Surveillance of Tuberculosis in Europe - EuroTB

Report on tuberculosis cases notified in 1999

WHO Collaborating Centre for the Surveillance of Tuberculosis in Europe
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EuroTB is a European surveillance network set up in 1996, managed jointly by the Institut de Veille Sanitaire (InVS), France and the Royal Netherlands Tuberculosis Association (KNCV), the Netherlands and financially supported by the European Commission (DG-SANCO). EuroTB aims at improving the contribution of surveillance to tuberculosis control in the WHO European region, through the provision of valid, comparable epidemiological information on tuberculosis. EuroTB is based on the voluntary participation of the national coordinators for tuberculosis surveillance in the 51 countries of the WHO European Region.

Surveillance of tuberculosis in Europe is the annual report prepared by the EuroTB project staff with the collaboration of the members of the EuroTB Advisory Committee. Single copies and regular mailing can be requested at the address below; the report is also accessible via the website: www.eurotb.org.

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COUNTRY PROFILES

West
Centre
East
EuroTB is a European network for the surveillance of tuberculosis (TB) started in 1996 with the aim of improving the contribution of surveillance to TB control. Its main activities consist in the annual collection, validation, analysis and publication of standardised data on TB case notifications, including drug susceptibility at the start of treatment. Data are provided from national surveillance institutions in the 51 countries of the WHO European Region. In 1999, 381 975 cases of TB were notified in the Region, with large differences in notification rates between three areas:

- 13 cases per 100 000 population in the West (the 15 countries of the European Union, Andorra, Iceland, Israel, Malta, Monaco, Norway, San Marino and Switzerland);
- 44 per 100 000 in the Centre (Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, FYR of Macedonia, Poland, Romania, Slovakia, Slovenia, Turkey and Yugoslavia)
- 86 per 100 000 in the East (the 15 Newly Independent States of the former Soviet Union).

Age specific rates were highest among the age groups over 64 years in the West, 45-54 years in the Centre and 25-34 years in the East. Rates were higher in men, with greater sex differences in countries with higher notification rates. In the West, 27% of the cases were of foreign origin (>50% in nine countries). Overall, 87% of the cases had never been treated with anti-TB drugs in the past. Pulmonary cases represented 68% of TB cases in the West and 87% in the Centre. Among pulmonary cases, 45% were sputum smear positive in the West and 50% in the Centre. In the East, respiratory cases represented 94% of TB cases and 34% of them were sputum smear positive. In the West, in the Centre and in the Baltic countries (Estonia, Latvia and Lithuania), around 50% of the cases notified in 1999 were confirmed by culture, which remains poorly available in the East.

Data on drug resistance at the start of treatment were provided from a total of 34 countries. In 21 countries where culture and drug susceptibility testing (DST) are performed routinely, the results of DST were routinely collected for TB cases notified and were provided by previous anti-TB treatment status. Among cases never treated, the proportion of multidrug resistant (MDR) cases was 0.5% in 18 countries in the West and Centre (range 0-2.1%) and was much higher in Estonia (17.5%), Latvia (10.4%) and Lithuania (7.8%). Among cases previously treated, 3.9% were MDR in the West and Centre and 37% in the Baltic countries. In the West, the global proportion of MDR cases was higher in cases of foreign origin (2.2%) than in nationals (0.2%).

In the West, notification rates in 1999 were 12% lower than in 1995 but were stable in Ireland and in the United Kingdom and higher in Denmark and Norway, due to increasing numbers of foreign-born cases. In 10 countries with available data, numbers of national cases decreased more markedly (-26%) than those of cases of foreign origin (-7%). In the Centre, rates decreased between 1995 and 1999 in nine countries but increased by 15-30% in Albania, Bosnia-Herzegovina, Bulgaria and Romania. In the East, rates in 1999 were 50% higher than in 1995, with increases ranging from 20% to 137% in 13 countries. In the same period, TB cases diagnosed in specific population groups such as prisoners or foreigners were increasingly included in TB notifications.

In most countries in the West and Centre of Europe, stable or decreasing TB notification rates and low levels of drug resistance indicate that TB control remains overall effective. In the West, cases of foreign origin represent a high and increasing proportion of TB cases. In the East, the 50% increase in TB notification rates between 1995 and 1999 indicates increasing TB incidence and, in some countries, improved completeness of notification. Increasing incidence and high levels of drug resistance indicate a reduced 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.
EuroTB est un réseau européen de surveillance de la tuberculose (TB) créé en 1996 pour améliorer la contribution de la surveillance au contrôle de la TB. Ses activités principales consistent au recueil, à la validation, l’analyse et la publication de données standardisées sur les cas déclarés de TB et sur la résistance aux médicaments anti-TB en début de traitement. Les données sont fournies par les institutions nationales de surveillance des 51 pays de la Région Europe de l’OMS. En 1999, 381 975 cases de TB ont été déclarées dans la Région, avec des différences importantes dans les taux de déclaration selon trois zones :

- 13 cas pour 100 000 habitants à l’Ouest (les 15 pays de l’Union Européenne Andorre, Islande, Israël, Malte, Monaco, Norvège, Saint Marin et la Suisse) ;
- 44 pour 100 000 au Centre (Albanie, Bosnie-Herzégovine, Bulgarie, Croatie, Rép. Tchèque, Hongrie, Macédoine, Pologne, Roumanie, Slovaquie, Slovénie, Turquie et Yougoslavie) ;
- 86 pour 100 000 à l’Est (les 15 pays de l’ex-URSS)

Les taux de déclaration par âge sont plus élevés dans les groupes d’âge de plus de 64 ans à l’Ouest, de 55 à 54 ans au Centre et de 25 à 34 ans à l’Est. 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. À l’Ouest, 27 % des cas sont d’origine étrangère (>50 % dans neuf pays). Globalement, 87 % des cas n’ont aucun antécédent de traitement anti-tuberculeux. Les cas pulmonaires représentent 68 % des cas de TB à l’Ouest et 87 % au Centre. Parmi les cas pulmonaires, 45 % à l’Ouest et 50 % au Centre ont un frottis d’expectoration positif. A l’Est, les cases respiratoires représentent 94 % des cas déclarés et 34 % des cas respiratoires ont un frottis positif. A l’Ouest, au Centre et dans les pays Baltes (Estonie, Lettonie et Lituanie), environ 50 % des cas déclarés en 1999 ont été confirmés par la culture, qui reste peu disponible dans les autres pays de l’Est.

Des données sur la résistance aux médicaments anti-tuberculeux en début de traitement ont été fournies par 34 pays. Dans 21 pays où la culture et l’antibiogramme (ATB) sont pratiqués en routine, les résultats de l’ATB ont été recueillis sur l’ensemble des cas déclarés et ont été fournies selon les antécédents de traitement anti-tuberculeux. Parmi les cas jamais traités, la proportion de cas multirésistants (MDR) est de 0.5 % dans 18 pays à l’Ouest et au Centre (0 à 2.1 %). Elle est beaucoup plus élevée en Estonie (17.5 %), Lettonie (10.4 %) et Lituanie (7.8 %). Parmi les cas déjà traités, 3.9 % sont MDR à l’Ouest et au Centre et 37 % dans les pays baltes. À l’Ouest, la proportion globale de cas MDR est plus élevée parmi les cas d’origine étrangère (2.2 %) que parmi les cas nationaux (0.2 %).

Entre 1995 et 1999, les taux de déclaration ont globalement diminué de 12 % à l’Ouest mais sont restés stables en Irlande et au Royaume-Uni et ont augmenté au Danemark et en Norvège, en raison d’une hausse du nombre de cas nés à l’étranger. La diminution du nombre de cas est plus importante chez les patients nationaux (-26 %) que chez ceux d’origine étrangère (-7 %) (données de 10 pays). Au Centre, les taux ont diminué de 9 % à 24 % dans neuf pays mais, par contre, ont augmenté de 15 % à 30 % en Roumanie, Albanie, Bulgarie et Bosnie-Herzégovine. À l’Est, les taux en 1999 étaient 50 % plus élevés qu’en 1995, avec des augmentations allant de 20 % à 137 % dans 13 pays. Pendant cette même période les cas de TB diagnostiqués dans des groupes de populations spécifiques, tels que les prisonniers ou les étrangers, ont été plus en plus inclus dans les déclarations de cas.

Dans la plupart des pays de l’Ouest et du Centre de l’Europe, la stabilité ou la baisse des taux de déclaration ainsi que le faible niveau de résistance aux antituberculeux indiquent que le contrôle de la TB reste globalement efficace. À l’Ouest les cas d’origine étrangère représentent une proportion élevée et en constante augmentation des cas déclarés. À l’Est, l’augmentation de 50 % des taux de déclaration entre 1995 et 1999 indique une hausse de l’incidence de la TB, et aussi une meilleure exhaustivité de la déclaration. L’augmentation de l’incidence et les niveaux élevés de résistance aux médicaments anti-tuberculeux témoignent d’une réduction de la performance des programme de lutte, dans une période de difficultés socio-économiques. Ces tendances, qui pourraient être accentuées par l’épidémie d’infection à VIH, appellent à une réadaptation et à un renforcement urgents des programmes de lutte anti-tuberculeuse à l’Est.
РЕЗЮМЕ

Европейская сеть ЕвроTB по эпиднадзору за туберкулезом начала работать в 1996 году с целью улучшить влияние эпиднадзора на контроль туберкулеза. Главные направления работы этой сети включают сбор, подтверждение, анализ и распространение стандартной информации об эпизодах туберкулеза включая лекарственную устойчивость в начале лечения. Данные предоставлены национальными учреждениями по эпиднадзору за туберкулезом в 51 стране Европейского региона ВОЗ. В 1999 г. в регионе было зарегистрировано 381 975 случаев туберкулеза.

Показатели зарегистрированных случаев значительно отличаются в трех географических регионах:

- 13 случаев на 100 000 в Западной Европе (15 стран Европейского Сообщества, Андорра, Исландия, Израиль, Мальта, Моначо, Норвегия, Сан-Марино, Швейцария);
- 44 случая на 100 000 в Центральной Европе (Албания, Босния и Герцеговина, Болгария, Хорватия, Чешская Республика, Венгрия, Бывшая Югославская Республика Македония, Польша, Румыния, Словакия, Словения, Турция, Югославия);
- 86 случаев на 100 000 в Восточной Европе (15 новых независимых республик бывшего Советского Союза).

В Западной Европе показатели зарегистрированных случаев были самыми высокими у пациентов в возрасте 64 лет, 45-54 лет в Центральной Европе и 25-34 лет в Восточной Европе. Показатели зарегистрированных случаев были выше у мужчин, с большей разницей по половому признаку в странах с более высокими показателями. Пациенты иностранного происхождения составили 27 % от всех зарегистрированных случаев в Западной Европе (> 50 % в 9 странах). Вообще, 87 % случаев никогда не получали противотуберкулезное лечение в прошлом. Легочные случаи составили 68 % случаев туберкулеза в Западной Европе и 87 % в Центральной Европе. Случаи с положительным мазком мокроты составили 45 % от легочных случаев в Западной Европе и 50 % в Центральной Европе.

В Восточной Европе респираторные случаи составляли 94 % случаев туберкулеза из которых 34 % были случаи с положительным мазком мокроты. На Западе, в Центре и в Балтийских странах (Эстония, Латвия и Литва) приблизительно 50 % случаев зарегистрированных в 1999 г. были подтверждены культуральным исследованием которое слабо доступно в Восточной Европе.

34 страны предоставили данные о лекарственной резистентности в начале лечения. В 21 стране использовавших рутинно культуральное исследование и пробы на лекарственную устойчивость (ПЛУ), сбор результатов ПЛУ рутинно производился у всех зарегистрированных случаев туберкулеза и данные были предоставлены по статусу противотуберкулезного лечения в прошлом. У никогда нелеченных случаев множественная резистентность (MDR) составляла 0.5 % в 18 странах Западной и Центральной Европы (в ряду 0-2.1 %) и была более высокая в Эстонии (17.5 %), в Латвии (10.4 %) и в Литве (7.8 %). Множественная резистентность у случаев получавших лечение в прошлом составляла 3.9 % случаев в Западной и Центральной Европе и 37 % случаев в Балтийских странах. В Восточной Европе глобальная пропорция множественной лекарственной резистентности была выше у пациентов иностранного происхождения (2.2 %) в сравнении с местными жителями (0.2).

На Западе показатели всех зарегистрированных случаев в 1999 г. понизились на 12 % в сравнении с 1995 г. но остались стабильными в Ирландии и в Соединенном Королевстве и увеличились в Дании и Норвегии вследствие увеличения числа пациентов родившихся за границей. Более значительное снижение показателей наблюдалось в 10 странах у местных жителей (- 26 %) по сравнению с пациентами иностранного происхождения (- 7 %). На протяжении 1995 и 1999 гг. в Центре показатели снизились в 9 странах но увеличились в 15 – 30 % в Албании, Болгарии, Боснии и Герцеговине и Румынии. В Восточной Европе показатели увеличились в 1999 г. на 50 % в сравнении с 1995 г., с ростом от 20 % до 137 % в 13 странах. За тот же период случаи туберкулеза зарегистрированные у специфических групп населения, напр. заключенных или иностранцев, в возраставшей мере включались в регистрацию туберкулеза.

В большинстве стран Западной и Центральной Европы стабилизация или снижение показателей регистрации туберкулеза, и низкий уровень резистентности к противотуберкулезным препаратам свидетельствует, что контроль туберкулеза эффективным. В западных странах, доля зарегистрированных случаев в группе населения иностранного происхождения составляет высокую и возрастающую пропорцию зарегистрированных случаев туберкулеза. В Восточной Европе показатель зарегистрированных случаев туберкулеза увеличился на 50 % с 1995 г. на 1999 г. и свидетельствует о росте заболевания туберкулезом и о более полной регистрации случаев в некоторых странах. Рост заболеваемости и высокий уровень лекарственной резистентности свидетельствуют о ухудшении работы программ по эпиднадзору за туберкулезом в периоде социально-экономических трудностей. Вышеизказанное и возможное влияние распространения эпидемии ВИЧ, вынуждают принятие срочных мер по приспособлению и усилиению контроля туберкулеза в Восточной Европе.
All the 51 countries of the WHO European Region participate in the tuberculosis surveillance activities co-ordinated by EuroTB. Country participation is on a voluntary basis. National surveillance institutions are appointed for participation in EuroTB activities and are responsible for the quality of data provided. 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.

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 calendar year of interest. Data reported for previous years are not routinely updated.

Individual data
Individual, anonymous data, according to a standardised data file specification are collected yearly on TB cases notified at the national level and starting treatment (or diagnosed) in the previous calendar year. Individual data are validated by the EuroTB team and then collated in a European data set.

Aggregate data
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 collected jointly with the WHO Regional Office for Europe, using a common form which also includes sections on characteristics of national surveillance and TB control policies and data 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 Tables or on paper. 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. Figures presented in this report may differ from those published by WHO [3, 4] mainly due to the use of individual data further validated.

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, together with information on the organisation of DRS and on laboratory practices for DST. DST results are provided as “susceptible” or “resistant”. If the proportion method is used, resistance is defined as growth of > 1% colony growth at the critical concentrations of the drug being tested.

In countries where DST results are linked to TB case notifications (i.e. are provided for culture positive cases notified), DST results are provided as individual data in the same data file containing other information on TB cases. In countries unable to do so, or where DST results are not linked to TB case notifications, DST results are provided in aggregate form as numbers of resistant cases for each drug or drug combination, by previous anti-TB treatment status and by geographic origin (national / foreign).

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,
- a clinician’s decision to treat the patient with a full course of anti-tuberculosis treatment.

All definite and other-than-definite TB cases starting treatment in the calendar year of interest are notifiable to EuroTB and are included in the figures presented in this report. Cases should be notified only once in a given calendar year, i.e. cases starting a second course of treatment (e.g. after interruption) in the same calendar year as the previous notified episode should not be notified again.

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 a drug treatment with anti-TB drugs (excluding preventive therapy) for at least one month.

