Regional Advisory Committee on MDR-TB SEAR (r-GLC) Secretariat
WHO South East Asia Regional Office

PMDT MONITORING REPORT

Programme: National TB Programme, Indonesia

Inclusive dates of mission: 06-16 August 2018

Author(s): Dr Sarabjit Chadha (Consultant)

Mission team: The Consultant was accompanied on this mission by Dr Endang Lukitosari (NTP), Mikyal Faralina (WHO), Hanifah Rizky (NTP), Desi Aulia (NTP) and Dr Yusie (KNCV)

Acknowledgments: The mission team would like to express thanks to National Tuberculosis Control Programme (NTP), KNCV, other partners and the WHO country office for facilitating the visit. The team also thanks the doctors, nurses, health care staffs and patients at the sites visited for their hospitality and collaboration with the mission members.

The programme has agreed with open sharing of this report ☒

Table of Contents

Abbreviations and acronyms:

aDSM	Active TB drug safety monitoring and management
Bdq	Bedaquiline
CBTBC	Community Based TB Control
Cfz	Clofazimine
Cs	Cycloserine
Dlm	Delamanid
DR-TB	Drug resistant TB
DST	Drug Sensitivity Testing
Eto	Ethionamide
FLD	First line anti TB drugs
Lfx	Levofloxacin
LPA	Line Probe Assay
Mfx	Moxifloxacin
Ofx	Ofloxacin
NTP	National TB Programme
PMDT	Programmatic Management of Drug resistant TB
R-R TB	Rifampicin Resistant TB
SDG	Sustainable Development Goals
SLD	Second line anti TB drugs
SL LPA	Second line LPA
XDR-TB	Extensively drug resistant TB

Executive summary

i. TORs of the mission

- Review progress made on previous rGLC mission recommendations
- Review PMDT expansion status within and beyond public sector, including STR implementation and introduction of new drugs, and make recommendation for nationwide PMDT expansion within and beyond public sectors to reach the NTP PMDT long term plan (2016-2020) and Global Fund grant (2018-2020) targets
- Review the current coordination mechanisms between the NTP, implementing and potential partners, community, the supranational reference laboratory, second line drug, procurement agency, partners and WHO;
- Review and develop the plan for community-based DR TB treatment service
- Share experience from other country concerning the role of information technology to improve DR-TB patients treatment adherence

ii. Implementation status of PMDT and significant achievements during 2017-18

- 126 PMDT treatment centres have been established across 34 provinces. Till 2 Q 2018 more than 11,000 DR TB patients (MDR, pre-XDR and XDR TB patients) have been initiated on treatment since 2009 through examination of more than 300,000 TB patients for drug resistance.
- The laboratory capacity has been expanded with 589 Xpert machines available at 568 sites across 386 districts. Another 425 Xpert machines have been procured and will be installed by end of 2018. There are 3 LPA laboratories available with another 4 labs which are planned to be established by end 2018. There are 14 accredited DST labs (with solid and liquid technology) for both first and second line drugs which will be expanded to 17 labs by end of 2018.
- The number of Xpert tests done has increased significantly from 9,700 in 2014 to 122,235 in 2017 resulting in an increase in number of R-R/MDR-TB diagnosed from 1,656 to 5,109 during the same period.
- The number of MDR-TB patients enrolled on treatment has increased from 1,299 in 2014 to 3,119 in 2017. However, the initial loss to follow up rate remains high and has been increasing from ~20% in 2014 to ~40% in 2017.
- The treatment success rates have remained ~50% for the last few years with high loss to follow up (~30%) and death rates (~17%).
- Supply of second line drugs for STR is adequate. Newer drugs Bedaquiline (Bdq) and Delamanid (Dlm) are available under the NTP. Started as a pilot project in 2014, Bdq is now available in 13 DR-TB centres and over 250 patients are on Bdq containing regimens. Dlm has been introduced recently at 3 DR centres with 7 patients on treatment.
- Shorter Treatment Regimen (STR) was introduced in September 2017 and over 1100 patients have been enrolled.
- aDSM core package is being implemented in collaboration with National Agency for Drugs and Food Control (NADFC). For patients on newer drugs (Bdq/Dlm) cohort event monitoring is being undertaken.
- Innovative pilots to facilitate sputum transportation through Indonesia posts and coordinated through SITRUS software have been undertaken under CTB project with good results.

iii. Key challenges identified in this mission

- The enrollment of R-R/MDR TB patients remains low at 26% of the estimated 12,000 cases (among notified pulmonary TB cases). The gap between diagnosed and enrolled continues to be high at ~40%. High loss to follow up and death rates among patients on treatment are reducing the treatment success rate which currently is only 50%.
- The expansion of DR centres is slow. Only 126 sites have been established against the target of 360 as per the Ministerial decree issued in 2016. This is one of the reasons for slow scale up of shorter treatment regimen.
- While the number of Xpert machines has increased to 589 across 386 districts the utilisation rate is extremely low. The average utilisation is only 22% nationally. Calibration and annual maintenance of Xpert machines continues to be a challenge. Procurement of Xpert cartridges locally is significantly delayed with a high risk of stock out towards end of the year unless urgent action is taken. The Xpert connectivity remains a challenge with the programme still exploring options for the same.
- Monitoring and evaluation of the programme is weak at all levels. There are multiple information systems (SITT, e TB manager, EMPATY, ENAM, e-meso etc.) which are not linked/integrated resulting in incomplete information.

Key recommendations of the mission:

The following are the key recommendations (see full report for the entire set of recommendations):

S.No	Summary of key recommendations	Responsible agency/person	Time frame
1.	Accelerate the enrolment of R-R/MDR-TB patients on treatment to achieve the targets for 2018-19. • Reduce the enrolment gap from ~40% to less than 10% by reducing delay between testing and treatment initiation, providing counselling through trained staff/patient support groups to those not willing for treatment and streamlining and expediting baseline evaluation at referral hospitals. • Establish a mechanism for line listing and aggressive tracking and testing of all presumptive DR-TB patients. All districts and provinces should monitor this indicator quarterly. • Scale up Xpert testing (universal DST) of all presumptive TB patients through close monitoring and scaling up sputum transportation services in all districts.	NTP and Partners	• For the patients diagnosed in Jan-Mar 19 the enrolment gap should be less than 10% • Immediate • To be completed by March 2019
2.	Enhance and optimise lab capacity for first and second line DST • Undertake analysis of the Xpert capacity (with availability of 1043 machines by end of 2018), the existing and anticipated workload with the scaling up of universal DST. Simultaneously forecast the requirement of cartridges and ensure adequate supply. • Expedite the establishment and accreditation of the 4 additional LPA labs and ensure that all diagnosed R-R/MDR patients have SL-DST done. Set up sputum transport mechanism from the feeding districts to the SL-DST labs. • Revise the SDP criteria for the liquid DST labs to include INH (0.1, 0.4), Km,	NTP and partners	• Complete the analysis and forecasting of cartridge requirement by Dec 2018 • By Dec 2018 • By Dec 2018

	Cm and Moxi (0.25 and 1) and train the lab staff as per the recent WHO and FIND guideline on critical concentrations.		
3.	Scale up the DR treatment centres (as per the NSP and Ministerial decree) to provide decentralised treatment. This will require: • Expediting the ongoing assessment process • Availability of baseline tests either at the centre or linked with public/private facilities • Availability of funds for minor renovations to ensure infection control • Ensure availability of second line drugs for the shorter regimen and the newer drugs for longer regimen*	MoH/NTP / partners	The target of 360 DR Treatment centres should be completed by March 2019
4.	Improve treatment success rate from the current ~50% by • Reducing the LFU rates by providing counselling services through trained staff and patients support groups and timely payment of incentives and enablers to DR-TB patients • Reducing the death rates through early diagnosis and treatment initiation • Strengthen the capacity of physicians for clinical management of DR-TB patients through clinical courses, CMEs and regular online discussion using a 'Hub and spoke' model through ECHO or other similar platforms • Undertake operational research to document the reasons for LFU and death. This should be a mixed method study (qualitative and quantitative).	NTP / PHOs/DHOs/Partners	• Ongoing • Ongoing • Discuss with ECHO or other similar organisers and prepare an implementation plan by Dec 2018. • Complete the OR by March 2019
5.	Strengthen aDSM and PV mechanisms in collaboration with NADFC • Sensitisation of the relevant clinical staff on aDSM/PV		• Complete sensitization of relevant staff by Dec 2018

