**THIRD MEETING OF THE NATIONAL TASK FORCE FOR INVOLVEMENT OF MEDICAL COLLEGES IN THE RNTCP**

23 – 24TH November 2004, AIIMS, New Delhi

Six groups comprising of participants from Medical Colleges, State TB Officers, Central TB Institutes (TRC, NTI, and LRS), WHO-India and Central TB Division deliberated on various topics assigned to them. List of participants in each group is at Annex 1. Following are the recommendations made by the group during the workshop.

**Group 1: Action plan for RNTCP- Medical college collaboration and reporting system**

The group worked on developing an action plan for 2005 and also discussed the possible reporting system for the task forces. It was felt that there was a need to develop a system for flow of information regarding activities undertaken at the medical colleges and the various task forces to the centre. A draft reporting format as well as reporting system was developed which needs to be finalized and piloted. The group recommendation for the activities to be undertaken in 2005 is listed below

Action plan for RNTCP-Medical College collaboration

| Activities to be undertaken by **Medical colleges** | | | |
|---|---|---|---|
| | Activities | Time-line/ frequency | Responsibility |
| Training & teaching of RNTCP | • Sensitization of faculty members<br>• Posting of Interns, UG's & PGs at DOTS centres<br>• Include questions on RNTCP in UGs & PGs examinations<br>• Train paramedical staff<br>• PGs of TB & Chest/PSM/ Medicine dept. to undergo five days modular training in RNTCP | • March 2005<br>• Ongoing activity (OA)<br>• OA<br>• OA<br>• June 2005<br>• OA | Coordinator of the core-committee *OR* the person in-charge of the DOTS clinic<br><br>Core Committee /STF |
| Engagement with the RNTCP | • Establish Microscopy & DOTS centre<br>• Form core committees<br>• Quarterly meetings of core committee to review and monitor RNTCP implementation<br>• Submit monthly and quarterly reports<br>• Consultation in management of difficult case | • March 2005<br>• March 2005<br>• OA<br>• OA<br>• OA | Coordinator of the core-committee *OR* the person in-charge of the DOTS clinic |
| Operational Research (Also detailed later) | • Assign thesis topics on RNTCP to PG students<br>• Undertake OR on RNTCP | • OA<br>• OA | By all core committee members & faculty |
| Advocacy | • Publish articles/ newsletters, deliver radio & TB talks<br>• Sensitization/ training of PPs & | • OA<br>• OA | By all core committee members & faculty |

| | | | |
|---|---|---|---|
| | NGOs, IMA and other sectors<br>• Undertake other relevant IEC activities | • OA | |
| Others | • Funds for core committee meetings, Sensitization/training/ CMEs, IEC activities to be made available | • OA | • DTO/STO |

Activities to be undertaken by **State Task Force (STF).**

In addition to ensuring all activities mentioned in the action plan for medical colleges, the STF should undertake the following activities:

| | Activities | Time-line/ frequency | Responsibility |
|---|---|---|---|
| Training & teaching of RNTCP | • Ensure training of all members of STF and core committee members of all medical colleges.<br>• Compiled list of trainees from all medical colleges within the State to be sent to CTD | • June 2005<br>• January 2005 | • STF Chairman / STO<br>• STO/STF Chairman |
| Engagement with the RNTCP | • Quarterly meeting of STF to review RNTCP implementation in medical colleges<br>• Submit compiled reports of Medical colleges from the State to ZTF & NTF/CTD<br>• Visits to Medical colleges by any member of the STF preferably at the time of meeting of core-committee | • OA<br>• OA<br>• All colleges to be visited at least once a year | • STF Chairman / STO<br>• STO/STF Chairman<br>• All STF members |
| Operational Research (Also detailed later) | • Develop OR priority topics for the State based on RNTCP research agenda<br>• Review and forward OR proposals from medical colleges to ZTF<br>• Fund approved OR proposals with a budget of < 5 lakhs | • OA<br>• OA<br>• OA | • All STF members<br>• STO/STF Chairman<br>• STF Chairman / STO |
| Advocacy | • Publish articles/ newsletters, deliver radio & TB talks<br>• Organize State level CME/seminars/workshops at least twice a year | • OA<br>• OA | • All STF members<br>• STF Chairman / STO |
| Others | • Disseminate relevant information/ articles/ publications to all medical colleges in the State<br>• Ensure funds for undertaking the above activities | • OA<br>• OA | • STO<br>• STO |