In countries providing individual data, information is collected on both previous TB diagnosis and previous anti-TB treatments. In countries where information is available only on previous TB diagnosis, cases with a previous TB diagnosis are classified as previously treated.

Note: Previously treated cases include relapses, failures, returns after default and chronic cases [5]. Relapses are included in notifications in all countries whereas the notification of other previously treated cases varies across countries [6].

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.

In 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 extrarespiratory cases include TB affecting any other site.

Cases with both pulmonary and extrapulmonary (or respiratory and extrarespiratory) localisation are classified as pulmonary (or respiratory) cases, including cases with disseminated TB (i.e. TB involving more than two organ systems, miliary TB or isolate of \(M.\) \(tuberculosis\) complex from blood). 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.

Geographic origin
The geographic origin of TB cases is provided according to place of birth (born in the country / foreign born) or, if place of birth is unavailable, to citizenship (national / foreign citizen). The specific country or continent of birth (or citizenship) is collected in individual data. When presenting individual data by continent of origin, Europe is defined as the WHO European Region and Asian countries within the WHO European Region are excluded from Asia.

Drug resistance

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

Multidrug resistance (MDR)
Concomitant resistance to at least isoniazid and rifampicin.

Polyresistance
Resistance to at least two first line anti-TB drugs, including multidrug resistance.

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, i.e. emerging in a patient during treatment as a consequence of selection of drug-resistant mutant bacilli.
It can also result from exogenous re-infection with resistant bacilli.

### 2.3 Data presentation

Numbers of cases are shown by year of report and are not adjusted for under-notification or for over-notification, on which most recent country estimates were provided for 1997 [7].


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 plus Andorra, Iceland, Israel, Malta, Monaco, Norway, San Marino, Switzerland; within the West, subtotals are shown for the European Union;
- **Centre:** Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, the Former Yugoslav Republic (FYR) of Macedonia, Poland, Romania, Slovakia, Slovenia, Turkey, Yugoslavia.
- **East:** the 15 Newly Independent States of the former Soviet Union, including the Baltic countries (Estonia, Latvia, Lithuania);

The respective total populations of the three areas were 395, 187 and 292 million in 1999.

**Drug resistance surveillance.**

Proportions of resistant cases are calculated using as a denominator cases with available DST results for at least rifampicin and isoniazid. The results for ethambutol and streptomycin are presented if these two drugs were considered to be routinely tested in 1999 and, in countries providing individual data, if results were available for at least 95% of the cases tested for isoniazid and rifampicin.

In countries where culture or DST are not routinely performed for TB diagnosis, DST results from diagnostic testing (i.e. from testing done for routine diagnosis) may be unrepresentative. Drug resistance surveillance (DRS) data provided to EuroTB may be collected for culture positive TB cases notified or on selected samples of TB cases unlinked to TB notifications, e.g. selected laboratories or clinical Centres. Finally the geographic coverage can be national or partial. According to diagnostic practices, source of data and geographic coverage, countries are divided in two groups for the presentation of drug resistance data in Tables 16-21:

- **group A** includes countries in which:
  - culture and DST results are routinely performed for TB diagnosis and
  - DST results were collected on all or large national samples of culture positive TB cases notified in 1999;

- **group B** includes countries in which:
  - culture and/or DST are not routinely performed at TB diagnosis or
  - DST results were collected on TB cases diagnosed in selected laboratories / clinical Centres, not linked to TB notification, or
  - data provided had a partial geographic coverage.

Data in group A are considered as representative, whereas data in group B should be interpreted cautiously. Particularly in countries where culture and DST are not routinely performed for TB diagnosis, DST data represent selected groups of TB cases and should not be used for international comparisons.
3.1 Sources of case notification

In 1999, TB cases were notified by both clinicians and laboratories in a total of 26 countries (Table 1), whereas in the other countries TB cases were notified by clinicians only.

Laboratory reporting of TB cases is recommended in Europe in order to obtain a higher completeness of notification and a more complete information on bacteriological confirmation [1].

3.2 Bacteriological diagnosis

In 1999, culture for Mycobacteria was considered to be routinely performed for TB diagnosis in the whole country in 34 countries and in some areas in 14 countries, and was not routinely performed in Albania, Georgia and Turkey (Table 11). Sputum smear was considered to be routinely used for TB diagnosis in the whole country in 43 countries (Table 14). The differences in the availability and use of diagnostic facilities result in different criteria for the classification of “definite” TB cases (see below).

3.3 Case classification

Laboratory criteria

In 1999, both “definite” and “other than definite” TB cases were notified in all countries. Laboratory criteria for classifying a case as “definite” were “positive culture” in 28 countries (compared to 22 countries in 1998) and “positive culture and/or sputum smear” in 23 countries (Table 11).

Site of disease

The pulmonary classification was used in 20 countries in the West, eight countries in the Centre and four countries in the East (Table 9). The other 18 countries provided data based on the respiratory classification (see technical note). These differences limit the comparisons between proportions of pulmonary cases and, among them, of sputum smear positive cases.

Geographic origin

Geographic origin was classified based on country of birth, recommended, in 25 countries and based on nationality in nine countries.

Previous anti-TB treatments

Information on previous anti-TB treatment was available for 43 countries, whereas five countries provided information on previous history of TB.

3.4 Completeness of TB notifications

Geographic coverage

In 49 countries, data were provided on TB cases notified in the whole country. In Yugoslavia cases in Kosovo and Metohija were not included and in Denmark cases from Greenland and the Faeroe islands were not included. The population of these areas was excluded for the calculation of notification rates.

Previously treated cases

In all countries, both new and previously treated TB cases were notified. However, according to a survey done in 1998, the criteria for notification of previously treated cases differ across countries [6]. In some countries, notification of previously treated cases is limited to cases with specific outcomes of the previous treatment (e.g. cure or treatment interruption) or to “definite” cases, which can result in different completeness of notification for these cases.

Extrapulmonary cases

In all countries except Spain, TB cases were notified with any disease localisation; in Spain, notification of extra-respiratory cases is limited to meningeval TB and total notification rates are therefore not comparable with those of other countries.

Cases diagnosed in specific population groups

As in previous years, information was collected on the notification of TB cases diagnosed in specific
population groups, such as foreigners or prisoners (Table 1). Due to the organisation of national health and surveillance systems, in some countries these cases may be excluded from TB notification statistics, resulting in lower completeness of TB notification.

In 1999, TB cases diagnosed in all the population groups listed in Table 1 (foreigners, prisoners, military personnel, homeless, persons with HIV infection and institutionalised persons) were included in notification in 32 countries (20 countries in the West, 8 in the Centre and 4 in the East) compared to 29 countries in 1998. In 19 countries cases diagnosed in one or more groups were not included in notifications.

Overall, the trend towards increasing inclusion in TB notifications of cases diagnosed in specific population groups, observed since the mid 1990s, continued through 1999. TB cases among prisoners, which may represent a non negligible proportion of TB cases in some countries [11], were included in 46 countries in 1999 compared to 39 countries in 1998. As in 1998, cases of foreign origin were not included in eight countries in the Centre and East, while in eight further countries only foreign cases who were legal residents were included. Compared with 1998, in 1999, one or more groups of foreigners were included for the first time in notifications in four countries.

Even though inclusion in notifications does not necessarily mean that case notifications for a specific group are complete, this process results overall in increasing completeness of notification. On the other hand, changing completeness of notification makes the interpretation of trends for recent years difficult in the East [12] and in some countries in the Centre.

The differences in diagnostic practices, definitions used and characteristics of national surveillance systems still limit the comparability of TB surveillance data at the European level and further efforts are needed in order to improve the harmonisation of surveillance data.
4.1 Information provided

All the 51 countries in the WHO European Region provided data on TB cases notified in 1999 and on the characteristics of the national notification systems. Individual data on TB cases were provided by 22 countries, of which 15 countries in the West (Table 2). Numbers of cases by sex and age group, previous anti-TB treatment status, site of disease and sputum smear result were available for most countries, whereas information on geographic origin and culture results was less complete. In 12 countries in the Centre and in the East, some data (e.g. case distribution by age group) were provided only for new cases, and are presented this year for the first time in the report.

4.2 Global figures and trends

In 1999, a total of 381 975 TB cases were notified in the 51 countries of the WHO European Region, of which 66% in the East, 21% in the Centre and 13% in the West (Table 3). In the East, 54% of the cases were notified from the Russian Federation. In the Centre, 60% of the cases were notified from Romania and Turkey.

The overall notification rate was 44 per 100 000 population, with important geographic variations between areas and countries (Table 3, Map 1, country profiles). TB notification rates in 1999 were:

- 12.6 per 100 000 in the West, where rates were lower than 20 per 100 000 population in all countries, except Spain (21.2 per 100 000; only respiratory and meningeal cases notified) and Portugal (52.3 per 100 000);
- 43.7 per 100 000 in the Centre, where rates ranged between 20 and 49 per 100 000 in all countries except the Czech Republic (16 per 100 000), Bosnia-Herzegovina (80.1 per 100 000) and Romania (119.9 per 100 000);
- 86.3 per 100 000 in the East, where rates were over 50 per 100 000 population in all countries except Armenia (42.5 per 100 000) and Tajikistan (41.8 per 100 000). Rates were higher than 130 per 100 000 in Kazakhstan, Kyrgyzstan and Georgia.
Trends in notification rates between 1995 and 1999 varied widely across areas and countries (Table 3, Figure 2, Map 2, country profiles). In the West, the overall notification rate was 12% lower in 1999 than in 1995. Excluding Greece, Israel and Spain, where changes in notification were implemented in recent years, annual decreases in rates were around –4% between 1995 and 1998 and –1.6% between 1998 and 1999 (Map 2). In the 14 countries with more than 50 cases notified annually, rates were 6% to 25% lower in 1999 than in 1995 in 10 countries, were stable in Ireland (-2%) and the United Kingdom (+1%) and were higher in Norway (+13%) and Denmark (+17%), due to increasing numbers of cases of foreign origin (country profiles). In 10 countries with available data, average annual decreases in the numbers of notified cases between 1995 and 1999 were more marked among nationals (-7%) than among cases of foreign origin (-1.5%) (Figure 4). These trends confirm previous reports of a slowing decrease or stabilisation of TB incidence in Western Europe since the late 1980s [13].

In the Centre, overall notification rates were 4% lower in 1999 than in 1995, with diverging trends across countries (Map 2): 9% to 24% lower in nine countries but higher in Romania (+15%), Bulgaria (+18%), Albania (+27%) and Bosnia-Herzegovina (+30%). The increase in notification rates in Bosnia-Herzegovina can be partly attributed to the return of refugees after the war. In the other countries it may reflect increasing incidence (country profiles) but also changes in national surveillance systems, on which detailed information is not available.

In the East (Georgia excluded; data not available for 1995), notification rates were 50% higher in 1999 than in 1995, with increases higher than 20% in all countries except the Republic of Moldova (+8%). In several countries in the East, recent trends in notification rates 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, previously not counted in statistics (see section 3.4).

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**MAP 2**

**Average annual change in TB notification rates, 1995-1999**

- **Average annual change %**
  - Decrease ≥ 2.5%
  - Stable (Variation < 2.5%)
  - Increase 2.5%-10%
  - Increase > 10%

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*For Andorra and Georgia: 1996-1999*
With the possible exception of the Baltic countries in which rates appear to level off in the most recent years (country profiles), these increases in TB notification rates indicate an increase of TB incidence continuing through 1999. The very high levels of anti-TB drug resistance (see below and [4]) and the recent spread of HIV infection in several countries in the East [14] constitute further threats to TB control, which deserve urgent public health interventions.

4.3 Sex and age

Numbers of cases by sex were provided from all countries except Turkey (Table 4). Data were provided for new cases only in nine countries in the East. Overall, 68% of the TB cases notified in 1999 were male. The sex ratio (number of male cases per one female case) was 2.3 overall and ranged from 1.6 in the West to 2.5 in the East. A total of 18 countries, of which nine in the

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**FIGURE 2**

Notification rates by age group and sex, 1999

<table>
<thead>
<tr>
<th>Age group</th>
<th>West</th>
<th>Centre</th>
<th>East</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5-14</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>15-24</td>
<td>10</td>
<td>10</td>
<td>10</td>
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<tr>
<td>25-34</td>
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<td>15</td>
</tr>
<tr>
<td>35-44</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>45-54</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>55-64</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>&gt; 64</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
</tbody>
</table>

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East, reported at least twice as many cases in men as in women. The sex ratio varied by age. It was 1.1 among paediatric cases, increased up to 3.6 in the age group 45-54 years and then decreased again to 1.4 in the age group over 64 years.

Numbers of cases by age group were provided from all countries except Azerbaijan, Belarus and Turkey (Table 5). In Bulgaria and in seven countries in the East, information was provided on new cases only. Paediatric cases (0-14 years of age) accounted for 6% of cases overall, of which one third were among children under 5. Paediatric cases represented more than 10% of cases notified in Bulgaria, Kyrgyzstan, FYR of Macedonia, Turkmenistan and Uzbekistan, possibly suggesting overnotification of paediatric TB cases in some of these countries. Among adults, the age groups 15-44 years accounted for 46% of the cases notified in the West, 45% in the Centre and 62% in the East. Conversely, the age group over 64 years represented 21% of the cases in the West, 17% in the Centre and 7% in the East.

The distribution of cases by age and sex was also available for most countries (Figure 3 and country profiles). Among children, notification rates did not differ by sex. In the West, rates were higher in children under 5 than in older children, reflecting higher risk of developing TB after infection in younger children than in older children [15]. Rates were similar in the two paediatric age groups in the Centre and in the East, suggesting a possible under-reporting of cases in children under 5 in some countries.

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 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 and older. In the East, rates were highest in the age group 25-34 years in both sexes. Rates decreased regularly form the age group 35-44 in women. Among men rates remained high until the age group 45-54 and decreased markedly in the older age groups.

Higher TB notification rates in adult men compared to women observed in all countries result from higher prevalence of infection in men [16]. The larger difference in notification rates by sex observed in the Centre and in the East could be also partly explained by underreporting of female cases due to differences in the access to health services in some countries [17].

The higher notification rates 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 in several countries in the East data were provided for new cases only, which are expected to be younger than cases with previous TB episodes.

In the 30 countries providing the age and sex distribution of TB cases by geographic origin, the proportion of cases aged 15 to 34 years was much higher in foreigners (45%) than in nationals (27%) (country profiles). The proportion of male cases was also higher in foreigners (66%) than in nationals (59%). These differences influence age-specific notification rates in countries in the West with large proportions of cases reported in foreigners (see below and country profiles).

In most countries in the West and in the Centre with decreasing notification rates in recent years, age specific notification rates in 1999 were lower than those in 1995 among all age groups (see country profiles) suggesting decreasing TB transmission. In the East, (data from five countries) recent trends in age specific rates are variable across countries and should be interpreted cautiously, due to the increasing inclusion of cases from specific population groups, which may have affected the age distribution of cases.

4.4 Geographic origin

Numbers of cases by geographic origin were provided from 34 of the 46 countries in which cases of foreign origin are included in TB notifications (Table 6). Cases were classified by country of birth, as recommended, in 25 countries and by citizenship in nine countries. Information was available from all countries in the West, seven countries in the Centre and five countries in the East. In the West, cases of foreign origin represented 27% of notified cases overall and more than 40% in 10 countries (Map 3). Proportions of cases of foreign origin were generally lower in the countries of the Centre and of the East.

In 12 countries in the West (Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland,
Luxembourg, Netherlands, Norway, Sweden, notification rates were overall seven times higher in foreigners (52.4 per 100 000) than in nationals (7.3 per 100 000) with rate ratios ranging from 2.3 in Ireland to 33 in the Netherlands. 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.

In the population of foreign origin, age specific notification rates were highest in the age groups 25-34 and over 64 years, at a higher level in men than in women (Figure 3). 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.

In 10 countries with available data in the West, trends in the numbers of TB cases were different according to geographic origin (Figure 4 and country profiles). Total numbers of cases were 19%
lower in 1999 than in 1995, with greater decreases among nationals (-26%; average annual decreases of 7%) than among cases of foreign origin (-6%; average annual decreases of 1.5%).

