TECHNICAL NOTE

The EuroTB programme for the surveillance of tuberculosis in Europe was set up in 1996 with the aim of providing valid and comparable information on the epidemiology of tuberculosis in order to improve tuberculosis control in this region.

The objectives of the programme are:

- to conduct regular surveillance of notified tuberculosis cases;
- to set up a regular system for the surveillance of anti-tuberculosis drug resistance;
- to conduct relevant surveys on other aspects of the epidemiological situation;
- to assist in the development of tuberculosis information systems

in all countries of the World Health Organization (WHO) European Region.

The programme is managed jointly by the European Centre for the Epidemiological Monitoring of AIDS (CESES) in Saint-Maurice, France and the Royal Netherlands Tuberculosis Association (KNCV) in The Hague, the Netherlands, and is financially supported by the commission of the European Communities (DGV).

Following a feasibility study performed on cases notified in 1995 [1,2], a routine system of data collection has been implemented. Countries of the WHO European Region are invited to participate on a voluntary basis and requested to appoint a national correspondent.

The principles and methods are those recommended by a WHO/International Union Against Tuberculosis and Lung Disease (IUALTD) working group and approved by European country representatives [3,4]:

- common definition of a notifiable case of tuberculosis (Box 1);
- notification of the case by both the clinician and the laboratory, and linkage of laboratory data with clinical information;
- common set of minimum information to be collected on each case.

Information is collected on cases notified in each country during the calendar year. In order to take into account the time required by each country to validate and close the yearly notification, data are collected 10 to 12 months after the end of the calendar year.

BOX 1

European definition of a notifiable case of tuberculosis

Definite case

- in countries where laboratories capable of identification of *Mycobacterium tuberculosis* complex are routinely available, a definite case is a case with **culture**-confirmed disease due to *M. tuberculosis* complex.

- in countries where routine culturing of specimens is not feasible, a patient with **sputum smear** examinations positive for acid-fast bacilli (AFB) is also considered to be a definite case.

Other than definite case

a case meeting both of the following conditions:
1) a clinician's judgement that the patient's clinical and/or radiological signs and/or symptoms are compatible with tuberculosis, and
2) a clinician's decision to treat the patient with a full course of anti-tuberculosis treatment.

All **definite** and **other than definite** cases are notifiable, whether new (in patients who have never had tuberculosis in the past) or recurrent (in patients who have been previously diagnosed with tuberculosis).

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Starting for cases notified in 1997, information on drug susceptibility has been added following recommendations on the standardisation of antituberculosis drug resistance surveillance in Europe by a WHO/IUATLD working group (Box 2). Information on drug susceptibility has been collected in countries providing computerised data where results are reported nationally and are individually linked with clinical data of the notification.

Individual anonymous computerised data are requested (Box 3). When individual data cannot be provided, countries are requested to complete pre-defined tables including the distribution of cases by categories of the relevant variables (Box 4).

BOX 2

Antituberculosis drug resistance

The **proportion of drug resistance at the start of treatment** is the proportion of tuberculosis cases whose bacilli are resistant to a drug or a combination of drugs, calculated at the start of treatment among all definite (culture-positive) cases notified over a calendar year.

The proportions of resistance to isoniazid and to rifampicin, and the proportion of **multi-drug resistance**, i.e. of resistance to both isoniazid and rifampicin with or without resistance to other drugs, at start of treatment, are major indicators of interest.

The proportion should be calculated separately:

- among **patients previously treated**. This is an indicator for **acquired resistance**, i.e. resistance which has emerged in a patient during treatment as a consequence of selection of drug resistant mutant bacilli. **Previous treatment** is defined as 1 month or more of combination of antituberculosis drugs and excludes preventive chemotherapy;

- among **patients never treated**, i.e. who never received previous treatment as defined above. This is the best indicator for **primary resistance**, i.e. resistance in a patient who has active tuberculosis following infection by drug resistant bacilli.

BOX 3

Individual data

- **year of report**
- **country of report**
- **age** (in years)

age at start of treatment (if available) otherwise, in order of preference:
  - age at diagnosis, or
  - age at notification

- **sex**
- **geographic origin**

country of birth (if available) otherwise, in order of preference:
  - origin based on birth place: born in the country of report / foreign-born
  - country of citizenship
  - origin based on citizenship: national / foreigner

- **case status**

based on previous history of tuberculosis and previous antituberculosis drug treatment (> 1 month) : new / recurrent previously treated / recurrent not previously treated / recurrent without information on treatment

- **site of disease**

major and minor site (if available) otherwise, in order of preference:
  - pulmonary / extra-pulmonary (pulmonary tuberculosis is defined as tuberculosis of the lung parenchyma and/or the tracheobronchial tree)
  - respiratory / extra-respiratory (respiratory tuberculosis includes pulmonary tuberculosis as well as pleural and/or intra-thoracic lymphatic tuberculosis)

- **sputum smear results**

on spontaneously produced or induced sputum
positive / negative / done but results unknown / not done

- **culture results**

on any specimen
positive / negative / done but results unknown / not done

- **drug susceptibility results** for isoniazid, rifampicin, ethambutol and streptomycin

for the specimen taken at start of treatment
susceptible / resistant / susceptibility tested but results unknown / not tested

BOX 4

Aggregate data

TB cases by **age group and sex**

TB cases by **age group, sex** and **geographic origin** (based on birth place or, if not available, on citizenship).

TB cases by **age group, sex** and **case status** (new/recurrent case)

TB cases by **age group, sex** and **bacteriological confirmation** (based on positive culture only or, alternatively, on positive culture or positive sputum smear).

TB cases by **age group, sex, site of disease** (based on pulmonary or, alternatively, on respiratory classification) and **sputum smear results.**

The following age groups are used in all tables :

0-4
5-14
15-24
25-34
35-44
45-54
55-64
65 years and over

Material for data collection and correspondence are prepared in English and Russian.

National correspondents are responsible for the quality of the data provided.

Notification rates of incident tuberculosis cases are calculated per 100 000 population, using United Nations demographic estimates for the year of notification [5]. Notification rates by geographic origin are calculated using demographic estimates provided by the countries. Notification rates may not fully reflect true tuberculosis incidence rates due to underreporting and other problems.

For countries reporting to EuroTB, figures may differ slightly from those published by WHO [6] because WHO figures are collected several months prior to the data collected by EuroTB, and as such, are often provisional.

For countries not reporting to EuroTB, total numbers of cases and notification rates published by WHO [6] are used.