

Minutes of 14th Lab committee meeting held on 5th June, 2008 at New Delhi

The 14th meeting of National Laboratory Committee of RNTCP was held at Central TB Division on 05th June, 2008. List of participants is annexed at Annexure-I.

DDG (TB) welcomed the participants and briefly highlighted the objectives and agenda for the meeting. The objectives of the meeting were to:

- Update on the status of the strengthening of C&DST labs in various states
- Capacity building of NRLs and IRLs
- Progress of SLD DST at NRLs
- Update on EQA activities

DDG (TB) reiterated that as per RNTCP II PIP, 2005-06 – 2010-11, the aim is to establish at least 24-28 quality assured solid media C&DST laboratories by 2010. Therefore, a proactive role by the NRLs is crucial to the programme for expediting the process of accreditation of these laboratories.

Strengthening of NRLs

To undertake the task of accreditation of Intermediate reference Laboratories (IRLs), and Medical college and private sector labs that have applied for accreditation to undertake C&DST for RNTCP, the capacity of the NRLs needs to be further enhanced. Presently, the programme has provided contractual microbiologists (2 in TRC and NTI, 1 in LRS) and lab technicians (3 in TRC and NTI, 4 in LRS) to the NRLs. The NRLs, apart from the frequent supervisory visits to assigned states for facilitation of EQA activities and establishment of C&DST labs, also undertake regular training in EQA and C&DST for IRL staff, carry out DRS surveys, proficiency testing etc. In view of the emerging XDR TB, the capacity for second line DST in these NRLs also needs to be strengthened.

Recommendations by the committee

- Keeping in view of the increased workload in these NRLs, the committee agreed that 1 more microbiologist and 2 lab technicians are required for each of the 4 NRLs.
- It is proposed that the possibility of utilizing other SNRLs for proficiency testing, particularly the panel testing component, also to be explored.
- The NRLs should list out all the activities being carried out at present and also forecast the workload for the next year in order to quantify the requirements before and after the accreditation of each C&DST lab.
- The committee agreed that EQA training for the IRL staff will be conducted only at NTI to ensure uniformity and quality across all IRLs/states.

Strengthening of IRLs

The programme envisages that by 2015, C&DST facilities should be provided to all Category II patients at entry as well as all Cat I, II and III treatment failure cases. The first priority for the programme is to how to expedite the accreditation of 24-28 solid media C&DST labs in the coming 24 months. And then subsequently how to scale up the lab network to meet the new target set for 2015. The maximum output of a solid media C&DST lab with the currently available equipment and manpower (1 microbiologist and 4 LTs) is around 5000-6000 cultures per year. Based on the future projected increased number of MDR-TB suspects, the capacity to undertake C&DST examinations will need to be greatly enhanced either by increasing the number of labs or by increasing the infrastructure, human resources of the individual existing or planned labs.

Members opined that some of the medical colleges that have applied or are about to apply for accreditation by RNTCP have limited laboratory capacity to undertake the proposed workload of the DOTS-Plus activities and hence potentially these labs would add only a limited additional capacity to the programme, whilst still requiring quality assuring by the respective NRL. The committee agreed that capacity of Medical colleges need to be assessed before proceeding to accredit such labs to ascertain that the lab is competent to undertake programme responsibilities, plus will potentially contribute at least the additional capacity of 5,000 cultures per year to the programme's activities.

Repeated supervisory visits by the NRLs to their assigned IRLs should be undertaken to facilitate the accreditation process, as well as to detect and resolve any deficiencies early. These on site evaluation visits will help in taking prompt corrective action, improve the performance of the IRL staff, and hopefully will also help avoid the need for repeated rounds of proficiency testing prior to accreditation.

Status of IRLs under each NRL

NTI

- One IRL – Nagpur (Maharashtra) accredited
- Rajasthan, WB, Orissa, - under accreditation process
- Jharkhand – LTs trained and about to start the accreditation process
- Bihar has not started the civil works for the IRL
- Madhya Pradesh has not completed the civil works
- Civil works are ongoing in Srinagar and Pune, and completed in Karnataka and Jammu

TRC

- One IRL - Gujarat accredited
- AP, Kerala and Tamil Nadu are under accreditation process
- Though equipments installed, Chhattisgarh has not started the accreditation process due to lack of LTs
- Goa has not started the civil works
- Civil works ongoing in Sikkim, and completed in Punjab and UP.