The country of origin of foreign cases was available for 21 countries providing individual data (Table 7). Of the 7765 cases of foreign origin, 34% were from Africa (among which 13% from Somalia and 5% from Morocco), 31% from Asia (20% from the Indian subcontinent) and 26% from a country of the WHO European Region other than the country of notification (6% from Bosnia–Herzegovina, 4% from Yugoslavia, 3% from Turkey).

4.5 Previous anti-tuberculosis treatment status

Numbers of cases by previous anti-TB treatment status were available for 43 countries, whereas five countries provided information by previous diagnosis of TB (Table 8). Overall, 87% of TB cases notified in 1999 had never been treated for TB, 11% had been previously treated for TB and 3% had no information on previous anti-TB treatment. Cases with missing information on previous anti-TB treatment status were concentrated in the West, where they represented 21% of cases.

Previously treated cases represented 7% of the cases in the West (range 2-11%), 12% in the Centre (4-18%) and 11% in the East (2-32%). Beyond differences in definitions (previous diagnosis vs. previous treatment) different proportions of previously treated cases may be due to variable inclusion of these cases in TB notifications (see section 3.3) and to the completeness of notification. Therefore these data cannot be interpreted as an indicator of the effectiveness of previous anti-TB treatments.

4.6 Site of disease

In 1999, all countries except Spain notified cases with any anatomic localisation; in Spain only respiratory and meningeal TB cases were notified. Numbers of cases by site of disease were provided from all countries except Tajikistan (Table 9). The recommended pulmonary classification (see technical note) was used in 31 countries and the respiratory classification in 18 countries, of which 11 in the East. Pleural and intrathoracic lymphatic cases, (classified differently as “extrapulmonary” cases or as “respiratory” cases), represented 8.4% of TB cases in the countries providing specific site of disease in individual data (see below). Data by site are commented separately according to the classification used.

In the 20 countries in the West using the pulmonary classification, the proportion of pulmonary cases was 68% (range 60 – 98%). In the Centre the proportion of pulmonary cases (eight countries) was 87%, similar to the proportion of respiratory cases (88%) reported in the five countries using the respiratory classification. In the East, respiratory cases represented 94% of the cases notified in the 11 countries using the respiratory classification.

In the 22 countries providing individual data, the site of disease was analysed by sex, age and geographic origin. Extrapulmonary TB was more frequent among children than among adults (28% versus 20%). Among adults, female cases were 1.8 times more likely than male cases to have extra-pulmonary TB (27% versus 15%). In the 14 countries in the West, extrapulmonary TB was more frequent in cases of foreign origin than in nationals (37% versus 24%). Lower proportions of pulmonary cases in the West compared to the Centre, may be due to more frequent extrapulmonary localisation among cases of foreign origin, and possibly to more complete notification of extrapulmonary cases.

Information on the major site and one minor site of disease (see technical note) was available for 15 of the countries providing individual data (Table 10). Pulmonary TB, always classified as major site, was reported in 82% of the cases overall and extrapulmonary localisations were reported as major and/or minor site of disease in 22% of the cases. Among extrapulmonary sites, pleural TB was reported in 9.4% of the cases, extrathoracic lymphatic TB in 3.8% and each of the other sites in less than 2%. Meningeal TB was reported in 316 cases (0.6%). Intra-thoracic lymphatic TB and meningeal TB were more frequently reported among children than among adults (respectively 6.6% versus 1.1% and 4.3% versus 0.5%). Pleural TB was more frequent among children and adults aged 15 – 44 years than among older cases.

4.7 Bacteriology results

4.7.1 Culture

Data by culture result were provided overall from 38 countries (Table 11). The overall proportion of culture positive cases was around 50% in the West and
in the Centre and 29% in the East, where data were available from seven countries only. Proportions of culture positive cases were:

- higher than 60% in 14 countries in the West and in Croatia, Estonia, Latvia and Slovenia.
- lower than 40% in France and Portugal in the West, Albania and Hungary in the Centre and Armenia, Azerbaijan, Georgia and Rep. of Moldova 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 e.g. clinicians request of culture in selected cases (e.g. Hungary),
- characteristics of surveillance, as in France there is no follow-up of clinician notifications with missing culture result.

In some countries in the Centre and in the East (e.g. Russian Federation, Ukraine), results of culture and of sputum smear are not recorded separately, and results of culture and sputum smear are recorded together as “bacteriological confirmation” of diagnosis. This information is not presented in the Tables.

Culture status and results were further analysed by site in countries providing individual data, in which additional categories were available for cases without positive culture (Table 12). Among pulmonary cases, information on culture was missing for 20% of the cases in the West. Culture was not performed in 3% of the pulmonary cases in the West and Centre and was negative in 6% of cases in the West and 22% in the Centre. Culture results for extrapulmonary cases were not available in Italy. In the other countries in the West, 27% of extrapulmonary cases had no information on culture, 41% were culture positive and 6% were culture negative. In the Centre culture was not performed for a high proportion of cases in Romania and in Hungary. Overall, 10% of the cases were culture positive and the majority of the cases were culture negative (36%) or had unknown culture result (20%). High proportions of “negative” culture results may suggesting that coding of culture results needs further validation in some countries.

4.7.2 Species identification

Species identification for culture positive TB cases notified in 1999 was provided from 24 countries (Table 13). Overall, 90% of cases were due to *M. tuberculosis* and 9.6% had no information on species. In the West *M. bovis* represented 0.8% of the cases and *M. africanum* 0.4%. The proportion of cases due to *M. bovis* was higher in Ireland (4.2%) than in the other countries. In the Centre, apart from one case due to *M. bovis* in the Czech Republic all cases were due to *M. tuberculosis*. Trends in the proportions of cases by species were relatively stable in the period 1996-1999 (data from 14 countries, not shown).

4.7.3 Sputum smear

The results of sputum smear microscopy were provided from 46 countries (Table 14). In the countries using the pulmonary classification, the proportion of cases with sputum smear positive for acid fast bacilli was 50% in the Centre and 45% in the West. In the East, 34% of respiratory cases were sputum smear positive (seven countries). Proportions of sputum smear positive cases are expected to be lower in countries using the respiratory classification because pleural and intrathoracic lymphatic cases (classified as respiratory cases together with pulmonary cases), are sputum smear negative. Low proportions of smear positive cases may also be due to differences in the availability of sputum microscopy, which was considered not to be routinely performed in eight countries (Table 14) or to shorter diagnostic delays resulting in lower bacillary load. Also, in some countries sputum microscopy may be replaced by microscopy of bronchoalveolar lavage, not valid to determine sputum smear status according to the definitions in use.

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 bacteriological results for TB cases could be obtained through laboratory reporting of TB cases, recommended in Europe [1] but still not implemented in several countries (Table 1).
Data on the results of drug susceptibility testing (DST) at the start of treatment were provided from a total of 34 countries.

5.1 Laboratory practices

Information on laboratory practices for DST were provided from all 34 countries providing DST results except Croatia (Table 15). DST was performed by a single laboratory in nine countries (located abroad in two of these), 2-10 laboratories in 12 countries and more than 10 laboratories in 12 countries (Table 15). Among the four methods internationally recommended for DST [2], the non-radiometric proportion method was used in 22 countries, the radiometric proportion in 20 countries, the absolute concentration in eight countries and the resistance ratio in three countries. In 16 countries more than one method was used.

Laboratories had participated in a national and / or international proficiency testing scheme in 26 countries. Among the 19 countries participating in an international proficiency testing scheme, the percentage of agreement between the national results of DST for isoniazid and rifampicin and those obtained by the supranational reference laboratory was generally high. In four countries in the Centre and in the East laboratories did not participate in proficiency testing activities. In three countries information on participation in proficiency testing was incomplete.

5.2 Type of data

In 27 countries, DST results were provided on culture positive TB cases notified in 1999 (Table 16). In seven countries, DST results were provided on TB cases diagnosed in selected laboratories or clinical Centres and were not linked to TB notifications. Culture and DST were performed as a diagnostic routine in 25 countries. Based on the type of TB case population included in surveillance, on the use of culture and DST and on geographic coverage of data, countries were classified in two groups, presented separately in Tables 16-21.

Group A includes countries in which:
- culture and DST were routinely performed for TB diagnosis and
- DST results were available for all culture positive TB cases notified or for a sample of cases with national coverage.

Under the assumption that in these countries culture positive cases are representative of TB cases notified, these data were considered representative and are described in detail below.

Group B includes countries in which:
- culture or DST were not routinely performed for TB diagnosis or
- DST results were available for selected TB cases (e.g. diagnosed in selected laboratories or notified in selected regions).

In these countries, and particularly in those where culture or DST are performed for selected cases, DST results may not be representative and should not be used for international comparisons.

5.3 Results

Isoniazid and rifampicin were tested systematically in all countries. Ethambutol was not systematically tested in Germany and streptomycin was not systematically tested in seven countries in the West. Corresponding results are not shown in the Tables. Data were provided for each combination of resistance from all countries except the Russian Federation, where only numbers of multidrug resistant cases were available. DST results were provided by previous anti-TB treatment status in all countries except Albania, Greece and Israel and were provided only for cases never treated from Spain and the Russian Federation.
5.3.1 Countries providing representative national data (group A)

Data from 22 countries were included in group A (Table 16). In all these countries culture and DST are performed as a diagnostic routine for TB diagnosis. In 20 of these countries, DST results were collected for all culture positive cases notified at national level. In Croatia and Germany DST results were provided on large national samples of notified cases. In 14 countries, DST results were provided in the individual data set containing other information on TB cases.

Overall, 61% of the TB cases notified in countries in group A were culture positive (range: 49-84%). Among the 19 447 culture positive cases, DST results were available for 17 251 cases (89%). The proportion of cases with missing DST results was highest in Lithuania (31%), Bosnia-Herzegovina (23%), Latvia (17%), Germany (17%) and the Czech Republic (16%) (see country profiles). Global proportions of resistant and multidrug resistant cases were much higher in the Baltic countries and in Israel than in the other countries in the West and Centre (Table 17).

Resistance by previous anti-TB treatment status

Data by previous anti-TB treatment status were not provided from Israel, where information was only available on previous TB diagnosis. In the remaining countries, among 16 622 cases with DST results, 13 160 (79%) were classified as never treated, 1706 (10%) as previously treated and 1756 (11%) had no information on previous treatments.

Proportions of resistant cases among cases never treated were much lower in the countries of the West and Centre than in the Baltic countries. In the West and Centre, proportions of resistant cases among cases never treated were:

- 4.1% for isoniazid (range: 0-9.3%), compared with 21.7-27.8% in the Baltic countries;
- 0.7% for rifampicin (range 0-2.1%) compared with 10.1-17.8% in the Baltic countries;
- 0.5% for ethambutol (range 0-2.1%; Germany excluded) compared to 4.2-14.0% in the Baltic countries.
- 1.2% for streptomycin (range 0-13.3%; seven countries in the West excluded) compared with 17.5-27.3% in the Baltic countries.

Resistance to rifampicin was combined with resistance to isoniazid (multidrug resistance) in 65% of cases never treated in the West and in the Centre and in 92% in the Baltic countries. The proportions of multidrug resistant cases among cases never treated were 0.5% in the West and Centre (range 0-2.1%) and 7.8-17.5% of those in the Baltic countries.

The proportions of resistant cases were generally higher among cases previously treated (Table 19), for each drug and drug combination. The proportions of multidrug resistant cases were 3.9% in the West and Centre (range 0-12.9%) and 26.8-48.3% in the Baltic countries.

In countries where culture and DST at the start of treatment are a diagnostic routine and DST results are linked to TB notifications, drug resistance data can be considered as representative of the country situation. In the countries in the West and in the Centre, the levels of primary resistance and of multidrug resistance are relatively low, which indicates that tuberculosis treatment remains globally adequate. The high levels of primary resistance and multidrug resistance reported from the Baltic countries indicate sub-optimal performance of TB treatment programmes in recent years. Proportions of resistance among cases previously treated should be interpreted more cautiously, as criteria for notification of these cases vary across countries [1] and numbers of previously treated cases were small.
Resistance by geographic origin
DST results by geographic origin were not provided from the Czech Republic and Lithuania (Tables 20-21). Geographic origin was defined according to country of birth in 18 countries and to nationality in Austria and in the Netherlands.

In the countries in the West, cases of foreign origin represented overall 48% of the cases with DST results. Global proportions of resistant cases were generally higher among cases of foreign origin. Among these, 9% were resistant to isoniazid compared with 3.2% of nationals and 2.2% were multidrug resistant compared with 0.2% among nationals. In Israel, where the foreign-born represented 86% of cases notified and 92% of those with DST results, 8.6% of foreign cases were multidrug resistant.

In the thirteen countries of the West and Centre providing individual data, the proportion of multidrug resistant cases was higher among foreigners than among nationals both among cases never treated (1.3% versus 0.1%) and previously treated (9.7% versus 0.9%). Among foreigners, global proportions of multidrug resistant cases were higher among cases of African origin (1.9%) than among cases from a foreign country in the WHO European Region (1.4%) or from Asia (1.1%).

Differences in proportions of resistance by geographic origin should be interpreted cautiously, due to the lack of information on time of immigration and to incomplete information on time and type of previous anti-TB treatment.

In the countries of the Centre and East, foreign-born cases represented 8% of cases tested. Proportions of resistant cases did not differ by geographic origin in Estonia and Latvia. In the countries in the Centre numbers of foreigners were small and comparisons of the proportion of resistant cases by geographic origin inconclusive.

5.3.2 Countries providing other data (group B)
Twelve countries were classified in group B. In three of these countries (France, Spain and Yugoslavia) culture and DST are routinely performed (Table 16). In France, data are collected through a stable sentinel network of 20 university hospital laboratories covering 12 regions. Proportions of resistant cases are low, comparable to those reported from other countries in the West and stable over time [6, 18]. In Spain, data were available only for TB cases never treated, for which a strain was sent to the National Reference Laboratory and should not be taken as representative. The proportions of resistant cases are low and comparable to those observed in a representative survey done in Barcelona [4]. In Yugoslavia, data provided on all culture positive cases notified in the region of Belgrade, show low levels of resistance but they may not be representative of cases notified in other regions.

