

WHO Global Task Force on TB Impact Measurement Progress update – No.4 (January 2012)

This is the fourth progress update from the Task Force, focusing on **progress made in 2011** and **activities coming up in the first six months of 2012**.

Further information is available elsewhere on the Task Force's website (www.who.int/tb/advisory_bodies/impact_measurement_taskforce). The Task Force secretariat can be contacted at the following email: tbimpactmeasurement@who.int.

MANDATE

- To produce a robust, rigorous and widely-endorsed assessment of whether the 2015 targets for reductions in TB incidence, prevalence and mortality are achieved at the global level, for each WHO Region and in individual countries.
- To regularly report on progress towards these targets in the years leading up to 2015.
- To strengthen national capacity in monitoring and evaluation of TB control.

STRATEGIC AREAS OF WORK

To fulfill its mandate, the Task Force has defined three strategic areas of work:

- **Strengthening routine surveillance.** The ultimate goal is direct measurement of TB cases and deaths from notification and vital registration data.
- **Surveys of the prevalence of TB disease.** In its second meeting in December 2007, the Task Force defined 21 global focus countries where surveys were strongly recommended between 2008 and 2015. Ethiopia was added to this list in 2009.
- **Methods to estimate disease burden.** This covers periodic review and updating of methods used to translate surveillance and survey data into estimates of incidence, prevalence and mortality.

The Task Force is coordinated and hosted by the Tuberculosis Monitoring and Evaluation team in WHO's Stop TB Department.

PARTNERS (ENGAGED IN AT LEAST ONE OF THE THREE STRATEGIC AREAS OF WORK)

Centers for Disease Control and Prevention (CDC), USA; European Centre for Disease Prevention and Control (ECDC); The Global Fund; Harvard University; the UK's Health Protection Agency; Italian Development Cooperation; KNCV Tuberculosis Foundation; national governments of endemic countries; London School of Hygiene and Tropical Medicine (LSHTM); Research Institute for TB (RIT/JATA); The Union; United States Agency for International Development (USAID); WHO-HQ, Regional and Country offices.

In 2011, financial support was provided by DFID, USAID, the Japanese government, the Global Fund and the Stop TB Partnership.

WHAT WAS ACHIEVED IN 2011?

Major global momentum on TB prevalence surveys was sustained and reinforced in 2011, with several countries completing or about to start surveys in Asia and Africa. This progress was supported by the handbook on disease prevalence surveys (the Lime Book) that was developed as a major collaborative effort of the Task Force in 2010 and which provides definitive guidance to all those involved in the design, implementation, analysis and reporting of surveys, and by increasing Asia-Africa, Asia-Asia and Africa-Africa (AA) collaboration. Substantial progress on strengthened surveillance was also made. By the end of the year a cumulative total of 96 countries with 89% of the world's TB cases had been supported to systematically analyse their surveillance and survey data as a basis for updating estimates of disease burden and developing plans for strengthened surveillance. Important new guidance to support strengthened surveillance at country level was also developed or advanced. The main activities and achievements are summarized below.

General (relevant to all strategic areas of work)

- **Joint WHO/Global Fund workplan.** The second year of a two-year joint work plan on TB impact measurement was successfully implemented. This collaboration has enabled a joint approach to assessment of surveillance data and monitoring and evaluation systems and been critical to global progress in the design and implementation of prevalence surveys. Funding through the workplan helped to support two workshops on TB prevalence surveys in Cambodia (details below) and epidemiology/surveillance workshops in China and India that were used to update estimates of disease burden and develop recommendations and associated plans for strengthened surveillance.
- **Intensified collaboration on Task Force work between WHO and CDC (USA).**
- **TB surveillance and surveys: a training workshop for consultants in Geneva.** This was held 24–27 May, with the aim of expanding global capacity to support countries to conduct and analyse surveys of the prevalence of TB disease and resistance to anti-TB drugs, and to analyse and interpret TB surveillance data. Subsequently, several of those who were trained have been engaged in the work of the Task Force, particularly to support surveys of anti-TB drug resistance.