LRS

- Delhi and Haryana are under accreditation process
- Uttarakhand has trained the microbiologist and LT, and about to start the accreditation process
- Civil works completed in HP, Assam and Manipur

Recommendations by the committee

- The priority activity is to accredit the 24-28 solid media C&DST labs as per the existing RNTCP II PIP, 2005-06 – 2010-11.
- All states which are now under the accreditation process must adhere to the time lines as given in the action plan (Annexure II).
- In addition to the regular supervisory visits, weekly follow up through telephone /email by the NRL microbiologist with IRL Microbiologist should be undertaken.
- The annual requirements of consumables for a C&DST laboratory to be calculated by TRC in view of the proposed increased workload in the IRLs
- .As a step to reduce the workload of the IRLs, DST for only Rifampicin may be considered for diagnosing "MDR-TB" as mono 'R' resistance is extremely low.

- The possibility of use of Nitrate reductase (Greiss method) may be explored to bring the time down for reporting of the DST results. The committee recommended that this method may be pilot tested in the NRLs and IRLs other than Gujarat, Maharashtra and Andhra Pradesh
- As decided in the recently held STO-Consultant meeting, the accreditation process for IRL at Puducherry may be initiated by NTI.
- STO UP may discuss with Director, JALMA Institute to develop an action plan for DOTS-Plus, identification of the DOTS-Plus site, etc.
- The states of Bihar, MP and Goa should ensure to complete the civil works of their respective IRLs at the earliest
- Undertaking C&DST for Kerala and Tamil Nadu (Plan B) may be considered by TRC, if the accreditation of these labs is getting delayed.
- The continuing high contamination and culture negative rates reported from NTI for the DOTS-Plus samples sent from Maharashtra need to be examined for taking corrective action. An analysis may be done to find out whether these were early (<7days) or late (>7days) contamination.
- Assessment and creation of the additional infrastructure, human resources etc required to meet the additional workload of these IRLs in future, while keeping in view the newer technologies which may become available in the country in the coming years.

Discussions with FIND

- FIND has been requested to circulate their proposal/concept note for GFATM Rd 8 to all the lab committee members in the next 4-5 days.
- FIND also been requested to share available data from other countries and India regarding field testing of MGIT and other rapid culture techniques.
- Basic conventional/solid culture technique should be made available in all the IRLs before introducing the newer technologies such as liquid, molecular techniques etc.
- After evaluation of the newer technologies in at least 3-4 sites in the field, including the cost of infrastructure, reagents, tests, requirement of human resources etc, RNTCP should develop a national plan for the introduction of these technologies under programmatic conditions in an appropriate planned phased manner, which needs to be intimately linked with the plans for scale-up of RNTCP Category IV treatment services for identified MDR-TB patients.

DRS activities

- The review of the data from the DRS survey conducted in Maharashtra should be finalized within one month and the final report should be submitted to CTD.
- The DRS survey in Andhra Pradesh will be commenced once the IRL C&DST lab is accredited.
- The pilot study for the DRS survey in western Uttar Pradesh is ongoing.
- Orissa has finalized it's DRS protocol and has sent it to CTD recently. Training for the STDC staff will be undertaken shortly.

Accreditation of Medical college and private sector mycobacterial culture and DST laboratories

Proficiency testing is ongoing between SMS, Jaipur with NTI and AIIMS with TRC. TRC has sent a panel of cultures to CMC Vellore, KGMU Lucknow, Blue Peter lab, Hyderabad, and

LRS has sent a panel of cultures to PGI, Chandigarh, as part of the proficiency testing. The process of accreditation also been initiated for KEM, Mumbai. Scrutiny of the accreditation application formats received from some of the medical colleges revealed that a number of them are undertaking only very few cultures per year and do not have enough capacity for taking up the workload as per programme guidelines and need.

Recommendations by the committee

- Accreditation will be granted to only those medical college laboratories with well functioning mycobacterial C&DST facility and are capable of undertaking more than 5000 cultures per year.
- The programme will not provide any infrastructure/equipment or manpower to the medical colleges for up-gradation of their labs.
- The consumables for a medical college laboratory may be provided from the programme through the funds available for the lab consumables at state level.

Update on the renewal of accreditation of LRS and JALMA with TRC

JALMA Institute and LRS Institute are under-going proficiency testing with TRC, Chennai and the results will be available shortly

Update on second line drug susceptibility testing

It was informed by TRC that proficiency testing for Kanamycin, Ofloxacin, Amikacin and Capreomycin has been done validated and standardized after multiple rounds of proficiency testing with SNRL, Belgium .