In the other nine countries in group B, culture or DST are not routinely performed at TB diagnosis. Therefore, DST results from these countries are likely to include selected TB cases, unrepresentative of incident TB cases. Levels of resistance in Greece, Hungary and Romania are higher than those from surrounding countries, possibly due to case selection, as suggested by proportions of resistance varying significantly compared to 1998 [6]. Levels of resistance and multidrug resistance in Kazakhstan, Kyrgyzstan, the Russian Federation and Ukraine are very high but they should not be considered representative, as they are likely to include selected TB cases. Data from the Russian Federation include DST results for 36 217 new culture positive pulmonary cases notified to the Ministry of Health; in this case population the level of primary multidrug resistance is similar to that observed in representative surveys done in two oblasts [4]. In countries where culture or DST cannot be performed routinely, the implementation of representative surveys [19], is needed to obtain representative data.
REFERENCES


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# Table 1. Sources of TB notifications and inclusion of cases diagnosed in specific populations, 1999

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<th>Geographic area</th>
<th>Source of TB notifications</th>
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* clin.=clinicians; clin. + labs=clinicians and laboratories; † Asylum seekers and illegal immigrants not included in Republic Srpska

= inclusion since 1999; = included before 1999
Table 2. Tuberculosis surveillance data provided to EuroTB, 1999

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<tr>
<th>Geographic area Country</th>
<th>Type of data</th>
<th>Sex and age</th>
<th>Geographic origin</th>
<th>History of TB and treatments</th>
<th>Site of disease</th>
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§ Age groups different from those requested; not shown;
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* New cases only; † Until 1996 new respiratory cases only; since 1997 new and recurrent respiratory and meningeval cases
**Table 4. Tuberculosis cases by sex, 1999**

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*Number of male cases per female case; † Respiratory and meningeal cases only; ‡ Without Kosovo and Metohija; § Provided on new cases only*
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* Respiratory and meningeal cases only; † Age group provided on new cases only; ‡ Without Kosovo and Metohija; § The paediatric age groups are 0-6 and 7-14 years
### Table 5 (cont.). Tuberculosis cases by age group, 1999

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* Respiratory and meningeal cases only; † Age group provided on new cases only; ‡ Without Kosovo and Metohija
Table 6. Tuberculosis cases by geographic origin, 1999

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* Respiratory and meningeal cases only; † Except Scotland; ‡ Foreigners not included in TB notifications in Republic Srpska; § Foreigners not included in TB notifications (see Table 2); || Without Kosovo and Metohija; ¶ On new cases only;
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* Europe corresponds to the WHO European Region. Armenia, Azerbaijan, Georgia, Israel, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan and Uzbekistan included in Europe and not in Asia
† Except Scotland; ‡ Information on geographic origin missing for 603 cases (34%)
### Table 8. Tuberculosis cases by previous anti-TB treatment status, 1999

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<td>622 (9)</td>
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* See technical note; † Information on previous anti-TB treatment not available; cases classified according to previous history of TB
‡ Respiratory and meningeal cases only; § Without Kosovo and Metohija
### Table 9. Tuberculosis cases by site of disease, 1999

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<td><strong>Total West</strong></td>
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<td>265 (8)</td>
<td>0 (0)</td>
<td>3 530</td>
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<tr>
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<td>232 (6)</td>
<td>0 (0)</td>
<td>3 914</td>
<td></td>
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<td>87 (15)</td>
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<td>538 (4)</td>
<td>0 (0)</td>
<td>12 179</td>
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<td>26 870</td>
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<td>225 (18)</td>
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<td>1 218</td>
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<td>75 (17)</td>
<td>1 (0)</td>
<td>438</td>
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<td>resp 18 314 (83)</td>
<td>3 774 (17)</td>
<td>0 (0)</td>
<td>22 088</td>
<td></td>
</tr>
<tr>
<td>Yugoslavia</td>
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<td></td>
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<td>129 (5)</td>
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<td><strong>Total Centre</strong></td>
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<td>1 499</td>
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<td>936 (20)</td>
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<td>4 629</td>
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<tr>
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<td>470 (6)</td>
<td>0 (0)</td>
<td>7 339</td>
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<td>67 (9)</td>
<td>0 (0)</td>
<td>754</td>
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<td>Georgia</td>
<td>pulm 4 827 (74)</td>
<td>1 719 (26)</td>
<td>0 (0)</td>
<td>6 546</td>
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<td>2 500 (10)</td>
<td>0 (0)</td>
<td>25 560</td>
<td></td>
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<td>Kyrgyzstan §</td>
<td>resp 5 818 (91)</td>
<td>558 (9)</td>
<td>0 (0)</td>
<td>6 376</td>
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<td>0 (0)</td>
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<td>0 (0)</td>
<td>2 903</td>
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<td>Moldova, Republic of</td>
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<td>0 (0)</td>
<td>2 947</td>
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</tr>
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<td>Russian Federation §</td>
<td>resp 118 709 (96)</td>
<td>5 335 (4)</td>
<td>0 (0)</td>
<td>124 044</td>
<td></td>
</tr>
<tr>
<td>Tajikistan</td>
<td>resp –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>resp 3 889 (99)</td>
<td>202 (5)</td>
<td>0 (0)</td>
<td>4 092</td>
<td></td>
</tr>
<tr>
<td>Ukraine</td>
<td>resp 31 187 (95)</td>
<td>1 692 (5)</td>
<td>0 (0)</td>
<td>32 879</td>
<td></td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>resp 15 195 (90)</td>
<td>1 764 (10)</td>
<td>0 (0)</td>
<td>16 959</td>
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<tr>
<td><strong>Total East</strong></td>
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<td></td>
<td></td>
<td>237 995</td>
</tr>
<tr>
<td><strong>Total WHO European Region</strong></td>
<td>327 993 (69)</td>
<td>37 526 (10)</td>
<td>2 768 (1)</td>
<td>368 287</td>
<td></td>
</tr>
</tbody>
</table>

* pulm= pulmonary; resp=respiratory (see technical note); † Meningeal cases only; § Respiratory classification for Scotland; ‡ Information provided on new cases only; || Without Kosovo and Metohija
<table>
<thead>
<tr>
<th>Site of disease</th>
<th>0-14 (N=2,224)</th>
<th>15-44 (N=23,991)</th>
<th>45 and over (N=22,293)</th>
<th>Total § (N=48,656)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lungs/tracheobronchial tree</td>
<td>1,638 (73.7%)</td>
<td>19,532 (81.4%)</td>
<td>18,508 (83.0%)</td>
<td>39,678 (81.5%)</td>
</tr>
<tr>
<td>Extrapulmonary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleura</td>
<td>204 (9.2%)</td>
<td>2,675 (11.2%)</td>
<td>1,682 (7.5%)</td>
<td>4,561 (9.4%)</td>
</tr>
<tr>
<td>Intrathoracic lymphnodes</td>
<td>147 (6.6%)</td>
<td>332 (1.4%)</td>
<td>211 (0.9%)</td>
<td>690 (1.4%)</td>
</tr>
<tr>
<td>Extrapulmonary lymphnodes</td>
<td>142 (6.4%)</td>
<td>1,024 (4.3%)</td>
<td>684 (3.1%)</td>
<td>1,850 (3.8%)</td>
</tr>
<tr>
<td>Spine</td>
<td>17 (0.8%)</td>
<td>158 (0.7%)</td>
<td>199 (0.9%)</td>
<td>374 (0.8%)</td>
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<tr>
<td>Bone/joint other than spine</td>
<td>31 (1.4%)</td>
<td>150 (0.6%)</td>
<td>246 (1.1%)</td>
<td>427 (0.9%)</td>
</tr>
<tr>
<td>Meninges</td>
<td>96 (4.3%)</td>
<td>120 (0.5%)</td>
<td>100 (0.4%)</td>
<td>316 (0.6%)</td>
</tr>
<tr>
<td>CNS § other than meninges</td>
<td>3 (0.1%)</td>
<td>34 (0.1%)</td>
<td>16 (0.1%)</td>
<td>53 (0.1%)</td>
</tr>
<tr>
<td>Genito-urinary</td>
<td>10 (0.4%)</td>
<td>242 (1.0%)</td>
<td>585 (2.6%)</td>
<td>837 (1.7%)</td>
</tr>
<tr>
<td>Peritoneal / digestive</td>
<td>12 (0.5%)</td>
<td>186 (0.8%)</td>
<td>139 (0.6%)</td>
<td>337 (0.7%)</td>
</tr>
<tr>
<td>Disseminated</td>
<td></td>
<td></td>
<td></td>
<td>313 (0.6%)</td>
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<tr>
<td>Other</td>
<td>54 (2.4%)</td>
<td>350 (1.5%)</td>
<td>520 (2.3%)</td>
<td>924 (1.9%)</td>
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<tr>
<td>Unknown</td>
<td>38 (1.7%)</td>
<td>150 (0.6%)</td>
<td>117 (0.5%)</td>
<td>305 (0.6%)</td>
</tr>
</tbody>
</table>

* The Table shows numbers of sites; total 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, Iceland, Hungary, Italy, Luxembourgh, Malta, Norway, Romania, Slovakia, Slovenia, Switzerland, United Kingdom (except Scotland)
‡ Includes 148 cases with unknown age;
§ CNS = Central Nervous System
|| Includes miliary TB, TB of more than two organ systems or isolate of M. tuberculosis complex from the blood
### Table 11. Tuberculosis cases by culture result, 1999

<table>
<thead>
<tr>
<th>Geographic origin Country</th>
<th>Culture routinely performed</th>
<th>Criteria for “definite” TB case*</th>
<th>Culture result</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Positive</td>
<td>Negative / unknown / not done</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N (% )</td>
<td>N (% )</td>
<td></td>
</tr>
<tr>
<td><strong>West</strong></td>
<td></td>
<td><strong>21 291</strong></td>
<td><strong>22 661</strong> (52)</td>
<td><strong>43 952</strong></td>
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<tr>
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<td>yes</td>
<td>C &amp; S</td>
<td>756 (63)</td>
<td>445 (37)</td>
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<td>926 (73)</td>
<td>344 (27)</td>
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<td>C</td>
<td>428 (80)</td>
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<td>Finland</td>
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<td>C</td>
<td>477 (64)</td>
<td>89 (16)</td>
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<td>1 883 (25)</td>
<td>4 991 (75)</td>
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<td>Greece</td>
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<td>1 982 (33)</td>
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<td>360 (55)</td>
<td>209 (45)</td>
</tr>
<tr>
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<td>C &amp; S</td>
<td>2 164 (49)</td>
<td>2 265 (51)</td>
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<td>42 (100)</td>
<td>0 (0)</td>
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<td>592 (39)</td>
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<td>3 536 (69)</td>
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<td>4 576 (55)</td>
</tr>
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<td>412 (84)</td>
<td>81 (16)</td>
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<td><strong>Subtotal EU</strong></td>
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<td><strong>23 111</strong> (51)</td>
<td><strong>45 563</strong></td>
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<td>3 (33)</td>
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<td><strong>23 111</strong> (51)</td>
<td><strong>45 563</strong></td>
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<td><strong>25 269</strong> (49)</td>
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<td><strong>51 324</strong></td>
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<td><strong>15 112</strong> (71)</td>
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<td>1 147 (18)</td>
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<td>741 (38)</td>
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<td><strong>Total East</strong></td>
<td></td>
<td><strong>6 134</strong></td>
<td><strong>15 112</strong> (71)</td>
<td><strong>21 246</strong></td>
</tr>
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<td><strong>54 641</strong></td>
<td><strong>63 492</strong> (54)</td>
<td><strong>118 133</strong></td>
</tr>
</tbody>
</table>

* C = culture positive; C & S = culture or sputum smear positive (see technical note); † Results from a national sample of TB cases notified; ‡ Available only on pulmonary cases (n = 3 289); § Respiratory and meningeal cases only
Table 12. Tuberculosis cases by culture result and site of disease, 1999
(countries providing individual data)

<table>
<thead>
<tr>
<th>Country</th>
<th>Culture done</th>
<th>Culture not done</th>
<th>Unknown</th>
<th>Total N</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
<td>Result unknown</td>
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</tr>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Pulmonary cases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>651 (66)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>333 (34)</td>
</tr>
<tr>
<td>Belgium</td>
<td>760 (79)</td>
<td>104 (11)</td>
<td>11 (1)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Denmark</td>
<td>286 (83)</td>
<td>59 (17)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Finland</td>
<td>345 (90)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>France</td>
<td>1 500 (31)</td>
<td>270 (6)</td>
<td>1 508 (32)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Iceland</td>
<td>7 (78)</td>
<td>2 (22)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
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<td>202 (61)</td>
<td>85 (26)</td>
<td>0 (0)</td>
<td>6 (2)</td>
</tr>
<tr>
<td>Italy</td>
<td>2 164 (66)</td>
<td>260 (8)</td>
<td>322 (10)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Luxembourg</td>
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<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
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<td>4 (21)</td>
<td>3 (16)</td>
<td>0 (0)</td>
</tr>
<tr>
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<td>24 (3)</td>
<td>3 (0)</td>
<td>15 (2)</td>
</tr>
<tr>
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<td>33 (20)</td>
<td>0 (0)</td>
<td>24 (15)</td>
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<tr>
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<td>44 (13)</td>
<td>0 (0)</td>
<td>10 (3)</td>
</tr>
<tr>
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<td>447 (79)</td>
<td>0 (0)</td>
<td>92 (16)</td>
<td>26 (6)</td>
</tr>
<tr>
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<td>2 026 (60)</td>
<td>107 (3)</td>
<td>371 (11)</td>
<td>89 (3)</td>
</tr>
<tr>
<td>Total West</td>
<td>9 443 (57)</td>
<td>992 (6)</td>
<td>2 215 (13)</td>
<td>544 (3)</td>
</tr>
<tr>
<td>Centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>805 (74)</td>
<td>274 (25)</td>
<td>0 (0)</td>
<td>9 (1)</td>
</tr>
<tr>
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<td>830 (62)</td>
<td>396 (30)</td>
<td>74 (6)</td>
<td>4 (0)</td>
</tr>
<tr>
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<td>1 477 (40)</td>
<td>120 (3)</td>
<td>545 (15)</td>
</tr>
<tr>
<td>Romania</td>
<td>13 210 (57)</td>
<td>4 258 (18)</td>
<td>5 271 (23)</td>
<td>410 (2)</td>
</tr>
<tr>
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<td>388 (39)</td>
<td>0 (0)</td>
<td>4 (0)</td>
</tr>
<tr>
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<td>312 (66)</td>
<td>32 (9)</td>
<td>0 (0)</td>
<td>15 (4)</td>
</tr>
<tr>
<td>Total Centre</td>
<td>16 931 (55)</td>
<td>6 825 (22)</td>
<td>5 465 (18)</td>
<td>987 (3)</td>
</tr>
<tr>
<td>East</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>507 (74)</td>
<td>179 (26)</td>
<td>0 (0)</td>
<td>1 (0)</td>
</tr>
<tr>
<td>Total pulmonary cases</td>
<td>26 881 (57)</td>
<td>7 817 (17)</td>
<td>7 680 (16)</td>
<td>1 531 (3)</td>
</tr>
<tr>
<td>b) Extrapulmonary cases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0 (0)</td>
<td>0 (0)</td>
<td>112 (52)</td>
</tr>
<tr>
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<td>166 (53)</td>
<td>22 (7)</td>
<td>3 (1)</td>
<td>0 (0)</td>
</tr>
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<td>49 (26)</td>
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<td>0 (0)</td>
</tr>
<tr>
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</tr>
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<td>169 (10)</td>
<td>326 (19)</td>
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</tr>
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<td>1 (33)</td>
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</tr>
<tr>
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<td>0 (0)</td>
<td>6 (5)</td>
</tr>
<tr>
<td>Italy §</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Malta</td>
<td>1 (33)</td>
<td>2 (67)</td>
<td>0 (0)</td>
<td>6 (5)</td>
</tr>
<tr>
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<td>330 (57)</td>
<td>24 (4)</td>
<td>2 (0)</td>
<td>16 (3)</td>
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<tr>
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<td>12 (11)</td>
<td>0 (0)</td>
<td>18 (16)</td>
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<tr>
<td>Sweden</td>
<td>129 (86)</td>
<td>13 (9)</td>
<td>0 (0)</td>
<td>5 (3)</td>
</tr>
<tr>
<td>Switzerland</td>
<td>168 (61)</td>
<td>0 (0)</td>
<td>23 (11)</td>
<td>16 (8)</td>
</tr>
<tr>
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<td>985 (46)</td>
<td>74 (3)</td>
<td>336 (17)</td>
<td>65 (3)</td>
</tr>
<tr>
<td>Total West</td>
<td>2 466 (41)</td>
<td>550 (9)</td>
<td>861 (15)</td>
<td>227 (4)</td>
</tr>
<tr>
<td>Centre</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>61 (43)</td>
<td>75 (53)</td>
<td>1 (1)</td>
<td>5 (4)</td>
</tr>
<tr>
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<td>260 (86)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Hungary</td>
<td>23 (10)</td>
<td>69 (30)</td>
<td>7 (3)</td>
<td>115 (50)</td>
</tr>
<tr>
<td>Romania</td>
<td>282 (8)</td>
<td>1 098 (30)</td>
<td>909 (24)</td>
<td>1 429 (38)</td>
</tr>
<tr>
<td>Slovakia</td>
<td>54 (24)</td>
<td>150 (67)</td>
<td>0 (0)</td>
<td>11 (5)</td>
</tr>
<tr>
<td>Slovenia</td>
<td>38 (51)</td>
<td>23 (31)</td>
<td>0 (0)</td>
<td>12 (16)</td>
</tr>
<tr>
<td>Total Centre</td>
<td>458 (10)</td>
<td>1 675 (36)</td>
<td>917 (20)</td>
<td>1 572 (33)</td>
</tr>
<tr>
<td>East</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>21 (31)</td>
<td>46 (69)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Total extrapulmonary cases</td>
<td>2 945 (27)</td>
<td>2 271 (21)</td>
<td>1 798 (17)</td>
<td>1 799 (17)</td>
</tr>
</tbody>
</table>

