Tuberculosis: DOTS case detection rate

Rationale for use

The proportion of estimated new smear-positive cases which are detected (diagnosed and notified to WHO) by DOTS programmes provides an indication of how effective national tuberculosis programmes are in finding people with tuberculosis and diagnosing the disease.

MDG indicator 24 (under Goal 6, Target 8) is the "proportion of tuberculosis cases detected and cured under DOTS". The Stop TB Partnership has endorsed the targets, linked to the MDGs, to diagnose at least 70% of people with sputum smear-positive TB (i.e. under the DOTS strategy), and cure at least 85%, by 2005. These are targets set by the World Health Assembly of WHO.

In 2004, an estimated 53% of new smear-positive cases were treated under DOTS. This proportion, which increased steadily from 1995 to 2000, has increased more rapidly each year since 2001, and is likely to have exceeded 60% in 2005 – just short of the 70% target.

Definition

The term “case detection”, as used here, means that TB is diagnosed in a patient and is reported within the national surveillance system, and then to WHO. The case detection rate is calculated as the number of cases notified divided by the number of cases estimated for that year, expressed as a percentage.

Associated terms

**Smear-positive**: TB case where TB bacilli are visible in the patient's sputum when examined under the microscope. For exact definition see reference 5.

**New case**: TB in a patient who has never received treatment for TB, or who has taken anti-TB drugs for less than one month.

**DOTS**: the internationally recommended approach to TB control, which forms the core of the Stop TB Strategy (reference 1). The five components of DOTS are (a) political commitment with increased and sustained financing, (b) case detection through quality-assured bacteriology, (c) standardized treatment with supervision and patient support, (d) an effective drug supply and management system and (e) monitoring and evaluation system, and impact measurement. In countries which have adopted the DOTS strategy, it may be implemented in all or some parts of the country, and by all or some health-care providers. Only those TB patients notified by health-care facilities providing DOTS services are included in this indicator.

**Notification**: the process of reporting diagnosed TB cases to WHO; the data collected by this process. (Here we are not referring to the systems in place in some countries to inform national authorities of cases of certain "notifiable" diseases.)

Data sources

The number of new smear-positive cases detected by DOTS programmes is collected as part of the routine surveillance (recording and reporting) which is an essential component of DOTS. Quarterly reports of the number of TB cases registered are compiled and sent (either directly or via intermediate levels) to the central office of the national TB control programme. Annual case notifications (and other data on programme performance) are collected by WHO.
via an annual data collection form, distributed to national TB control programmes through WHO's regional and country offices.

Estimated number of incident cases: see references 3–5, and description of estimation of incidence.

Methods of estimation

Estimates of incidence are based on a consultative and analytical process in WHO and are published annually (see reference 5).

The DOTS detection rate for new smear-positive cases is calculated by dividing the number of new smear-positive cases notified to WHO by the estimated number of incident smear-positive cases for the same year.

Disaggregation

Detection rates are routinely presented by WHO in four main ways: (i) for new smear-positive cases, (ii) for all new and relapse cases (i.e. all forms of TB), (iii) for DOTS programmes only, or (iv) for cases notified from all sources. It is the detection rate of new smear-positive cases for DOTS programmes which included in this database.

References


Database

- Global TB database: (http://www.who.int/tb/country/global_tb_database)

Comments

Sputum smear-positive cases are the focus of this indicator because they are the principal sources of infection to others, because sputum smear microscopy is a highly specific (if somewhat insensitive) method of diagnosis, and because patients with smear-positive disease typically suffer higher rates of morbidity and mortality than smear-negative patients.
However, national TB control programmes should aim to provide treatment to all patients, as set out in the Stop TB Strategy.