	• Prepare a simple monthly report from all DR Treatment centres to remind and ensure ADRs updated on eTB manager • Bridging/Integration of e-meso and eTB in the interim and SITB finally • Ensure regular quarterly/biannual meetings of the PV Committee for DR-TB		• Implement from Oct 2018 onwards • Integration with SITB to be completed by mid 2019 • Ongoing
6	Urgent action points • There is a high risk of stock out of Xpert cartridges in 4 Q2018 due to non-procurement through the domestic funds. Fast track procurement of cartridges from Global Fund Y2 budget and simultaneously facilitate registration of the supplier in e catalogue. • The calibration of the Xpert machines installed in 2015 and 2016 is over due. • Include DR-TB patients under BPJS scheme. The calculation has been done and it is about ~10m Rp per patient(excluding diagnostics and drug costs). Prepare a justification note and discuss with National Tariff Commission and BPJS. • Prepare a transition plan for sustaining effective interventions piloted under Challenge TB project.	NTP/WHO	• Fast-track procurement of cartridges from Global Fund Y2 budget by **Nov 2018** • Facilitate registration of the supplier in e catalogue by **Dec 2018** • Complete by **Jan 2019.** • By Nov 2018. • Dec 2018
7	Strengthen monitoring and evaluation • Integration of the various softwares SITT, eTB Manager, e-meso, EMPATY, ENAM etc. • Plan and undertake regular Grant Monitoring visits from the Central and provincial levels to districts.	NTP and partners	• Mid 2019 • Ongoing
8	Develop a plan for delivery of community based DR-TB services (may use the framework given in the report)	NTP and Community groups	• Dec 2018

Status of priority recommendations from the previous mission:

Recommendation	Responsible persons/ agency	Timeline	Action taken
1. Improve RR/MDR-TB case detection • Improved access to GeneXpert machines	NTP and partners	Ongoing and as per the NSP	**Partially achieved** • The number of Xpert machines is increased to 589 with another 425 procured. These will cover all 514 districts.
• Strengthen sputum transportation network			• Technical Assistance from GF/YKI with mobile application for strengthening the specimen transportation started since last year in 50 districts (out of 218 districts in 10 Provinces) and plan for expansion to 68 districts in 2018.
• To improve efficiency use CXR as first step (rather than symptoms) in screening activities followed by GeneXpert – close contacts, HIV positives, DM, other risk groups being screened for TB/ MDR-TB			• The use of CXR in the diagnostic algorithm for screening purposes is still weak.
• Contact investigations should be done and recorded in all cases (household and workplace)			• DR TB contact investigation (to house hold) is part of the SOP for starting DR TB treatment. The staff or the community volunteers visit R-R/MDR patients for contact investigation, but this not monitored.
• Private sector engagement should be promoted at all levels and referrals monitored			The following efforts have been made for private sector engagement. • Implementing organization by PDPI

			(pulmonologist association), YKI at 37 districts – 180,000 additional cases from selected districts • NTP and 13 Professional organization related to TB cases management have established KOPI TB (Coalition of Professional organization for TB) and developed work plan, as part of district ppm. KOPI TB is established at national level, and all 34 provinces are expected to established KOPI TB at provincial level and district level
2. Initiate DST guided treatment in all TB patients • Provide a GeneXpert machine to all hospitals and clinics as included in Ministerial decree. Lung clinics with ≥ 50 OPD per day should be prioritised for GeneXpert	NTP, NRL and partners	June 2018	**Partially achieved** The NTP has identified 50 hospitals where Xpert will be installed. By July 2018, Xpert has been installed in 6 hospitals and for the remaining the machines have been procured and will be installed by end 2018.
• Operationalize SL-LPA in 3 labs by mid-November 2017 and complete procurement process for other 4 labs by February 2018			**Achieved** Training has been conducted for the first batch in December 2017 for 3 labs. The labs have passed QA in May-June 2018. Procurement for additional 4 labs has been completed and shipped to the labs.
• DST guided therapy should become a standard of care.			**Partially achieved.** The work is in progress. With 1043 Xpert machines functional by end 2018 it is expected that all districts will be offering universal DST.
3. Achieve targets of 80% STR initiation in RR/MDR-TB patients	NTP, Hospitals	June 2018	Partially achieved

• All 360 hospitals/clinics as per Ministerial Decree to be operational as treatment centres by December 2017 • Complete information on drug-resistant forms of TB and workload analysis for treatment centres • Pro-active monitoring of clinical symptoms based on a check-list (by clinician or nurse) • Monitoring trends (summary sheets) for laboratory results of patients (by clinician or nurse)			• 126 DR Treatment centres established against the target of 360 • This is being done partially and irregularly • Not being done • Not being done
4. Reduce initial LTFU and on treatment LTFU to less than 5% each by June 2018 • Improve coordination between hospital, PHO/DHO, patient support groups and NTP (and partners) – could be achieved by formation of a virtual group like whatsapp – Alert for all RR findings as soon as results are known – Alert when cases are initiated on treatment – Alert when cases on treatment miss a single dose – In all cases the PHO/DHO and patient support groups should take action within 1-2 days and report back on the group – All actions recorded in patient files after information to DOT provider • Ensure availability of patient support uniformly for all cases initiated on treatment • Consider more community based services involving community nurses and patient groups	NTP, Hospitals, PHO and DHO	Start immediately to achieve by 2nd quarter 2018	Partially achieved • Monthly Interim Cohort Analysis (MICA) initiated in 13 districts with encouraging results. Whatsapp group created in all DR TB treatment centers improving communication between staff for monitoring patients. • ENAM mobile application for supporting the finance Administrator to provide regular enablers to patients has been developed and is being piloted. • On-going in LKNU and Aisyiyah supported areas

5. Strengthen data management and monitoring: concept of data for action • Standards and Benchmarks for PMDT Facilities Self-Assessment Tool – Identify key indicators that need to be monitored – Distinguish indicators that need to be monitored quarterly from information that needs to be monitored less frequently – Performance less than expected should have action point/s – Action taken should be reported along with indicators next quarter • Regular supportive supervision at all levels • Standard templates may be prepared for presenting programme performance			Partially achieved and ongoing • Benchmarks and self-assessment tools for PMDT facilities have been developed but need to be adapted for regular monitoring and initiating necessary action. • Supervision still remains weak. • The templates have not been developed.
6. Strengthening infection control in all facilities managing lung cases • Crowding in waiting areas and mixing of patients should be avoided – use open spaces more often • Prefer natural ventilation while designing MDR-TB wards • Reduce admissions to minimum prioritising only those with serious adverse events/ co-morbidities	NTP, hospitals, PHO and DHO		Partially achieved and ongoing • In some health facilities action has been taken to reduce crowding in waiting areas but this is not consistent and uniform. • There is still preference for negative pressure isolation rooms. • Admissions have been reduced.

Achieved	
Partially achieved/ongoing	
No change	

II. Detailed report

A. Introduction/Background

From 2009 to 2017, a cumulative total of 9679 R-R/MDR-TB patients have been enrolled on treatment. In 2017, 3119 patients were enrolled on treatment. Another 1473 patients were enrolled on treatment from Jan-Jun 2018.