* Without Scotland; † Results from a national sample of TB cases notified; ‡ Respiratory classification; § Culture results not available for extra-pulmonary cases
### Table 13. Tuberculosis cases by *M. tuberculosis* complex species, 1999

<table>
<thead>
<tr>
<th>Geographic area</th>
<th><em>M. tuberculosis</em></th>
<th><em>M. bovis</em></th>
<th><em>M. africanum</em></th>
<th>Unknown / not done</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td></td>
</tr>
<tr>
<td><strong>West</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>372 (49.2)</td>
<td>– (0.1)</td>
<td>0 (0.0)</td>
<td>383 (50.7)</td>
<td>756</td>
</tr>
<tr>
<td>Belgium</td>
<td>865 (93.4)</td>
<td>5 (0.5)</td>
<td>2 (0.2)</td>
<td>54 (5.8)</td>
<td>926</td>
</tr>
<tr>
<td>Denmark †</td>
<td>428 (100.0)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>428</td>
</tr>
<tr>
<td>Finland</td>
<td>477 (100.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>477</td>
</tr>
<tr>
<td>Germany ‡</td>
<td>3 807 (95.6)</td>
<td>51 (1.3)</td>
<td>28 (0.7)</td>
<td>97 (2.4)</td>
<td>3 983</td>
</tr>
<tr>
<td>Greece</td>
<td>184 (46.6)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>211 (53.4)</td>
<td>395</td>
</tr>
<tr>
<td>Ireland</td>
<td>242 (93.1)</td>
<td>11 (4.2)</td>
<td>0 (0.0)</td>
<td>7 (2.7)</td>
<td>260</td>
</tr>
<tr>
<td>Italy</td>
<td>1 420 (65.6)</td>
<td>2 (0.1)</td>
<td>6 (0.3)</td>
<td>736 (34.0)</td>
<td>2 164</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>33 (78.6)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>9 (21.4)</td>
<td>42</td>
</tr>
<tr>
<td>Netherlands</td>
<td>930 (98.6)</td>
<td>12 (1.3)</td>
<td>1 (0.1)</td>
<td>0 (0.0)</td>
<td>943</td>
</tr>
<tr>
<td>Sweden</td>
<td>410 (99.5)</td>
<td>2 (0.5)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>412</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3 168 (91.1)</td>
<td>34 (1.0)</td>
<td>14 (0.4)</td>
<td>261 (7.5)</td>
<td>3 477</td>
</tr>
<tr>
<td><strong>Subtotal EU</strong></td>
<td>12 336 (86.5)</td>
<td>118 (0.8)</td>
<td>51 (0.4)</td>
<td>1 758 (12.3)</td>
<td>14 263</td>
</tr>
<tr>
<td>Andorra</td>
<td>5 (83.3)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>1 (16.7)</td>
<td>6</td>
</tr>
<tr>
<td>Iceland</td>
<td>8 (100.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>8</td>
</tr>
<tr>
<td>Norway</td>
<td>185 (99.5)</td>
<td>1 (0.5)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>186</td>
</tr>
<tr>
<td>Switzerland</td>
<td>533 (86.7)</td>
<td>11 (1.8)</td>
<td>3 (0.5)</td>
<td>68 (11.1)</td>
<td>615</td>
</tr>
<tr>
<td><strong>Total West</strong></td>
<td>13 067 (86.7)</td>
<td>130 (0.9)</td>
<td>54 (0.4)</td>
<td>1 827 (12.1)</td>
<td>15 078</td>
</tr>
<tr>
<td><strong>Centre</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bosnia-Herzegovina</td>
<td>1 748 (100.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>1 748</td>
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<tr>
<td>Czech Republic</td>
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<td>1 (0.1)</td>
<td>0 (0.0)</td>
<td>129 (15.5)</td>
<td>830</td>
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<tr>
<td>Hungary</td>
<td>1 181 (97.9)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>25 (2.1)</td>
<td>1 206</td>
</tr>
<tr>
<td>Macedonia, FYR</td>
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<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>133</td>
</tr>
<tr>
<td>Romania</td>
<td>12 331 (91.5)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>1 148 (8.5)</td>
<td>13 479</td>
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<td>0 (0.0)</td>
<td>66 (10.2)</td>
<td>645</td>
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<td>0 (0.0)</td>
<td>1 (0.3)</td>
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<td><strong>Total Centre</strong></td>
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<td>0 (0.0)</td>
<td>1 369 (7.4)</td>
<td>18 391</td>
</tr>
<tr>
<td><strong>East §</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>1 015 (89.3)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>122 (10.7)</td>
<td>1 137</td>
</tr>
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<td><strong>Total</strong></td>
<td>31 103 (89.9)</td>
<td>131 (0.4)</td>
<td>54 (0.2)</td>
<td>3 318 (9.6)</td>
<td>34 606</td>
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* May differ from Total in Table 11 due to later data collection; † *M. bovis* and *M. africanum* not notifiable until 2000; ‡ National sample of notified TB cases; § Data collected only from Baltic countries
## Table 14. Pulmonary/respiratory tuberculosis cases, by sputum smear result, 1999

<table>
<thead>
<tr>
<th>Geographic area</th>
<th>Classification by site</th>
<th>Routine use of sputum smear</th>
<th>Positive</th>
<th>Negative / unknown / not done</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
<td></td>
</tr>
<tr>
<td><strong>West</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>pulm</td>
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<td>352 (36)</td>
<td>632 (64)</td>
<td>984</td>
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<td>yes</td>
<td>417 (44)</td>
<td>540 (56)</td>
<td>957</td>
</tr>
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<td>113 (33)</td>
<td>232 (67)</td>
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<td>2 631 (55)</td>
<td>2 149 (45)</td>
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<td>415 (50)</td>
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<td>124 (38)</td>
<td>205 (62)</td>
<td>329</td>
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<tr>
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<td>some areas</td>
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<td>33 (80)</td>
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<td>345 (36)</td>
<td>614 (64)</td>
<td>959</td>
</tr>
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<td>1 391 (44)</td>
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<td>resp</td>
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<td>3 179 (49)</td>
<td>3 302 (51)</td>
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<td>214 (62)</td>
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<td>pulm †</td>
<td>yes</td>
<td>1 052 (28)</td>
<td>2 706 (72)</td>
<td>3 758</td>
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<tr>
<td><strong>Subtotal EU</strong></td>
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<td>19 630 (56)</td>
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<td>5 (56)</td>
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<td>179 (49)</td>
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<td>–</td>
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<td>7 005 (60)</td>
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<td>10 361 (45)</td>
<td>23 149</td>
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<td>7 460 (41)</td>
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<td>4 176 (72)</td>
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* pulm= pulmonary; resp=respiratory (see technical note); † Respiratory classification for Scotland; ‡ Results from a national sample of TB cases notified
§ Provided on new cases only
**Table 15. Laboratory practices for drug susceptibility testing (DST), 1999**

(34 countries which provided DST results in 1999 *)

<table>
<thead>
<tr>
<th>Geographic area Country</th>
<th>No. labs. performing DST</th>
<th>DST methods used</th>
<th>Proficiency testing</th>
<th>% agreement of results for:</th>
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<td>proportion (radiometric)</td>
<td>resistance ratio</td>
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<td>Resistance ratio</td>
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<td>no</td>
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<td>yes</td>
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* For 7 countries, laboratory practices were provided but no DST results (Belgium, Italy, Bulgaria, Macedonia, Poland, Azerbaijan & Tadjikistan)
† INH = isoniazid; RMP = rifampicin;
‡ last done in 1998
§ done in Denmark;
¶ done in the United Kingdom;
# Information not available

na = not available

Report on tuberculosis cases notified in 1999 EuroTB – March 2002 40
### Table 16. Diagnostic practices and type of drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Geographic area Country</th>
<th>Culture performed routinely</th>
<th>DST * performed routinely</th>
<th>Geographic Coverage</th>
<th>Source of cases included</th>
<th>Culture positive cases</th>
<th>Cases with DST result</th>
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<td>TB notifications</td>
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<td>yes</td>
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<td>no</td>
<td>national</td>
<td>all laboratories (n=18)</td>
<td>na</td>
<td>4 496 –</td>
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<td>na</td>
<td>national reference lab.</td>
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<td>na</td>
<td>36 217 –</td>
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<td>one laboratory (Kiev)</td>
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<td>484 –</td>
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na = information not available;  
* Drug susceptibility testing;  
† National sample of notified TB cases  
‡ New respiratory TB cases notified to the Ministry of Health (N= 82 175)
### Table 17. Global drug resistance at the start of treatment, tuberculosis cases, 1999

<table>
<thead>
<tr>
<th>Geographic area Country</th>
<th>Cases with DST * result</th>
<th>Isoniazid (INH) N (%)</th>
<th>Rifampicin (RMP) N (%)</th>
<th>INH &amp; RMP (multidrug resistant) N (%)</th>
<th>Ethambutol N (%)</th>
<th>Streptomycin N (%)</th>
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</tr>
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<td>0 (0.0)</td>
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<td>9 (1.6)</td>
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<td>5 (1.5)</td>
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<td>–</td>
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<td>–</td>
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<td>16 (4.8)</td>
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<td>–</td>
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<td>–</td>
<td>–</td>
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<td>10 (2.1)</td>
<td>110 (22.7)</td>
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* Drug susceptibility testing;
† National sample of notified TB cases;
‡ Data available on new cases only
Table 18. Drug resistance at the start of treatment, tuberculosis cases never treated with anti-TB drugs, 1999

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<th>Geographic area</th>
<th>Cases with DST result</th>
<th>Cases resistant to at least:</th>
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<tr>
<td></td>
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<td>Isoniazid (INH) (%)</td>
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<td></td>
</tr>
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<td>2 206</td>
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<tr>
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<tr>
<td>Ireland</td>
<td>101</td>
<td>2 (2.0)</td>
</tr>
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<td>Israel</td>
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<td>–</td>
</tr>
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</tr>
<tr>
<td><strong>United Kingdom ‡</strong></td>
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<td>133 (6.2)</td>
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<td></td>
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<tr>
<td>Bosnia–Herzegovina</td>
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<tr>
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<td>–</td>
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</tr>
<tr>
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<td>30 (12.2)</td>
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* Drug susceptibility testing;
† National sample of notified cases;
‡ Except Scotland
### Table 19. Drug resistance at the start of treatment, tuberculosis cases previously treated with anti-TB drugs, 1999

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<th>Geographic area</th>
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<th>Cases resistant to at least:</th>
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<td>Isoniazid (INH) N (%)</td>
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<td>-</td>
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<td>2 (8.3)</td>
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<td>1 (3.7)</td>
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<tr>
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<td>90 (53.9)</td>
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† National sample of notified cases;
* Drug susceptibility testing;
‡ Except Scotland
Table 20. Drug resistance at the start of treatment, tuberculosis cases born in the country / national citizens, 1999

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* Birth = country of birth; citiz. = citizenship; na = not available; † Drug susceptibility testing; ‡ National sample of notified TB cases; § Except Scotland
**Table 21. Drug resistance at the start of treatment, tuberculosis cases born abroad / foreign citizens, 1999**

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<td>Andorra</td>
<td>63</td>
<td>Albania</td>
<td>87</td>
<td>Armenia</td>
<td>103</td>
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<td>Austria</td>
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<td>Bosnia-Herzegovina</td>
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<td>Azerbaijan</td>
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<td>Bulgaria</td>
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<td>Georgia</td>
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<td>Hungary</td>
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<td>Kazakhstan</td>
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</tr>
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<td>Germany</td>
<td>69</td>
<td>Macedonia, FyR</td>
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<td>Kyrgyzstan</td>
<td>109</td>
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<td>Greece</td>
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<td>Poland</td>
<td>94</td>
<td>Latvia</td>
<td>110</td>
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<td>Iceland</td>
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<td>Romania</td>
<td>95</td>
<td>Lithuania</td>
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<td>Ireland</td>
<td>72</td>
<td>Slovakia</td>
<td>96</td>
<td>Moldova, Republic of</td>
<td>112</td>
</tr>
<tr>
<td>Israel</td>
<td>73</td>
<td>Slovenia</td>
<td>97</td>
<td>Russian Federation</td>
<td>113</td>
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<td>Italy</td>
<td>74</td>
<td>Turkey</td>
<td>98</td>
<td>Tajikistan</td>
<td>114</td>
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<tr>
<td>Luxembourg</td>
<td>75</td>
<td>Yugoslavia</td>
<td>99</td>
<td>Turkmenistan</td>
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<td>Uzbekistan</td>
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<td>Netherlands</td>
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<td>Norway</td>
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<td>Portugal</td>
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<td></td>
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<td>Spain</td>
<td>81</td>
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<td>Sweden</td>
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<td>United Kingdom</td>
<td>84</td>
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</tr>
</tbody>
</table>
NOTE ON COUNTRY PROFILES

Country profiles for 1999 are presented for all countries except San Marino, where zero cases of TB were notified in 1999. Data may differ from those published by WHO, mainly for countries providing individual data to EuroTB, due to further validation.

TB case notifications
The median age of TB cases was calculated only for countries providing individual data.

Drug resistance surveillance
Data presented are be provided on TB cases notified in 1999 or on TB cases diagnosed in selected laboratories or clinical Centres, unlinked to TB notification. In countries where culture or drug susceptibility testing (DST) are not routinely performed for TB diagnosis, or where DST results are provided for a small proportion of culture positive cases notified, data may not be representative of the country situation.

1998 data presented when 1999 data not available.

Figures
The Figure on the bottom left showing numbers of TB cases and TB notification rates for the period 1995-1999, is presented for all countries. When information on geographic origin is available for at least three data points and for at least 85% of cases, numbers of cases are shown by geographic origin (nationals / foreigners).

The other Figures are presented for countries with at least 50 TB cases notified in 1999. The Figure “Tuberculosis notification rates by age group” is presented when at least three data points are available. The Figure “Tuberculosis cases by age group, sex and geographic origin” is presented for countries where at least 5% of TB cases notified were of foreign origin.