Activities to be undertaken by **Zonal Task Force (ZTF).**

In addition to ensuring all activities mentioned in the action plan for medical colleges and the STF, the ZTF should undertake the following activities:

| | Activities | Time-line/ frequency | Responsibility |
|---|---|---|---|
| Training & teaching of RNTCP | • Ensure training of all ZTF members | • March 2005 | • ZTF Chairman / STO* |
| Engagement with the RNTCP | • Organize zonal level meeting of medical colleges to review progress and draw up action plan for the States of the zone | • Annually | • ZTF Chairman / STO* |
| | • Meeting of ZTF to review RNTCP implementation in medical colleges within the zone | • Quarterly | • STO*/ZTF Chairman |
| | • Prepare and submit compiled reports of Medical colleges of the zone to NTF/CTD | • Twice a year (June, December) | • ZTF Chairman / STO* |
| | • Travel to states within the zone for field visits, attending meeting of STF, workshops and other similar events | • All States to be visited at least once a year | • All ZTF members |
| Operational Research (Also detailed later) | • Assist States to develop OR priority areas as well as research proposals based on RNTCP research agenda | • OA | • All ZTF members |
| | • Forward OR proposals with a budget of > 5 lakhs for approval | • OA | • ZTF Chairman/ STO* |
| | • Approve OR proposals with a budget of < 5 lakhs for funding by the State | • OA | • ZTF Chairman / STO* |
| Advocacy | • Publish articles/ newsletters, deliver radio & TB talks | • OA | • All ZTF members |
| | • Organize zonal level CME/seminars/workshops at least once a year | • OA | • ZTF Chairman / STO* |
| | • Disseminate information about RNTCP to medical colleges ( status report, articles/ publications OR findings etc) | • OA. Status report at least twice a year | • STO*/ZTF Chairman |
| Others | • Ensure funds for undertaking the above activities | • OA | • STO* |

** STO here refers to the State TB Officer of the State where the nodal centre is located*

| Activities to be undertaken by **National Task Force (NTF).**<br><br>In addition to monitoring the activities of the STF and ZTF, NTF would undertake the following activities: | | |
|---|---|---|
| Activities | Time-line/ frequency | Responsibility |
| ▪ Develop standardized reporting formats to be used by ZTF, STF, Medical colleges | ▪ March 2005 | ▪ CTD/NTF |
| ▪ Arrange for training of medical college faculty members at Central Institutes as per list sent by State | ▪ Ongoing | ▪ CTD |
| ▪ Ensure availability of computer and DEO at all 7 nodal centres | ▪ March 2005 | ▪ CTD |
| ▪ Organize meeting of NTF, meeting of National Task Force | ▪ Annually | ▪ CTD |
| ▪ Attend meetings of the ZTF and workshops/ seminars etc organized at the zonal level | ▪ Ongoing | ▪ All NTF members |
| ▪ Monitor activities of the Zonal task forces and State task forces as per action plans | ▪ Ongoing | ▪ CTD/NTF |
| ▪ Compile reports from the ZTFs and prepare status report for the country | ▪ Annually | ▪ CTD/NTF |
| ▪ Finalize and pilot the reporting system for medical colleges | ▪ March 2005 | ▪ CTD/NTF |
| ▪ Streamline fund flow mechanism to medical colleges* | ▪ As soon as possible | ▪ CTD |
| ▪ Facilitate Medical colleges to undertake operational research - development of generic protocols, clarity on proposal submission and approval process | ▪ Ongoing | ▪ CTD |
| ▪ Quarterly web-based updating of directory of Medical Colleges | ▪ March 2005 | ▪ CTD |
| ▪ Web-based DOT directory for the country – from TU level and above | ▪ March 2005 | ▪ CTD |
| ▪ Disseminate published literature on Tuberculosis/RNTCP to Medical Colleges | ▪ Ongoing | ▪ CTD |

** Issue instructions to STCS/DTCS, prepare fixed norms or budget for identified activities, create separate budget head for medical college activities.*

*Follow up:*
Finalise reporting system for Medical colleges under the RNTCP
Finalise reporting format (quarterly & monthly)
Pilot the reporting system in select sites