Progress on capacity building of other NRLs in Second Line DST

Two technicians from NTI have been trained at TRC, Chennai. The training for the laboratory staff from LRS and JALMA to be undertaken by TRC at the earliest so as to expedite the capacity building of second line DST in these labs.

It was informed to the committee that Dr Hilleman from Borstel Laboratory in Germany (a WHO supranational laboratory) will be visiting TRC as a follow up of her earlier visit in December 2007. She will also visit the other three NRLs (NTI, LRS and JALMA) to review the existing laboratory procedures for culture and first line DST, and also to assist in strengthening the NRLs capacity for second line DST.

Culture and DST Laboratory Performance Indicators

The committee was informed that the document on C&DST lab performance indicators had been sent to all the four NRLs in April 2008. These need to be pilot tested in the NRLs before being sent to IRLs. The NRLs should collect the required data and analyse them in the next 3 months (July-September) and discuss the same in the next lab committee meeting.

The committee proposed that a protocol for multi-centric prospective cohort study on follow up of Cat I patients may be developed at the earliest by TRC/LRS. This study will be undertaken by TRC, LRS and JALMA at 5-6 sites .

Annexure-I

List of Participants

1. Dr. L. S. Chauhan, DDG (TB)
2. Dr.P.R.Narayanan, Director, TRC, Chennai
3. Dr.D.Behera, LRS Institute, New Delhi
4. Dr.Vishwa Mohan Katoch, JALMA,Agra
5. Dr.S.K.Chaturvedi, CMO,CTD
6. Dr.Devesh Gupta,CMO,CTD
7. Dr.V.P.Kalra, CMO,CTD
8. Dr.Selva Kumar, TRC,Chennai
9. Dr. Ranjani Ramachandran, TRC Chennai
10. Mr. Anand, NTI, Bangalore
11. Ms. Reena, NTI, Bangalore
12. Dr.Sandeep Meharwal, LRS, New Delhi
13. Dr S. Sahu, NPO (TB), WHO India
14. Dr Fraser Wares, MO(TB), WHO India
15. Dr.C.N. Paramsivan, FIND,
16. Dr. Yamuna Mundade, FIND
17. Dr. Sarabjit Chadha, WHO-RNTCP Consultant, Central TB Division
18. Dr.Neeraj Raizada, WHO-RNTCP Consultant, Central TB Division
19. Dr.Srinath, WHO-RNTCP Consultant, Central TB Division
20. Dr Sheena Susan George, WHO-RNTCP Consultant, Central TB Division

Update& Revised Action Plan for Accreditation of culture labs

State(Establishment of IRL as per PIP)	NR L	Activities/ Remarks	Timeline (As per May 2006)	Timeline(as on 31 st March, 2007)	Revised action plan(28 th September 2007)	Revised as on 16 th Feb 08)	Revised as on 5 th June 08
Gujarat (2005)	TR C	1. Training of Microbiologist & LTs in C&DST		April 2007			
		2.Bio-safety certification of equipments	May 2006	April 2007			
		3.Fill up the application form & send to NRL& CTD	Sep 2006	April 2007			
		4.NRL pre assessment visit to IRL	Sep 2006	May 2007			
		5.Starting of cultures(Pilot study)	----	May 2007			
		6. Send cultures / Exchange of strains with NRL(NRL ↔ IRL)	May 2006	July-August 2007	September/October 07	November 07	
		7. Results of proficiency testing	Aug-Sept 06	October 2007	December 2007	March 08	
		8. Accreditation visit by NRL	Sept 2006	November 2007	January 2008	March 2008	
		9. Time for corrective actions	Oct-Nov 2006	December 2007	Jan-Feb 2008	April 2008	
		10. Accreditation	Nov 2006	Dec 07/Jan08	Feb-march 2008	April 2008	Accreditation done in March 08
		11. Intake of first MDR suspect	Nov 2006	March 2007 (at NRL)		March 07	
		12. First MDR-TB patient registered for Cat IV treatment	Jan 07	May/June 2007		August 07	
Mahara	NT	1. Bio safety Certification of the	May 06	April-May	October 2007	October 2007	