Abbreviations used are as follows:
DST = Drug susceptibility testing
INH = Isoniazid
RMP = Rifampicin
na = not available
ANDORRA

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>9</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>12.0</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.3</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>2 (22.2%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>9 (100%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>6 (66.7%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>6 (66.7%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>3 (50.0%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

- Linkage with TB notifications: yes
- Geographic coverage: national
- Culture positive cases with DST* results: 6/6 (100%)

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>6</td>
<td>–</td>
<td>0</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>0 (0.0)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>0 (0.0)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>0 (0.0)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Insufficient number of cases for graphic presentation

Tuberculosis cases by age group, geographic origin and sex, 1999

Insufficient number of cases for graphic presentation

Total number of TB cases and notification rates, 1995-1999

<table>
<thead>
<tr>
<th>No. of cases</th>
<th>notification rate/100 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>15</td>
</tr>
<tr>
<td>1996</td>
<td>10</td>
</tr>
<tr>
<td>1997</td>
<td>5</td>
</tr>
<tr>
<td>1998</td>
<td>2</td>
</tr>
<tr>
<td>1999</td>
<td>0</td>
</tr>
</tbody>
</table>

Tuberculosis notification rates by age group, 1995-1999

Insufficient number of cases for graphic presentation
**AUSTRIA**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>1,201</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>14.7</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.7</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>48</td>
</tr>
<tr>
<td>Foreign citizens</td>
<td>312 (26.0%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>1,085 (90.3%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>756 (62.9%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>984 (81.9%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>352 (35.8%)</td>
</tr>
</tbody>
</table>

**Drug resistance surveillance, 1999**

- Linkage with TB notifications: yes
- Geographic coverage: national
- Culture positive cases with DST* results: 756/756 (100%)

**Resistant cases by previous anti-TB treatment status**

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>703</td>
<td>53</td>
<td>0</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>30 (4.3)</td>
<td>7 (13.2)</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>5 (0.7)</td>
<td>3 (5.7)</td>
<td>8</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>2 (0.3)</td>
<td>3 (5.7)</td>
<td>5</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

**Number of TB cases by geographic origin and notification rates, 1995-1999**

**Tuberculosis notification rates by age group, 1995-1999**
BELGIUM

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>1,270</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>12.5</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.9</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>47</td>
</tr>
<tr>
<td>Foreign citizens</td>
<td>454 (35.7%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>983 (77.4%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>926 (72.9%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>957 (75.4%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>417 (43.6%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

Not available
DENMARK

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>536</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>10.1</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.3</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>34</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>372 (69.4%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>502 (93.7%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>428 (79.9%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>345 (64.4%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>113 (32.8%)</td>
</tr>
</tbody>
</table>

* Except DST data

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Linkage with TB notifications</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic coverage</td>
<td>national</td>
</tr>
<tr>
<td>Culture positive cases with DST* results</td>
<td>416/428 (97%)</td>
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</table>

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>392</td>
<td>24</td>
<td>0</td>
</tr>
</tbody>
</table>

Resistant to INH | 29 (7.4) | 2 (8.3) | -- | 31 |
Resistant to RMP | 1 (0.3) | 0 (0.0) | -- | 1 |
Multidrug resistant § | 0 (0.0) | 0 (0.0) | -- | 0 |

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Number of TB cases by geographic origin and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

---

EuroTB – March 2002
Report on tuberculosis cases notified in 1999
FINLAND

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
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</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>566</td>
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<td>Notification rate per 100 000</td>
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<tr>
<td>Sex ratio (male/female)</td>
<td>1.1</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>70</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>49 (8.7%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>473 (83.6%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>477 (84.3%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>382 (67.5%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>180 (47.1%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

| Linkage with TB notifications | yes |
| Geographic coverage | national |
| Culture positive cases with DST* results | 450/477 (94%) |

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>371</td>
<td>-</td>
<td>27</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>2 (0.5)</td>
<td>1 (3.7)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Number of TB cases by geographic origin and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>6 674</td>
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<tr>
<td>Notification rate per 100 000</td>
<td>11.0</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.5</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>46</td>
</tr>
<tr>
<td>Individuals born abroad §</td>
<td>1 932 (28.9%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>4 196 (62.9%)</td>
</tr>
<tr>
<td>Culture positive**</td>
<td>1 683 (25.2%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>4 780 (71.6%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>2 631 (55.0%)</td>
</tr>
</tbody>
</table>

* Except DST data; ** Culture result unknown for 32% of TB cases § 23% of cases with missing information

**Drug resistance surveillance, 1999**

<table>
<thead>
<tr>
<th>Resistant cases by previous anti-TB treatment status</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
</tr>
<tr>
<td>N (%)</td>
</tr>
<tr>
<td>Tested</td>
</tr>
<tr>
<td>Resistant to INH</td>
</tr>
<tr>
<td>Resistant to RMP</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

**Total number of TB cases and notification rates, 1995-1999**

**Tuberculosis cases by age group, geographic origin and sex, 1999**

**Tuberculosis notification rates by age group, 1995-1999**
GERMANY

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>9,974</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>12.1</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.6</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens</td>
<td>3,305 (33.1%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>–</td>
</tr>
<tr>
<td>Culture positive *</td>
<td>3,963 (66.7%)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>8,297 (83.2%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>2,954 (35.6%)</td>
</tr>
</tbody>
</table>

* Data on 5,945 TB cases notified in 285/430 public health units

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Linkage with TB notifications</th>
<th>yes (national sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic coverage</td>
<td>national</td>
</tr>
<tr>
<td>Culture positive cases with DST* results</td>
<td>3,356/4,023 (83%)</td>
</tr>
</tbody>
</table>

Note: TB cases notified in 285/430 public health units

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>Resistant to INH</th>
<th>Resistant to RMP</th>
<th>Multidrug resistant §</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>New</td>
<td>Previously treated</td>
<td>Unknown</td>
</tr>
<tr>
<td>Tested</td>
<td>2,206 (4.3)</td>
<td>47 (15.5)</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>94 (1.0)</td>
<td>47 (15.5)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>23 (1.0)</td>
<td>23 (7.6)</td>
</tr>
</tbody>
</table>
| Multidrug resistant § | 18 (0.8)     | 18 (5.9)             | 5 (0.6) | 41

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

<table>
<thead>
<tr>
<th>Cases/100,000</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td>5-14</td>
<td>3.5</td>
<td>5.0</td>
</tr>
<tr>
<td>15-24</td>
<td>6.0</td>
<td>8.0</td>
</tr>
<tr>
<td>25-34</td>
<td>8.0</td>
<td>10.0</td>
</tr>
<tr>
<td>35-44</td>
<td>10.0</td>
<td>12.0</td>
</tr>
<tr>
<td>45-54</td>
<td>12.0</td>
<td>14.0</td>
</tr>
<tr>
<td>55-64</td>
<td>14.0</td>
<td>16.0</td>
</tr>
<tr>
<td>&gt; 64</td>
<td>16.0</td>
<td>18.0</td>
</tr>
</tbody>
</table>

Tuberculosis cases by age group, geographic origin and sex, 1999

<table>
<thead>
<tr>
<th>No. of TB cases</th>
<th>Female national</th>
<th>Male national</th>
<th>Female foreigner</th>
<th>Male foreigner</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>1,000</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>5-14</td>
<td>1,000</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>15-24</td>
<td>1,000</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>25-34</td>
<td>1,000</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>35-44</td>
<td>1,000</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>45-54</td>
<td>1,000</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>55-64</td>
<td>1,000</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>&gt; 64</td>
<td>1,000</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

Number of TB cases by geographic origin and notification rates, 1995-1999

<table>
<thead>
<tr>
<th>No. of cases</th>
<th>notification rate/100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>20,000</td>
</tr>
<tr>
<td>1996</td>
<td>10,000</td>
</tr>
<tr>
<td>1997</td>
<td>8,000</td>
</tr>
<tr>
<td>1998</td>
<td>6,000</td>
</tr>
<tr>
<td>1999</td>
<td>4,000</td>
</tr>
</tbody>
</table>

Tuberculosis notification rates by age group, 1995-1999

<table>
<thead>
<tr>
<th>Cases/100,000</th>
<th>0-4</th>
<th>5-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>&gt; 64</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>1996</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>1997</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>55</td>
</tr>
<tr>
<td>1998</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>1999</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>55</td>
<td>60</td>
<td>65</td>
</tr>
</tbody>
</table>
GREECE

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>952</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>9.0</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>2.4</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens</td>
<td>116 (12.2%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>897 (94.2%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>396 (41.6%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>827 (86.9%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>412 (49.8%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>–</td>
<td>–</td>
<td>750</td>
<td>750</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>–</td>
<td>–</td>
<td>113 (15.1)</td>
<td>113</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>–</td>
<td>–</td>
<td>55 (7.3)</td>
<td>55</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

Note: Notification system reorganised in 1998
**ICELAND**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>12</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>4.3</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.0</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>40</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>8 (66.7%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>8 (66.7%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>8 (66.7%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>9 (75.0%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>4 (44.4%)</td>
</tr>
</tbody>
</table>

**Drug resistance surveillance, 1999**

<table>
<thead>
<tr>
<th>Linkage with TB notifications</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic coverage</td>
<td>national</td>
</tr>
<tr>
<td>Culture positive cases with DST* results</td>
<td>8/8 (100%)</td>
</tr>
</tbody>
</table>

**Resistant cases by previous anti-TB treatment status**

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>7</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>-</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>-</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>-</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

Insufficient number of cases for graphic presentation

**Tuberculosis cases by age group, geographic origin and sex, 1999**

Insufficient number of cases for graphic presentation

**Number of TB cases by geographic origin and notification rates, 1995-1999**

![Graph showing number of TB cases by geographic origin and notification rates, 1995-1999](image)

**Tuberculosis notification rates by age group, 1995-1999**

Insufficient number of cases for graphic presentation
**IRELAND**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>469</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>12.7</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.5</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>46</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>65 (13.9%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>158 (33.7%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>260 (55.4%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>329 (70.1%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>124 (37.7%)</td>
</tr>
</tbody>
</table>

**Drug resistance surveillance, 1999**

- **Linkage with TB notifications**: yes
- **Geographic coverage**: national
- **Culture positive cases with DST* results**: 260/260 (100%)

**Resistant cases by previous anti-TB treatment status**

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>(%)</td>
<td>N</td>
<td>(%)</td>
</tr>
<tr>
<td>Tested</td>
<td>101</td>
<td>-</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>2</td>
<td>(2.0)</td>
<td>0</td>
<td>(0.0)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>1</td>
<td>(1.0)</td>
<td>0</td>
<td>(0.0)</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>1</td>
<td>(1.0)</td>
<td>0</td>
<td>(0.0)</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

**Tuberculosis cases by age group, geographic origin and sex, 1999**

**Total number of TB cases and notification rates, 1995-1999**

**Tuberculosis notification rates by age group, 1995-1999**

*Note: Notification system reorganised in 1998*
COUNTRY PROFILES

ISRAEL

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>520</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>8.5</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.4</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>449 (86.3%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>481 (92.5%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>331 (63.7%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>369 (71.0%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>190 (51.5%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

- Linkage with TB notifications: yes
- Geographic coverage: national
- Culture positive cases with DST* results: 331/331 (100%)

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis cases by age group, geographic origin and sex, 1999

Tuberculosis notification rates by age group and sex, 1999

Number of TB cases by geographic origin and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

Note: Notification system reorganised in 1998
ITALY

Tuberculosis case notifications, 1999

Type of data provided: Individual*
Total number of cases: 4,429
Notification rate per 100,000: 7.7
Sex ratio (male/female): 1.7
Median age (years): 51
Individuals born abroad: 961 (21.7%)
New (never treated): 1,709 (38.6%)
Culture positive**: 2,164 (65.8%)
Pulmonary: 3,289 (74.3%)
among which sputum smear positive: 1,637 (49.8%)

* Except DST data; ** Culture results available only for pulmonary cases

Drug resistance surveillance, 1998

Linkage with TB notifications: no
Geographic coverage: 13 regions
Culture positive cases with DST* results: –
Note: TB cases diagnosed in 46 clinical centres in 13/20 regions

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>683</td>
<td>-</td>
<td>115</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>38</td>
<td>(5.6)</td>
<td>53</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>15</td>
<td>(2.2)</td>
<td>55</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>8</td>
<td>(1.2)</td>
<td>42</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis cases by age group, geographic origin and sex, 1999

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Tuberculosis notification rates by age group, 1995-1999

Tuberculosis cases by age group, 1995-1999

Report on tuberculosis cases notified in 1999
### Luxembourg

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>42</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>9.9</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>6.0</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>42</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>28 (66.7%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>38 (90.5%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>42 (100%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>41 (97.6%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>8 (19.5%)</td>
</tr>
</tbody>
</table>

**Drug resistance surveillance, 1998**

- Linkage with TB notifications: yes
- Geographic coverage: national
- Culture positive cases with DST*: 42/42 (100%)

**Resistant cases by previous anti-TB treatment status**

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>(%)</td>
<td>N</td>
<td>(%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tested</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resistant to INH</td>
<td>3 (7.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resistant to RMP</td>
<td>1 (2.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multidrug resistant §</td>
<td>1 (2.5)</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

- Insufficient number of cases for graphic presentation

**Tuberculosis cases by age group, geographic origin and sex, 1999**

- Insufficient number of cases for graphic presentation

**Total number of TB cases and notification rates, 1995-1999**

- Insufficient number of cases for graphic presentation
MALTA

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>22</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>5.7</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>3.4</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>63</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>7 (31.8%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>22 (100%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>13 (59.1%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>19 (86.4%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>5 (26.3%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

| Linkage with TB notifications | yes |
| Geographic coverage | national |
| Culture positive cases with DST* results | 13/13 (100%) |

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New Tested</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
<th>N (%)</th>
<th>N (%)</th>
<th>N (%)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>0 (0.0)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>0 (0.0)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>0 (0.0)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Insufficient number of cases for graphic presentation

Tuberculosis cases by age group, geographic origin and sex, 1999

Insufficient number of cases for graphic presentation

Total number of TB cases and notification rates, 1995-1999

<table>
<thead>
<tr>
<th>No. of cases</th>
<th>notification rate/100 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>0</td>
</tr>
<tr>
<td>1996</td>
<td>10</td>
</tr>
<tr>
<td>1997</td>
<td>8</td>
</tr>
<tr>
<td>1998</td>
<td>6</td>
</tr>
<tr>
<td>1999</td>
<td>4</td>
</tr>
</tbody>
</table>

Tuberculosis notification rates by age group, 1995-1999

Insufficient number of cases for graphic presentation
MONACO

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>3</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>8.8</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>2.0</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens</td>
<td>2 (66.7%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>3 (100%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>2 (66.7%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>2 (66.7%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>2 (100%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

Not available

Tuberculosis notification rates by age group and sex, 1999

Insufficient number of cases for graphic presentation

Tuberculosis cases by age group, geographic origin and sex, 1999

Insufficient number of cases for graphic presentation

Total number of TB cases and notification rates, 1995-1999

Insufficient number of cases for graphic presentation

Report on tuberculosis cases notified in 1999
THE NETHERLANDS

Tuberculosis case notifications, 1999

- Type of data provided: Individual
- Total number of cases: 1,535
- Notification rate per 100,000: 9.8
- Sex ratio (male/female): 1.4
- Median age (years): 34
- Foreign citizens: 898 (58.5%)
- New (never treated): 1,459 (95.0%)
- Culture positive: 943 (61.4%)
- Pulmonary: 959 (62.5%)
  - among which sputum smear positive: 345 (36.0%)

Drug resistance surveillance, 1999

- Linkage with TB notifications: yes
- Geographic coverage: national
- Culture positive cases with DST* results: 941/943 (100%)

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th></th>
<th>New (%)</th>
<th>Previously treated (%)</th>
<th>Unknown (%)</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>899</td>
<td>42</td>
<td>0</td>
<td>941</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>52 (5.8)</td>
<td>3 (7.1)</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>7 (0.8)</td>
<td>1 (2.4)</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>4 (0.4)</td>
<td>0 (0.0)</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Number of TB cases by geographic origin and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>273</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>6.1</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.1</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>37</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>(65.9%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td>(77.7%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>186</td>
</tr>
<tr>
<td></td>
<td>(68.1%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>(59.7%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>(20.9%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

- Linkage with TB notifications: yes
- Geographic coverage: national
- Culture positive cases with DST* results: 184/186 (99%)

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th></th>
<th>New N (%)</th>
<th>Previously treated N (%)</th>
<th>Unknown N (%)</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>144</td>
<td>40</td>
<td>0</td>
<td>184</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>11 (7.6)</td>
<td>0 (0.0)</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>3 (2.1)</td>
<td>0 (0.0)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>3 (2.1)</td>
<td>0 (0.0)</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Number of TB cases by geographic origin and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
PORTUGAL

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>5,160</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>52.3</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>2.1</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>325 (6.3%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>4,599 (89.1%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>1,624 (31.5%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>3,192 (61.9%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>1,801 (56.4%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

Not available

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
SPAIN

Tuberculosis case notifications*, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>8 393</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>21.2</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>2.1</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Individuals born abroad**</td>
<td>151 (1.8%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>6 177 (73.6%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>3 817 (45.5%)</td>
</tr>
<tr>
<td>Respiratory*</td>
<td>6 481 (77.2%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>3 179 (49.1%)</td>
</tr>
</tbody>
</table>

* Respiratory and meningeal cases only; 22% of cases with unknown site of disease; ** 59% of cases with unknown geographic origin

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Tested</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Tested</td>
<td>514</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>19 (3.7)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>4 (0.8)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>3 (0.6)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

< 5% of TB cases of foreign origin

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

Not available

Note: Change of case definition in 1997

Report on tuberculosis cases notified in 1999 EuroTB – March 2002
Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>493</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>5.5</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.1</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>41</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>319 (64.7%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>456 (92.5%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>412 (83.6%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>343 (69.6%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>129 (37.6%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

