26.2%)

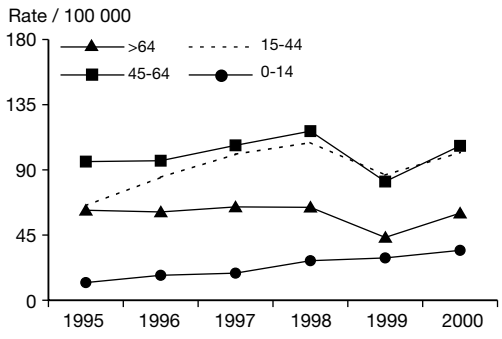
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	919	
Success	716	(78%)
Death	70	(8%)
Failure	9	(1%)
Default	41	(4%)
Transfer	9	(1%)
Other / unknown	74	(8%)

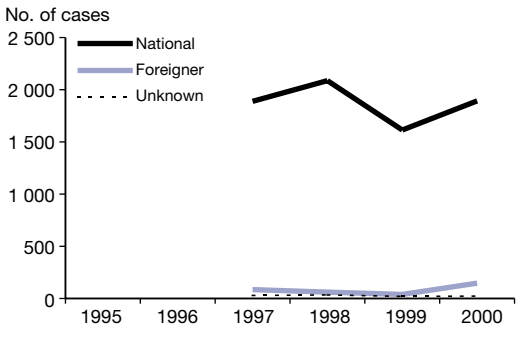
Tuberculosis notification rates by sex, 1995-2000



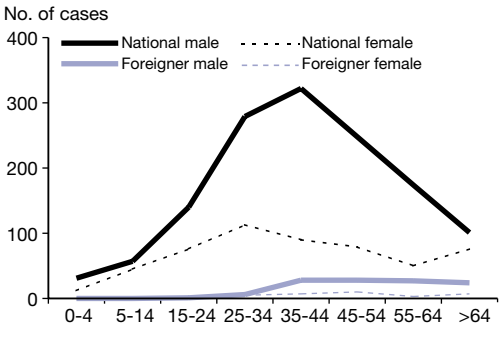
Tuberculosis notification rates by age group, 1995-2000



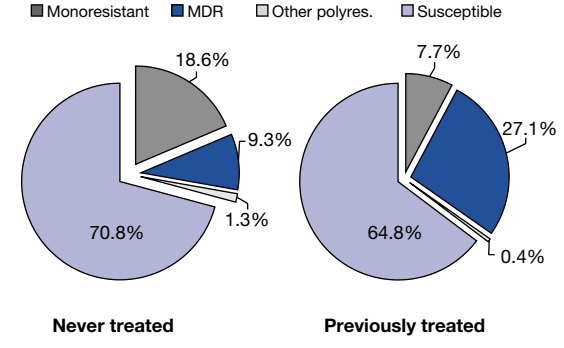
Tuberculosis cases by geographic origin, 1995-2000



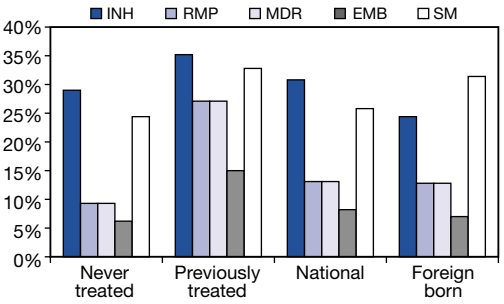
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



LITHUANIA

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	2 981	
Notification rate per 100 000	80.7	
Sex ratio (M:F)	2.0	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	45-54 years	
Individuals born abroad	160	(5.4%)
New (never treated)	2 330	(78.2%)
Culture positive	1 556	(52.2%)
Pulmonary	2 415	(81.0%)
of which sputum smear positive	1 058	(43.8%)

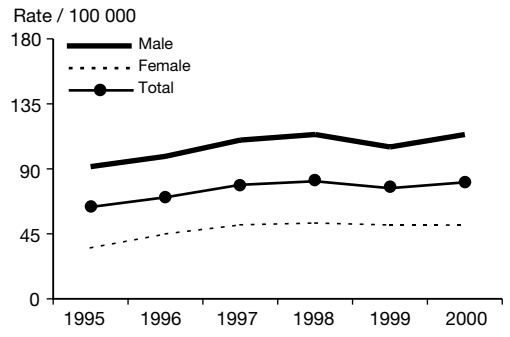
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	921 / 1 556	(59%)
Cases resistant to INH	277	(30.1%)
Cases resistant to RMP	166	(18.0%)
MDR cases	156	(16.9%)
Cases resistant to EMB	76	(8.3%)
Cases resistant to SM	246	(26.8%)

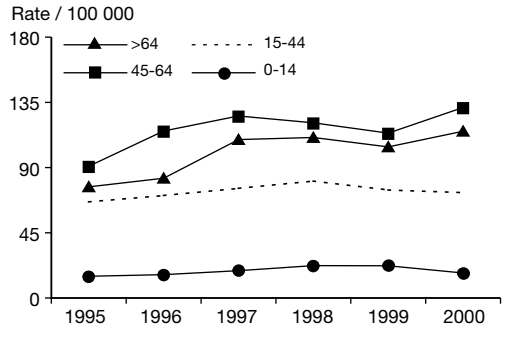
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	1 073	(100%)
Success	807	(75%)
Death	93	(9%)
Failure	29	(3%)
Default	127	(12%)
Transfer	3	(0%)
Other / unknown	14	(1%)

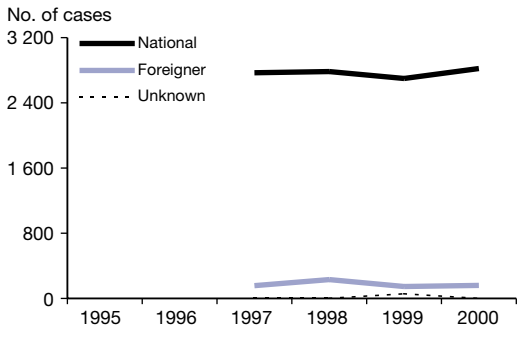
Tuberculosis notification rates by sex, 1995-2000



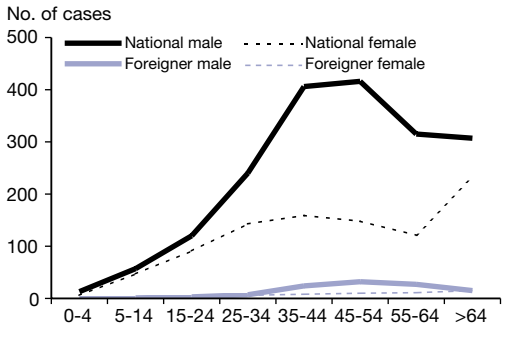
Tuberculosis notification rates by age group, 1995-2000



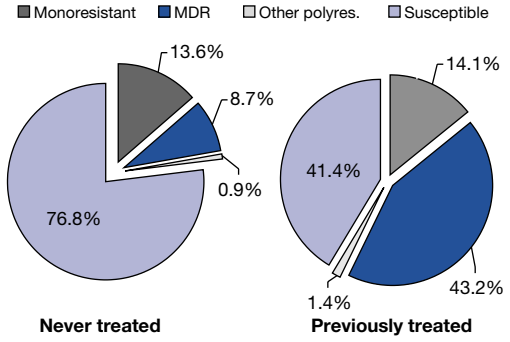
Tuberculosis cases by geographic origin, 1995-2000



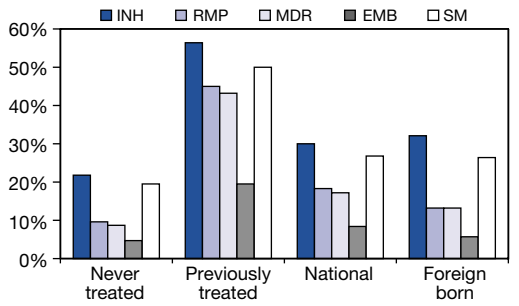
Tuberculosis cases by geographic origin and age group, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	44	
Notification rate per 100 000	10.1	
Sex ratio (M:F)	1.0	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad	21	(47.7%)
New (never treated)	40	(90.9%)
Culture positive	44	(100.0%)
Pulmonary	42	(95.5%)
of which sputum smear positive	24	(57.1%)

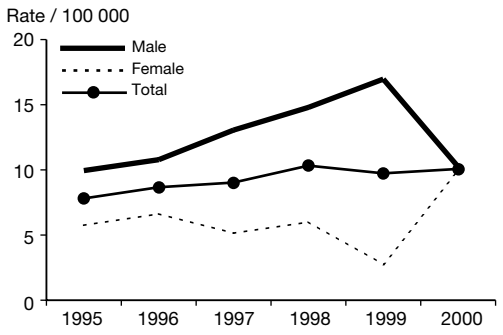
Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	44 / 44	(100%)
Cases resistant to INH	2	(4.5%)
Cases resistant to RMP	0	(0%)
MDR cases	0	(0%)
Cases resistant to EMB	0	(0%)
Cases resistant to SM	1	(2.3%)

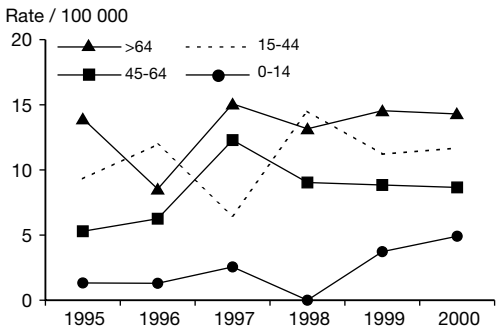
Treatment Outcome Monitoring, 1999

Not available

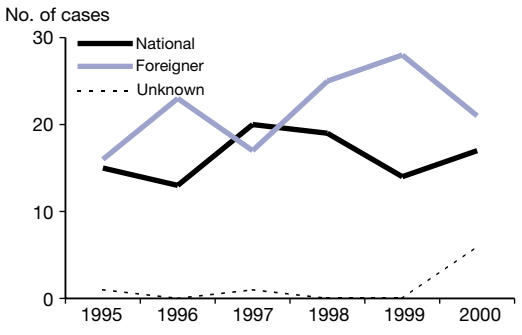
Tuberculosis notification rates by sex, 1995-2000



Tuberculosis notification rates by age group, 1995-2000



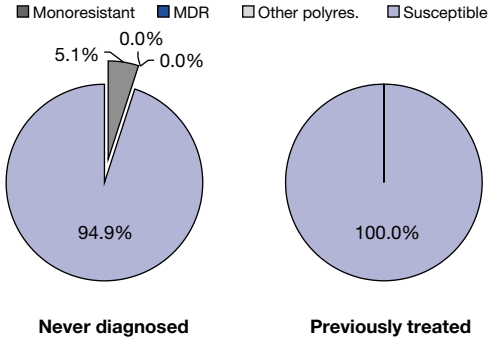
Tuberculosis cases by geographic origin, 1995-2000



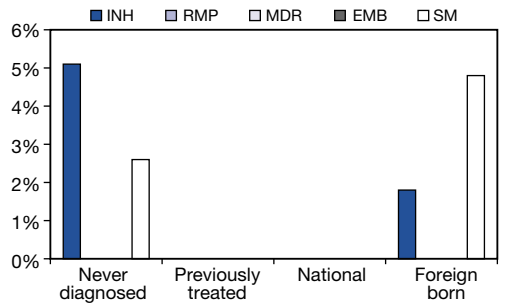
Tuberculosis cases by geographic origin, age group and sex, 2000