shtra (2005)	I	equipments		2007			
		2.Fill up the application form & send to NRL& CTD	Nov 06	May 2007			
		3.NRL pre assessment visit to IRL	Nov 06	June 2007			
		4.Pilot study started		Feb 2007			
		5. Send existing cultures / Exchange of strains with NRL(NRL ↔ IRL)	July 06	February 2007			
		6. Results of proficiency testing	Sept-Nov 06	May 2007		December 07	
		7. Accreditation visit	Nov 06	June 2007	October 2007	October 2007	
		8. Time for corrective actions	Dec 06-Jan 07	June 2007	November 2007	Nov –Feb 08	
		9. Accreditation	Jan 07	July 2007	December 2007	March 08	Accreditation done in April 08
		10. Intake of first MDR suspect	Jan 07	March 2007 (at NRL)		March 07	
		11. First MDR-TB patient registered for Cat IV treatment	April 07	May/June 2007		September 07	
Andhra Pradesh (2005-2006)	TR C	1. Installation of equipments	June 06	April 2007		May 2007	
		2.Biosafety certification of equipments		April 2007		May 2007	
		3.Fill up the application form & send to NRL& CTD	Dec 06	April 2007		June 2007	
		4.NRL pre assessment visit to IRL	Dec 06	May 2007		June 2007	
		5. Pilot study started (on existing BS Cabinet)	?	Jan 2007			
		6. Send existing cultures / Exchange of strains with NRL(NRL ↔ IRL)	Sept 06	April/may 2007	October 2007	Nov 2007	
		7. Results of proficiency testing	Nov-Dec06	July 2007	December 2007	Feb 2008	Repeat retesting-April 08
		8. Accreditation visit	Dec 06	August 2007	December 2007	March 08	June 08
		9. Time for corrective actions	Jan-Feb 07	September	Dec-Jan 2008	March 08	

				2007			
		10. Accreditation	March 07	October 2007	Dec-January 2008	April 08	June 08
		11. Intake of first MDR suspect	April 07	November 2007	January 2008	April 08	June-July 08
		12. First MDR-TB patient registered for Cat IV treatment	July 07	January 2008	March 2008	June 08	September 08
Kerala(2005-2006)	TRC	1. Training for the untrained LTs in C& DST		April/May 2007	October 2007		
		2. Installation of equipments	June 06	April 2007	June 07		
		3. Bio safety certification of equipments		May 2007	June 07		
		4. Fill up the application form & send to NRL& CTD		May 2007	June 07		
		5.NRL pre assessment visit to IRL	Dec 06	June 2007	August 07		
		6.Starting of cultures(Pilot study)		June 2007	November 2007	January 08	
		7. Send cultures / Exchange of strains with NRL(NRL↔IRL)	Sept 06	September 2007	January 2008	May 08	Panel sent by TRC
		8. Results of proficiency testing	Nov 06	November 2007	April 2008	August 08	Sept/October 08
		9. Accreditation visit	Dec 06	December 2007	April-May 2008	September 08	October 08
		10. Time for corrective actions	Jan-Feb 07	January 2008	May 2008		
		11. Accreditation	March 07	February 2008	May-June 2008	October 08	November 08
		12. Intake of first MDR suspect	April 07	March 2008	June 2008	Aug/Sept 08	
		13. First MDR-TB patient registered for Cat IV treatment	July 07	June 2008	August 2008	Nov/Dec08	

Haryana(2006-2007)	LRS	1. Training of untrained LTs in C&DST	July 06	May 2007	October 2007		
		2. Installation of equipments	August 06	April 2007	May 07		
		3.Bio safety certification of		April 2007	October 07		

		equipments					
		4. Fill up the application form & send to NRL& CTD	March 07	May 2007	Yes		
		5.NRL pre assessment visit to IRL	Mar 07	June 2007	June 07		
		6.starting of cultures(Pilot study)		June 2007	September 07	Cultures ongoing from Sept 07	
		7. Send cultures / Exchange of strains with NRL(NRL↔IRL)	Dec 2006	September 2007	Jan 2008	March 08	Cultures exchanged-April 08
		8. Results of proficiency testing	Feb-Mar 07	November 2007	April 08	June08	July 08
		9. Accreditation visit	April 07	December 2007	April-may 08	July 08	July –August 08
		10. Time for corrective actions	May-June 07	January 2008	May 08		
		11.Accreditation	June 07	February 2008	May-June 2008	August 08	August 08
		12. Intake of first MDR suspect	July 07	March 2008	Jan 08(samples to be send to LRS)	April 2008	June 08
		13. First MDR-TB patient registered for Cat IV treatment	October 07	June 2008	March-April 2008	June 2008	
Delhi(2005-2006)	LRS	1. Training of Microbiologist & LTs in C&DST		April 2007	Yes		
		2.Bio-safety certification of equipments		April 2007	Yes		
		3.Fill up the application form & send to NRL& CTD		May 2007	Yes		
		4.NRL pre assessment visit to IRL		June 2007			
		5.Starting of cultures (pilot study)		June 2007	Yes		
		6. Send cultures / Exchange of strains with NRL(NRL ↔ IRL)		September 2007	September 2007(October)	Under Proficiency testing with LRS	Repeat PT
		7. Results of proficiency testing		November 2007	December 2007	Feb 08	June end/July 08