- Linkage with TB notifications: yes
- Geographic coverage: national
- Culture positive cases with DST* results: 408/412 (99%)

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th></th>
<th>New (%)</th>
<th>Previously treated (%)</th>
<th>Unknown (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>377</td>
<td>31</td>
<td>0</td>
<td>408</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>35 (9.3)</td>
<td>7 (22.6)</td>
<td>–</td>
<td>42</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>5 (1.3)</td>
<td>4 (12.9)</td>
<td>–</td>
<td>9</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>3 (0.8)</td>
<td>4 (12.9)</td>
<td>–</td>
<td>7</td>
</tr>
</tbody>
</table>

*T Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Number of TB cases by geographic origin and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>772</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>10.5</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.3</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>40</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>469 (60.8%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>534 (69.2%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>615 (79.7%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>565 (73.2%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>130 (23.0%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

Linkage with TB notifications | yes |
Geographic coverage | national |
Culture positive cases with DST* results | 611/615 (99%) |

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>428</td>
<td>57</td>
<td>126</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>24 (5.6)</td>
<td>12 (21.1)</td>
<td>4 (3.2)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>4 (0.9)</td>
<td>6 (10.5)</td>
<td>3 (2.4)</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>3 (0.7)</td>
<td>6 (10.5)</td>
<td>2 (1.6)</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP
**UNITED KINGDOM**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>6,287</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>10.7</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.2</td>
</tr>
<tr>
<td>Median age (years)*</td>
<td>39</td>
</tr>
<tr>
<td>Individuals born abroad * §</td>
<td>2,965 (47.2%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>4,287 (68.2%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>3,400 (54.1%)</td>
</tr>
<tr>
<td>Pulmonary **</td>
<td>3,758 (59.8%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>1,052 (28.0%)</td>
</tr>
</tbody>
</table>

* Except Scotland;  ** Respiratory classification for Scotland
§ 20% of cases with missing information

**Drug resistance surveillance, 1999**

**Linkage with TB notifications**
- yes

**Geographic coverage**
- national (excl. Scotland)

**Culture positive cases with DST* results**
- 2,870/3,108 (92%)

**Resistant cases by previous anti-TB treatment status**

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>2,138</td>
<td>220</td>
<td>512</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>133 (6.2%)</td>
<td>10 (4.5%)</td>
<td>27 (5.3%)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>11 (0.5%)</td>
<td>8 (3.6%)</td>
<td>2 (0.4%)</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>10 (0.5%)</td>
<td>6 (2.7%)</td>
<td>2 (0.4%)</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

**Tuberculosis cases by age group, geographic origin and sex, 1999**

**Total number of TB cases and notification rates, 1995-1999**

**Tuberculosis notification rates by age group, 1995-1999**
ALBANIA

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>765</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>24.6</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.3</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad</td>
<td>– –</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>722 (94.4%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>215 (28.1%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>504 (65.9%)</td>
</tr>
</tbody>
</table>

among which sputum smear positive 184 (36.5%)

Drug resistance surveillance, 1999

Linkage with TB notifications: yes
Geographic coverage: some areas
Culture positive cases with DST* results: 152/215 (71%)

Note: Cases diagnosed at the University hospital in Tirana. Culture and DST not done routinely.

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Multidrug resistant§</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP
BOSNIA-HERZEGOVINA

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>3 075</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>80.1</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.5</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>9 (0.3%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>2 712 (88.2%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>1 748 (56.8%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>2 749 (89.4%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>931 (33.9%)</td>
</tr>
</tbody>
</table>

Tuberculosis cases by age group, geographic origin and sex, 1999

< 5% of TB cases of foreign origin

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Linkage with TB notifications</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic coverage</td>
<td>national</td>
</tr>
<tr>
<td>Culture positive cases with DST* results</td>
<td>1 349/1 748 (77%)</td>
</tr>
</tbody>
</table>

Note: data provided on selected cases in Republic Srpska

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>7 (0.6)</td>
<td>6 (5.0)</td>
<td>5 (6.8)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>9 (0.8)</td>
<td>10 (8.3)</td>
<td>5 (6.8)</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>3 (2.5)</td>
<td>3 (2.5)</td>
<td>1 (1.4)</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis notification rates by age group, 1995-1999

Total number of TB cases and notification rates, 1995-1999
**BULGARIA**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>3,530</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>42.6</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>3.4</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad</td>
<td>–</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>3,242 (91.8%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>–</td>
</tr>
<tr>
<td>Respiratory</td>
<td>3,265 (92.5%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>1,985 (60.8%)</td>
</tr>
</tbody>
</table>

**Drug resistance surveillance, 1999**

*Not available*

**Tuberculosis notification rates by age group and sex, 1999**

*Not available*

**Tuberculosis cases by age group, geographic origin and sex, 1999**

*Not available*

**Total number of TB cases and notification rates, 1995-1999**

*Not available*
CROATIA

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>1,770</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>39.5</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.8</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>48</td>
</tr>
<tr>
<td>Individuals born abroad ‡</td>
<td>204 (11.5%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>1,622 (91.6%)</td>
</tr>
<tr>
<td>Culture positive *</td>
<td>866 (70.2%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>1,565 (88.4%)</td>
</tr>
<tr>
<td>among which sputum smear positive *</td>
<td>541 (49.5%)</td>
</tr>
</tbody>
</table>

* Data on a national sample of 1234 TB cases
‡ 34% of cases with missing information

Drug resistance surveillance, 1999

Linkage with TB notifications: yes (national sample)
Geographic coverage: national
Culture positive cases with DST results: 861/866 (100%)
Note: data on a national sample of 1234 TB cases

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>761</td>
<td>-</td>
<td>93</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>14 (1.8)</td>
<td>3 (3.2)</td>
<td>1 (14.3)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>4 (0.5)</td>
<td>3 (3.2)</td>
<td>2 (28.6)</td>
</tr>
<tr>
<td>Multidrug resistant ‡</td>
<td>2 (0.3)</td>
<td>2 (2.2)</td>
<td>1 (14.3)</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; ‡ resistant to at least INH and RMP

Tuberculosis cases by age group, geographic origin and sex, 1999

<table>
<thead>
<tr>
<th>No. of TB cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male national</td>
</tr>
<tr>
<td>Female national</td>
</tr>
<tr>
<td>Male foreigner</td>
</tr>
<tr>
<td>Female foreigner</td>
</tr>
</tbody>
</table>

Tuberculosis notification rates by age group and sex, 1999

<table>
<thead>
<tr>
<th>Cases/100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
</tr>
<tr>
<td>Females</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
</tr>
<tr>
<td>5-14</td>
</tr>
<tr>
<td>15-24</td>
</tr>
<tr>
<td>25-34</td>
</tr>
<tr>
<td>35-44</td>
</tr>
<tr>
<td>45-54</td>
</tr>
<tr>
<td>55-64</td>
</tr>
<tr>
<td>&gt; 64</td>
</tr>
</tbody>
</table>

Total number of TB cases and notification rates, 1995-1999

<table>
<thead>
<tr>
<th>No. of cases</th>
<th>notification rate/100,000</th>
</tr>
</thead>
</table>

Tuberculosis notification rates by age group, 1995-1999

<table>
<thead>
<tr>
<th>Cases/100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
</tr>
<tr>
<td>&gt; 64</td>
</tr>
<tr>
<td>15-44</td>
</tr>
<tr>
<td>45-64</td>
</tr>
<tr>
<td>0-14</td>
</tr>
</tbody>
</table>

Report on tuberculosis cases notified in 1999
CZECH REPUBLIC

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>1 631</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>15.9</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.5</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>59</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>135 (8.3%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>1 431 (87.7%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>830 (50.9%)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>1 330 (81.5%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>410 (30.8%)</td>
</tr>
</tbody>
</table>

* Except DST data

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Linkage with TB notifications</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic coverage</td>
<td>national</td>
</tr>
<tr>
<td>Culture positive cases with DST* results</td>
<td>698/830 (84%)</td>
</tr>
</tbody>
</table>

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Tested to INH</td>
<td>10 (1.6)</td>
<td>5 (7.1)</td>
<td>–</td>
</tr>
<tr>
<td>Tested to RMP</td>
<td>5 (0.8)</td>
<td>3 (4.3)</td>
<td>–</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>2 (0.3)</td>
<td>2 (2.9)</td>
<td>–</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Number of TB cases by geographic origin and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
**Tuberculosis case notifications, 1999**

Type of data provided: Individual  
Total number of cases: 3,914  
Notification rate per 100,000: 38.8  
Sex ratio (male/female): 2.4  
Median age (years): 50  
Individuals born abroad: 64 (1.6%)  
New (never treated): 3,208 (82.0%)  
Culture positive: 1,206 (30.8%)  
Pulmonary among which sputum smear positive: 826 (22.4%)  

**Drug resistance surveillance, 1999**

Linkage with TB notifications: yes  
Geographic coverage: national  
Culture positive cases with DST* results: 559/1206 (46%)  
Note: culture and DST are performed on selected cases  

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th></th>
<th>New (%)</th>
<th>Previously treated (%)</th>
<th>Unknown (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested N</td>
<td>456</td>
<td>-</td>
<td>103</td>
<td>559</td>
</tr>
<tr>
<td>Resistant to INH N</td>
<td>33 (7.2)</td>
<td>19 (18.4)</td>
<td>-</td>
<td>52</td>
</tr>
<tr>
<td>Resistant to RMP N</td>
<td>12 (2.6)</td>
<td>7 (6.8)</td>
<td>-</td>
<td>19</td>
</tr>
<tr>
<td>Multidrug resistant § N</td>
<td>8 (1.8)</td>
<td>7 (6.8)</td>
<td>-</td>
<td>15</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

**Tuberculosis cases by age group, geographic origin and sex, 1999**

< 5% of TB cases of foreign origin

**Total number of TB cases and notification rates, 1995-1999**

**Tuberculosis notification rates by age group, 1995-1999**

Cases/100,000

Age group: 0-4, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, >64

Males

Females

0 10 20 30 40 50 60 70 80 90 100 110 120

0-4 5-14 15-24 25-34 35-44 45-54 55-64 > 64

No. of cases notification rate/100,000


Total No. of cases Notification rate

Cases/100,000

> 64 15 - 44 45 - 64

0 10 20 30 40 50 60 70 80 90 100

MACEDONIA, FYR

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>576</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>28.6</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.6</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad *</td>
<td>– – –</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>532 (92.4%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>– – –</td>
</tr>
<tr>
<td>Respiratory</td>
<td>489 (84.9%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>– – –</td>
</tr>
</tbody>
</table>

* Foreigners not included in TB notifications

Drug resistance surveillance, 1998

- Linkage with TB notifications: yes
- Geographic coverage: national
- Culture positive cases with DST* results: 194/194 (100%)
- Note: culture and DST not routinely done

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>0 – 0</td>
<td>194 – 194</td>
<td></td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>– – –</td>
<td>16 (8.2)</td>
<td>16</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>– – –</td>
<td>5 (2.6)</td>
<td>5</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>– – –</td>
<td>3 (1.5)</td>
<td>3</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Foreigners not included in TB notifications

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

Report on tuberculosis cases notified in 1999 EuroTB – March 2002
POLAND

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>12 179</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>31.4</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>2.0</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad*</td>
<td>–</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>10 709 (87.9%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>6 700 (55.0%)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>11 641 (95.6%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>4 636 (39.8%)</td>
</tr>
</tbody>
</table>

* Foreigners not included in TB notifications

Drug resistance surveillance, 1999

Not available

Total number of TB cases and notification rates, 1995-1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Not available

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis notification rates by age group, 1995-1999
Report on tuberculosis cases notified in 1999

ROMANIA

Tuberculosis case notifications, 1999

Type of data provided: Individual
Total number of cases: 26,870
Notification rate per 100,000: 119.9
Sex ratio (male/female): 2.3
Median age (years): 40
Foreign citizens: 2 (0.0%)
New (never treated): 23,320 (86.8%)
Culture positive: 13,495 (50.2%)
Pulmonary: 23,149 (86.2%)
among which sputum smear positive: 12,788 (55.2%)

Drug resistance surveillance, 1999

Linkage with TB notifications: yes
Geographic coverage: national
Culture positive cases with DST results: 2,542/13,479 (19%)
Note: Culture and DST are performed on selected cases

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>2,114</td>
<td>428</td>
<td>0</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>190 (9.0)</td>
<td>99 (23.1)</td>
<td>-</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>111 (5.3)</td>
<td>63 (14.7)</td>
<td>-</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>76 (3.6)</td>
<td>49 (11.4)</td>
<td>-</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

< 5% of TB cases of foreign origin

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
**SLOVAKIA**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>1 218</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>22.6</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.6</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>57</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>4 (0.3%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>970 (79.6%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>645 (53.0%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>993 (81.5%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>307 (30.9%)</td>
</tr>
</tbody>
</table>

**Drug resistance surveillance, 1999**

| Linkage with TB notifications | yes |
| Geographic coverage          | national |
| Culture positive cases with DST* results | 578/645 (90%) |

**Resistant cases by previous anti-TB treatment status**

<table>
<thead>
<tr>
<th></th>
<th>New (%)</th>
<th>Previously treated (%)</th>
<th>Unknown (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>456</td>
<td>122</td>
<td>0</td>
<td>578</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>8 (1.8)</td>
<td>6 (4.9)</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>5 (1.1)</td>
<td>5 (4.1)</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>3 (0.7)</td>
<td>3 (2.5)</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

< 5% of TB cases of foreign origin

**Tuberculosis cases by age group, geographic origin and sex, 1999**

**Total number of TB cases and notification rates, 1995-1999**

**Tuberculosis notification rates by age group, 1995-1999**
Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>438</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>22.0</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.6</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>47</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>103 (23.5%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>391 (89.3%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>350 (79.9%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>362 (82.6%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>191 (52.8%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Resistant cases by previous anti-TB treatment status</th>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>304</td>
<td>35</td>
<td>0</td>
<td>339</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>7 (2.3)</td>
<td>2 (5.7)</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>0 (0.0)</td>
<td>2 (5.7)</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>0 (0.0)</td>
<td>2 (5.7)</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Number of TB cases by geographic origin and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
TURKEY

COUNTRY PROFILES

TURKEY

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>22,088</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>33.7</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>–</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad*</td>
<td>– –</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>18,752 (84.9%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>– –</td>
</tr>
<tr>
<td>Respiratory</td>
<td>18,314 (82.9%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>7,460 (40.7%)</td>
</tr>
</tbody>
</table>

* Foreigners not included in TB notifications

Drug resistance surveillance, 1999

Not available

Tuberculosis notification rates by age group and sex, 1999

Not available

Tuberculosis cases by age group, geographic origin and sex, 1999

Foreigners not included in TB notification

Total number of TB cases and notification rates, 1995-1999

<table>
<thead>
<tr>
<th>No. of cases</th>
<th>notification rate/100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>25,000</td>
</tr>
<tr>
<td>1996</td>
<td>30,000</td>
</tr>
<tr>
<td>1997</td>
<td>35,000</td>
</tr>
<tr>
<td>1998</td>
<td>25,000</td>
</tr>
<tr>
<td>1999</td>
<td>20,000</td>
</tr>
</tbody>
</table>

Not available
Tuberculosis case notifications*, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>2,646</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>28.4*</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.9</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad</td>
<td>– –</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>2,399 (90.7%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>–</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>2,517 (95.1%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>– –</td>
</tr>
</tbody>
</table>

* Without Kosovo and Metohija

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Linkage with TB notifications</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic coverage</td>
<td>Belgrade region</td>
</tr>
<tr>
<td>Culture positive cases with DST* results</td>
<td>331/331 (100%)</td>
</tr>
</tbody>
</table>

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>290</td>
<td>0</td>
<td>331</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>2 (0.7)</td>
<td>2 (4.9)</td>
<td>4</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>1 (0.3)</td>
<td>2 (4.9)</td>
<td>3</td>
</tr>
<tr>
<td>Multidrug resistant</td>
<td>0 (0.0)</td>
<td>2 (4.9)</td>
<td>2</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis notification rates by age group, geographic origin and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Not available