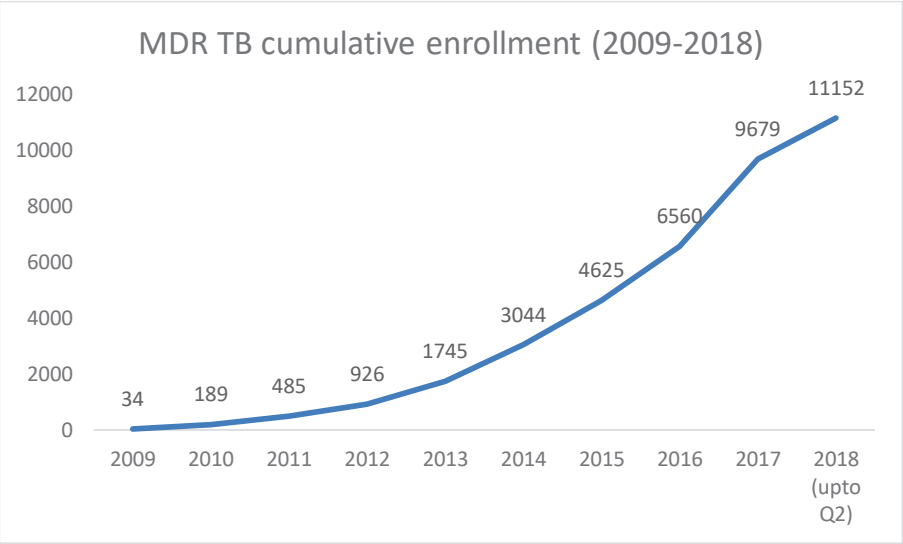


Figure 1: Cumulative MDR-TB cases enrolled on treatment 2009-2 Q 2018

Treatment outcomes are low – the 2014 cohort report shows 50% treatment success rate (46.6% cure and 3.6% completed) with 28% loss to follow up, 18% death and 2.6% failure rates.

B. Existing TB control program

Indonesia is the second highest TB burden country in world with an estimated prevalence of 1.6 million and an estimated annual incidence of 1.02 million TB cases1. Each year around 123,000 people (including 13,000 HIV positive) die of TB[1]. The biggest single challenge to TB control in Indonesia is the estimated 690,000 missing cases that occur each year, while case detection in the programme remains flat at just over 300,000 cases per year since 2009. The majority of the missing cases are believed to be in the private sector and unreported, although some may be unable to access diagnosis and care at all.

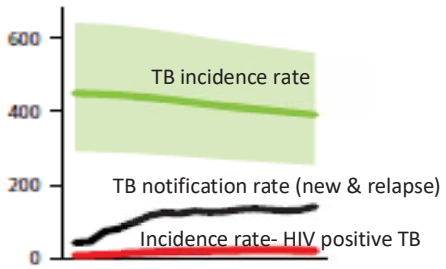
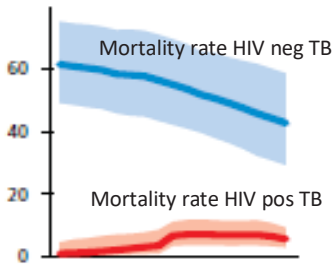


Figure 2:TB Incidence and notification rate (2000-2016)



TB Mortality rates (2000-2016) [1]

[1] WHO Global TB Report 2017

Nevertheless, in spite of these new, larger estimates, the burden of TB is falling in Indonesia - incidence and prevalence of TB are estimated to be dropping at about 1% and 2% per year, respectively.

Indonesia achieved only 85% treatment success rate for new and relapse cases for 2015 cohort as a result of high rates of loss to follow up and not evaluated cases. The treatment success was only 60% for TB/HIV co-infected cases for the same year.

Testing of TB patients for HIV is low in Indonesia with ~29% of the 442,172 notified TB cases tested in 2017. Among those TB patients tested ~6% (7729) had HIV co-infection and of these only 29% (2244) were started on ART.

Recommendations:

- Explore the barriers to HIV testing and pilot alternative options like provider initiated HIV testing by TB clinics for enhancing HIV testing coverage.

C. Information on M-/XDR-TB

As per the WHO report 2017 the estimated MDR/R-R rates among new and re-treatment cases is 2.8% and 16% respectively translating into ~32,000 cases annually. These are based on the DRS survey conducted in 2012-13. A repeat DRS has been conducted recently in 2017-18. While the final report is under preparation the preliminary results indicate a reduction in the prevalence both among new (~2.3%) and re-treatment (~13%).

There has been a rapid increase in the number tested for RR/MDR-TB from 9703 in 2014 to 1,22,335 in 2017. In 2018 by end of Q2 number tested is 1,24,229 which is more than those tested in entire 2017. The number of R-R/MDR TB diagnosed has also increased from 1656 in 2014 to 5109 in 2017. This depicted in Fig 3 below.

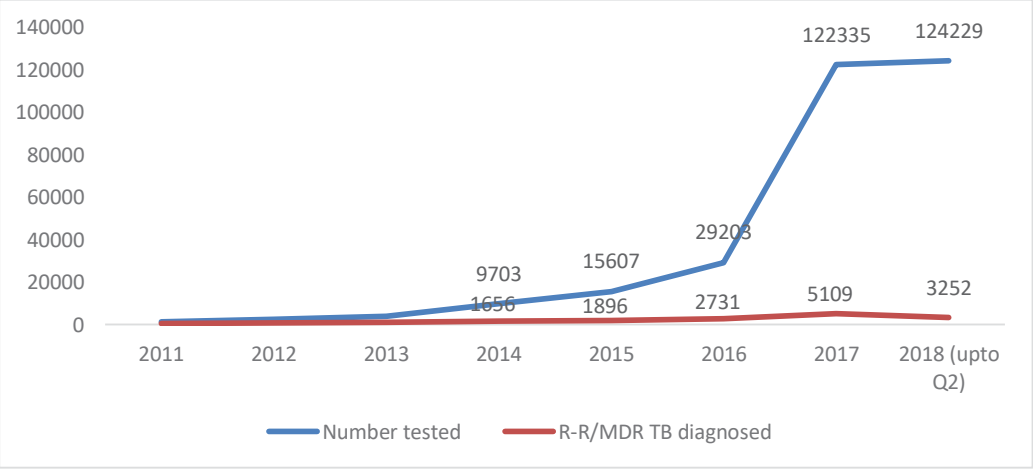


Figure 3: Number tested and R-R/MDR TB diagnosed (2009-2 Q 2018)

The proportion of diagnosed R-R/MDR-TB patients enrolled on treatment increased from 64% in 2010 to 83% in 2015. This is showing a decline with only 71% enrolled in 2016 and 61% in 2017.
There are currently 589 Xpert® machines in 568 sites across the country. There are 13 labs accredited for first line DST and 9 for second line DST. There are only 3 labs performing LPA (mainly second line LPA).

The SLD resistance in the country is currently estimated to be ~8% among R-R/MDR TB cases. This will be revised with the results of the recent DRS survey which are being analysed.

Treatment outcomes are poor with ~50% treatment success rate, ~30% loss to follow up and ~17% death.

D. Role of partners in delivery of TB and MDR-TB care

The NTP has constituted a PMDT working group comprising of representatives from Directorate General of Health, NTP, Indonesian Lung Specialists Association (PDPI), Indonesian Clinical Pharmacology Doctors Association (Perdafki), Indonesian Clinical Microbiologists Association, KNCV, WHO and others. The TOR of the PMDT working group include providing inputs and supervising the implementation of policies, strategies and guideline development, planning, resource mobilization and human resource development. The working group is expected to meet atleast twice a year and more frequently if required.

