WORLD HEALTH ORGANIZATION

TB surveillance and surveys:
A training workshop for consultants
Chateau de Penthes, Geneva
24-27 May 2011

AGENDA

Goal
To expand global capacity to support countries to conduct surveys of the prevalence of TB disease and resistance to anti-TB drugs and to strengthen TB surveillance, in the context of the Global Project on anti-TB drug resistance surveillance and the recommendations of the WHO Global Task Force on TB Impact Measurement

Objectives
1. To familiarize a pool of consultants with WHO's work on TB monitoring and evaluation, with specific attention to the Global Project on anti-TB drug resistance surveillance, and the WHO Global Task Force on TB Impact Measurement
2. To train a pool of consultants in the design, implementation, analysis and reporting of national surveys of the prevalence of TB disease
3. To train a pool of consultants in the design, implementation, analysis and reporting of surveys of resistance to anti-TB drugs

Expected Outcomes
1. An expanded pool of consultants who are familiar with the main components of WHO's work on TB monitoring and evaluation, including the three strategic areas of work of the WHO Global Task Force on TB Impact Measurement and the Global Project on anti-TB drug resistance surveillance
2. An expanded pool of consultants who can support and advise countries on the planning, design, implementation, analysis and reporting of surveys of anti-TB drug resistance
3. An expanded pool of consultants who can support and advise countries on the planning, design, implementation, analysis and reporting of surveys of the prevalence of TB disease

Competencies expected at the end of the course

Consultants will be able to:
1. Assist countries to develop a high-quality protocol for a drug resistance survey and a prevalence survey, in line with WHO guidelines
2. Conduct an expert review of protocols for drug resistance and prevalence surveys
3. Advise on sampling design for drug resistance and prevalence surveys and conduct sample size calculations and selection of clusters
4. Support a country to implement a drug resistance and prevalence survey and to assess the surveillance system and data according to methods recommended by WHO, with back-up support in the first instance from experienced experts
5. Advise countries on appropriate methods for analysing the results of a drug resistance and prevalence survey, and conduct some elements of these analyses

DAY 1: Tuesday, 24 May 2011

Time	Topic	Presenter
08.30 - 09:00	Registration	
09:00 - 09:30	Welcome and introduction of consultants and resource persons Workshop objectives and expected outcomes	Katherine Floyd Paul Nunn
Setting the scene: An overview of WHO's work on TB monitoring and evaluation (Objective 1)		
09:30 - 10:15	Presentation: WHO's work on TB care and control, with particular attention to TB monitoring and evaluation: An overview *Background reading:* The Stop TB Strategy, WHO Global TB control report 2010, Policy Paper on TB Impact Measurement, Global Plan 2011-2015, website of the Global Task Force on TB Impact Measurement, especially January 2011 progress update	Katherine Floyd
10:15 - 11:00	Presentation: Methods used for the estimation of TB disease burden and related efforts to strengthen TB surveillance *Background reading*: Global TB control report 2010 (Annex 1); Report from TB epidemiology/surveillance workshop for 17 African countries, Harare, 2010	Philippe Glaziou
11:00 - 11.15 Coffee break		
11:15 - 12:00	Presentation: The Global Project on anti-TB drug resistance surveillance: background, objectives, achievements, challenges, next steps *Background reading*: Global report on anti-TB drug resistance surveillance and response, 2010; Global report on MDR-TB, 2011	Matteo Zignol
12:00 - 13:00	Presentation: The what, why, where and when of nationwide TB prevalence surveys, and progress to date in global focus countries This presentation will explain what is meant by a TB prevalence survey and what are the main components of a survey, why nationwide surveys are important (their main goal and objectives), where they are relevant and what essential prerequisites must be in place for a survey to start. It will then give an overview of progress to date in global focus countries. *Background reading*: TB prevalence surveys: A handbook (aka The Lime Book), Chapters 1 and 2; Summary table of latest status of surveys in global focus countries and other countries; the website of the Global Task Force on TB Impact Measurement, especially January 2011 progress update	Ikushi Onozaki
13.00 - 14.00 Lunch		
TB prevalence surveys: design, implementation, analysis (Objective 2)		
14:00 - 16:00	**Practical exercise 1**: Assessment of surveillance data and systems	Short presentation followed by group work
16:00 - 16:15 Tea Break		
16:15 - 17:00	Presentation: The Lime Book: An overview of WHO recommendations for the design, implementation and analysis of prevalence surveys *Background reading*: TB prevalence surveys: A handbook (aka The Lime Book)	Babis Sismanidis
17:00 - 18:00	**Practical exercise 2**: Country scenarios: Assessing the relevance and feasibility of a survey, defining objectives and indicators (case studies: Indonesia, Kenya, Nepal, Mongolia) (*DVD presentation of the Myanmar prevalence survey during group work*)	All in groups

