Measuring Progress in TB Control
Main Recommendations

Meeting of the task force on measurement held at WHO, Geneva, 15–16 June 2006

Measuring progress towards the Millennium Development Goals

Recommendation 1
The essential steps should be taken to measure progress towards tuberculosis control targets set within the MDG framework. The measurement of progress towards MDGs will complement the monitoring and evaluation of programme implementation, and improve programme performance.

Routine TB surveillance

Recommendation 2
(a) Routine surveillance (all reported cases) and monitoring (treatment outcomes) should be considered the ultimate method of evaluating TB epidemiology and control.

(b) All national TB control programmes (NTPs) should strengthen and evaluate the performance of systems for reporting TB cases so that the data reflect, to a close approximation, the true incidence of TB and its time trend. The process of evaluation should be supported by appropriate operational research studies.

(c) The analysis of disaggregated surveillance data should be encouraged (eg. clinic, district, province; by age, sex etc) so as to draw out the maximum information on the TB epidemic and the impact of control measures.

(c) Appropriate computer software should be developed and implemented to improve routine recording and reporting.
(d) WHO and technical partners should define the essential components of a quality-assured TB surveillance system, including the staff, activities, management information system and equipment. All these elements should be included in NTP budgets.

(e) High-quality surveillance and monitoring should be promoted through capacity building and training at all administrative levels involved in TB control.

(f) NTPs are encouraged to participate in initiatives to integrate surveillance and monitoring of different diseases, while ensuring that the quantity and quality of information collected for TB is maintained.

Surveys of disease prevalence

Recommendation 3

(a) Countries with high and intermediate TB burdens are encouraged to carry out one or a series of disease prevalence surveys if these are likely to be beneficial in assessing trends or optimizing planning for TB control. The decision to carry out a prevalence survey in any country should be guided by criteria (to be further defined), which will include:

1. High burden of TB disease
2. Poor information on burden and trends of TB disease
3. Functional TB control programme that can utilize survey results to guide implementation of control activities
4. High HIV burden
5. Weak or poorly informative surveillance system
6. Available experience and expertise (national and/or international)
7. Willingness of the NTP to support national prevalence surveys
8. Full participation of population to be surveyed
9. Logistic feasibility and security for field staff

(b) Prevalence surveys should be conducted in line with standardized guidelines to be developed under the leadership of WHO, ensuring consistency in the methodology used in repeat surveys in any one country and comparability between countries.

(c) Because prevalence surveys are costly, logistically complex and may require several years of planning, the possibility of carrying out prevalence surveys on other established survey platforms (e.g. DHS) should be explored.
Surveys of infection prevalence

Recommendation 4

(a) Acknowledging the importance of measuring infection but understanding the limitations of the tuberculin technique, tuberculin skin test surveys (TST) are recommended only in settings where they are likely to be informative about the prevalence and risk of infection and its trend. A tuberculin survey is not guaranteed to give interpretable results in any setting, but is more likely to be useful where:

1. There are data on infection prevalence from previous surveys
2. There are firm plans to repeat surveys
3. There is a high risk of infection
4. There is capacity to ensure strict adherence to standardized methodology

(b) In view of the evidence provided by TST surveys conducted in the past decade it is no longer generally advisable to estimate incidence of TB (smear-positive cases) from the annual risk of infection applying the Styblo rule.

(c) Other diagnostic tests, including interferon gamma release assays, should be fully evaluated as methods for measuring infection and its trend in populations, as alternatives to, or in combination with, TST surveys.

Evaluating TB mortality

Recommendation 5

(a) The accuracy of the current cohort monitoring system in correctly capturing deaths among TB patients should be reviewed and optimized.

(b) The study of TB mortality in the general population (i.e. outside treatment cohorts) should be undertaken in the context of studies of all causes of death.

