REPORT
SECOND TB LABORATORY TRAINING COURSE FOR ASIA PACIFIC
Ha Noi, Viet Nam
17-21 September 2007

Manila, Philippines
September 2007
REPORT

SECOND TB LABORATORY TRAINING COURSE
FOR ASIA PACIFIC

Convened by:

WORLD HEALTH ORGANIZATION
KOREAN INSTITUTE OF TUBERCULOSIS
AND KOREAN NATIONAL TUBERCULOSIS ASSOCIATION

Ha Noi, Viet Nam
17-21 September 2007

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NOTE

The views expressed in this report are those of the participants of the Second TB Laboratory Course for Asia-Pacific and do not necessarily reflect the policies of the World Health Organization.

This report has been printed by the World Health Organization Regional Office for the Western Pacific for the participants in the Second TB Laboratory Course for Asia-Pacific, which was held in Ha Noi, Viet Nam, from 17 to 21 September 2007.
CONTENTS

SUMMARY

1. INTRODUCTION 2
   1.1 Objectives 2
   1.2 Resource persons 2
   1.3 Participants 2

2. PROCEEDINGS 3
   2.1 Programme and methods 3
   2.2 Evaluation 3

3. CONCLUSIONS 4

ANNEXES:

ANNEX 1 - LIST OF PARTICIPANTS 5
ANNEX 2 - TIMETABLE 12
ANNEX 3 - COMPREHENSION TEST RESULTS 13

Keywords:
Tuberculosis, Pulmonary – diagnosis, microbiology/Laboratory techniques and procedures – education, methods, standards/Quality assurance, Health care/Western Pacific
1. INTRODUCTION

The Global Plan to Stop TB 2006-2015, developed in line with the new WHO global Stop TB strategy to achieve the Millennium Development Goals and other related impact targets set by the Stop TB Partnership, was launched at the World Economic Forum in Davos, Switzerland, on 27 January 2006. The Regional Strategic Plan to Stop TB (RSP) in the Western Pacific 2006-2010 and the Regional Strategic Plan for TB Control 2006-2015 in the South-East Asia Region have been published. In view of the need to respond to multidrug-resistant TB (MDR-TB) and TB-HIV co-infection as core components of these two plans, priorities will now have to include expansion of quality-assured culture and drug-sensitivity testing, in addition to ensuring the quality of directly observed treatment, short-course (DOTS), particularly through the scaling up of quality-assured sputum microscopy services.

Bacteriology is one of the fundamental aspects of a national tuberculosis control programme and a key component of the strategy. The second TB Laboratory Training Course for Asia-Pacific aimed to improve the technical and managerial skills of senior TB laboratory managers in the technical areas of TB diagnosis, including laboratory quality assurance. The course introduced the needed techniques that will be rolled out in the near future to tackle the TB-HIV and MDR-TB challenges. The course covered the most essential elements of laboratory networks. The desired outcome for the course was to strengthen the national TB laboratory network. The course was held in Ha Noi, Viet Nam, from 17 to 21 September 2007.

Funding of the course was covered by a Memorandum of Understanding between WHO and the Korean National Tuberculosis Association (KNTA), together with the Korean Institute of Tuberculosis (KIT). KNTA and KIT provided support and funding for the course.

1.1 Objectives

The objectives of the course were for the participants:

(1) to learn the requirements and issues in the implementation of national quality assurance programmes for sputum microscopy and of more advanced diagnostic techniques with a view to improving the management of laboratory services networks; and

(2) to develop skills to support national TB programmes (NTP) to strengthen the laboratory services networks in their countries.

1.2 Resource persons

Resource persons included Dr Kai Man Kam, Dr Mitarai Satoshi, Dr Chris Gilpin, Dr Kim Sang Jae, representatives of the supranational TB reference laboratories (SRLs) in the Western Pacific; and Dr Véronique Vincent, a focal person for laboratory strengthening in WHO Headquarters.

1.3 Participants

In total, 18 participants from seven countries in the Western Pacific Region with a high burden of TB, and from the Republic of Korea, attended the course. Participants were senior
laboratory managers at the national and provincial levels in their countries. The list of participants is in Annex 1.

2. PROCEEDINGS

2.1 Programme and methods

The course agenda appears in Annex 2. All participants received questionnaires and were asked to compile quantitative and qualitative data on their national TB laboratory networks. Templates were also sent out in advance to help them to prepare short presentations on the performance of their national TB laboratory networks.

The course consisted of presentations of country laboratory data, plenary discussions and lectures, group discussions, and group reports. Visits to the three peripheral TB laboratories in Ha Noi were organized, which included an exercise in supervision by the participants.

2.2 Evaluation

2.2.1 Comprehension tests

At the end of each day, except 19 September, comprehension tests were conducted to evaluate the participants' understanding of the lecture content. Each test had a total of about 8-15 questions, consisting of 3-4 questions per lecture topic given on that day. About 15 minutes were allocated for the participants to do the test.

Average scores per topic were calculated and are shown in Annex 3. Since all the average scores per topic were over 60%, it was suggested that most participants had a good understanding of the lectures.

2.2.2 Evaluation questionnaire

At the end of the course, a questionnaire was distributed and completed by the participants anonymously. All participants evaluated the presentations and discussions during the course as 'good'. Most participants indicated that the sessions were 'useful' for laboratory workers. However, a number of participants considered the sessions: (1) Laboratory supply management, (2) Safe laboratory facility and safe practices, (3) Drug resistance surveillance, (4) Update on XDR-TB, and (5) Strengthening laboratory, to be 'not very useful'.