A. Strengthening surveillance and improved estimates of disease burden

- **Throughout the year: Guide on electronic recording and reporting.** Work on this guide was initiated in January. An authors' meeting was held in Geneva, 27–28 April to review the first draft. Chapters were subsequently developed further, and sent for internal and external peer review in November. The guide is due to be disseminated in early 2012.
- **Throughout the year: Guide on Inventory or TB CAPTURE studies.** These studies can be used to better quantify the cases that are detected but missed by routine surveillance systems (i.e. the extent to which cases are under-reported), and serve as a basis for identifying how surveillance systems need to be strengthened as well as improved estimates of TB incidence. There is already considerable experience with such studies in the Eastern Mediterranean region, which has been drawn upon in development of the guide. A core group of authors met in Geneva in May and produced a first draft of most of the chapters of the guide. A second version was completed in November and sent for review by the author group.
- **Throughout the year: Development of standards and benchmarks for surveillance data to be considered a direct measure of TB cases and deaths.**

Much work was done in 2009, 2010 and 2011 to implement the Task Force's conceptual framework and associated tools for assessment of the quality and coverage of surveillance data. The next step has been definition of the standards/benchmarks needed for notification and vital registration data to be considered a direct measure of TB cases and deaths. Related to this is definition of a process to "certify" that surveillance data meet such standards. The Task Force expert group established to conduct this work met September 28–29 in Geneva to review the first draft of a checklist of standards and benchmarks that had been piloted in Brazil, China, Egypt, Estonia, Japan, Kenya, the Netherlands, Thailand, the UK and the USA. A second draft of the checklist was developed in November and work on an accompanying user guide was initiated.

- **April–July: National epidemiology/surveillance workshops in India.** Two workshops were held in New Delhi, 4–8 April and 6–8 July. Estimates of disease burden were updated based on a thorough analysis of six sub-national prevalence surveys among adults, two nationwide tuberculin surveys in children, sub-national verbal autopsy surveys and TB case notification data. Recommendations about what needs to be done to strengthen surveillance and improve estimates of disease burden in India were developed.
- **June: National epidemiology/surveillance workshop in China.** This workshop was held in Beijing, June 6–10. Updated estimates of disease burden were produced based on analyses of data from repeat TB prevalence surveys (1990, 2000, 2010), national mortality surveys (1984, 1989, 1999), a sample vital registration system (2004–2009) and TB case notification data. Evidence of dramatic reductions in disease burden in China from these analyses was profiled in the 2011 WHO global TB control report. Discussions about what needs to be done to further strengthen surveillance and improve estimates of disease burden were also held.
- **Anti-TB drug resistance surveillance (DRS).** By the end of 2010, DRS data were available for 127 countries including 64 countries with continuous surveillance systems based on routine diagnostic DST of all patients; 51 countries had data for ≥ 3 years. Countries that concluded surveys in 2011 included Albania, Belarus, Benin, Bulgaria, India (one State), Lesotho, Mexico, Poland, and Zambia. Countries that started surveys in 2011 included Bolivia, Bhutan, Ethiopia, Kyrgyzstan, Nicaragua, Philippines, Somalia, Tajikistan, Tunisia, Turkey (subnational level), Uganda, Venezuela, Vietnam, and Yemen. Countries that started surveys in 2010 and were still ongoing at the end of 2011 included Afghanistan, Bangladesh, Egypt, India (two States), Nigeria, and Uzbekistan.
- **October: launch of 2011 WHO report on global TB control.** Methods endorsed by the Task Force were applied to produce the latest estimates of disease burden and projections of prevalence and mortality rates up to 2015. Estimates of TB mortality were based on direct measurements from 91 countries that accounted for 46% of global TB deaths (including India and China for the first time), up from 8% in 2010.

B. Surveys of the prevalence of TB disease

- **Throughout the year: Extensive direct technical assistance to countries including via increasing Asia-Africa, Asia-Asia and Asia-Africa (AA) collaboration.** Many country missions were undertaken throughout 2011 by Task Force partners including survey coordinators from Asian countries and staff from WHO, CDC, KNCV and RIT/JATA. These included missions to Cambodia, China, Ethiopia, Ghana, Indonesia, Kenya, Lao PDR, Malawi, Nigeria, Pakistan, Rwanda, Tanzania, Thailand and Uganda. Survey study tours to Ethiopia and Cambodia were also organized.