In addition, KNCV through the Challenge TB project is implementing the following activities in 16 districts across 6 provinces.

- Technical support for expansion and optimal use of Xpert® and providing connectivity solution for the Xpert® sites across the country
- Facilitating sputum transportation from health facilities to Xpert® sites using an innovative software (SITRUS) and engagement of Indonesia postal services.
- District PPM interventions which are focused on engaging private practitioners for TB notifications and providing standardized quality of care to TB patients.

Recommendations:

- The PMDT working group should meet regularly and also review the implementation of PMDT services.
- Strengthen coordination among all partners to streamline programme implementation and monitoring
- Scale up successful interventions piloted by partners across the country.
- The Challenge TB project led by KNCV is providing significant support for PMDT including
    - Expansion of Xpert, SL-LPA and STR
    - Monthly Interim Cohort Analysis (MICA)
    - Sputum transportation (SITRUS)
    - Private sector engagement (WIFI TB)

  The project ends in 2019 and there needs to be a clear transition plan to sustain and scale up the successful models by NTP.

E. Case finding strategy

Indonesia has taken the decision of using Xpert® as the primary diagnostic test for TB since 2016. An algorithm which includes the use of Xpert® as a primary diagnostic for all presumptive TB patients has been developed and endorsed through a Ministerial decree. However, this algorithm is currently being followed only in those facilities which have Xpert® machines installed. In the non-Xpert facilities only the presumptive DR-TB patients are tested through referral or sample transport to the nearest Xpert site.

The number of Xpert tests done has increased exponentially from 29203 in 2016 to 122335 in 2017 which is an increase by over 300%. The number of R-R cases diagnosed has increased by ~200% in the same period.

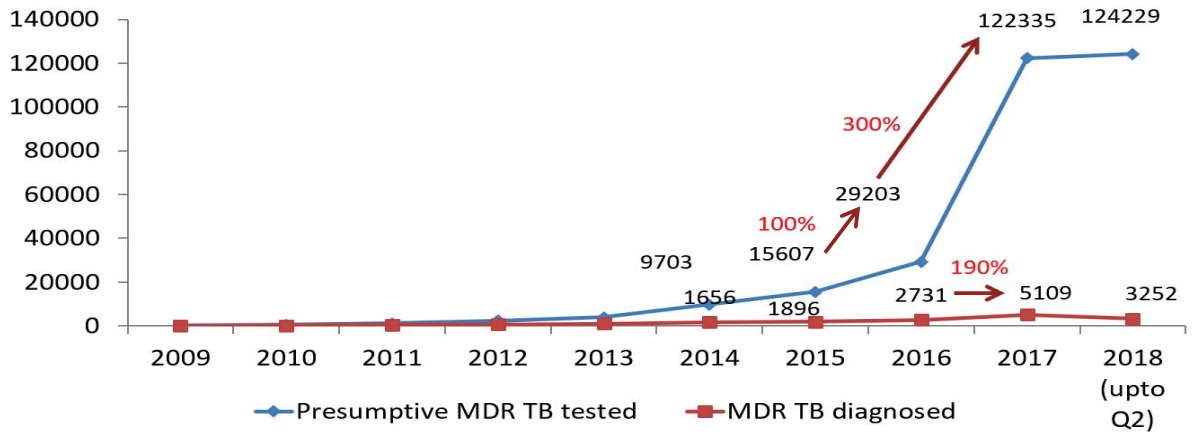


Figure 4: Proportion of R-R/MDR diagnosed initiated on treatment (2009-2 Q 2018)

The national programme targets for screening and diagnosis of R-R/MDR cases is as follows:

	%	2015	2016	2017	2018	2019	2020
Number of TB case finding targets (all forms)		330,729	335,000	396,976	530,493	599,338	605,291
Pulmonary TB		3,06,106	3,11,550	3,69,188	4,93,358	5,57,384	5,62,921
- New treatment	95	2,95,781	2,95,973	3,50,728	4,68,691	5,29,515	5,34,775
- Re-treatment	5	10,325	16,750	18,459	468,691	529,515	534,775
Extra-pulmonary TB		24,623	21,809	27,788	37,135	41,954	42,370
Estimated MDR-TB/RR-TB among notified pulmonary TB cases							
New treatments	2.8%	8,282	8,287	9,820	13,123	14,826	14,974
Re-treatment	16%	1,652	2,680	2,954	3,947	4,459	4,503
TOTAL		**9,934**	**10,967**	**12,774**	**17,070**	**19,285**	**19,477**
Target MDR-TB/RR-TB cases to be treated							
% Annual Target		40%	60%	70%	80%	80%	80%
Number of patients		3,974	6,580	8,942	13,656	15,428	15,582
Actual number of patients		1,581	1,935	3,119	N / A	N / A	N / A
% achievements		16%	18%	24%	N / A	N / A	N / A

As per the preliminary results of the recent DRS study the estimated number of R-R/MDR TB will be revised as follows:

	%	2015	2016	2017	2018	2019	2020
Estimated MDR-TB/RR-TB among notified pulmonary TB cases							
New treatments	2.3%	6,803	6,807	8,067	10,780	12,179	12,300
Re-treatment	13%	1,342	2,025	2,400	3,207	3,623	3,659
TOTAL		8,145	8,832	10,466	13,987	15,802	15,959
Target MDR-TB/RR-TB cases to be treated							
% Annual Target		49%	74%	85%	98%	98%	98%
Number of patients		3,974	6,580	8,942	13,656	15,428	15,582

Keeping the target for number of patients to be enrolled the same the programme can increase the proportion of annual target from 80% to 98% from 2018 onwards.

The major challenge faced by the programme is the initial loss to follow up for the R-R/MDR diagnosed. The proportion of diagnosed R-R/MDR-TB patients enrolled on treatment increased from 64% in 2011 to 83% in 2015. This is showing a decline with only 71% enrolled in 2016 and 61% in 2017. In 2018 (Jan-Jun) the proportion of diagnosed patients initiate on treatment is less than 50% as depicted in the graphs below.

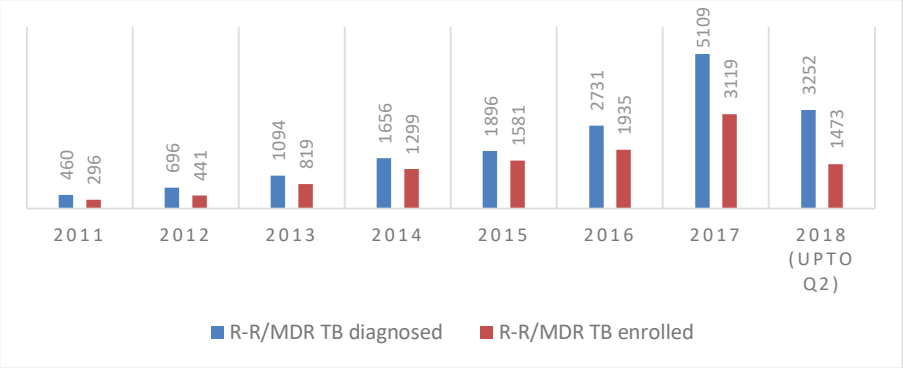


Figure 5: Number tested and R-R/MDR TB diagnosed (2009-2 Q 2018)