Some of the other comments provided by the participants included:

- More time should be allocated to group work sessions to reinforce the knowledge and skills obtained from the lectures.
- Practical sessions for culture drug sensitivity testing (DST) and other new diagnostic techniques, including preparing culture media, genotyping bacilli, etc. would be desirable.
- Managerial components, such as budgeting and planning, may be necessary.
- Coverage of biosafety issues should be more practical. For example, instructions on how to use biosafety cabinets (BSCs) should be included.
• More time should be allocated for "Principles of external quality assessment (EQA) of microscopy, culture, and DST".

3. CONCLUSIONS

The second TB laboratory training course for Asia Pacific reviewed the performance of TB laboratory networks in countries with a high burden of TB, and provided necessary updates and information on the new Stop TB strategy and its challenges, along with laboratory techniques that need to be implemented and scaled-up.

Future similar courses should emphasize the technical aspects of TB laboratory work, such as practicalities of performing cultures and DST, and new diagnostics techniques, including detection of rifampicin resistance using a molecular biological method. In this case, the venue would need to be one of the supranational reference laboratories (SRL) in the Region.

The selection of participants needs some consideration and re-training of the previous year's course attendees may have to be considered since, in a few small countries, the supply of appropriate candidates, in terms of both technical competency and English language skills for the course, has already been exhausted.
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### TIMETABLE

**TB Laboratory Course for Asia Pacific (17-21 September 2007) Ha Noi, Viet Nam**

<table>
<thead>
<tr>
<th>Monday, 17 September</th>
<th>Tuesday, 18 September</th>
<th>Wednesday, 19 September</th>
<th>Thursday, 20 September</th>
<th>Friday, 21 September</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 Registration</td>
<td>08:30 Opening ceremony</td>
<td>08:30 (I) Aims and objectives</td>
<td>08:30 (2) Global plan to stop TB</td>
<td>08:30 (17) Drug resistance surveillance</td>
</tr>
<tr>
<td>08:30</td>
<td>08:30 (6) Wrap-up of country reports</td>
<td>08:45 (II) Field visit: Practical laboratory session</td>
<td>08:30 (12) Feedback from practical laboratory session</td>
<td></td>
</tr>
<tr>
<td>08:45 (1) Aims and objectives</td>
<td>09:00 (7) Analyzing laboratory performance, laboratory performance indicators</td>
<td>09:00 (11) Field visit: Practical laboratory session</td>
<td>08:30 (17) Drug resistance surveillance</td>
<td></td>
</tr>
<tr>
<td>(2) Global plan to stop TB * MDR-TB * HIV-TB</td>
<td>09:00 (10) Group work: * EQA of microscopy * EQA of DST * Managing supplies * Laboratory assessment</td>
<td>09:35 Pre-Test</td>
<td>09:35 Pre-Test</td>
<td></td>
</tr>
<tr>
<td>09:35 Pre-Test</td>
<td>10:00 Tea Break</td>
<td>10:00 (9) Laboratory supplies management</td>
<td>10:00 (14) Expanding culture and DST techniques</td>
<td>10:00 Tea Break</td>
</tr>
<tr>
<td>10:30 (3) Organization and management of the laboratory network</td>
<td>10:30 (11) Field visit: Practical laboratory session</td>
<td>10:30 (13) Human resource development</td>
<td>10:00 Tea Break</td>
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</tr>
<tr>
<td>12:30 Lunch Break</td>
<td>12:30 Lunch Break</td>
<td>12:30 Lunch Break</td>
<td>12:00 (20) Strengthening laboratory</td>
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</tr>
<tr>
<td>13:30 Comprehension test</td>
<td>13:30 Group work (continued)</td>
<td>13:00 (15) Safe laboratory facility and safe practices</td>
<td>13:00 (15) Safe laboratory facility and safe practices</td>
<td></td>
</tr>
<tr>
<td>(5) Country reports on laboratory performance</td>
<td></td>
<td>13:30 Comprehension test</td>
<td>14:30 Comprehension test</td>
<td></td>
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<tr>
<td></td>
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<td>(21) Group work: * Laboratory strengthening * DRS</td>
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<tr>
<td></td>
<td></td>
<td>(16) Group work: * Biosafety * Planning for culture * DST</td>
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<tr>
<td>15:30 Tea Break</td>
<td>15:30 Tea Break</td>
<td>15:00 Tea Break</td>
<td>15:30 Tea Break</td>
<td></td>
</tr>
<tr>
<td>16:00 Country reports on laboratory performance (continued)</td>
<td>16:00 Comprehension test</td>
<td>15:30 Group work (continued)</td>
<td>16:00 Reports from group work</td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td>17:00 Reports from group work</td>
<td>16:00 Reports from group work</td>
<td>17:00 Closing ceremony</td>
<td></td>
</tr>
<tr>
<td>18:00 Cocktails</td>
<td>17:00 Announcement on field visit</td>
<td>17:00 Reports from group work</td>
<td>17:00 Closing ceremony</td>
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</tbody>
</table>
Organization and management of the laboratory network

Principles of quality assurance for sputum microscopy, culture & DST
Analyzing laboratory performance
Laboratory assessment
Laboratory supplies management
Human resource development
Expanding culture and DST techniques
Drug resistance surveillance
Safe laboratory facility and safe practices
Strengthening laboratory
Update on XDR-TB
New diagnostics

Tests by the lecture topic
Average scores of the comprehension test results

%