		8. Accreditation visit by NRL		December 2007	Dec-Jan 2008	March 08	July 08
		9. Time for corrective actions		January 2008	Jan 08		
		10. Accreditation		February 2008	Feb 2008	April 08	July 08
		11. Intake of first MDR suspect		March 2008	March 2008	April 08	August 08
		12. First MDR-TB patient registered for Cat IV treatment		June 2008	June 2008	June/July 08	
Rajasthan (2005-2006)	NTI	1. Training of Microbiologists & LTs in C& DST		April 2007	Yes		
		2. Installation of equipments		April 2007	August		
		3. Bio safety Certification of the equipments		May 2007	Yes		
		4. Fill up the application form & send to NRL & CTD		June 2007	Yes (September 07)		
		5. NRL pre assessment visit to IRL		July 2007	October 2007	October 07	
		6. Starting of cultures (pilot study)		July 2007	November 07	November 07	
		7. Send cultures / Exchange of strains with NRL (NRL ↔ IRL)		October 2007	Feb 2008	April 08	May 08
		8. Results of proficiency testing		January 2008	May 2008	July 08	August 08
		9. Accreditation visit		February 2008	June 2008	August 08	September 08
		10. Time for corrective actions		March 2008	July 2008	September 08	
		11. Accreditation		April 2008	August 2008	October 08	October 08
		12. Intake of first MDR suspect		May 2008	September 2008	May 08	
		13. First MDR-TB patient registered for Cat IV treatment		August 2008	December 2008	Aug/Sept 08	
Tamil Nadu (2005-2006)	TRC	1. appointment of 3 LTs & their training		June 2007	October 2007		
		2. Installation of equipments		April 2007	June 07		
		3. Biosafety certification of equipments		April 2007	Yes		
		4. Fill up the application form &		May 2007	September 07		

		send to NRL& CTD					
		5.NRL pre assessment visit to IRL		June 2007	October 2007	November 07	
		6. Starting of cultures(Pilot study)		June 2007	November 07	December 07	
		7. Send cultures / Exchange of strains with NRL(NRL ↔ IRL)		September 2007	Feb 08	April 08	July 2008
		8. Results of proficiency testing		October 2007	June 2008	July 08	October 08
		9. Accreditation visit		November 2007	July 2008	August 08	October 08
		10. Time for corrective actions		Dec 2007	August 2008	September 08	
		11. Accreditation		Jan 2008	September 08	October 08	November 08
		12. Intake of first MDR suspect		Feb 2008	September 08	October 08	November 08
		13. First MDR-TB patient registered for Cat IV treatment		May 2008	December 2008	Jan 09	
Orissa a (2005 - 2006)	NTI	1. Installation of equipments	August 2006	April 2007	October 2007	November 2007	
		2. Bio safety certification of equipments	DRS plan was made in May 06	May 2007	October 2007	November 2007	
		3. Fill up the application form & send to NRL& CTD		May 2007	November 2007	January 2008	
		4.NRL pre assessment visit to IRL		June 2007	December 2007	Feb 2008	
		5.Starting of cultures(Pilot study)	Sept 06	June 2007	January 08	March 08	
		6. Send cultures / Exchange of strains with NRL(NRL↔IRL)		September 2007	April 08	June 08	July 08
		7. Results of proficiency testing		November 2007	June 08	September 08	October 08
		8. Accreditation visit		December 2007	July 08	October 08	November 08
		9. Time for corrective actions		January 2008	August 08		
		10. Accreditation		February 2008	September 08	November 08	December 08
		11. Intake of first MDR suspect		March 2008	October 08	December 08	
		12. First MDR-TB patient registered for Cat IV treatment		June 2008	Jan 09	March 09	