DAY 2: Wednesday, 25 May 2011

TB prevalence surveys

Time	Topic	Presenter
	TB disease prevalence surveys: design and implementation (Objective 2)	
09:00 - 09:45	<u>Presentation</u>: Sampling design, with particular attention to sample size calculations and selection of clusters *Background reading*: TB prevalence surveys: A handbook (aka The Lime Book), Chapter 5	Babis Sismanidis
09:45 - 10:45	**Practical exercise 3**: Country scenarios; sampling design and sample size calculation	All in groups
10:45 - 11.00 Coffee break		
11:00 - 11:30	**Practical exercise 3 (continued)**: sample size calculations - complete exercise,	All in groups
11:30 - 12:00	<u>Presentation</u>: Chest X-ray; requirements, options, recommendations *Background reading*: TB prevalence surveys: A handbook (aka The Lime Book), Chapter 7	Ikushi Onozaki
12:00 - 12:30	<u>Presentation</u>: Laboratory; requirements, methods, capacity *Background reading*: TB prevalence surveys: A handbook (aka The Lime Book), Chapter 8	Chris Gilpin
12:30 - 13:00	Survey organization and cluster operations; census, screening, sputum collection, follow-up *Background reading*: TB prevalence surveys: A handbook (aka The Lime Book), Chapters 13 and 14 (survey organization and cluster operations), Chapter 6 (screening)	Ikushi Onozaki
13.00 - 14.00 Lunch		
14:00 - 15:00	**Practical exercise 2 (continued)**: Country examples revisited, then feedback from group work	All in groups
15:00 - 15:30	<u>Presentation</u>: Document flow and data management	Babis Sismanidis
15.30 - 15.45 Tea Break		
15:45 - 16:00	<u>Presentation</u>: Putting everything together: protocol development and protocol checklist *Background reading*: TB prevalence surveys: A handbook (aka The Lime Book), especially Chapter 3; Protocol checklist available on WHO Task Force on TB Impact Measurement website; draft protocols	Katherine Floyd
16:00 - 18:00	**Practical exercise 4**: Protocol review using protocol checklist	All in groups

DAY 3: Thursday, 26 May 2011

Drug resistance surveys and surveillance

Time	Topic	Presenter
<td colspan="3" align="center">**Drug resistance surveys and surveillance: design and implementation (Objective 3)**</td>
09:00 - 09:45	<u>Presentation</u>: Surveillance of resistance to anti-TB drugs: What is it and how does WHO recommend it should be done? This presentation will explain what is meant by surveillance and surveys of drug resistance, the main components of a drug resistance survey, and WHO recommendations for how surveillance/surveys should be done *Background reading*: Guidelines for surveillance of drug resistance in tuberculosis. Chapters 1,2,5,6 and Annex 9	Wayne van Gemert
9:45 - 10:15	<u>Presentation:</u> Indicators for MDR-TB detection and outcomes *Background reading*: Multidrug-Resistant Tuberculosis (MDR-TB) Indicators.	Dennis Falzon
10:15 - 10:30	<u>Presentation</u>: Sampling design and sample size calculations in drug resistance surveys *Background reading*: Guidelines for surveillance of drug resistance in tuberculosis. Paragraph 5.4 and Annex 7	Matteo Zignol
<td colspan="3" align="center">*10:30 - 10.45 Coffee break*</td>
10:45 - 11:45	**Practical exercise 5**: Sample size calculations using country case studies	All in groups
11:45 - 12:00	<u>Presentation</u>: Cluster selection in drug resistance surveys *Background reading*: Guidelines for surveillance of drug resistance in tuberculosis. Paragraph 5.4 and Annex 7	Matteo Zignol
12:00 - 13:00	**Practical exercise 6**: Cluster selection using country case studies	All in groups
<td colspan="3" align="center">*13.00 - 14.00 Lunch*</td>
14:00 - 14:30	<u>Presentation</u>: Document flow and data management *Background reading*: Guidelines for surveillance of drug resistance in tuberculosis. Paragraph 7.1	Dennis Falzon
14:30 - 15:30	<u>Presentation</u>: Laboratory requirements in drug resistance surveys and the role of the Supranational Reference Laboratory Network (SRLN) *Background reading*: Guidelines for surveillance of drug resistance in tuberculosis. Chapter 3 and Annexes 2,3,4,5	Chris Gilpin
15:30 - 16:00	<u>Presentation</u>: Putting everything together: protocol development, budget and protocol checklist *Background reading*: Guidelines for surveillance of drug resistance in tuberculosis. Chapters 5,6 and Annexes 6,8	Wayne van Gemert
<td colspan="3" align="center">*15.45 - 16.00 Tea Break*</td>
16:00 - 17:30	**Practical exercise 7**: Protocol review using protocol checklist	All in groups