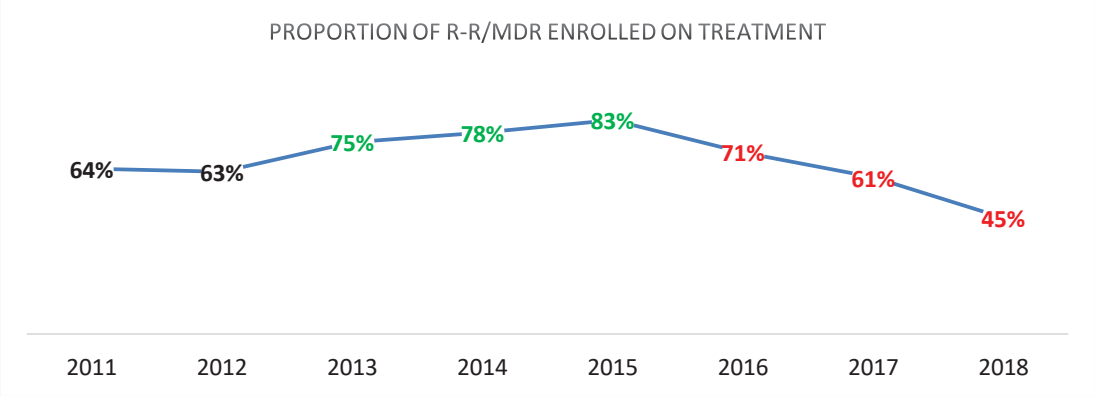


Figure 6: Proportion of R-R/MDR TB diagnosed initiated on treatment (2009-2 Q 2018)

The high initial loss to follow up rates are due to patients' refusal for treatment. Meeting with some of the patients who refused treatment indicated the following reasons:

- Fear of the adverse reactions.
- Significant delay between Xpert testing and treatment initiation which is sometimes more than a month. This delay is seen mainly in the large referral hospitals – Persabhatan, RSHS etc. where the baseline evaluation takes several days and visits due to high workload. This demotivates the patients and they drop out.

Recommendations:

- With the reduction in the prevalence of R-R/MDR TB (as per the recent DRS) the programme should aim to diagnose and treat 100% of the estimated numbers among the notified TB cases. This can be achieved by ensuring that all the presumptive R-R/MDR cases are tested.
    - The districts should line list all presumptive R-R/MDR cases and follow up to ensure all of them are tested.
    - Strengthen contact tracing and ensure that contacts of diagnosed R-R/MDR patients are screened at initiation of treatment and then regularly every quarter. This may be facilitated by levaeraging support from community cadre and patient support groups.
    - Strengthen active case finding efforts integrating with programmes like KPLDH (Pikspeka).
- The diagnosed patients should be informed on various aspects of treatment like adverse reactions, duration etc. without creating undue fear and anxiety. For patients refusing treatment counselling should be provided preferably by trained counsellors. The patient support groups and community cadres should be engaged to motivate such patients.
- Decentralise the treatment initiation by scaling up DR Treatment centres which is currently slow (126 centres against 360 planned) and streamline the process of baseline evaluations so as to reduce the visits to the DR treatment centres and also making these visits convenient.

F. Laboratory services

The current status of the laboratory services is as follows:

- **Xpert sites:** There are currently 589 Xpert machines in 568 sites across 386 districts. The distribution of Xpert sites is as follows:

Number of Xpert	Number of Xpert sites	Hospitals	Labs	Puskesmas
589	**568**	**479 (84%)**	**20 (4%)**	**69 (12%)**

Presently with 589 machines (2180 modules) there is a capacity of 100,000 tests per month.

Another 425 Xpert machines (1800 modules) have been procured which are being installed bringing the total number to 1043. All the 1043 Xpert machines are expected to be functional by end 2018 bringing the total capacity to ~190,000 tests per month.

A quick analyses of utilization trend of the Xpert sites, province and entire country wise, from 1 Q2017 to 2 Q2018 is summarized in the tables below. The average utilization in almost all the provinces is less than 50%. For the entire country the average utilization since 1 Q 2017 is ~24%.

Province	Q1 017	Q2 017	Q3 017	Q4 017	Q1 018	Q2 018
ACEH	8%	9%	20%	23%	35%	26%
SUMUT	25%	25%	38%	27%	24%	17%
SUMBAR	11%	13%	43%	46%	40%	47%
RIAU	10%	18%	11%	17%	27%	24%
JAMBI	8%	24%	33%	26%	18%	15%
SUMSEL	12%	17%	31%	35%	45%	49%
BENGKULU	55%	26%	48%	23%	26%	11%
LAMPUNG	16%	15%	12%	16%	26%	30%
BABEL	14%	14%	15%	15%	18%	14%
KEPRI	59%	35%	28%	36%	37%	28%
DKI JAKARTA	30%	25%	23%	25%	45%	41%
JABAR	29%	10%	19%	28%	33%	41%
JATENG	35%	21%	36%	50%	57%	57%
DIY	58%	24%	11%	12%	14%	17%
JATIM	27%	15%	19%	30%	35%	29%
BANTEN	61%	22%	17%	14%	19%	18%
BALI	15%	19%	13%	14%	17%	18%
NTB	10%	12%	13%	16%	18%	13%
NTT	18%	27%	28%	24%	22%	12%
KALTARA	0%	4%	20%	19%	26%	24%
KALBAR	13%	13%	15%	25%	29%	21%
KALTENG	7%	7%	9%	11%	13%	13%
KALSEL	12%	10%	9%	15%	19%	13%
KALTIM	5%	6%	4%	3%	6%	7%
GORONTALO	0%	30%	8%	7%	6%	6%
SULUT	7%	12%	6%	8%	9%	10%
SULTENG	28%	25%	17%	24%	36%	22%
SULSEL	34%	28%	12%	16%	22%	20%
SULTRA	28%	35%	47%	28%	41%	24%
SULBAR	19%	17%	20%	15%	17%	17%
MALUKU	33%	36%	39%	16%	16%	12%
MALUT	53%	50%	73%	30%	10%	5%
PAPBAR	14%	14%	15%	2%	16%	14%
PAPUA	16%	19%	29%	42%	50%	42%
Entire Country	23%	20%	23%	22%	26%	22%

% utilisation	Number of provinces			
	Average (3Q17-2Q18)	Average (4Q17-2Q18)	Average (1Q18-2Q18)	2 Q18
5-10%	3	3	4	4
11-20%	11	15	14	15
21-30%	13	7	6	9
31-40%	4	5	5	0
41-50%	3	3	4	5
>50%	0	1	1	1

In all the Xpert sites visited the calibration was overdue by over a year (due in March 2017).

- **Culture and DST labs:**
  There are presently 25 labs performing culture. As per the lab plan these will be scaled up to 40 by end of 2018 and 46 by end of 2019.

  There are 13 labs accredited for first line DST and these will be expanded to 15 in 2018 and 17 by end of 2019.

  There are 9 labs performing phenotypic second line DST by liquid method. These labs will offer standardized diagnostic package (SDP) which includes INH (0.1 and 0.4), Kanamycin, Capreomycin, Moxifloxacin (0.5 and 2.0) and Ofloxacin for all R-R cases.

  There are 3 LPA labs currently which will be scaled up to 7 by 2019. These will exclusively perform second line LPA. First line LPA is not being performed currently.