(b1) Vital registration. National TB control programmes should ensure linkages and cross referencing of data from cohort monitoring with available and developing death registration systems, thereby improving vital statistics.
Verbal autopsy. Further evaluations are needed to establish the reliability and validity of verbal autopsies as a way of evaluating TB deaths in the general population, and their feasibility within general cause-of-death surveys.

**Guidelines for monitoring and evaluation**

**Recommendation 6**

WHO should develop, in collaboration with technical partners, guidelines for the measurement of key indicators of infection, disease and death. The guidelines should include a description of the analytical, statistical and modelling methods that can be used to make the strongest possible inferences from available data.

**Costs of monitoring and evaluation**

**Recommendation 7**

(a) Without a major step-up in funding, it will not be possible accurately to evaluate progress towards the MDGs. The full cost of monitoring and evaluation activities is not yet known. As an aid to assessing the funds required, the cost of M&E should be made explicit in planned NTP budgets, including potential sources of funding.

(b) Acknowledging present uncertainty surrounding the costs of M&E, and subject to the collection of better data, the task force suggests that an additional sum of at least US$50M will be required each year over the next decade (to MDG target year 2015), for activities including surveys, surveillance, monitoring, staffing and technical assistance.

**Coordination of monitoring and evaluation and certification of progress towards targets**

**Recommendation 8**

(a) WHO should take responsibility for coordinating the evaluation of progress in TB control, and for certifying that MDG targets have been met.
(b) Given the scope of the work required to measure progress in TB control, and the need for continuity, a technical working group on monitoring and evaluation should be constituted under the Stop TB Partnership.

Surveys of disease prevalence: other salient issues

1. Opportunities should be explored and methodologies optimized to capture childhood TB cases in prevalence surveys, particularly when X-rays are being used for the purpose of screening.

2. Ensure the simplicity of survey design while exploring the feasibility of collecting additional basic demographic and socio-economic data to complement study results.

3. Standardized reporting should be utilized to communicate results and to facilitate comparison between different study areas

4. Measures should be taken to ensure high response rates especially when studies are conducted in intermediate burden countries where study uptake of participants is more problematic

5. Opportunities should be explored for nesting TB prevalence surveys in larger population surveys (ex. TB prevalence survey piggy-backed onto National Household Survey Indonesia, 2004)

6. Ethical issues

7. Opportunity of collecting specific data on disease burden/prevalence through in depth analysis and supplemental data collection and analysis of:

   - Contact tracing investigations
   - Occupational health screening
   - Populations in prisons, army recruits etc…
Surveys of infection prevalence: other salient issues

1. International guidelines for conducting tuberculin surveys should be updated in light of the findings of TST surveys in the last decade (i.e. poor test performance in conditions of low transmission)
2. It is recommended that TST surveys are not incorporated in disease prevalence studies as this would compromise quality of both.
3. Single age group testing is to be avoided.
4. There is wide consensus on the non-applicability of Styblo ratio in current settings
5. Accuracy of data is crucial to ensure scientific soundness and interpretability of TST surveys. This should be ensured through strict adherence to a standardized protocol, intensive standardized training and by ensuring low turn-over of readers in repeat surveys (to minimize inter-reader variation)
6. It is suggested that trend studies of ARTI may be carried out in the form of sentinel surveillance with periodic testing in the same set of schools.
7. Ethical issues should be taken into consideration in view of the high number of children to be tested in a context of poor performance of TST

Annex I – Recommendation III
Salient issues related to the recommendation III

1. It is recommended to closely follow up pilot vital registration systems being set up in India, Indonesia and China monitoring the accuracy of such systems in capturing TB deaths
2. Particular attention should be placed in adapting verbal autopsy tools and classification criteria to capture non-pulmonary and fatal forms of TB (i.e. TB meningitis and miliary TB) in children and in high HIV settings.
3. Follow-up studies of cohorts of TB patients (India) have shown high excess mortality in TB patients beyond the TB cohort observation period (6-8 months). This should be further explored.