Special session, 1800 - 1930: A crash course in Stata

DAY 4: Friday, 27 May 2011

Analysis and reporting of drug resistance and prevalence surveys
The science and art of technical assistance

Time	Topic	Presenter
TB disease prevalence and drug resistance surveys: Analysis and reporting (Objectives 2 and 3)		
09:00 - 09:45	<u>Presentation</u>: How should TB prevalence and drug resistance surveys be analysed? (Part I) This presentation will explain the main elements that should be part of any analysis of a TB prevalence survey, including accounting for clustering and multiple imputation of missing values, using the 2007 Philippines survey as a case study *Background reading*: TB prevalence surveys: A handbook (aka The Lime Book), Chapter 16; Report of an audit of the 2007 survey in the Philippines	Babis Sismanidis
09:45 - 11:45	**Practical exercise 8**: Analysis of a drug resistance survey; accounting for clustering	All in groups
Coffee break (when you feel you need a break during Practical 8)		
11:45 - 12:30	<u>Presentation</u>: How should TB prevalence and drug resistance surveys be analysed? (Part II) This presentation will explain the main elements that should be part of any analysis of a drug resistance survey, including accounting for clustering and multiple imputation of missing values, using the Java, Indonesia survey as a case study *Background reading*: Guidelines for surveillance of drug resistance in tuberculosis. Chapter 7 and Annex 1	Babis Sismanidis
12:30 - 13:00	**Practical exercise 9**: Analysis of a drug resistance survey; accounting for missing data	All in groups
13.00 - 14.00 Lunch		
14:00 - 15:30	**Practical exercise 9 (continued)**: Analysis of a drug resistance survey; accounting for missing data	All in groups
15:30 - 16:15	Providing technical assistance for WHO and the science and art of technical assistance	Explanation of TB TEAM; discussion in groups and in plenary
16.15 - 16.30 Tea Break		
16:30 - 16:45	Course evaluation	All
16:45 - 17:00	Close of workshop	Katherine Floyd

LIST OF BACKGROUND DOCUMENTS AND WEB-SITES

1. The Stop TB Strategy. Available at: http://www.who.int/tb/strategy/en/index.html
2. The Global Plan to Stop TB 2011-2015. Transforming the fight towards elimination of tuberculosis. Geneva, Stop TB Partnership, 2011. Available at: http://www.stoptb.org/global/plan/
3. The WHO Global Task Force on TB Impact Measurement. http://www.who.int/tb/advisory_bodies/impact_measurement_taskforce/en/
4. The WHO Global Task Force on TB Impact Measurement. Progress update - No. 3. Available at: http://www.who.int/tb/advisory_bodies/impact_measurement_taskforce/progressupdate_3january2011rev3.pdf
5. TB impact measurement: policy and recommendations for how to assess the epidemiological burden of TB and the impact of TB control. Geneva, World Health Organization, 2009 (Stop TB policy paper no 2; WHO/HTM/TB/2009.416). Available at: http://www.who.int/tb/advisory_bodies/impact_measurement_taskforce/resources_documents/en/index.html
6. The 2010 WHO Global TB Control Report. Geneva, World Health Organization, 2010. Available at: http://www.who.int/tb/publications/global_report/2010/en/index.html
7. Report of the regional workshop on TB surveillance and impact monitoring in the African region. Available (*to be posted shortly*) at: http://www.who.int/tb/advisory_bodies/impact_measurement_taskforce/meetings/en/index.html
8. Guidelines for surveillance of drug resistance in tuberculosis. Geneva, World Health Organization, 2009. Available at: http://www.who.int/tb/publications/2009/surveillance_guidelines/en/index.html
9. Multidrug and extensively drug-resistant TB (M/XDR-TB). 2010 Global Report on Surveillance and Response. Geneva, World Health Organization, 2010. Available at: http://www.who.int/tb/publications/2010/en/index.html
10. Towards universal access to diagnosis and treatment of multidrug-resistant and extensively drug-resistant tuberculosis by 2015. Geneva, World Health Organization, 2011. Available at: http://www.who.int/tb/publications/2011/mdr_report_2011/en/index.html
11. Tuberculosis prevalence surveys: a handbook. Geneva, World Health Organization, 2011. Available at: http://www.who.int/tb/advisory_bodies/impact_measurement_taskforce/resources_documents/thelimebook/en/index.html
12. Multidrug-Resistant Tuberculosis (MDR-TB) Indicators. A minimum set of indicators for the programmatic management of MDR-TB in national tuberculosis control programmes. Geneva, World Health Organization, 2010 (WHO/HTM/TB/2010.11) Available at; http://whqlibdoc.who.int/hq/2010/WHO_HTM_TB_2010.11_eng.pdf