**Group 2: RNTCP strategy for DRS/DOTS plus**

Review of data pertaining to Category I and II treatment outcomes under RNTCP

- Success rates of Cat I patients are satisfactory and overall success rate of Cat II is also not bad. There is high default rate overall and in all types of cases. Failure overall is low in terms of percentage, however it is high in Cat II failure and there are large numbers overall. RNTCP data on treatment outcomes of Smear positive Cat II cases registered during the period January 2000 – June 2003 presented by the group is reproduced below.

| Type of cases | Numbers | Treatment success | Died | Failure | Default | Transferred Out |
|---|---|---|---|---|---|---|
| *Relapse* | 91,982 | 68,534 (74.6%) | 6,504 (7.1%) | 5,159 (5.6%) | 11,150 (12.1%) | 535 (0.6%) |
| *Failure* | 23,012 | 13,611 (59.3%) | 2,019 (8.8%) | 3,364 (14.6%) | 3,819 (16.6%) | 168 (0.7%) |
| *TAD* | 125,474 | 88,230 (70.5%) | 9,346 (7.4%) | 6,225 (5%) | 20,744 (16.5%) | 728 (0.6%) |
| *Total sm+ve Re-Rx* | 240,468 | 170,375 (71%) | 17,869 (7.4%) | 14,748 (6.1%) | 35,713 (14.9%) | 1,431 (0.6%) |

- There is no information available on follow up of Relapse cases treated under Cat II in RNTCP.
- There is an issue around mis-categorisation of re-treatment as new cases. The definition of relapse is probably not being used correctly
- Failure is a complex issue. There is probably a great deal of recycling of re-treatment cases.
- Issues which need to be reviewed and studied should be identified. Most issues can be studied with minimal funding if the programme develops generic protocol for identified issues. Multiple medical colleges may conduct study on same topic using one generic protocol, so that the data can be pooled thereafter.
- The group identified certain topics for operational research under the given topic:

  - Relapse of TB after RNTCP treatment in cat II
  - Default and reasons for default
  - Drug resistance surveillance amongst patients who fail Cat II treatment to determine how many patients which fail cat-II are actually MDR and whether they are drug failures or treatment failures.

Drug resistance surveillance (DRS) and other issues related to laboratory network

- The country has very little representative data on drug resistance. Older and existing DRS in the country looks mainly at patients coming into cat-I and cat-II, not at those failing cat-II.
- There is need to have at least one state level lab to act as a nodal point for quality assurance (QA) / Proficiency testing and state level DRS. It could be a State TB Demonstration Centre, Medical college, any public health lab.

- LAB NETWORK for mycobacterial culture and sensitivity is required now. Accurate diagnosis should precede offering treatment to drug resistant cases.
- CTD/NTF has no information on the number of Medical Colleges which have mycobacterium C/S facilities, methods used in these labs and how internal as well as external QA is being carried out. It was suggested to use the Task Forces as a data collection mechanism.
- There is also a need to look at how many Medical College labs are at present doing lab QA for sputum microscopy.

Management strategy for MDR-TB, DOTS plus

- MDR-TB is a laboratory based diagnosis and hence patients should not be labeled as MDR clinically unless the required drug sensitivity results are available. The failures of Cat II may not be MDR TB, and may still be sensitive to standard anti-TB drugs.
- Indications for Culture and Drug Susceptibility Testing: At the end of 5 /6 months of Cat II treatment, if patient is still smear positive, sample should be sent for culture and DST at an RNTCP accredited C/S lab.
- The group agreed that the treatment of MDR-TB is a **"Standard of care"** issue and made the following recommendations:
  - Treatment of MDR cases is very complex and should be done in limited highly specialized centres with qualified staff to handle patients; quality assured C/S lab backup; standardized regimen under daily DOT, system to deliver DOT, logistics, and standardised follow-up and MIS. Resources for treatment of MDR-TB translate not just into the cost involved but also the system which is required to implement DOTS plus and the people to carry it out
  - Treatment requires initial admission and written agreement – patient has to be at the site for a minimum of 2 years; other investigations for follow-up and management of adverse drug reactions
  - The first step towards DOTS plus is to have a well-defined, accredited lab network. The first DOTS plus sites would be identified around the well performing accredited C/S laboratories.
- The group made a draft questionnaire for use for data collection by the ZTFs and STFs which would be finalized by CTD and NTF and sent out.