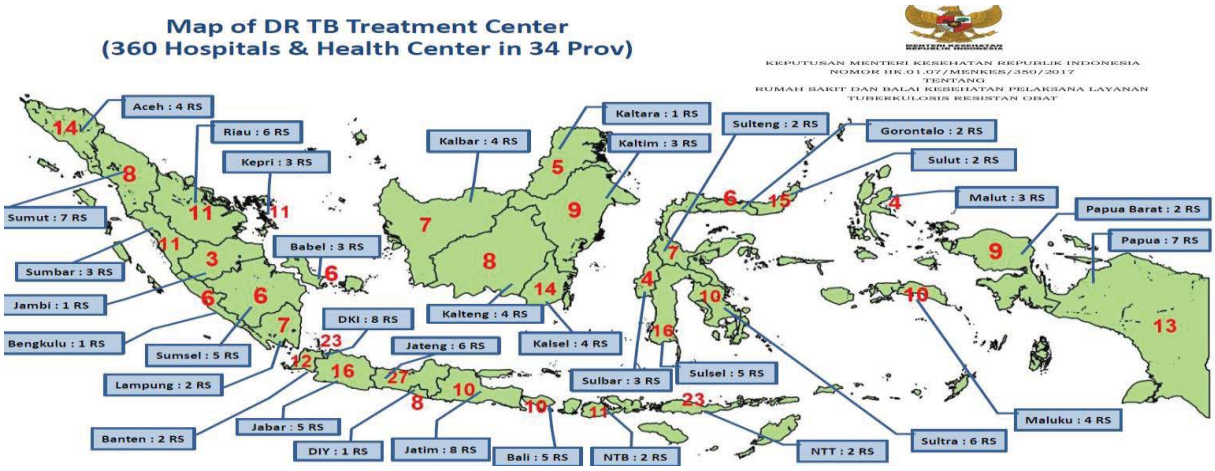
Recommendations:

- Undertake a detailed workload analysis of the available Xpert capacity and plan optimal utilization Based on this analysis optimize the use of existing Xpert sites by:
  - Implementation of Universal DST across the country which is already a policy. Ensure testing of all eligible presumptive TB, presumptive MDR-TB, paediatric and EP TB.
  - Strengthening the sputum transportation mechanism.
  - Forecast the requirement of Xpert cartridges and other consumables based on the above points and plan for procurement accordingly to provide uninterrupted services.
- Ensure that the Xpert machines are calibrated on a regular basis.
- With the scaling up of Xpert and implementation of universal DST those with R-R will be diagnosed and treated optimally. However, those who are Rif sensitive but H resistant will be missed. Studies have shown that H resistant patients treated with 2HRZE/4HR have poor outcomes with higher risk of relapse, failure and amplification of resistance. The NTP should initiate FL-LPA to diagnose H resistance among patients who are Rif sensitive by Xpert. This could be done in a phased manner first targeting those TB patients on first line treatment who remain smear positive at the end of intensive phase and then scaling up to cover all Rif sensitive TB patients in whom status of H resistance is not known.

- Estimate the requirement of FL and SL-LPA to ensure all eligible TB patients receive these tests. Plan for scaling up capacity for LPA based on the requirement.
- The Standard Diagnostic Package (SDP) should be revised:
    - H resistance should be tested by LPA. Mutations in katG and inhA will indicate high or low level resistance.
    - Since oflox is not used in the treatment regimen it should be replaced with DST for Levoflox.
    - In case of DST for Moxifloxacin by MGIT the Critical Concentration and Critical Breakpoint have been revised to 0.25 and 1.0 (instead of 0.5 and 2.0) as per the recent WHO guideline: http://www.who.int/tb/publications/2018/WHO_technical_report_concentrations_TB_drug_susceptibility/en/ . The lab staff should be trained on these new guidelines for DST.
    - Build capacity for DST for newer and repurposed drugs like Bdq, Dlm, Lzd which are now recommended for use routinely in the longer all oral 18-20 month regimen for R-R/MDR patients.
- Strengthen the quality assurance mechanism for the culture and DST labs by the National Reference labs.
- Establish efficient sputum transport mechanisms for testing all R-R cases for SLD resistance prior to starting the treatment regimen. The SITRUS model using the Indonesia postal services should be scaled up urgently.
- There is a significant delay in communication of results from labs leading to delayed treatment initiation. This is mainly due to the collection of results by carriers from the referral units. There should be a mechanism for communicating results through the eTB manager (SITB) which is being revised. In the interim results should be sent by mail from the Xpert site/labs to the referring unit

G. Treatment strategy

Patients diagnosed as R-R are referred to DR-TB treatment centres for evaluation and treatment initiation and follow up. Each DR-TB Treatment centre has a treatment committee which takes decisions regarding the management of the patient. For specialized tests like audiometry, psychiatric evaluation and management of severe adverse events the patients are referred to tertiary centres like Persabhatan, RSUH etc. It is planned to establish 360 DR-TB Treatment centres to service the 34 provinces as per the Ministerial decree issued in 2017. The province wise proposed number of centres (in red) and those presently functional (blue box) are depicted in the map below.



Currently there are 126 centres established. The identification and assessment of the remaining centres is underway.

The programme has adopted the shorter treatment regimen (STR) as per the WHO guidelines since Sep 2017. Till end of July 2018 over 1100 patients have been initiated on STR. The enrollment for STR has been slow as patients with extensive lesions were being excluded. The criteria has been revised in April 2018. The proportion of R-R/MDR patients enrolled on STR has increased from 11% in 2017 to 46% in 2018 (till July 2018).

The scale up of DR-TB treatment centres and STR is impeded by several challenges including:

- Delay in submission of the required information by the identified centers.
- Non-availability of certain essential baseline tests like audiometry, Thyroid function, electrolytes etc.
- No provision for minor renovations for infection control compliance.
- Reluctance of physicians to implement STR.
- Requirement of separate ECG machine for R-R/MDR patients (RSUD Mampang Prapatan).
- Training of staff.
- Availability of drugs for STR. In some DR centres (BBKPM) Moxiflox which is being procured locally was in short supply.

Treatment outcomes:

The treatment outcomes are showing a steady decline from 2010 onwards with increasing loss to follow up rates and high death rates. Failures are low ~4%. For the 2015 cohort the treatment success is only 47% with 30% loss to follow up and 16% death rates.

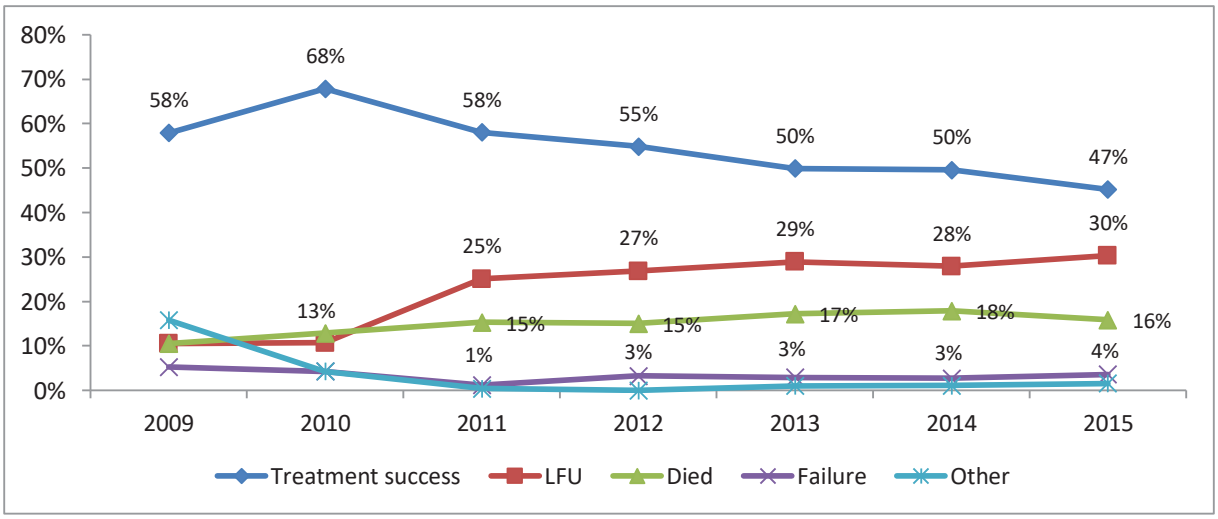


Figure 7: Treatment outcomes of cohorts 2009-2015

The outcomes of first cohort treated with STR are yet to be reported. These should be closely monitored and any increase in treatment success with STR can be used as an advocacy tool for convincing the physicians reluctant to adopt this regimen.