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



MACEDONIA, FYR

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	668	
Notification rate per 100 000	32.8	
Sex ratio (M:F)	1.5	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	625	(93.6%)
Culture positive	–	–
Respiratory	516	(77.2%)
of which sputum smear positive	183	(35.5%)

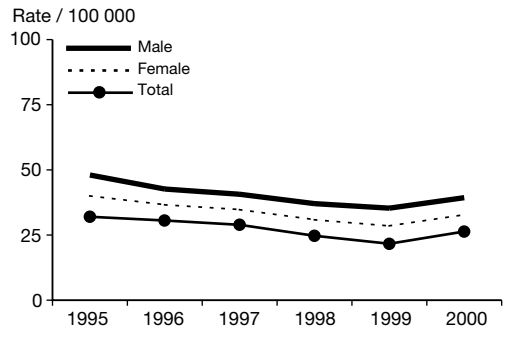
Drug Resistance Surveillance, 2000

Not available

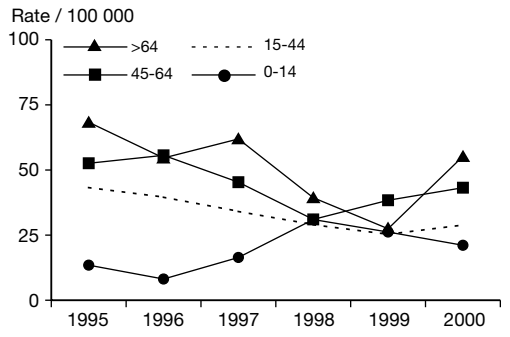
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	122	
Success	90	(74%)
Death	3	(2%)
Failure	2	(2%)
Default	11	(9%)
Transfer	2	(2%)
Other / unknown	14	(11%)

Tuberculosis notification rates by sex, 1995-2000



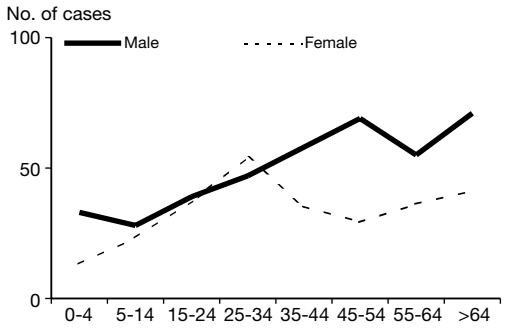
Tuberculosis notification rates by age group, 1995-2000



Tuberculosis cases by geographic origin, 1995-2000

Not available

Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	18	
Notification rate per 100 000	4.6	
Sex ratio (M:F)	5.0	
Median age-group, nationals	> 64 years	
Median age-group, non-nationals	15-24 years	
Foreign citizens	5	(27.8%)
New (never treated)	15	(83.3%)
Culture positive	10	(55.6%)
Pulmonary	15	(83.3%)
of which sputum smear positive	5	(33.3%)

Drug Resistance Surveillance, 2000

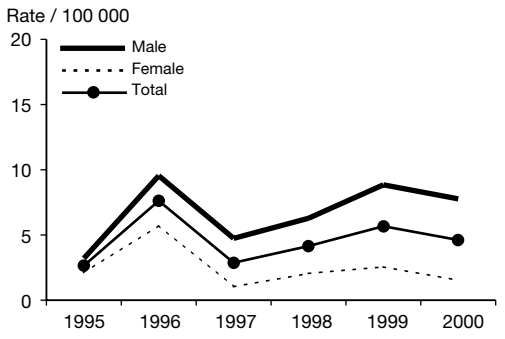
International proficiency testing	yes §	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	10 / 10	(100%)
Cases resistant to INH	0	(0%)
Cases resistant to RMP	0	(0%)
MDR cases	0	(0%)
Cases resistant to EMB	0	(0%)
Cases resistant to SM	0	(0%)

§ DST done in the UK

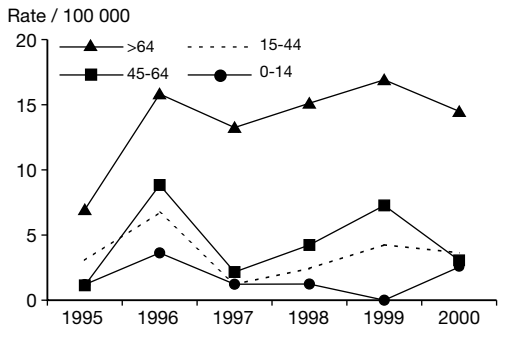
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	10	
Success	8	(80%)
Death	2	(20%)
Failure	0	(0%)
Default	0	(0%)
Transfer	0	(0%)
Other / unknown	0	(0%)

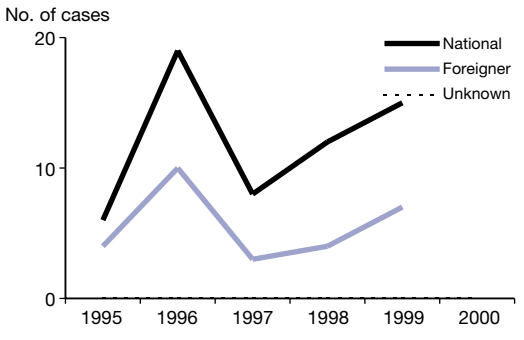
Tuberculosis notification rates by sex, 1995-2000



Tuberculosis notification rates by age group, 1995-2000



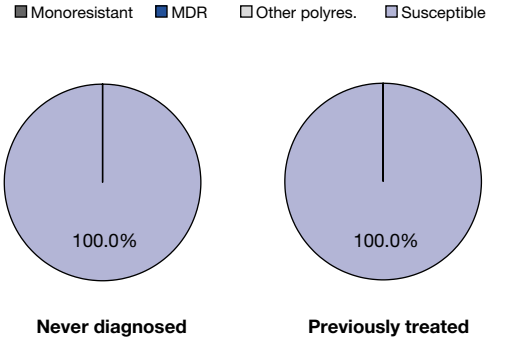
Tuberculosis cases by geographic origin, 1995-2000



Tuberculosis cases by geographic origin, age group and sex, 2000

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000

No resistance reported

MOLDOVA, REPUBLIC OF

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	2 935	
Notification rate per 100 000	68.3	
Sex ratio (M:F)	2.6	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	–	
Individuals born abroad	–	–
New (never treated)	2 561	(87.3%)
Culture positive	989	(33.7%)
Respiratory	2 813	(95.8%)
of which sputum smear positive	1 025	(36.4%)

Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	Some areas	
Linkage with notification	Yes	
Cases with DST results	989 / 989	(100%)
Cases resistant to INH	251	(25.4%)
Cases resistant to RMP	253	(25.6%)
MDR cases	155	(15.7%)
Cases resistant to EMB	87	(8.8%)
Cases resistant to SM	359	(36.3%)

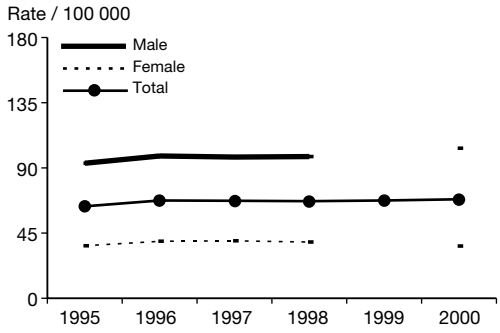
Culture not routinely performed

Treatment Outcome Monitoring, 1999

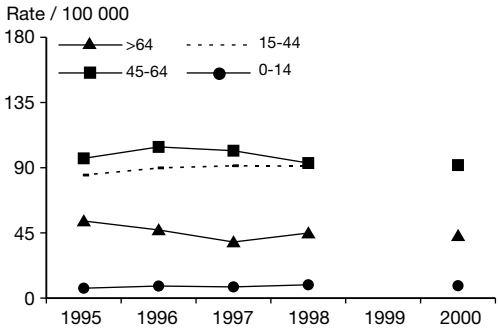
Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	764	
Cure	457	(60%)
Death	–	
Failure	–	
Default	–	
Transfer	–	
Other / unknown	307	(40%)

Note: Only 2 outcome categories: cure and other

Tuberculosis notification rates by sex, 1995-2000



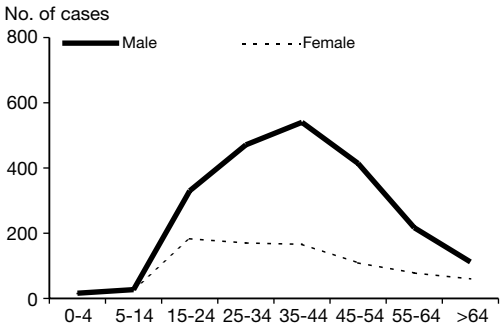
Tuberculosis notification rates by age group, 1995-2000



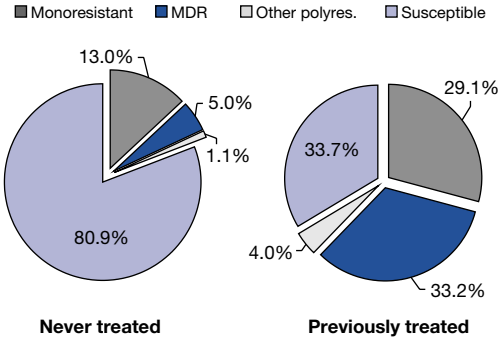
Tuberculosis cases by geographic origin, 1995-2000

Foreigners not included in TB notifications

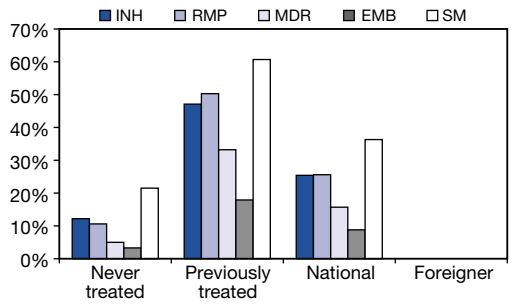
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

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	0	–
New (never treated)	0	–
Culture positive	0	–
Pulmonary	0	–
of which sputum smear positive	0	–

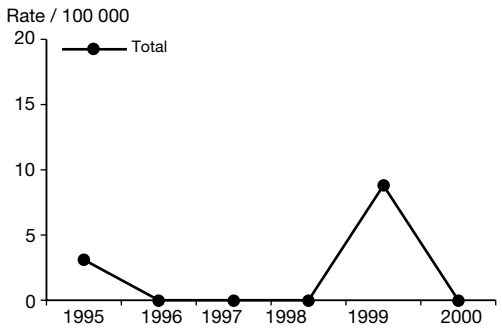
Drug Resistance Surveillance, 2000

zero cases in 2000

Treatment Outcome Monitoring, 1999

not available

Tuberculosis notification rates, 1995-2000



Tuberculosis notification rates by age group, 1995-2000

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, 1995-2000

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2000

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2000

zero cases in 2000

Resistance by treatment status and geographic origin, 2000

zero cases in 2000

THE NETHERLANDS

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	1 404	
Notification rate per 100 000	8.9	
Sex ratio (M:F)	1.5	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	25-34 years	
Foreign citizens	879	(62.6%)
New (never treated)	1 294	(88.6%)
Culture positive	863	(60.0%)
Pulmonary	927	(66.0%)
of which sputum smear positive	324	(35.0%)