*Follow up:*

- Develop generic protocols for identified OR topics by March 05 and subsequently request OR proposals from Medical Colleges through Task Force mechanism
- Use ZTF and STFs to collect data on C/S facilities and MDR-TB treatment practices at Medical Colleges
  - Questionnaire finalised by Lab Committee by Dec 04
  - Data collection by ZTF & STF by March 05
  - Assessment visits (for accreditation of said labs under RNTCP and identify required capacity building) of identified labs by end June 05
  - C/S lab undergo QA by National Reference Lab (? 6 months)
  - Full accreditation of C/S labs by Jan / Feb 06
- Proposals for state representative DRS surveys submitted by early 2006 from accredited C/S labs
- Formation of Expert Group to prepare protocol for RNCTP DOTS Plus sites

**Group 3: Operational research**

The group reviewed OR activities undertaken at medical colleges and developed an outline for a generic protocol on EP-TB. The observations and recommendations of the group are as follows:

Current status of operational research by Medical Colleges –

Despite the identification of priority areas OR by Medical Colleges in the last workshop, no OR proposal have been submitted till date. This was probably due to lack of clarity about submission/ approval process of OR proposals, lack of funds earmarked for OR at State level and the STOs not clear on how to disburse funds for OR to Medical Colleges.

Recommendations made by the group to overcome the above constraints were:

- All OR proposals to be submitted to ZTF through STF
- RNTCP format for submitting OR proposals which is available at www.tbcindia.org under the "Documents" head could be used.
- Chairman of ZTF will be responsible for approval and s/he will be assisted for this purpose by a 3 member standing scientific committee constituted by the ZTF. Among other things, the committee would ensure that the research topic is consistent with the priority list of RNTCP as given on the web site. The decision of the committee should be communicated to the person/institution within two months.
- CTD will formulate broad guidelines for budget (specially on funding for staff and equipment)
- The Chairman of ZTF will forward all approved proposals with a budget < Rs 5 lakh to STF for funding (a copy should be sent to Central TB Division for information).
- ZTF approved proposals > Rs 5 lakh will be finally approved by Chairman of NTF and CTD, and if found suitable funds will be released directly to the medical college
- OR funds should be earmarked for each State
- PG thesis related to OR in RNTCP may be supported by RNTCP funds on approval of ZTF

The group also developed an outline of a generic protocol on EP-TB (lymphadenitis) recommended for each Zonal Task Force with the following aims and objectives:

Aim: Study of management of peripheral TB lymphadenitis
Objectives:

- To study the current practices for diagnosis & compare them with diagnostic guidelines recommended in RNTCP
- To evaluate effectiveness of RNTCP regimen including follow up of patients for 2 years after completion of treatment

*Follow up activities on this are:*

- 1-2 participants of the group who worked on this protocol during the workshop will be entrusted to develop standardized questionnaire and finalize the protocol
- The study will be pilot tested in 1-2 institutions. The preliminary budget for this will be worked out by the institutions that carry out pilot study in consultation with the Central TB Division. The budget will be finalized after the pilot studies at the time of finalization of the study.

**Group 4: Training & sensitization on RNTCP**

The group discussed the following issues - training & sensitization, development of training materials, review introduction of RNTCP into curricula.

It was decided to conduct sensitization and training in the following manner

- Sensitization for 2-3 hours for all faculty and residents at the institution
- Training of faculty for one day at the respective institutions
- Training of the core members for 5 days at the state/zonal level
- Training of trainers (TOT) for 10 days at the national level

All training material for sensitization will be developed at state level. It should contain

- RNTCP and its components
- Diagnostic algorithm and rationale of diagnosis
- Scientific basis of DOTS and Treatment Categories
- Role of Medical Colleges and strengthening referral system in Medical College
- Mode of drug delivery

Institutional heads, Deans, Medical Administrators and Directors of Medical Education and research need to be sensitized for one day at the national level.

A one day training for all faculty members to be from a concise version of 1-4 modules to be prepared at Central level and should include EPTB, HIV/TB, Paediatric TB and MDR TB. The venue is the Medical College and the trainers will be their TOTs/RNTCP faculty.