Treatment outcomes of the initial cohort of patients (mainly pre-XDR/XDR) treated with Bdq containing individualised regimens are encouraging. Of the 256 patients on Bdq outcomes have been reported for 32 patients of which 22 (69%) have been treated successfully; 5 (16%) Failures; 3 (9%) deaths and 2 (5%) loss to follow up.

Treatment delivery (DOT), adherence and social support

After diagnosis the R-R/MDR patients are referred to the nearest DR-TB treatment centre for baseline evaluation and treatment initiation. For patients residing in the same district the investigations and treatment initiation are done on an outpatient basis. Patients coming from other districts are either admitted at the DR-TB centre or have to make their own arrangements for stay. In a few provinces shelters are provided by Aisyiyah Community TB care initiative. After treatment initiation the patient is referred back to the nearest health facility (Puskesmas) for domiciliary treatment. The patients are referred to the DR-TB treatment centre for follow-up and for management of adverse reactions or other complications.

Treatment adherence is monitored by the Puskesmas staff. In some districts the adherence is supported by Patient Support groups (PSG) and Community Cadres (CC) who follow up on treatment interrupters and those lost to follow up. However, it was observed that the details of treatment interrupters is not shared with the PSG and CC for them to intervene. There was an apprehension whether the PSG and CCs were actually making any impact on treatment outcomes.

The patients are provided a financial incentive of ~60$ (750,000 Rp) per month to cover transportation and other expenses. Financial incentives are usually delayed. Of the 5 patients met only 2 had received financial incentive and that too irregularly. In some districts nutritional support is provided by local NGOs through their own resources.

Contact tracing is the responsibility of Puskesmas staff who are supposed to undertake initial home visits and screen household contacts for symptoms of TB and ensure testing of those eligible. The PSG and CCs support in contact tracing in select districts. It was observed that contact tracing is not conducted for all cases at the time of initiation and almost never during the course of treatment.

Recommendations:

- Scale up the number of DR treatment centres to decentralise treatment by
    - Expediting the ongoing assessment process by providing necessary support to the identified centre in filling the required assessment formats
    - Ensuring availability of baseline tests (Audiometry, Thyroid function, Electrolytes etc.) either at the centre or through linkages with public/private labs. For audiometry newer tools (like Shoe box, KUDU Wave etc.) which are portable and easy to perform can be tried.
    - Provision funds for minor renovations at DR-TB centres especially for ensuring infection control This is considering that not all DR-TB Treatment centres will need to admit patients.
- Ensure scale up of STR
    - Convince physicians through sensitisation and Continuing Medical Education (CMEs).
    - Ensure linkages of DR Treatment centres with labs conducting SLDST (preferably SL LPA for rapid results)
    - Training of the staff on administration of STR, follow up and management of adverse events.
    - Ensure adequate supply of all drugs of the STR.
- Strengthen partnership with the PSGs and CCs to ensure contact tracing, treatment adherence and follow up of treatment interrupters and loss to follow up patients. Regular meetings (Weekly/fortnightly) should be conducted where Puskesmas staff and PSG and CCs should share necessary information and action taken on contact tracing, treatment interrupters and LFU.

- Identify reasons to ascertain the high loss to follow up and death rates and take necessary action. Also compare the treatment outcomes in districts with and without PSGs and CCs to assess their impact. This could be undertaken as Operational Research and will guide the programme on scaling up the community support activities.
- Ensure that the patients are paid their financial incentives timely.
- Strengthen the capacity of physicians for clinical management of DR-TB patients through clinical courses, CMEs and regular online discussion using a 'Hub and spoke' model through ECHO or other similar platforms

H. Pharmacovigilance/aDSM

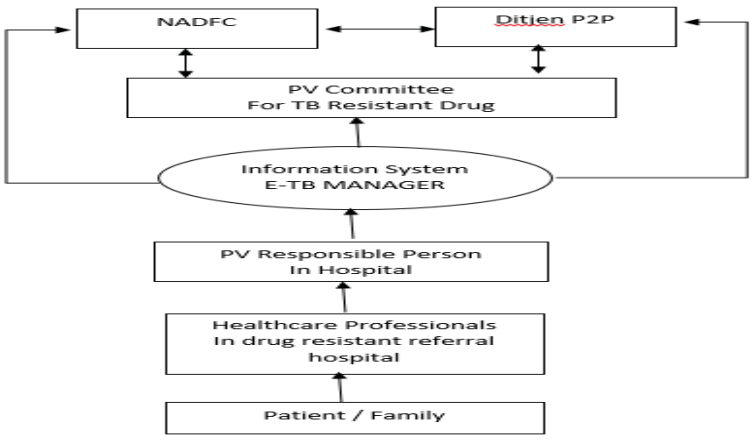
The Pharmacovigilance programme in Indonesia is managed by the National Agency for Drug and Food Control (NADFC) also called BPOM. It runs PV programmes for:

- Healthcare providers
- Pharmaceutical Industries
- AEFI (Adverse events following Immunisation)
- For national programmes – TB, HIV and Malaria

aDSM was introduced along with STR in Sep 2017 to detect, manage, and report adverse events. It includes all R-R/MDR patients on treatment. All the DR-TB treatment centres have been provided the necessary guidelines and formats. The reporting of adverse event is done as follows:

Type of Serious AE	Timeline	Reporter	Reporting System
Fatal serious AE	24 hours	HCP including pharmacist or clinical pharmacist	**eTB Manager** http://indonesia.etbmanager.org e-mail (parallel): Indonesia-meso-badanpom@hotmail.com pv-center@pom.go.id
Non-fatal serious AE	As soon as possible not more than 15 days	HCP including pharmacist or clinical pharmacist	**eTB Manager** http://indonesia.etbmanager.org e-mail (parallel): Indonesia-meso-badanpom@hotmail.com pv-center@pom.go.id

The aDSM information flow is as follows:



NTP and NADFC have been implementing Cohort Event Monitoring (CEM) for Bedaquiline (BDQ) and since 2015 at Dr. Soetomo Hospital, Persahabatan Hospital, Hasan Sadikin Hospital, Cempaka Putih Islamic Hospital, Gunawan Lung Hospital and Adam Malik Hospital.

NADFC has the e-meso reporting system which is not integrated with e-TB manager. Hence the ADRs should be reported in both e-TB and e-meso (or an e mail should be sent to NAFDC). There is a PV Committee for DR-TB with representatives of NTP and NADFC. However, this Committee has not been meeting regularly and there is no routine evaluation of ADRs due to TB drugs.

NADFC is also responsible for registration and licensing of drugs for use in Indonesia. Bdq has been registered in 2018 whereas Dlm is yet to be registered.

Recommendations:

- Recording and reporting of ADRs not being done regularly and timely by most of the DR-TB Treatment centres. It is necessary that the staff at the DR-TB Treatment Centres is sensitised and monitored by the provincial health offices and provincial NADFCs. A simple monthly report from all Centres to remind and ensure that ADRs are updated on eTB manager.
- eTB Manager and emeso should be integrated/bridged to avoid parallel reporting. NTP and NADFC should work out the requirements. An opportunity for integration is available as the new MIS (SITT) is under development.
- Regular meetings of the PV Committee for DR-TB should be done to discuss the ADRs.

I. Drug and consumables management

Second line drugs

There are two mechanisms for drug procurement by the TB programme. The drugs bought using government funds is done through the e-catalogue or e-purchasing from manufacturers within the country and the process is managed by FARMALKES. The drugs funded by the the Global Fund are procured using the Special Access Scheme (SAS) through the Global Drug Facility (GDF) mechanism. Almost all the SLD are procured through the GDF mechanism except Moxifloxacin, INH and Pyridoxine which were procured from government funds. There have been challenges in local procurement of Moxifloxacin and Pyridoxine over the last year which has led to short supply of the drugs and is one of the reasons for the slow uptake of the STR.