West Bengal (2005 - 2006)	NTI	1.Posting of Microbiologist		May 2007	July 07		
		2.Training of microbiologist & LTs		June 2007	September07		
		3. Installation of equipments		May 2007		November 2007	
		4.Bio safety certification of equipments		May 2007	yes	Nov 07	
		5. Fill up the application form & send to NRL& CTD		July 2007	October 07	December 07	
		6.NRL pre assessment visit to IRL		August2007	November 07	Jan 08	
		7.starting of cultures(Pilot study)		September 2007	November 07	Feb 08	March 08
		8. Send cultures / Exchange of strains with NRL(NRL↔IRL)		December 2007	March 08	June 08	August 08
		9. Results of proficiency testing		February 2008	June 08	September 08	November 08
		10. Accreditation visit		March 2008	July08	October 08	December 08
		11.Time for corrective actions		April 2008	August 08		
		12.Accreditation		May 2008	September 08	November 08	December 08
		13. Intake of first MDR suspect		June 2008	September 08	October 08	
		14. First MDR-TB patient registered for Cat IV treatment		September 2008	December 08	Dec 08/Jan 09	

			Time line(as on March 07)	Revised(Sept 07)	Revised on 16 th Feb 08	
Jharkhand (2005-2006)	NTI	1. Posting of LTs in IRL	April/May 2007	October07	Not yet	March 08
		2.Training of Microbiologists& LTs in C& DST	May /June 2007	(September-MB)		April-May 08
		3.Installation of equipments	May 2007	October 07	Feb 08	
		4.Bio-safety certification of equipments	May 2007	November 07	Feb 08	
		5.Fill up the application form & send to NRL& CTD	July 2007	December 07	April 08	June 08
		6.NRL pre assessment visit to IRL	August 2007	January 08		July 08
		7.Starting of cultures (pilot study)	September 2007	January 08	To be decided depend on the	July 08

					posting of LTs	
		8. Send cultures / Exchange of strains with NRL(NRL ↔ IRL)	December 2007	April 08		October 08
		9. Results of proficiency testing	March 2008	July08		Feb 09
		10. Accreditation visit by NRL	April 2008	August 08		March 09
		11. Time for corrective actions	May 2008	September 08		
		12. Accreditation	June 2008	October 08		March 09
		13. Intake of first MDR suspect	July 2008	October08		
		14. First MDR-TB patient registered for Cat IV treatment	October 2008	Jan 09		
Uttaran chal (2005- 2006)	LR S	1. Appointment of Microbiologist& LTs in IRL	??June 2007	October 07	January 2008(MB+1LT)	
		2.Training of Microbiologists & LTs in C& DST	?August 2007	November 07	Feb-March 08	April 08
		3.Completion of civil works	May 2007	June 07		
		4.Installation of equipments	June 2007	Yes		
		5.Bio safety Certification of the equipments	June 2007	Yes		
		6.Fill up the application form & send to NRL& CTD	?August 2007	December07	April 08	June 08
		7.NRL pre assessment visit to IRL	September 2007	January 08	April 08	June/July 08
		8.Starting of cultures(pilot study)	October 2007	February 08	May 08	July 08
		9. Send cultures / Exchange of strains with NRL(NRL ↔ IRL)	January 2008	May 08	August 08	October 08
		10. Results of proficiency testing	April 2008	August 08	November 08	Feb 09
		11. Accreditation visit	May 2008	September 08	December 08	March 09
		12. Time for corrective actions	June 2008	October 08		
		13. Accreditation	July 2008	November 08	Jan09	April 09
		14. Intake of first MDR suspect	August 2008	November08	Jan 09	
		15. First MDR-TB patient registered for Cat IV treatment	November 2008	Feb 09	April 09	

Chhatti sgarh (2005- 2006)	TR C	1. appointment of Microbiologist & LTs	??June 2007	December07	Microbiologist& 1 LT	LTs –appointment not done yet
		2. Training of the staff	??July 2007	October 07	Feb 08-march 08	July 08
		3.Installation of equipments	April/May 2007	Yes		
		4.Biosafety certification of equipments	May 2007	Yes		
		5.Fill up the application form & send to NRL& CTD	August 2007	November 07	April 08	Depends upon the posting of LTs,
		6.NRL pre assessment visit to IRL	September 2007	December 07	May 08	
		7. Starting of cultures(Pilot study)	October 2007	December07	May 08	
		8. Send cultures / Exchange of strains with NRL(NRL ↔ IRL)	January 2008	April 08	August 08	
		9. Results of proficiency testing	April 2008	July 08	December 08	
		10. Accreditation visit	May 2008	August 08	Jan 09	
		11. Time for corrective actions	June 2008	September 08		
		12.Accreditation	July 2008	October 08	Feb09	
		13 Intake of first MDR suspect	August 2008	November 08	Feb 09	
		14. First MDR-TB patient registered for Cat IV treatment	November 2008	Feb 09	May 09	