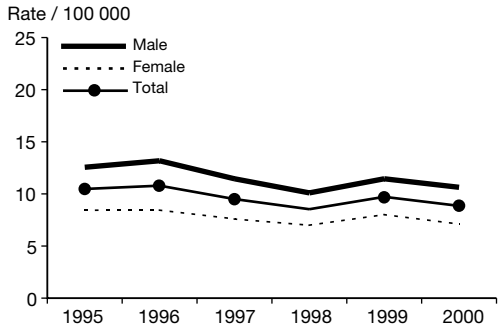
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	863 / 863	(100%)
Cases resistant to INH	51	(5.9%)
Cases resistant to RMP	8	(0.9%)
MDR cases	8	(0.9%)
Cases resistant to EMB	7	(0.8%)
Cases resistant to SM	57	(6.6%)

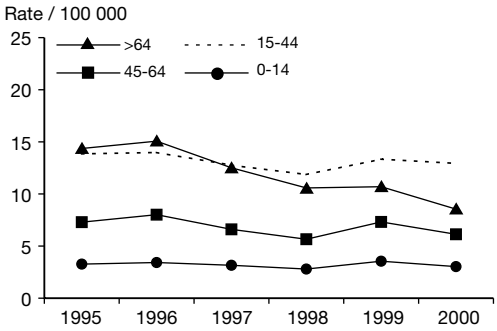
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	627	
Success	541	(86%)
Death	38	(6%)
Failure	0	(0%)
Default	29	(5%)
Transfer	19	(3%)
Other / unknown	0	(0%)

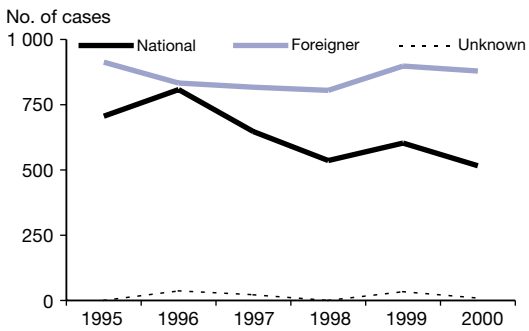
Tuberculosis notification rates by sex, 1995-2000



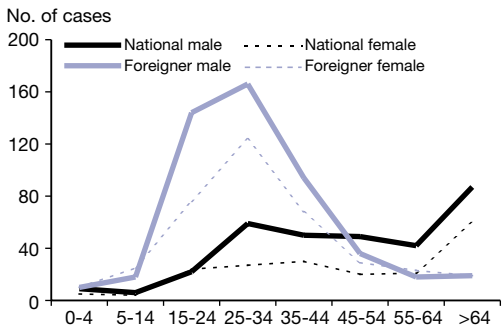
Tuberculosis notification rates by age group, 1995-2000



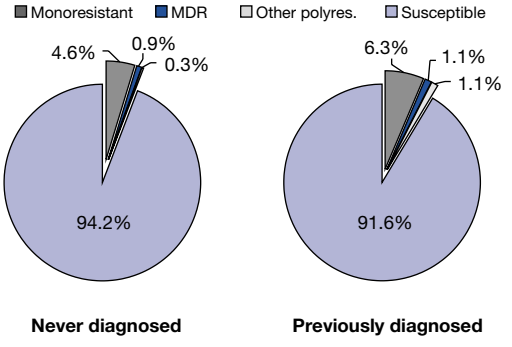
Tuberculosis cases by geographic origin, 1995-2000



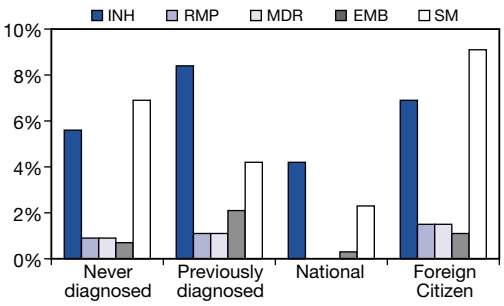
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	238	
Notification rate per 100 000	5.3	
Sex ratio (M:F)	1.2	
Median age-group, nationals	> 64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	168	(70.6%)
New (never treated)	219	(92.0%)
Culture positive	170	(71.4%)
Pulmonary	150	(63.0%)
among which sputum smear positive	40	(26.7%)

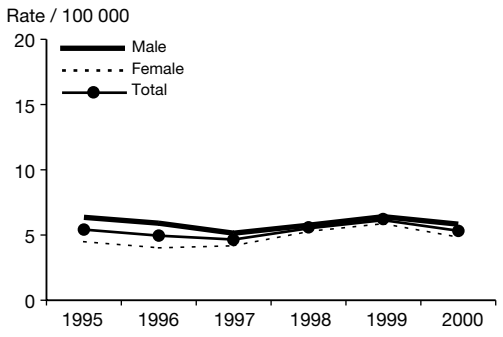
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	170 / 170	(100%)
Cases resistant to INH	21	(12.4%)
Cases resistant to RMP	4	(2.4%)
MDR cases	3	(1.8%)
Cases resistant to EMB	11	(6.5%)
Cases resistant to SM	19	(11.2%)

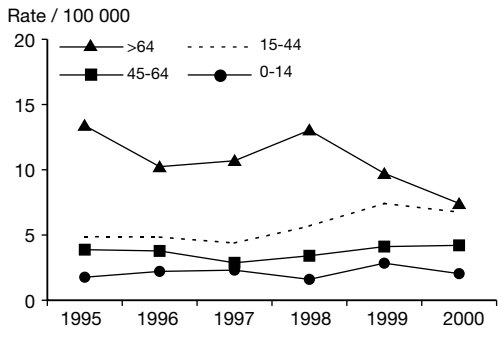
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	101	
Success	78	(77%)
Death	11	(11%)
Failure	1	(1%)
Default	7	(7%)
Transfer	4	(4%)
Other / unknown	0	(0%)

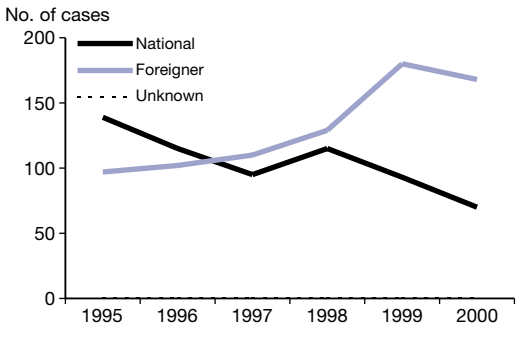
Tuberculosis notification rates by sex, 1995-2000



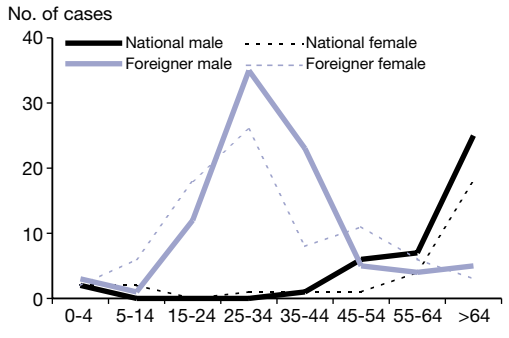
Tuberculosis notification rates by age group, 1995-2000



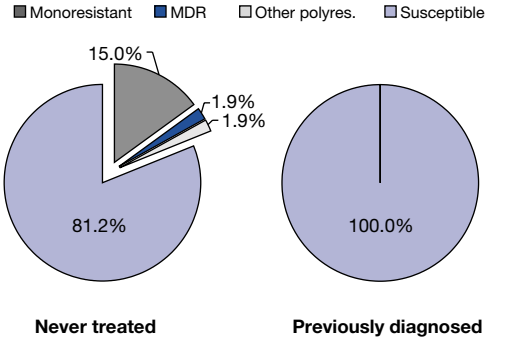
Tuberculosis cases by geographic origin, 1995-2000



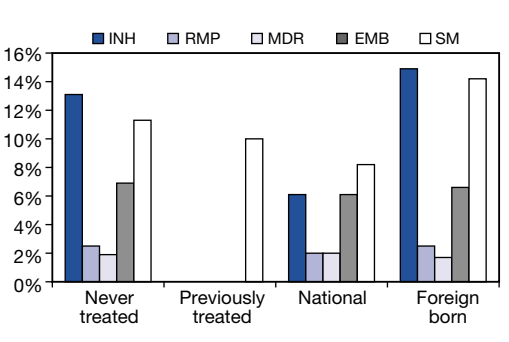
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



POLAND

Tuberculosis case notifications, 2000

Type of data provided	Individual *	
Total number of cases	11 477	
Notification rate per 100 000	29.7	
Sex ratio (M:F)	2.0	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	10 049	(87.6%)
Culture positive	6 377	(55.6%)
Respiratory	11 327	(98.7%)
of which sputum smear positive	3 770	(33.3%)

Drug Resistance Surveillance, 2000

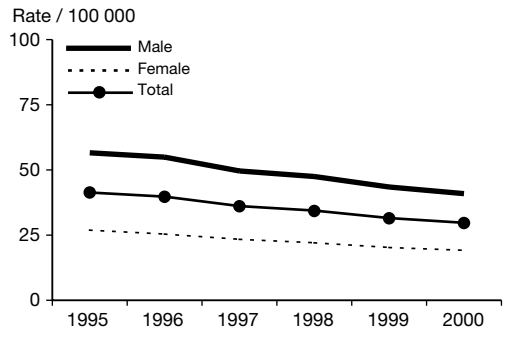
Not available

Treatment Outcome Monitoring, 1999

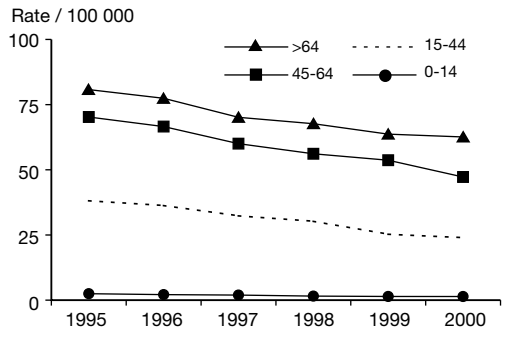
Geographic coverage	2 DOTS regions §	
Cohort	new sputum smear positive	
Included in TOM cohort	173	
Success	120	(69%)
Death	18	(10%)
Failure	12	(7%)
Default	2	(1%)
Transfer	2	(1%)
Other / unknown	19	(11%)

§ representing 4% of smear positive cases notified

Tuberculosis notification rates by sex, 1995-2000



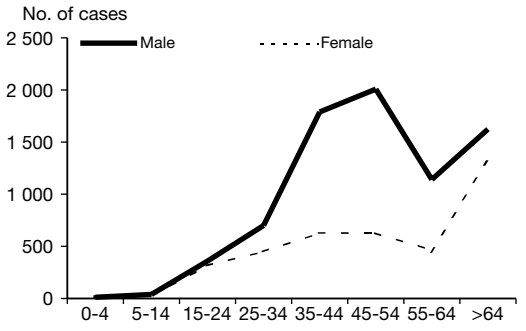
Tuberculosis notification rates by age group, 1995-2000



Tuberculosis cases by geographic origin, 1995-2000

Not available

Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

PORTUGAL

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	4 494	
Notification rate per 100 000	44.9	
Sex ratio (M:F)	2.2	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	434	(9.7%)
New (never treated)	4 033	(89.7%)
Culture positive	2 281	(50.8%)
Pulmonary	3 247	(72.3%)
of which sputum smear positive	2 106	(64.9%)

Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	1 006 / 2 281	(44%)
Cases resistant to INH	88	(8.8%)
Cases resistant to RMP	35	(3.5%)
MDR cases	30	(3.0%)
Cases resistant to EMB	16	(1.6%)
Cases resistant to SM	–	–

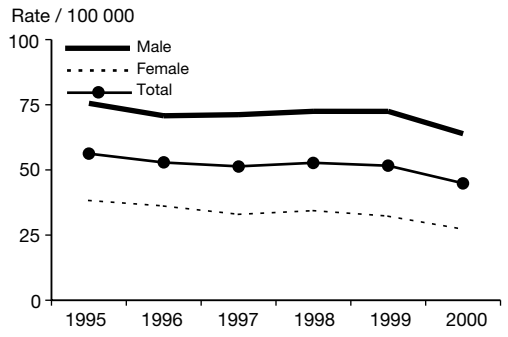
DST not routinely performed

Treatment Outcome Monitoring, 1999

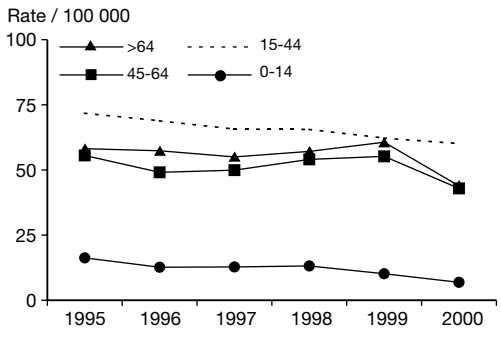
Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	890	
Success	769	(86%)
Death	62	(7%)
Failure	0	(0%)
Default	35	(4%)
Transfer	20	(2%)
Other / unknown	4	(0%)

 # Cases notified during the first semester 1999

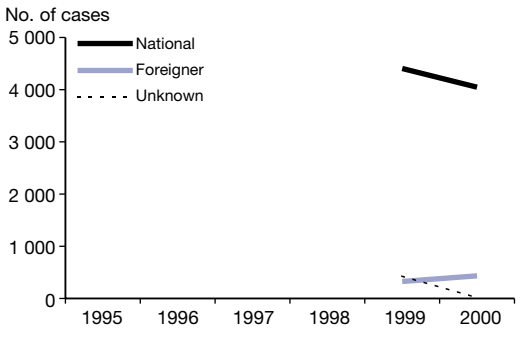
Tuberculosis notification rates by sex, 1995-2000



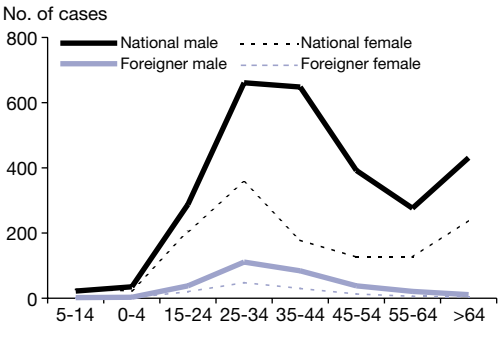
Tuberculosis notification rates by age group, 1995-2000



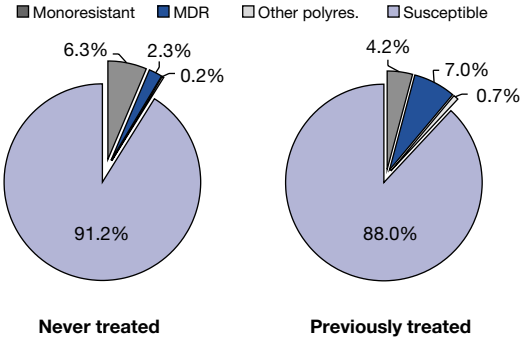
Tuberculosis cases by geographic origin, 1995-2000



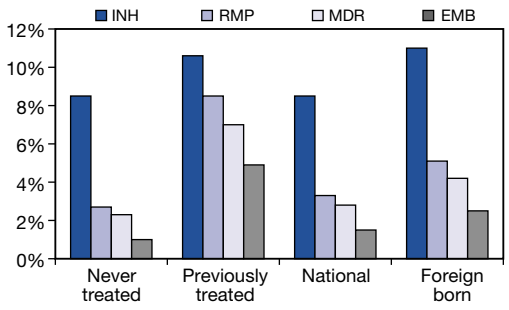
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



ROMANIA

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	27 720	
Notification rate per 100 000	123.5	
Sex ratio (M:F)	2.2	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	–	
Foreign citizens	0	(0.0%)
New (never treated)	23 864	(86.1%)
Culture positive	12 009	(43.3%)
Pulmonary	23 434	(84.5%)
of which sputum smear positive	12 322	(52.6%)

Drug Resistance Surveillance, 2000

International proficiency testing	No	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	2 728 / 12 009	(28%)
Cases resistant to INH	352	(12.9%)
Cases resistant to RMP	246	(9.0%)
MDR cases	166	(6.1%)
Cases resistant to EMB	7	(0.3%)
Cases resistant to SM	61	(2.2%)

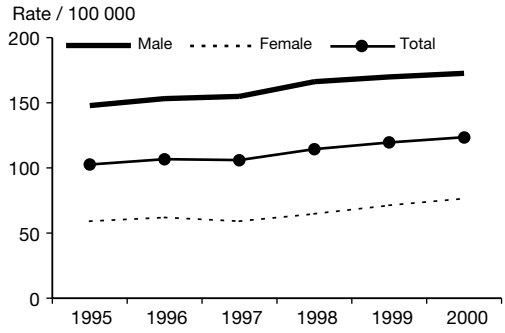
Culture and DST not routinely performed

Treatment Outcome Monitoring, 1999

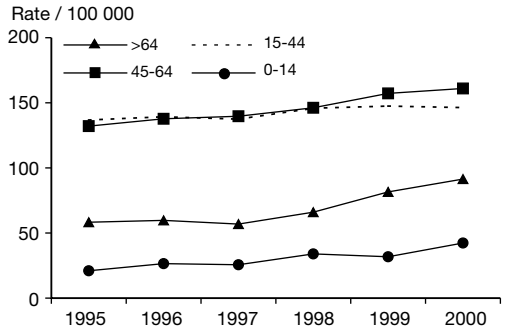
Geographic coverage	some areas §	
Cohort	new pulmonary smear positive	
Included in TOM cohort	1 373	
Success	1 052	(77%)
Death	78	(6%)
Failure	121	(9%)
Default	76	(6%)
Transfer	39	(3%)
Other / unknown	7	(1%)

§ mainly DOTS areas; 11% of smear positive cases

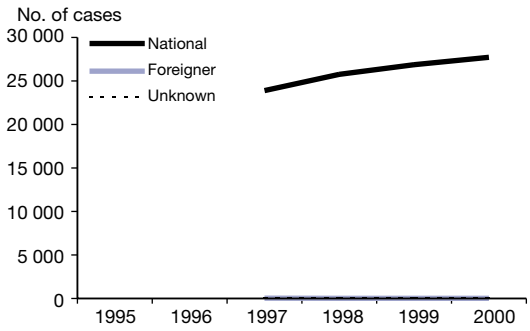
Tuberculosis notification rates by sex, 1995-2000



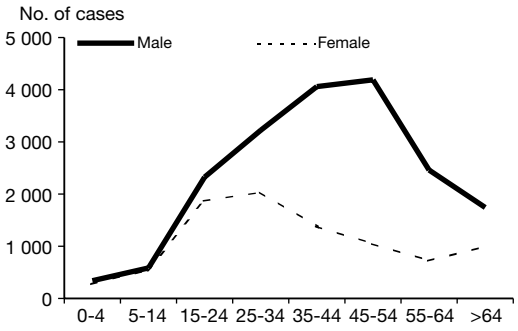
Tuberculosis notification rates by age group, 1995-2000



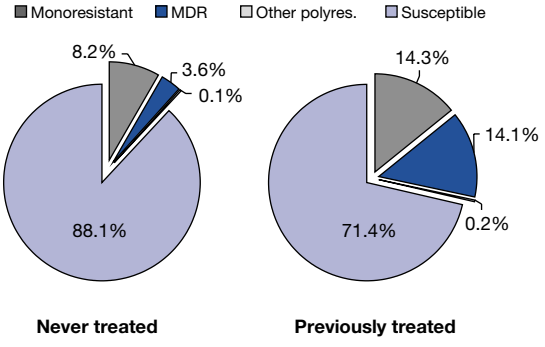
Tuberculosis cases by geographic origin, 1995-2000



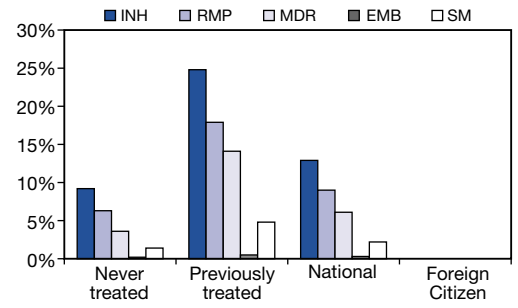
Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



RUSSIAN FEDERATION

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	143 801	
Notification rate per 100 000	98.8	
Sex ratio (M:F)*	3.1	
Median age-group, nationals*	35-44 years	
Median age-group, non-nationals	–	
Foreign citizens*	342	(0.2%)
New (never treated)	132 071	(91.8%)
Culture positive	–	–
Respiratory	138 600	(96.4%)
of which sputum smear positive	31 649	(22.8%)

Drug Resistance Surveillance, 1999

International proficiency testing	yes (2001)	
Geographic coverage	national	
Linkage with 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	–	–

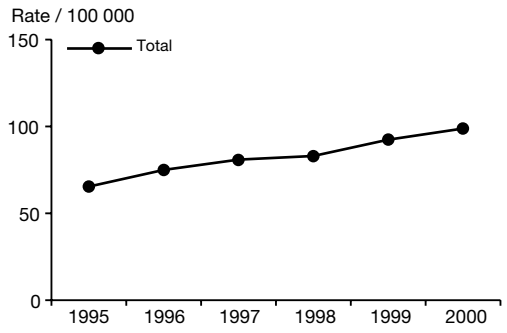
§ new respiratory cases notified to MoH; prisoners not included

Treatment Outcome Monitoring, 1999

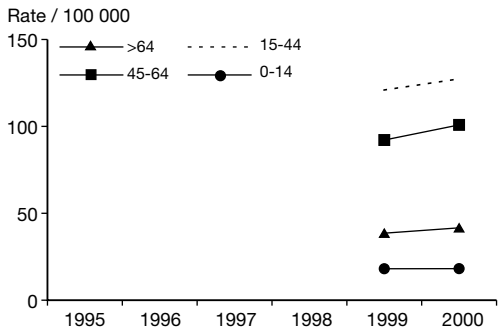
Geographic coverage	National	
Cohort	new pulmonary culture positive §	
Included in TOM cohort	36 166	–
Success	25 100	(69%)
Death	5 158	(14%)
Failure	5 209	(14%)
Default	0	(0%)
Transfer	457	(1%)
Other / unknown	242	(1%)

§ Cases notified to MoH (not including prisoners)

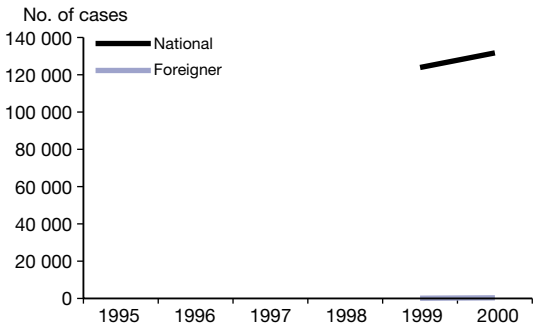
Tuberculosis notification rates, 1995-2000