- **February/March: Training course for young consultants in Cambodia.** This was held 24 February–3 March. The purpose was to expand the number of global experts who can provide technical assistance to countries. The course covered the spectrum of surveys from design to analysis, and included observation of survey operations in a rural cluster.
- **March: China.** Official dissemination of results from the 2010 survey.
- **July/August: Workshop and training course for global focus countries in Cambodia.** This was the third workshop that brought together survey coordinators and others with a lead role in the management of surveys in global focus countries, as well as staff from technical agencies (following previous workshops in October 2009 and October 2010). Cambodia was chosen as the venue because survey operations were underway and this offered a unique and unparalleled opportunity for survey coordinators from other global focus countries to witness a model survey operation at first hand. Priority was given to countries that were due to start a survey before the end of 2011 or the first quarter of 2012. Participants from Ghana, Indonesia, Malawi, Nigeria, Rwanda, South Africa, Tanzania and Uganda attended, as well as staff from Ethiopia who shared the recent experience and lessons learned from their just-completed survey.
- **August onwards: Wide dissemination of hard copies of the Lime Book.** This followed delivery of the printed copies in July.
- **October: Seminar during the Union conference in Lille, France.** A one-day and very well attended seminar was held on 27 October, with a focus on sharing of survey results from countries that had recently completed surveys (Bangladesh, China, Ethiopia and Myanmar) as well as data management and data analysis.
- **October: Symposium at the Union conference in Lille, France.** This was held on 30 October, and was entitled "National TB prevalence surveys: global progress, results and lessons learned". As with the seminar, the symposium was very well attended (by at least 200 people), reflecting the high interest of the TB community in this topic.
- **November: Myanmar.** Finalization and dissemination of 2009/2010 survey report.
- **October–December: Analysis and dissemination of the Ethiopian survey results.** Analysis and reporting of the 2010–2011 survey was completed in October, with a final dissemination workshop in Addis Ababa on 15 December.

Overall in 2011, progress was very impressive. Results of surveys in China and Myanmar were disseminated, Cambodia, Ethiopia, Lao PDR and Pakistan completed surveys and pilot surveys were conducted in the Gambia, Nigeria, Rwanda, Tanzania and Thailand. The latter five countries finished 2011 in a strong position to complete surveys in 2012, as did Ghana where a pilot survey is scheduled for the first half of 2012.

COMING UP IN THE NEXT SIX MONTHS

General

- **Fifth meeting of full Task Force in May (provisional dates 9–10 May).**
- **Special supplement on Task Force work for the International Journal of TB and Lung Disease.** This will profile the work of the Task Force. Work on the supplement will start in earnest at the beginning of 2012, with the aim of publishing the supplement by the end of 2012.

A. Strengthening surveillance and estimates of disease burden

- **Guide on electronic recording and reporting.** The guide will be printed and widely disseminated.
- **Guide on Inventory or TB CAPTURE studies.** The guide will be finalized, printed and widely disseminated.
- **Standards and benchmarks for surveillance data to be considered a direct measure of TB cases and deaths.** An updated version of the surveillance checklist with 19 standards and benchmarks together with a new user guide will be retested in several countries, with the aim of presenting a final version to the full Task Force in May. The checklist will then be promoted widely, aiming for its use to be institutionalized within the grant processes of the Global Fund - notably in Periodic Reviews. Countries will be given the opportunity to request certification status based on a self-assessment and external peer review.
- **Handbook on analysis of TB surveillance data.** This handbook will be used to expand global capacity to analyse surveillance data as a basis for updating estimates of disease burden and for identifying gaps in TB surveillance and producing associated recommendations for how surveillance needs to be strengthened. Funding is available through a USAID TB CARE project. The project is scheduled to start in January and to be completed by October 2012.
- **DRS.** Target countries at global level for implementation of surveys include Angola, India (two additional States), Kenya, Pakistan, North Sudan (subnational level), Turkmenistan, Ukraine and Zimbabwe. By the end of 2012 all 27 high MDR priority countries are expected to have representative baseline drug resistance data.
- **National epidemiology/surveillance workshops in Indonesia and South Africa.** These will be used to review all available surveillance and survey data as a basis for updating estimates of disease burden and to define how surveillance needs to be strengthened towards the standards required for certification. The Indonesia workshop is provisionally scheduled for February 2012.
- **Better estimates of the burden of disease caused by TB among children.** There is considerable interest in and demand for better estimates of the burden of TB in children. Better estimates require improved availability of notification data disaggregated by age, which are not reported in WHO's annual rounds of global TB data collection by many African countries as well as high-burden countries in other regions (including India). At the same time, in many instances disaggregated data are available at national level. In 2012, efforts will be made to compile such data, to assess the ability of surveillance systems to capture TB cases among children and to develop better methods for using notification data to estimate the number of TB cases among children. Funding is available through a USAID TB CARE project.