Training will be conducted as follows

- The STF Chairperson will be trained with the key facts and concepts of RNTCP for one day at the national level. The trainers will be from a central level institute.
- Faculty in-charge of RNTCP will be trained with all the 9 modules for 12 days at the state/national level. The trainers will be from the central institute/ STDC
- Faculty members interested in RNTCP will be trained with modules 1-4 for 5 days at the state level and the trainers will be the faculty members in-charge of RNTCP in the Medical College
- All other faculty members will be trained from the new concise version of modules 1-4 for a day at the Medical College with the trainers being their RNTCP faculty
- PGs, residents and interns in addition to the training as per their curriculum will be sensitized for a day with the new concise version of modules 1-4 at the Medical College and trained by their faculty in-charge of RNTCP
- Nurses, pharmacists and other paramedical staff will be trained from the MPW module for one day at the Medical college by their faculty in-charge of RNTCP

Periodic reviews of training and sensitization must be ensured half yearly at the state level and annually at the zonal level (prior to the NTF workshop). CMEs, seminars and symposia conducted at different levels should be reviewed and reported as above.

All trainings to be evaluated with a pre test and a post test. Every six months, practices related to RNTCP are assessed by responses to case scenarios at all levels and by an assessment of impact on the programme indicators

To introduce RNTCP in the curriculum, it was decided that

- The MCI be urged to issue guidelines to all approved Medical Colleges to give necessary emphasis on RNTCP guidelines and make it mandatory to train and include DOTS strategy in teaching, clinical, practical and theory examinations.
- Medical colleges should take up RNTCP at the level of their own institutions to ensure that due priority is given.
- Mandatory clinical posting of interns for 2 weeks in Dept of TB & Chest Medicine with emphasis on RNTCP.

**Group 5: TB/HIV coordination**

Recommendations of the group on the issues related to TB/HIV coordination are as follows:

RNTCP-VCTC "coordination/integration"

- The services for Microscopy-cum-DOTS centre, VCTC and ART centre should be made available at the medical colleges under same roof & there should be a "Single institution clearance".
- A Nodal Officer from Department of Medicine should be designated for TB/HIV coordination at the medical college.
- HIV-reactive persons, who have symptoms of opportunistic infections, should be counseled at the VCTC for going to the Department of Medicine for management.
- TB patients who have high risk behaviour should be counseled & if willing be referred to VCTC.
- Indiscriminate HIV testing in TB patients should be discouraged.
- Each Medical college should work as single unit for TB/ HIV coordination
- Establishment of mechanism to ensure that the referred patients reach VCTC/DMC
- Medical college DMC should provide comprehensive list of all sputum positive cases to the concerned departments weekly/monthly.

IEC

- Sensitization of health care providers working in Medical Colleges, especially about: interactions between HIV & TB, diagnosis and treatment guidelines of RNTCP & NACP & the importance of confidentiality, should be undertaken
- Dissemination of awareness of Post Exposure Prophylaxis guidelines among Health care workers
- Generate better awareness regarding VCTCs in the Medical Colleges.
- Provide a list of NGOs & CBOs working with PLWHA to the medical colleges in order to develop a support system for TB/HIV patients.

Infection control strategies

- In order to minimize TB transmission in healthcare settings, hospitalization of TB patients should only be done if absolutely indicated
- Proper disposal of needles in DOTS centre as per hospital waste management guidelines

Diagnosis & treatment of TB/HIV patients

- Success of coordination depends on detection & treatment of TB in PLWHA.
- Diagnostic algorithm of RNTCP for Pulmonary & Extra pulmonary TB suspect to be retained for HIV reactive patients (use of Fluoroquinolones to be avoided),
- No role of mycobacterial antigen and/or antibody tests in TB diagnosis.

- Known HIV reactive patients who develop tuberculosis ( new cases), including sputum positive, sputum negative & extra pulmonary should be put on Category I regimen
- It was reiterated that Rifampicin is the cornerstone of ATT & ATT regimens without Rifampicin in both, HIV- reactive & non-reactive persons be actively discouraged
- In patients needing both ATT & ART, Nevirapine should be substituted by Efavirenz as per NACO ARV guidelines
- Duration of Anti- tuberculosis therapy for HIV positive patients should be as per RNTCP guidelines and not be altered.

HIV positive patients on ATT who are hospitalised for any reason, should be given prolongation pouches & after discharge, the patient should complete his/her treatment from his DOTS centre.