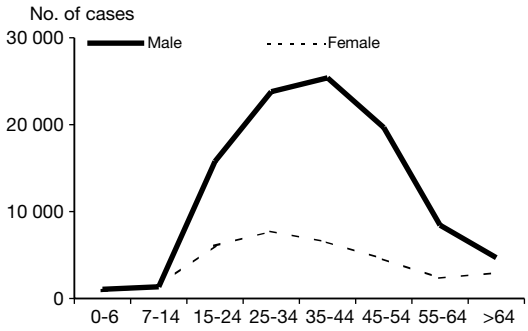
Tuberculosis notification rates by age group, 1995-2000*



Tuberculosis cases by geographic origin, 1995-2000*



Tuberculosis cases by age group and sex, 2000*



Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

* New cases only

SAN MARINO

Tuberculosis case notifications, 2000

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

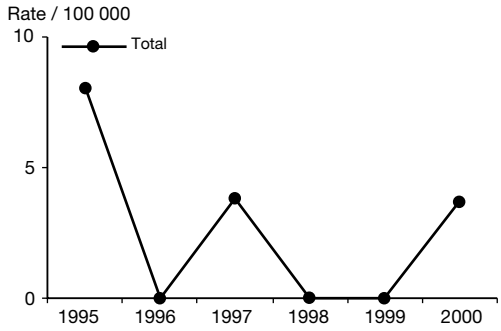
Drug Resistance Surveillance, 2000

Not available

Treatment Outcome Monitoring, 1999

zero cases in 1999

Tuberculosis notification rates, 1995-2000



Tuberculosis notification rates by age group, 1995-2000

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin (citizenship), 1995-2000

Insufficient number of cases for graphic presentation

Tuberculosis cases by geographic origin, age group and sex, 2000

Insufficient number of cases for graphic presentation

Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	1 111	
Notification rate per 100 000	20.6	
Sex ratio (M:F)	1.6	
Median age-group, nationals	55-64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	8	(0.7%)
New (never treated)	925	(83.3%)
Culture positive	596	(53.6%)
Pulmonary	904	(81.4%)
of which sputum smear positive	284	(31.4%)

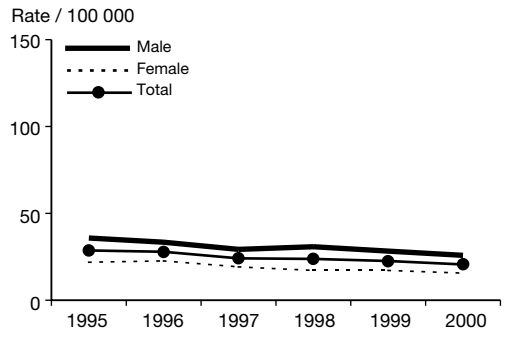
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	575 / 596	(96%)
Cases resistant to INH	27	(4.7%)
Cases resistant to RMP	9	(1.6%)
MDR cases	7	(1.2%)
Cases resistant to EMB	2	(0.3%)
Cases resistant to SM	12	(2.1%)

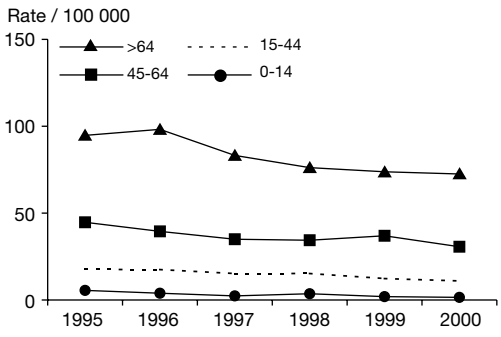
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	430	
Success	353	(82%)
Death	60	(14%)
Failure	5	(1%)
Default	7	(2%)
Transfer	0	(0%)
Other / unknown	5	(1%)

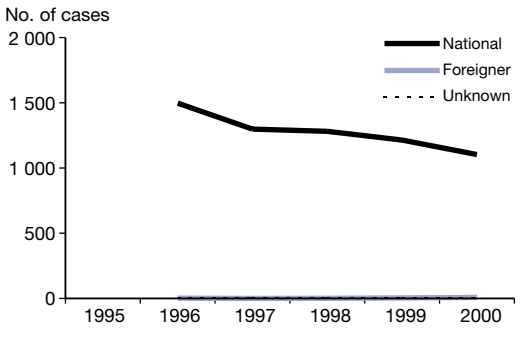
Tuberculosis notification rates by sex, 1995-2000



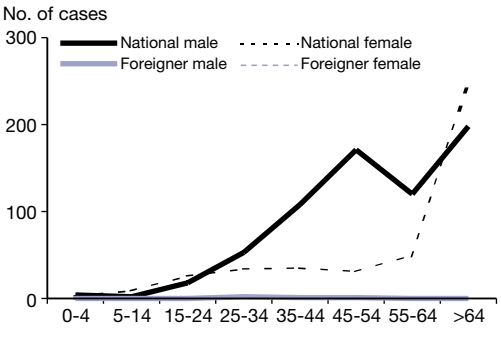
Tuberculosis notification rates by age group, 1995-2000



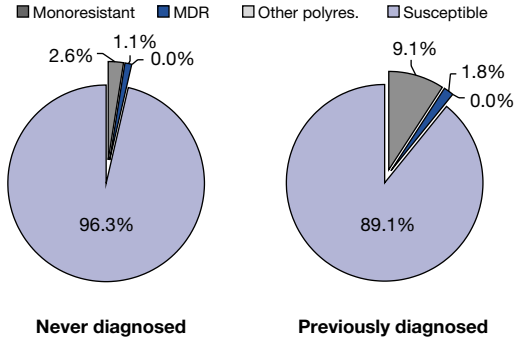
Tuberculosis cases by geographic origin, 1995-2000



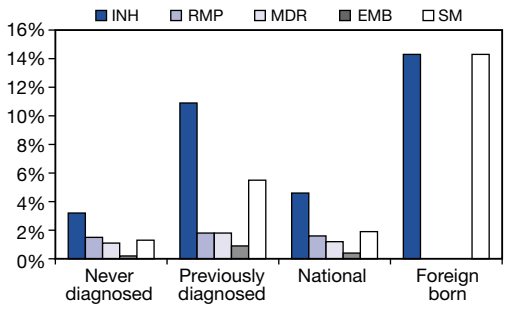
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



SLOVENIA

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	380	
Notification rate per 100 000	19.1	
Sex ratio (M:F)	1.5	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad	94	(24.7%)
New (never treated)	336	(88.4%)
Culture positive	324	(85.3%)
Pulmonary	319	(83.9%)
of which sputum smear positive	169	(53.0%)

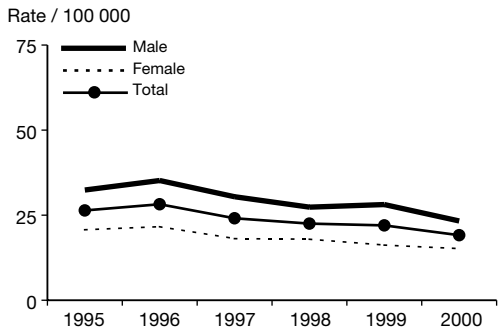
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	320 / 324	(99%)
Cases resistant to INH	9	(2.8%)
Cases resistant to RMP	0	(0.0%)
MDR cases	0	(0.0%)
Cases resistant to EMB	1	(0.3%)
Cases resistant to SM	5	(1.6%)

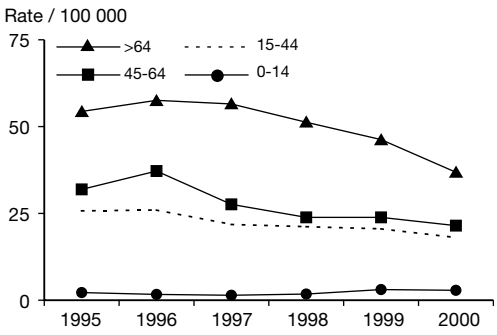
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new pulmonary culture positive	
Included in TOM cohort	277	
Success	231	(83%)
Death	32	(12%)
Failure	0	(0%)
Defaulter	12	(4%)
Transfers out	2	(1%)
Other / unknown	0	(0%)

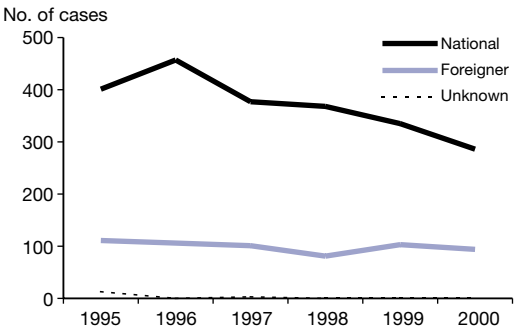
Tuberculosis notification rates by sex, 1995-2000



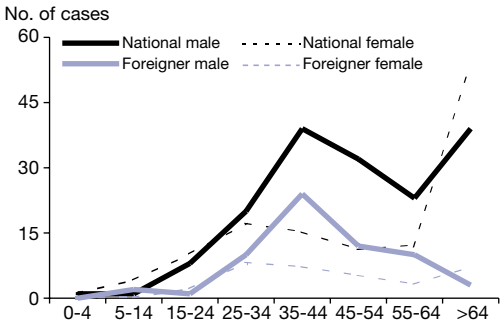
Tuberculosis notification rates by age group, 1995-2000



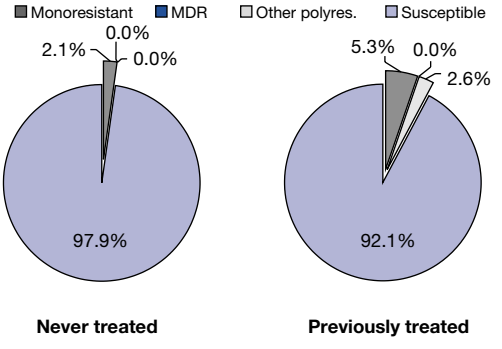
Tuberculosis cases by geographic origin, 1995-2000



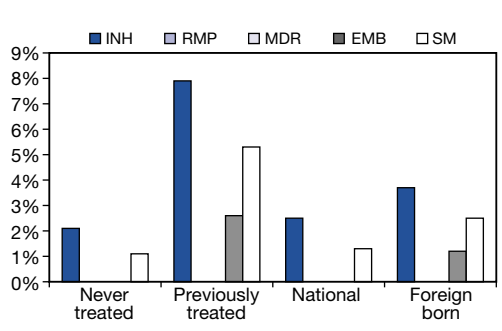
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications *, 2000

Type of data provided	Aggregate	
Total number of cases	8 395	
Notification rate per 100 000	21.0	
Sex ratio (M:F)	2.1	
Median age-group, nationals	35-44 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad **	451	(5.4%)
New (never treated)	6 155	(73.3%)
Culture positive	3 436	(40.9%)
Respiratory	8 270	(98.5%)
of which sputum smear positive	3 646	(44.1%)