B. Prevalence surveys

- **Paper with an overview of results and lessons learned from prevalence surveys in Asia in the past 2 decades.** This will be completed in early 2012.
- **Cambodia.** Finalization and dissemination of results from the 2010/2011 survey.
- **Country missions to support implementation of surveys in African countries as well as Indonesia and Thailand.** Visits to the Gambia, Ghana, Indonesia, Nigeria, Rwanda, South Africa, Tanzania and Thailand are planned. Missions to Uganda and Malawi will depend on progress during and after missions in December 2011.
- **Workshop on repeat prevalence surveys in Asia: design and analysis.** This will be held 8–11 February 2012 in Cambodia. The optimal design of repeat prevalence surveys in Bangladesh, the Philippines, Viet Nam and Myanmar will be discussed, drawing on lessons learned from recent repeat surveys in Cambodia and China.

MAJOR MILESTONES 2006–2011

General milestones (relevant to all strategic areas of work)

- Establishment of WHO Global Task Force on TB Impact Measurement, June 2006.
- Four meetings of full Task Force (June 2006, December 2007, September 2008, March 2010).
- Lancet review article on methods for estimating disease burden, January 2008.
- Policy paper building on Lancet review, with policies and recommendations for measuring TB incidence, prevalence and mortality up to 2015, endorsed by Task Force and widely disseminated in March 2010.
- Launch of Task Force website in 2009, subsequently kept fully up-to-date with details of all Task Force meetings, workshops and other activities.
- Establishment of close collaboration with The Global Fund via the creation of a joint TB impact measurement team in 2009, and subsequent development and implementation of a joint workplan for 2010–2011.
- Presentations to Stop TB Partnership's Coordinating Board in October 2008, November 2009 and October 2010.
- Symposia in the Union conferences held in 2009, 2010 and 2011.

A. Strengthening surveillance and estimates of disease burden

- Updated methods for the estimation of disease burden agreed by Task Force expert group (convened June 2008 to October 2009) endorsed by the full Task Force in March 2010. Methods then used to produce estimates published in WHO global TB control reports of 2010 and 2011 (and the December 2009 short update report).
- Workshop on capture–recapture studies for five Eastern Mediterranean countries (Djibouti, Egypt, Pakistan, Syria and Yemen) in August 2008.
- Development of conceptual framework for improving estimation of disease burden via systematic assessment of surveillance data, linked to recommendations for improving surveillance of TB notifications and deaths, in September 2008.
- Application of framework via regional workshops and country missions covering 96 countries with 89% of the world's TB cases from 2009 to mid-2011.
- Major progress on defining standards and benchmarks that need to be met for country's surveillance data to be considered a direct measure of TB cases and deaths, with pilot-testing in 10 countries and further progress in a meeting of the Task Force's subgroup on surveillance in September 2011.

B. Prevalence surveys

- First edition of handbook on prevalence surveys (the Red Book), December 2007.
- Series of six papers based on the 2007 handbook, published in IJTLDD 2008–2009.
- Four workshops to support development of survey protocols in 11 countries, (Ethiopia, Ghana, Kenya, Malawi, Nigeria, Pakistan, Rwanda, South Africa, Thailand, Uganda and Zambia) and related follow–up.
- Identification of technical agencies to support surveys in global focus countries.
- Expert meetings to review protocols for countries and updating of 2007 guidelines.
- Surveys completed in Bangladesh, Cambodia, China, Ethiopia, Lao PDR, Myanmar, Pakistan, the Philippines and Viet Nam.
- Second edition of handbook on prevalence surveys (the Lime Book) completed in 2010.
- Symposia in Union Conference in Berlin, November 2010 and Lille, October 2011.