Research:

There is a need to prioritize research & generate Indian data on TB/HIV. Some of the areas identified for research are:

- DOTS success in HIV-TB patients on ATT+ART;
- Presentation of TB in advanced HIV disease;
- TB Relapses: Exogenous re-infection / reactivation & Isolation of specific strain;
- MDR TB in HIV infected patients;
- Therapeutic drug level monitoring;
- ATT- ARV interactions;
- Malabsorption of ATT in HIV infected patients;
- Rifampicin mono resistant tuberculosis & HIV;
- Paradoxical reactions in ATT & ARV co therapy;
- Role of nutrition in TB/HIV

**Group 6: Co-ordination issues**

The group discussed the experiences with “referral for treatment” mechanism under RNTCP and the management of admitted TB patients while on RNTCP treatment. Recommendations on the issues discussed are as follows**:**

Strengthening of internal referral system

- Need for a strong internal referral system should be emphasized in all Core committee meetings
- Sputum microscopy examination of TB suspects from OPD of ALL clinical departments should be done ONLY at the RNTCP Microscopy Centre
- Contractual Medical Officer of the RNTCP clinic should visit various clinical OPDs to apprise about referral system at least once a week.

RNTCP Regimen for outdoor/indoor patients

*(a) Outdoor patients (within the district)*

- All chest symptomatic attending the OPD should be referred to the DMC/DOTS centre of the medical college from the central registration counter.
- RNTCP diagnostic algorithm should be strictly followed by all attending physicians.
- If patient is from the same TU, s/he should be registered and given a TB number.
- If patient is of different TU,
  - S/he should be referred to the respective TU (with a referral for Treatment form) using the RNTCP directory (RNTCP Directory of the State /Country enlisting all

RNTCP facilities from the TU level upward should be prepared and made available.)
- Referral register should be maintained at the DMC.
- Tracking and feedback of the referred cases should be done during the review meetings.

*(b) Outdoor patients (outside the State/district)*
- After diagnosis, patient is referred to the respective State/district using the referral for treatment form.
- If patient is not going back to the parent State/district and is likely to stay for full duration, he should be put on DOTS, but if the stay is doubtful DOTS should be avoided.

*(c) Indoor patients –newly diagnosed*
- RNTCP diagnostic algorithm to be strictly followed by all attending physicians.
- RNTCP regimen to be prescribed.
- Patient should be registered under the same TU as the medical college.
- In the meantime, address should be confirmed from the respective TU from where the patient hails.
- On discharge, the patient (with maximum of 3 doses/1 week of prolongation pouch to be given) should be 'Transferred out' by the staff of the Medical college MC-DOTS centre.
- The treatment will be continued at the respective TU taking into account the number of doses already taken.
- The treatment outcome will be reported by TU under which the patient is registered.

*(d) Indoor patients-already on DOTS*
- The patient should be put on prolongation pouches.

*(e) Indoor patients-already on Non- DOTS*
- Confirm diagnosis and put the patient preferably on DOTS.

All categories of clinical/para clinical staff should be trained/sensitized regarding RNTCP and RNTCP recording & reporting system should be used.

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**Annex 1**

**List of participants**

Group 1: Action plan and reporting format
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3. Dr. Salil Bhargav, MGM Medical College, Indore
4. Dr. RP Vashist, State TB Officer, Delhi
5. Dr. PK Sinha, AIIMS, New Delhi
6. Dr. PP Mandal, Central TB Division, New Delhi
7. Dr. SS Lal, WHO -India, New Delhi
8. Dr. Jamie Tonsing, Central TB Division, New Delhi

Group 2: RNTCP strategy for DRS/DOTS plus
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2. Dr. VH Balasangmeshwara, National TB Institute, Bangalore
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Group 3: Operational research

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Group 4: Training & sensitization

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Group 5: TB/HIV Co-ordination

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2. Dr. S Tripathi, National AIDS Research Institute (NARI), Pune
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4. Dr. AB Patil, State TB Officer, Maharashtra
5. Dr. Padma Shetty, WHO Consultant, Maharashtra
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7. Dr. Maninder Kaur, Central TB Division, New Delhi
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9. Dr. Neeraj Raizada, Central TB Division, New Delhi

Group 6: Coordination issues

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3. Dr. Huliraju, BR Ambedkar Medical College, Bangalore
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