*** respiratory and meningeal cases only**

**** 50% of cases with missing information**

Drug Resistance Surveillance, 2000

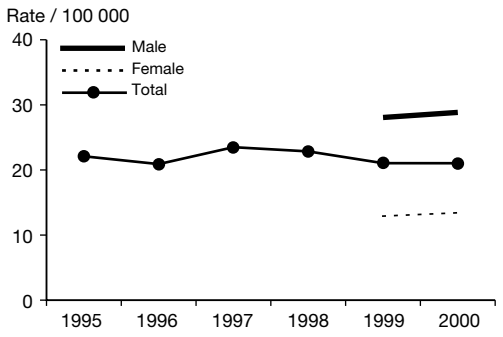
International proficiency testing	No	
Geographic coverage	National	
Linkage with notification	No §	
Cases with DST results	364	–
Cases resistant to INH	18	(4.9%)
Cases resistant to RMP	0	(0%)
MDR cases	0	(0%)
Cases resistant to EMB	0	(0%)
Cases resistant to SM	3	(0.8%)

§ New TB cases referred to NRL

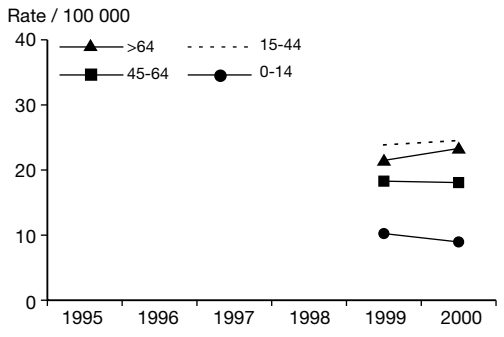
Treatment Outcome Monitoring, 1999

Not available

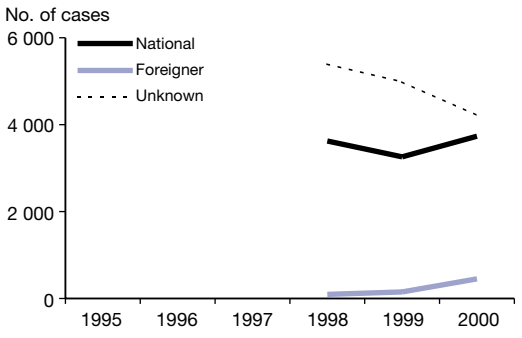
Tuberculosis notification rates, 1995-2000*



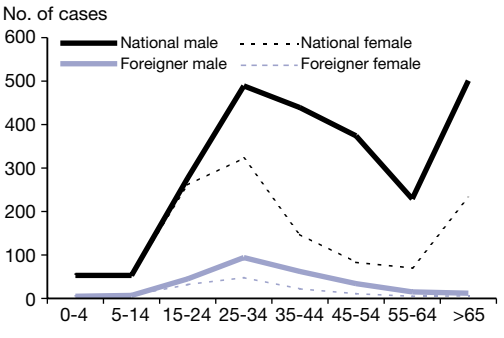
Tuberculosis notification rates by age group, 1995-2000*



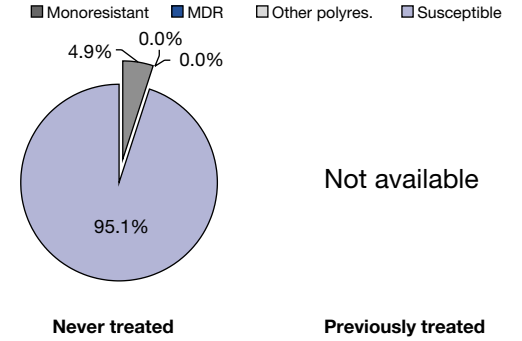
Tuberculosis cases by geographic origin, 1995-2000*



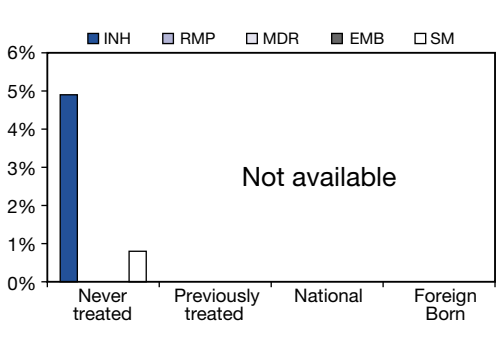
Tuberculosis cases by geographic origin, age group and sex, 2000*



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



* TB case definition changed in 1997

SWEDEN

Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	458	
Notification rate per 100 000	5.2	
Sex ratio (M:F)	1.0	
Median age-group, nationals	> 64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	305	(66.6%)
New (never treated)	403	(88.0%)
Culture positive	371	(81.0%)
Pulmonary	304	(66.4%)
of which sputum smear positive	128	(42.1%)

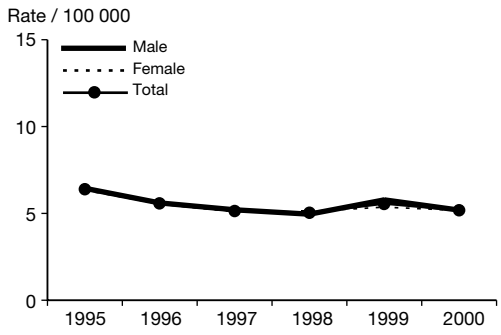
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	365 / 371	(98%)
Cases resistant to INH	37	(10.1%)
Cases resistant to RMP	5	(1.4%)
MDR cases	5	(1.4%)
Cases resistant to EMB	2	(0.5%)
Cases resistant to SM	–	–

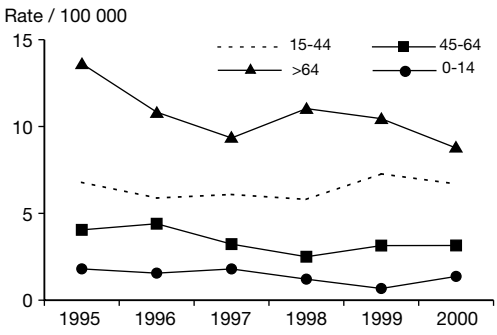
Treatment Outcome Monitoring, 1999

Not available

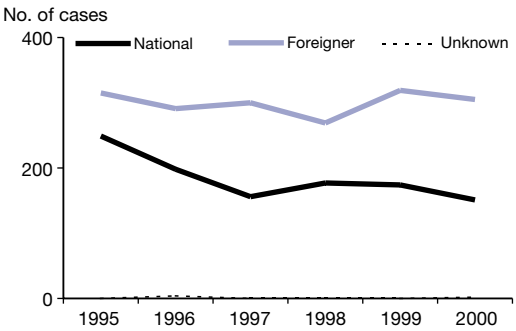
Tuberculosis notification rates by sex, 1995-2000



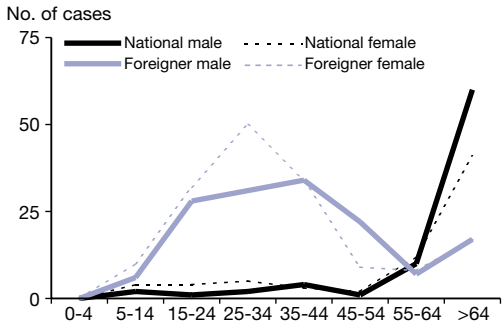
Tuberculosis notification rates by age group, 1995-2000



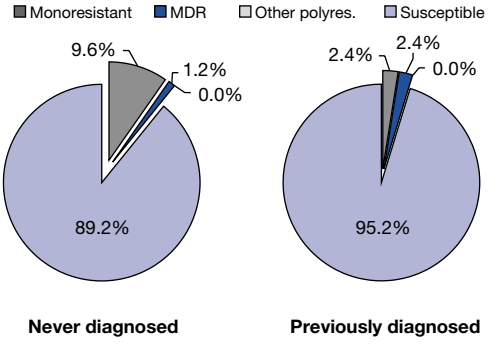
Tuberculosis cases by geographic origin, 1995-2000



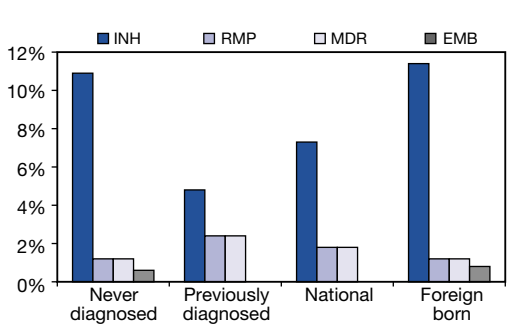
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



Tuberculosis case notifications, 2000

Type of data provided	Individual	
Total number of cases	629	
Notification rate per 100 000	8.8	
Sex ratio (M:F)	1.3	
Median age-group, nationals	> 64 years	
Median age-group, non-nationals	25-34 years	
Individuals born abroad	341	(54.2%)
New (never treated)	425	(67.6%)
Culture positive	494	(78.5%)
Pulmonary	477	(75.8%)
of which sputum smear positive	134	(28.1%)

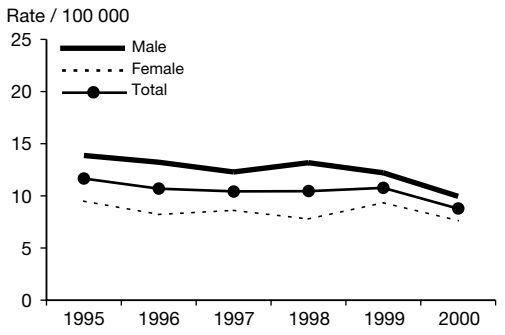
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	492 / 494	(100%)
Cases resistant to INH	24	(4.9%)
Cases resistant to RMP	3	(0.6%)
MDR cases	2	(0.4%)
Cases resistant to EMB	0	(0.0%)
Cases resistant to SM	–	–

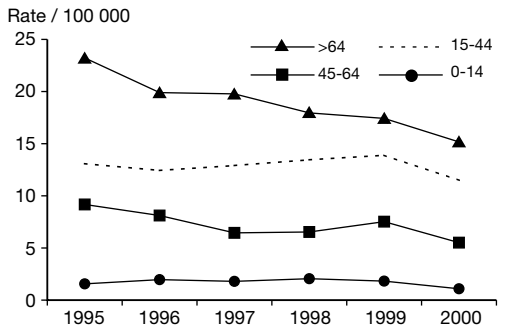
Treatment Outcome Monitoring, 1999

Not available

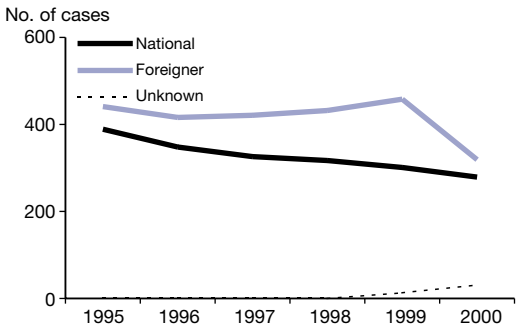
Tuberculosis notification rates by sex, 1995-2000



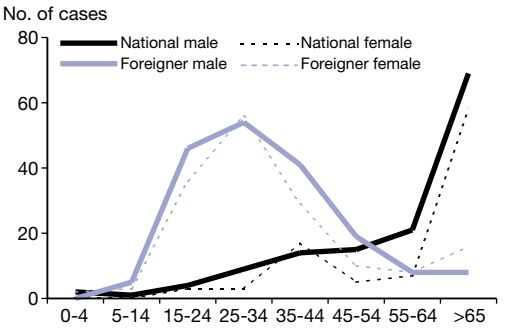
Tuberculosis notification rates by age group, 1995-2000