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

note: Since 1998, cases from Kosovo and Metohija not included
ARMENIA

Tuberculosis case notifications, 1999

Type of data provided Aggregate

Total number of cases 1,499

Notification rate per 100,000 42.5

Sex ratio (male/female)* 4.9

Median age (years) –

Foreign citizens / individuals born abroad – –

New (never treated) 1,434 (95.7%)

Culture positive 576 (38.4%)

Pulmonary 1,232 (82.2%)

among which sputum smear positive 641 (52.0%)

* Provided on new cases only

Drug resistance surveillance, 1999

Linkage with TB notifications no

Geographic coverage some areas

Culture positive cases with DST* results –

Note: Data on cases diagnosed at the National Reference Laboratory. Culture and DST not routinely performed

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>104</td>
<td>–</td>
<td>63</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>9 (8.7)</td>
<td>13 (20.6)</td>
<td>0</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>7 (6.7)</td>
<td>23 (36.5)</td>
<td>0</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>3 (2.9)</td>
<td>8 (12.7)</td>
<td>0</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Not available

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
### AZERBAIJAN

#### Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>4 629</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>61.0</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>2.8</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad *</td>
<td>–</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>4 559 (98.5%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>210 (4.5%)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>3 693 (79.8%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>763 (20.7%)</td>
</tr>
</tbody>
</table>

* Not included in TB notifications

#### Tuberculosis notification rates by age group and sex, 1999

Not available

#### Tuberculosis cases by age group, geographic origin and sex, 1999

Not available

#### Total number of TB cases and notification rates, 1995-1999

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of cases</th>
<th>Notification rate/100 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>4 000</td>
<td>55.0</td>
</tr>
<tr>
<td>1996</td>
<td>5 000</td>
<td>60.0</td>
</tr>
<tr>
<td>1997</td>
<td>4 500</td>
<td>55.0</td>
</tr>
<tr>
<td>1998</td>
<td>4 200</td>
<td>50.0</td>
</tr>
<tr>
<td>1999</td>
<td>4 000</td>
<td>45.0</td>
</tr>
</tbody>
</table>

#### Tuberculosis notification rates by age group, 1995-1999

Not available
BELARUS

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>7 339</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>71.4</td>
</tr>
<tr>
<td>Sex ratio (male/female)*</td>
<td>3.2</td>
</tr>
<tr>
<td>Median age (years)</td>
<td></td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad**</td>
<td>–</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>6 729 (91.7%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>–</td>
</tr>
<tr>
<td>Respiratory</td>
<td>6 869 (93.6%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>–</td>
</tr>
</tbody>
</table>

* New cases only; ** Foreigners not included in TB notifications

Drug resistance surveillance, 1999

Not available

Tuberculosis notification rates by age group and sex, 1999

Not available

Tuberculosis cases by age group, geographic origin and sex, 1999

Not available

Total number of TB cases and notification rates, 1995-1999

<table>
<thead>
<tr>
<th>Year</th>
<th>Total No. of cases</th>
<th>Notification rate/100 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>6 000</td>
<td>72</td>
</tr>
<tr>
<td>1996</td>
<td>6 300</td>
<td>72</td>
</tr>
<tr>
<td>1997</td>
<td>6 800</td>
<td>72</td>
</tr>
<tr>
<td>1998</td>
<td>7 300</td>
<td>72</td>
</tr>
<tr>
<td>1999</td>
<td>7 800</td>
<td>72</td>
</tr>
</tbody>
</table>

Not available
**ESTONIA**

**Tuberculosis case notifications, 1999**

- **Type of data provided**: Individual
- **Total number of cases**: 754
- **Notification rate per 100 000**: 53.4
- **Sex ratio (male/female)**: 2.4
- **Median age (years)**: 43
- **Individuals born abroad**: 167 (22.1%)
- **New (never treated)**: 642 (85.1%)
- **Culture positive**: 528 (70.0%)
- **Pulmonary**: 687 (91.1%)
  - among which **sputum smear positive**: 305 (44.4%)

**Drug resistance surveillance, 1999**

- **Linkage with TB notifications**: yes
- **Geographic coverage**: national
- **Culture positive cases with DST* results**: 517/524 (99%)

**Resistant cases by previous anti-TB treatment status**

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td></td>
<td></td>
<td></td>
<td>428</td>
</tr>
<tr>
<td>Tested to INH</td>
<td>117</td>
<td>(27.3)</td>
<td>48 (53.9)</td>
<td>165</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>76</td>
<td>(17.8)</td>
<td>43 (48.3)</td>
<td>119</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>75 (17.5)</td>
<td>–</td>
<td>–</td>
<td>118</td>
</tr>
</tbody>
</table>

*Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

**Tuberculosis cases by age group, geographic origin and sex, 1999**

**Total number of TB cases and notification rates, 1995-1999**

**Tuberculosis notification rates by age group, 1995-1999**
COUNTRY PROFILES

GEORGIA

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>6,546</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>130.8</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.9</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens/individuals born abroad</td>
<td>– –</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>4,478 (68.4%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>1,147 (18%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>4,827 (73.7%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>1,399 (29.0%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

Not available

Tuberculosis notification rates by age group and sex, 1999

<table>
<thead>
<tr>
<th>Age group</th>
<th>Males Cases/100,000</th>
<th>Females Cases/100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>5-14</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>25-34</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>35-44</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>45-54</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>55-64</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>&gt; 64</td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

Tuberculosis cases by age group, geographic origin and sex, 1999

Not available

Total number of TB cases and notification rates, 1995-1999

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of cases</th>
<th>notification rate/100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>12,000</td>
<td>250</td>
</tr>
<tr>
<td>1996</td>
<td>10,000</td>
<td>200</td>
</tr>
<tr>
<td>1997</td>
<td>8,000</td>
<td>150</td>
</tr>
<tr>
<td>1998</td>
<td>6,000</td>
<td>100</td>
</tr>
<tr>
<td>1999</td>
<td>4,000</td>
<td>50</td>
</tr>
</tbody>
</table>

Tuberculosis notification rates by age group, 1995-1999

<table>
<thead>
<tr>
<th>Cases/100,000</th>
<th>&gt; 64</th>
<th>15-44</th>
<th>45-64</th>
<th>0-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>0</td>
<td>50</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>1996</td>
<td>50</td>
<td>100</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>1997</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>1998</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td>1999</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
</tr>
</tbody>
</table>
KAZAKHSTAN

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>25 060</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>154.0</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.3</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad</td>
<td>–</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>20 912 (83.4%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>–</td>
</tr>
<tr>
<td>Respiratory</td>
<td>22 560 (90.0%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>9 801 (43.4%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

- Linkage with TB notifications: no
- Geographic coverage: national
- Culture positive cases with DST* results: –

Note: culture and DST performed on selected cases

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>2 024 (–)</td>
<td>2 472 (–)</td>
<td>0 (–)</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>397 (19.6)</td>
<td>1 099 (44.5)</td>
<td>– (–)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>186 (9.2)</td>
<td>717 (29.0)</td>
<td>– (–)</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>110 (5.4)</td>
<td>511 (20.7)</td>
<td>– (–)</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Not available

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
KYRGYZSTAN

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>6,501</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>139.2</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.7</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad</td>
<td>– –</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>6,376 (98.1%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>–</td>
</tr>
<tr>
<td>Respiratory</td>
<td>5,818 (91.2%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>1,642 (28.2%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>(%)</td>
<td>N</td>
<td>(%)</td>
</tr>
<tr>
<td>Tested</td>
<td>141 (–)</td>
<td>81 (81)</td>
<td>96 (67)</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>33 (23.4)</td>
<td>43 (53.1)</td>
<td>39 (40.6)</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>18 (12.8)</td>
<td>36 (44.4)</td>
<td>24 (25.0)</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>9 (6.4)</td>
<td>30 (37.0)</td>
<td>20 (20.8)</td>
</tr>
</tbody>
</table>

*Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Foreigners not included in TB notifications

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

Not available

*Data provided on new cases only
**LATVIA**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>1,968</td>
</tr>
<tr>
<td>Notification rate per 100,000 cases</td>
<td>82.4</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>2.4</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>39 (2.3%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>1,673 (85.0%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>1,227 (62.3%)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>1,867 (94.9%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>780 (41.8%)</td>
</tr>
</tbody>
</table>

* Not included in TB notifications

**Drug resistance surveillance, 1999**

- **Linkage with TB notifications**: yes
- **Geographic coverage**: national
- **Culture positive cases with DST* results**: 1,015/1,227 (83%)

**Resistant cases by previous anti-TB treatment status**

<table>
<thead>
<tr>
<th></th>
<th>New (%)</th>
<th>Previously treated (%)</th>
<th>Unknown (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>825</td>
<td>190</td>
<td>0</td>
<td>1,015</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>229 (27.8)</td>
<td>60 (31.6)</td>
<td>–</td>
<td>289</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>86 (10.4)</td>
<td>53 (27.9)</td>
<td>–</td>
<td>139</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>86 (10.4)</td>
<td>51 (26.8)</td>
<td>–</td>
<td>137</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

**Tuberculosis cases by age group, geographic origin and sex, 1999**

* < 5% of TB cases of foreign origin

**Total number of TB cases and notification rates, 1995-1999**

**Tuberculosis notification rates by age group, 1995-1999**

*Data provided on new cases only*
COUNTRY PROFILES

LITHUANIA

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>2,903</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>78.8</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.8</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Individuals born abroad</td>
<td>146 (5.0%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>2,558 (88.1%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>1,420 (48.9%)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>2,273 (78.3%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>984 (43.3%)</td>
</tr>
</tbody>
</table>

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>Linkage with TB notifications</th>
<th>yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic coverage</td>
<td>national</td>
</tr>
<tr>
<td>Culture positive cases with DST* results</td>
<td>986/1420 (69%)</td>
</tr>
</tbody>
</table>

Resistant cases by previous anti-TB treatment status

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N</td>
</tr>
<tr>
<td>Tested</td>
<td>819</td>
<td>–</td>
<td>167</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>178 (21.7)</td>
<td>90 (53.9)</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>83 (10.1)</td>
<td>77 (46.1)</td>
<td>–</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>64 (7.8)</td>
<td>71 (42.5)</td>
<td>–</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999
Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>2,947</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>67.3</td>
</tr>
<tr>
<td>Sex ratio (male/female)*</td>
<td>2.7</td>
</tr>
<tr>
<td>Median age (years)</td>
<td></td>
</tr>
<tr>
<td>Foreign citizens</td>
<td>47 (1.7%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>2,648 (89.9%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>1,026 (37.8%)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>2,530 (86%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>764 (30.2%)</td>
</tr>
</tbody>
</table>

* Provided on new cases only

Drug resistance surveillance, 1999

Not available

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

< 5% of TB cases of foreign origin

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

*Data provided on new cases only
RUSSIAN FEDERATION

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>135 054</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>91.8</td>
</tr>
<tr>
<td>Sex ratio (male/female) *</td>
<td>3.2</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens *</td>
<td>141 (0.1%)</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>124 044 (91.8%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>–</td>
</tr>
<tr>
<td>Respiratory</td>
<td>118 709 (95.7%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>–</td>
</tr>
</tbody>
</table>

* Provided on new cases only

Drug resistance surveillance, 1999

<table>
<thead>
<tr>
<th>New</th>
<th>Previously treated</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>36 217 (%</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>na</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>na</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>2 429 (6.7)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

< 5% of TB cases of foreign origin

Total number of TB cases and notification rates, 1995-1999

Tuberculosis notification rates by age group, 1995-1999

Not available

*Data provided on new cases only
Tajikistan

Tuberculosis case notifications, 1999

- Type of data provided: Aggregate
- Total number of cases: 2,553
- Notification rate per 100,000: 41.8
- Sex ratio (male/female): 1.4
- Median age (years): –
- Foreign citizens / individuals born abroad: – –
- New (never treated): – –
- Culture positive: – –
- Respiratory: – –
  - among which sputum smear positive: – –

Drug resistance surveillance, 1999

- Not available

Tuberculosis notification rates by age group and sex, 1999

- Not available

Tuberculosis cases by age group, geographic origin and sex, 1999

- Not available

Total number of TB cases and notification rates, 1995-1999

- Not available
TURKMENISTAN

Tuberculosis case notifications, 1999

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>4,092</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>93.3</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>1.8</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad *</td>
<td>– / –</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>4,010 (98.0%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>– / –</td>
</tr>
<tr>
<td>Respiratory</td>
<td>3,889 (95.0%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>992 (25.5%)</td>
</tr>
</tbody>
</table>

* Foreigners not included in TB notifications

Drug resistance surveillance, 1999

Not available

Tuberculosis notification rates by age group and sex, 1999

Tuberculosis cases by age group, geographic origin and sex, 1999

Foreigners not included in TB notifications

Total number of TB cases and notification rates, 1995-1999

Not available

* Data provided on new cases only
**UKRAINE**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>32,879</td>
</tr>
<tr>
<td>Notification rate per 100,000</td>
<td>64.9</td>
</tr>
<tr>
<td>Sex ratio (male/female)</td>
<td>2.4</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad</td>
<td>–</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>27,118 (82.5%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>–</td>
</tr>
<tr>
<td>Respiratory</td>
<td>31,187 (94.9%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>–</td>
</tr>
</tbody>
</table>

* New cases only;  ** Foreigners not included in TB notifications

**Drug resistance surveillance, 1999**

- **Linkage with TB notifications**: no
- **Geographic coverage**: Kiev region
- **Culture positive cases with DST** results: –

**Drug resistance surveillance, 1999**

<table>
<thead>
<tr>
<th>Resistance status</th>
<th>New (%)</th>
<th>Previously treated (%)</th>
<th>Unknown (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested</td>
<td>245</td>
<td>239</td>
<td>0</td>
<td>484</td>
</tr>
<tr>
<td>Resistant to INH</td>
<td>30 (12.2)</td>
<td>86 (36.0)</td>
<td>0</td>
<td>116</td>
</tr>
<tr>
<td>Resistant to RMP</td>
<td>27 (11.0)</td>
<td>75 (31.4)</td>
<td>0</td>
<td>102</td>
</tr>
<tr>
<td>Multidrug resistant §</td>
<td>19 (7.8)</td>
<td>67 (28.0)</td>
<td>0</td>
<td>86</td>
</tr>
</tbody>
</table>

* Drug susceptibility testing; § resistant to at least INH and RMP

**Tuberculosis notification rates by age group and sex, 1999**

**Tuberculosis cases by age group, geographic origin and sex, 1999**

**Foreigners not included in TB notifications**

**Total number of TB cases and notification rates, 1995-1999**

**Tuberculosis notification rates by age group, 1995-1999**

* Data provided on new cases only
**UZBEKISTAN**

**Tuberculosis case notifications, 1999**

<table>
<thead>
<tr>
<th>Type of data provided</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of cases</td>
<td>16 959</td>
</tr>
<tr>
<td>Notification rate per 100 000</td>
<td>70.8</td>
</tr>
<tr>
<td>Sex ratio (male/female)*</td>
<td>1.4</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>–</td>
</tr>
<tr>
<td>Foreign citizens / individuals born abroad**</td>
<td>– –</td>
</tr>
<tr>
<td>New (never treated)</td>
<td>15 080 (88.9%)</td>
</tr>
<tr>
<td>Culture positive</td>
<td>– –</td>
</tr>
<tr>
<td>Respiratory</td>
<td>15 195 (89.6%)</td>
</tr>
<tr>
<td>among which sputum smear positive</td>
<td>4 096 (27.0%)</td>
</tr>
</tbody>
</table>

* New cases only; ** Foreigners not included in TB notifications

**Drug resistance surveillance, 1999**

Not available

**Tuberculosis notification rates by age group and sex, 1999**

![Tuberculosis notification rates by age group and sex, 1999](image)

**Tuberculosis cases by age group, geographic origin and sex, 1999**

Foreigners not included in TB notifications

**Total number of TB cases and notification rates, 1995-1999**

![Total number of TB cases and notification rates, 1995-1999](image)

**Tuberculosis notification rates by age group, 1995-1999**

Not available

*Data provided on new cases only