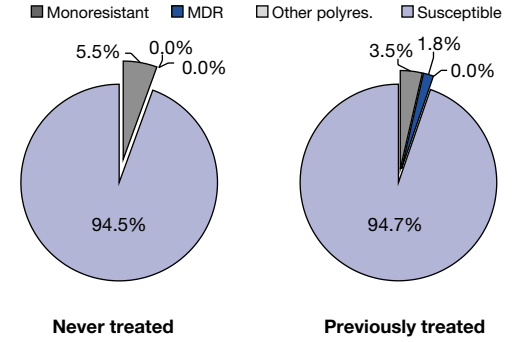
Tuberculosis cases by geographic origin, 1995-2000 (by citizenship)



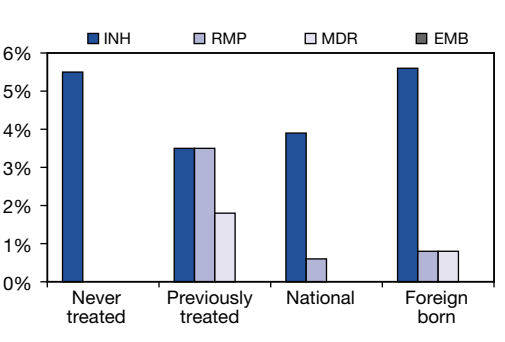
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



TAJIKISTAN

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	2 779	
Notification rate per 100 000	45.7	
Sex ratio (M:F)	1.1	
Median age-group, nationals	–	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	–	–
Culture positive	–	–
Respiratory	2 352	(84.6%)
of which sputum smear positive	434	(18.5%)

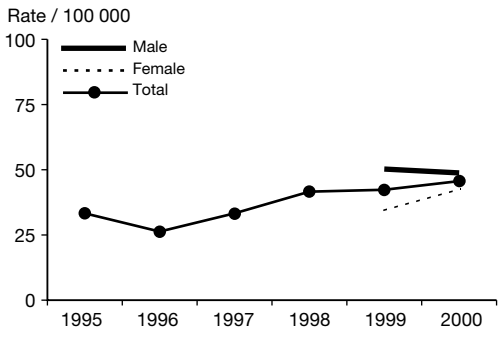
Drug Resistance Surveillance, 2000

Not available

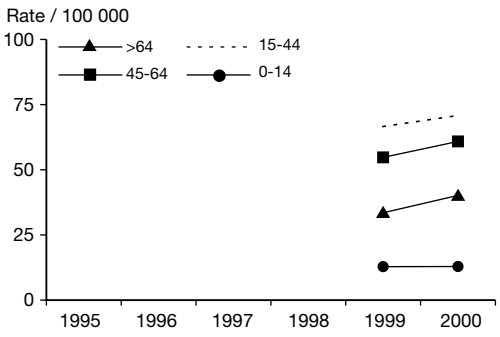
Treatment Outcome Monitoring, 1999

Not available

Tuberculosis notification rates by sex, 1995-2000



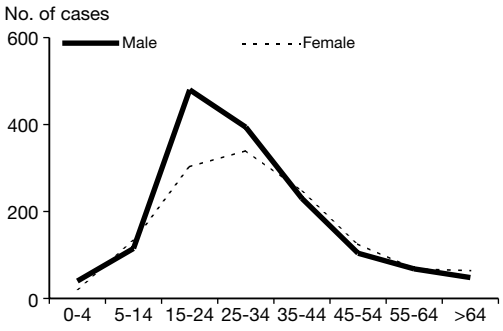
Tuberculosis notification rates by age group, 1995-2000



Tuberculosis cases by geographic origin, 1995-2000

Not available

Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status, 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	18 038	
Notification rate per 100 000	27.1	
Sex ratio (M:F)	–	
Median age-group, nationals	–	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	–	–
Culture positive	–	–
Respiratory*	13 667	(75.8%)
of which sputum smear positive	5 123	(37.5%)

*** 1999; not known to have changed in 2000**

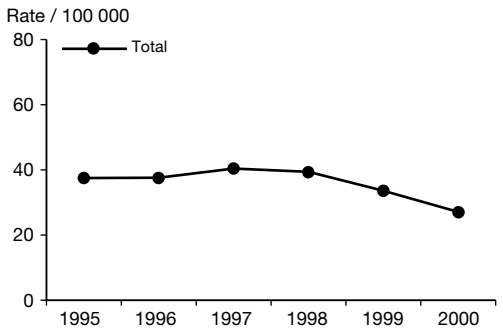
Drug Resistance Surveillance, 2000

Not available

Treatment Outcome Monitoring, 1999

Not available

Tuberculosis notification rates, 1995-2000



Tuberculosis notification rates by age group, 1995-2000

Not available

Tuberculosis cases by geographic origin, 1995-2000

Not available

Tuberculosis cases by geographic origin, age group and sex, 2000

Not available

Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

TURKMENISTAN

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	3 967	
Notification rate per 100 000	83.7	
Sex ratio (M:F)	1.5	
Median age-group, nationals	25-34 years	
Median age-group, non-nationals	–	
Individuals born abroad	–	–
New (never treated)	3 896	(98.2%)
Culture positive	1 975	(49.8%)
Respiratory	–	–
of which sputum smear positive	–	–

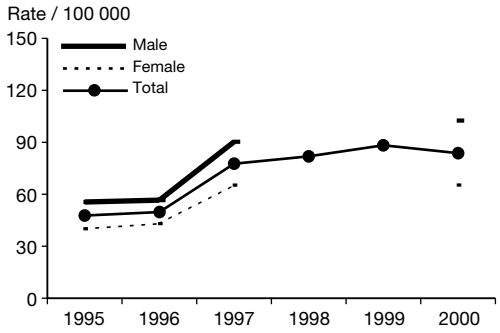
Drug Resistance Surveillance, 2000

Not available

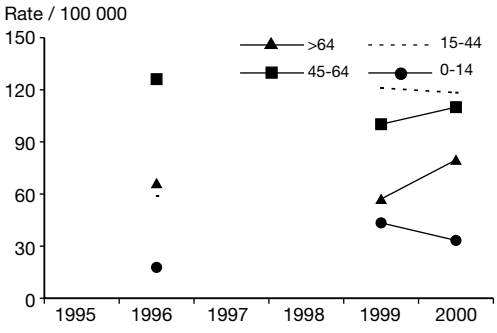
Treatment Outcome Monitoring, 1999

Geographic coverage	National	
Cohort	new sputum smear positive	
Included in TOM cohort	964	
Success	579	(60%)
Death	80	(8%)
Failure	207	(21%)
Default	0	(0%)
Transfer	98	(10%)
Other / unknown	0	(0%)

Tuberculosis notification rates by sex, 1995-2000



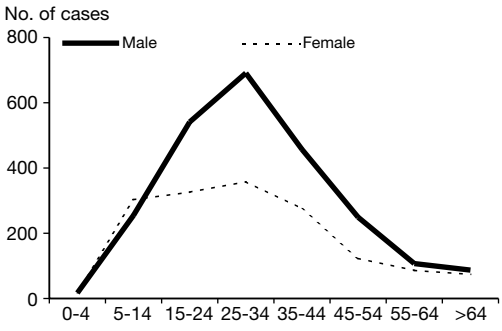
Tuberculosis notification rates by age group, 1995-2000



Tuberculosis cases by geographic origin, 1995-2000

Not available

Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	32 963	
Notification rate per 100 000	66.5	
Sex ratio (M:F)*	2.5	
Median age-group, nationals*	35-44 years	
Median age-group, non-nationals	–	
Individuals born abroad	–	–
New (never treated)	29 753	(90.3%)
Culture positive	–	–
Respiratory	31 206	(94.7%)
of which sputum smear positive	13 948	(44.7%)

*** New cases only**

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%)

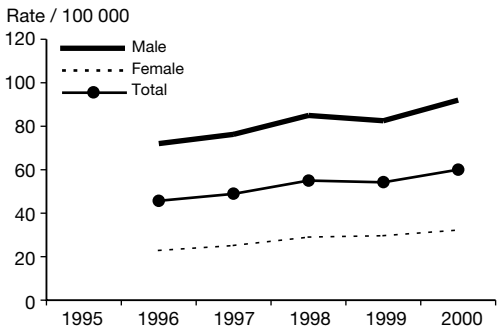
Culture and DST not routinely performed

§ Cases diagnosed at the NRL

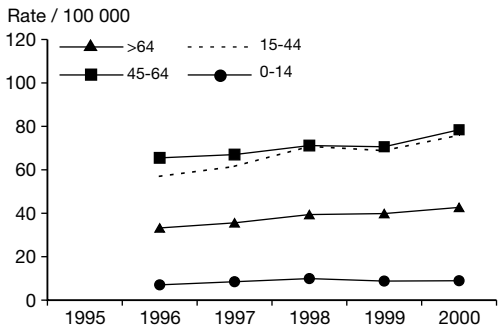
Treatment Outcome Monitoring, 1999

Not available

Tuberculosis notification rates by sex, 1995-2000*



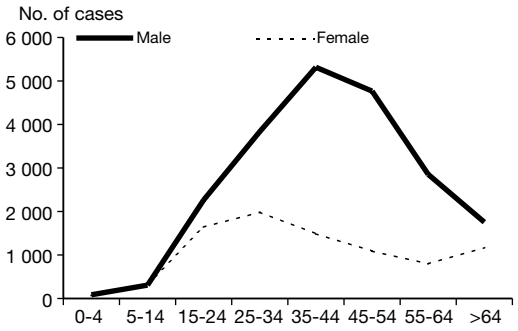
Tuberculosis notification rates by age group, 1995-2000*



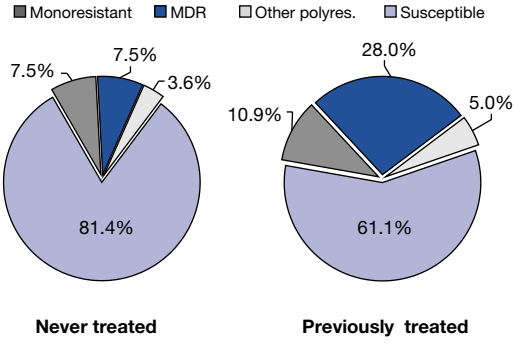
Tuberculosis cases by geographic origin, 1995-2000

Foreigners not included in TB notifications

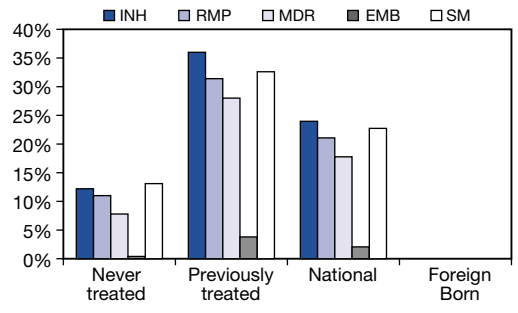
Tuberculosis cases by age group and sex, 2000*



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



Resistance by treatment status and geographic origin, 1999



* New cases only

UNITED KINGDOM

Tuberculosis case notifications, 2000

Type of data provided	Individual *	
Total number of cases	6 792	
Notification rate per 100 000	11.4	
Sex ratio (M:F)	1.2	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	35-44 years	
Individuals born abroad **	3 384	(49.8%)
New (never treated) *	4 923	(76.6%)
Culture positive	3 644	(54.6%)
Pulmonary *	3 691	(57.9%)
of which sputum smear positive *	1 406	(36.7%)

*** Excluding Scotland**

**** 15% missing data**

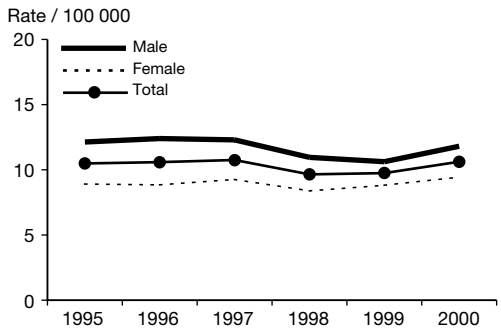
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	National	
Linkage with notification	Yes	
Cases with DST results	3 306 / 3 644	(91%)
Cases resistant to INH	203	(6.1%)
Cases resistant to RMP	48	(1.5%)
MDR cases	37	(1.1%)
Cases resistant to EMB	19	(0.6%)
Cases resistant to SM	–	–

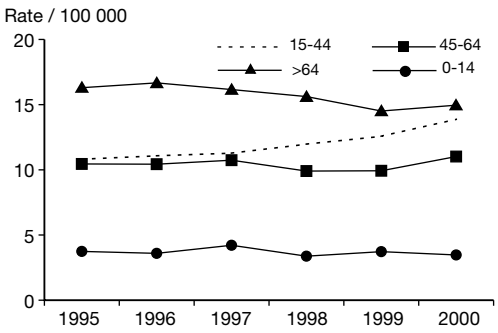
Treatment Outcome Monitoring, 1999

Not available

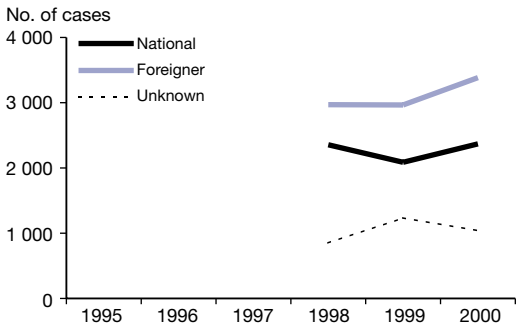
Tuberculosis notification rates by sex, 1995-2000



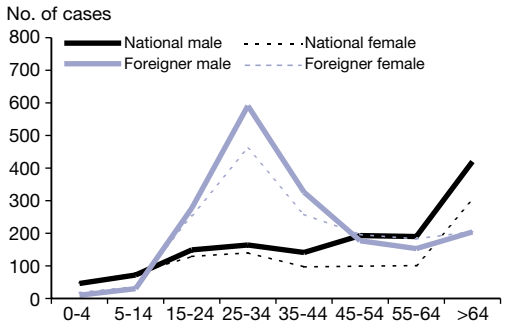
Tuberculosis notification rates by age group, 1995-2000



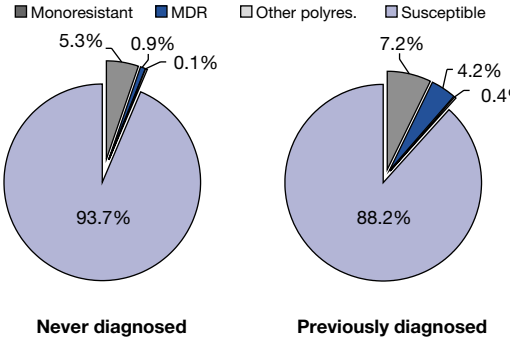
Tuberculosis cases by geographic origin, 1995-2000



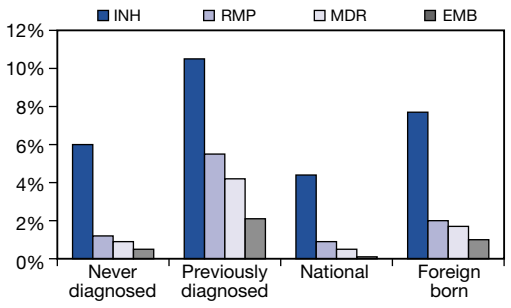
Tuberculosis cases by geographic origin, age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000*



Resistance by treatment status and geographic origin, 2000*



* Excluding Scotland

Tuberculosis case notifications, 2000

Type of data provided	Aggregate	
Total number of cases	15 912	
Notification rate per 100 000	64.0	
Sex ratio (M:F)	1.4	
Median age-group, nationals	25-34 years	
Median age-group, non-nationals	–	
Individuals born abroad	–	–
New (never treated)	–	–
Culture positive	–	–
Respiratory	–	–
of which sputum smear positive	–	–

Drug Resistance Surveillance, 2000

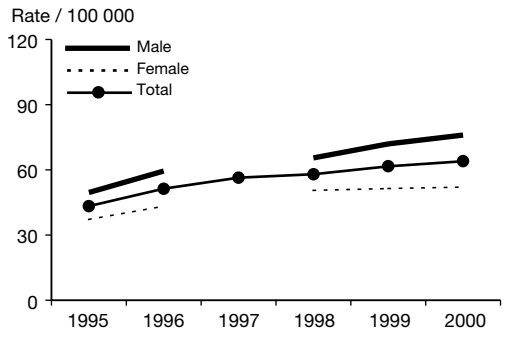
Not available

Treatment Outcome Monitoring, 1999

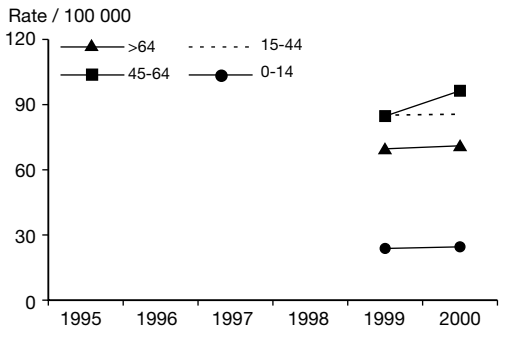
Geographic coverage	some areas §	
Cohort	new sputum smear positive	
Included in TOM cohort	135	
Success	106	(79%)
Death	9	(7%)
Failure	10	(7%)
Default	9	(7%)
Transfer	1	(1%)
Other / unknown	0	(0%)

§ DOTS areas, representing 8% of sputum smear positive cases

Tuberculosis notification rates by sex, 1995-2000



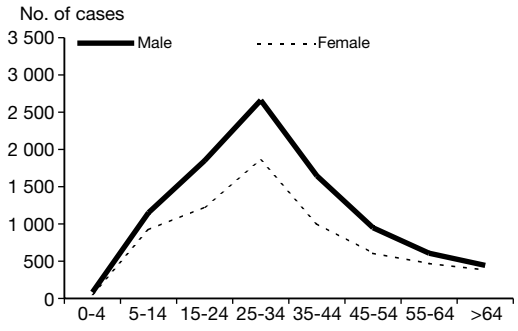
Tuberculosis notification rates by age group, 1995-2000



Tuberculosis cases by geographic origin, 1995-2000

Not available

Tuberculosis cases by age group and sex, 2000



Resistance profile by treatment status (INH, RMP and EMB), 2000

Not available

Resistance by treatment status and geographic origin, 2000

Not available

YUGOSLAVIA

Tuberculosis case notifications *, 2000

Type of data provided	Aggregate	
Total number of cases	2 922	
Notification rate per 100 000	34.7	
Sex ratio (M:F)	1.6	
Median age-group, nationals	45-54 years	
Median age-group, non-nationals	–	
Foreign born / citizens	–	–
New (never treated)	2 661	(91.1%)
Culture positive	1 765	(60.4%)
Respiratory	2 736	(93.6%)
of which sputum smear positive	–	–

*** Without Kosovo**

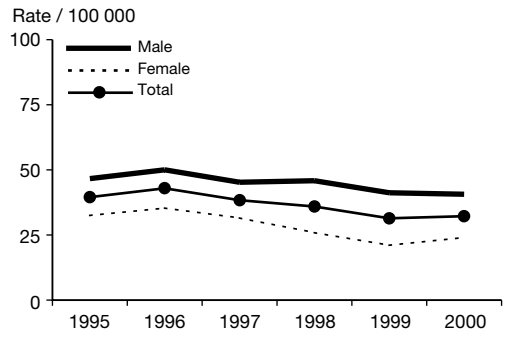
Drug Resistance Surveillance, 2000

International proficiency testing	Yes	
Geographic coverage	Belgrade region	
Linkage with notification	Yes	
Cases with DST results	279 / 279	(100%)
Cases resistant to INH	7	(2.5%)
Cases resistant to RMP	5	(1.8%)
MDR cases	1	(0.4%)
Cases resistant to EMB	4	(1.4%)
Cases resistant to SM	7	(2.5%)

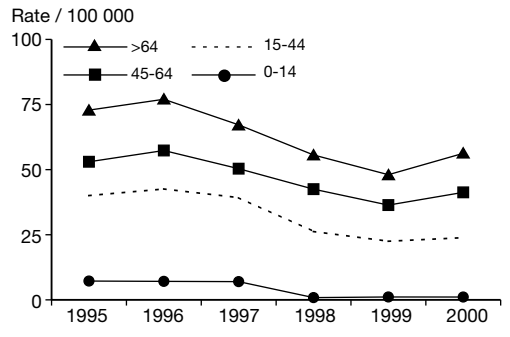
Treatment Outcome Monitoring, 1999

Not available

Tuberculosis notification rates by sex, 1995-2000 *



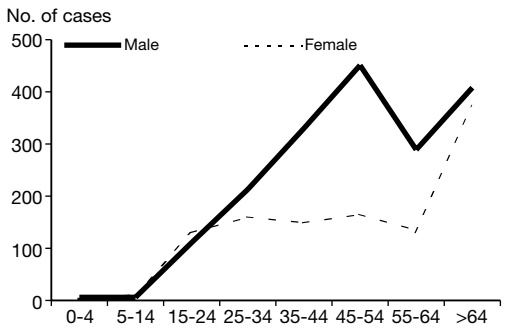
Tuberculosis notification rates by age group, 1995-2000 *



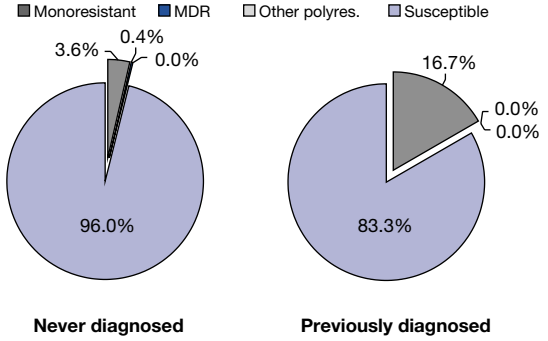
Tuberculosis cases by geographic origin, 1995-2000

Not available

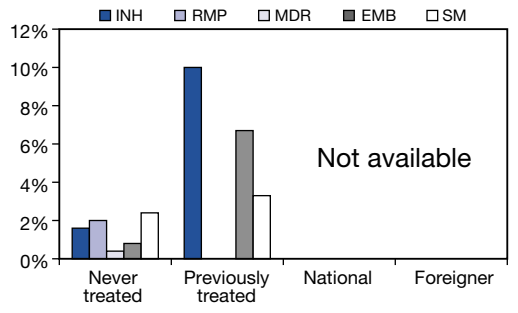
Tuberculosis cases by age group and sex, 2000 *



Resistance profile by treatment status (INH, RMP and EMB), 2000



Resistance by treatment status and geographic origin, 2000



* Excluding Kosovo for 1998-2000