NTP has requested GDF to accelerate the shipment for several second line drugs and these are expected to be delivered in November. However, the orders for Pyridoxine and Kanamycin are still pending with GDF. While there is sufficient quantity of Kanamycin till 1 Q 2019 there is a high risk of Pyridoxine stock out in Nov/Dec 2018.

Visits to various health facilities showed that there was adequate availability of second line drugs and there have been no instances of drug stock out in the last year. Some health facilities (e.g. BBKPM) reported short supply of Moxifloxacin. Ancillary drugs for management of adverse events and other complications were available at the DR-TB Treatment Centres.

The targets for treatment of DR-TB patients and the actual patients on treatment are given below:

Year	2015	2016	2017	2018	2019	2020
Number of patients to be treated	3,974	6,580	8,942	13,656	15,428	15,582
Actual number of patients	1,581	1,935	3,119	-	-	-
Proportion	16%	18%	24%	-	-	-

The targets for 2018 and 2019 are much higher than 2017 while the achievement in 2017 has only been ~24%. This will pose a challenge in quantification of drugs because if the targets are not met the drugs might be at risk of expiration.

Xpert Cartridges:
Cartridge procurement for 2018 and 2019 is funded from two sources government funds (APBN) and Global Fund as per the table below.

Budget Source	2.018	2.019
APBN	**1,006,990**	**1,107,689**
Global Fund	**142,130**	**211,327**

The 142,130 cartridges from the Global Fund budget have been procured and will be distributed by September. There have been challenges in local procurement of Xpert cartridges due to several factors like Xpert cartridge is not registered at e-catalog websites and the long administrative process for procurement. Unless the procurement is done immediately there is a risk of stock out of cartridges from Dec 2018 onwards.

Recommendations:

- Drug management needs to be strengthened with regular updates and monitoring of SLD stocks at all levels through e-TB Manager software. There also needs to be regular analysis by the national team of the drug consumption, months of stock remaining, max/min stock levels, or buffer levels for drug quantification.
- Additional procurement for pyridoxine to be done to avoid stock out in Nov-Dec 2018. Follow up with Global Fund for accelerated shipment of Kanamycin and pyridoxine through GDF.
- If there is a further delay in procurement of cartridges To avoid stock out of Xpert Cartridges the procurement of 211,327 cartridges (from Global Fund budget) scheduled in 2019, should be fast tracked to this year.
- Facilitate registration of Xpert Cartridges in e-Catalogue Websites which will make local future procurements easier and faster.

J. Recording, reporting and data management

The NTP has two electronic recording and reporting systems which include SITT and e-TB manager. SITT is used for drug sensitive TB cases whereas the DR-TB cases are recorded in eTB manager. The national reference laboratories enter the Xpert and C&DST results in eTB manager manually. There is no link between

eTB manager and SITT although two matching applications have been developed which pick up direct matches between SITT and eTB manager as well as SIHA (electronic recording and reporting system for HIV).

The utility of eTB manager is limited owing to delayed and incomplete recording of data, availability of internet, complicated flows and lack of simple dashboards. There is a lot of data which remains unanalyzed and hence not used for action to improve performance.

The NTP is planning to develop an integrated software called SITB which will be used for recording and reporting case-based data for DS and DR-TB along with data from labs on all tests including microscopy, Xpert, Culture and DST. The software will also have features for data analysis. The plan for development of SITB has been finalized and selection of agency is underway.

The NTP has developed tools with indicators for assessment of the DR-TB Treatment sites. These tools are currently used only for initial assessment of the potential sites. They can be also be used for monitoring and evaluation of the performance of the sites.

Recommendations:

- The long-term solution for recording and reporting for DS and DR-TB is SITB and its development needs to be expedited. Ensure SITB is linked with with e-meso (PV/aDSM software of NADFC), Xpert connectivity software and has some special features for monitoring universal DST, payment of financial incentives to TB patients, contact tracing etc.
- In the interim the NTP should ensure that the data is recorded in eTB manager on a regular basis and analysed atleast quarterly for monitoring the performance of the sites and taking necessary action.
- Adapt the assessment tools for regular monitoring of DR-TB treatments sites.

K. Infection control

In almost all the DR-TB sites visited infection control measures were in place. Personal Protective Equipment (PPE) i.e. N95 masks were available at all sites and were being used by the healthcare workers (HCWs) who had been trained to use the masks. The admitted patients were aware that they had to wear masks and complied. However, most of the patients had attendants usually family members with them in the room/ward either without any mask or wearing only a surgical mask increasing the risk of transmission. Sputum was collected in covered containers and disposed as per biomedical waste guidelines. Regular screening of HCWs is not being undertaken in any of the sites despite the available evidence that HCWs have a much higher risk of infection and disease.

Most of the sites had adequately ventilated in-patient facilities using natural and mechanical ventilation measures. However, some sites had preference for negative pressure isolation rooms for R-R/MDR patients. RSP Rotinsulu was using 2 negative pressure rooms constructed for Avian Influenza. They are constructing 4 more negative pressure rooms for admitting R-R/MDR patients. The OPD waiting areas in some sites were crowded without segregation of presumptive and diagnosed DR-TB patients from others resulting in high risk of transmission.

Recommendations:

- The NTP should issue advisory to the existing and potential DR-TB Treatment sites to ensure adequate ventilation at the in-patient facilities through natural and mechanical (exhausts etc.)

means and to avoid constructing negative pressure rooms due to the high investment and maintenance costs and discomfort to the patients without any obvious advantage.

- The OPD waiting areas should be well ventilated with provision for segregating, triaging/fast-tracking infectious patients to prevent transmission.
- The HCWs should be screened for TB and DR-TB on a regular basis.

L. Human resource development (HRD) and Training

The National Strategic Plan for TB Control 2016-2020 includes strategies related to HRD at Central, provincial, district and sub-district level. Presently there is insufficient staffing at all levels to ensure the full implementation of PMDT plan including scale up of the STR. In addition, there is a high turnover among trained staff especially due to rotation and lack of . In labs, DR-TB Treatment sites and Puskesmas there are vacant positions which either remain unfilled or are usually filled by short term (upto 3 months) contracted staff which hampers work.

Staff training, especially on implementation of PMDT services especially STR, has been undertaken on an adhoc basis and there are unmet training needs which is impacting scale up.

Recommendations:

- Undertake a detailed assessment of human resource and training needs at all levels for optimal delivery of TB and DR-TB services and ensure that all vacant positions are filled urgently on a long-term basis. The trained incumbents should not be rotated for atleast 3 years to avoid interruption of services.

M. Supervision and monitoring of the programme

As per the guidelines there is a comprehensive plan for monitoring the PMDT activities at all levels. These include:

Activity	Frequency	Purpose	Conducted by
Benchmarking tools	Quarterly	To monitor the quality of DR TB implementation	DR TB treatment center team
Mini-cohort review	Monthly	Ensure *clinical* management of each patients is as PMDT guideline	DR TB treatment center team
Monthly interim cohort analysis (MICA)	Monthly	Ensure all confirmed DR TB cases are enrolled on treatment, tracking of LFU cases, enablers, and other issues	District health office
Quarterly cohort review meeting	Quarterly	Evaluate the 6th Month interim outcome and treatment outcome of DR TB patients	Treatment center, DHO, PHO, CSO etc
Clinical audit	Quarterly	Ensure *clinical* management as PMDT guideline to all patients	Peer Clinical Expert team

However, most of these monitoring activities are not done regularly due to lack of human resource and delayed recording and reporting of data. CTB is facilitating MICA in their project districts with good results. Supervisory check lists are available however, supervisory visits are limited and irregular due to lack of human resource.

Recommendations:

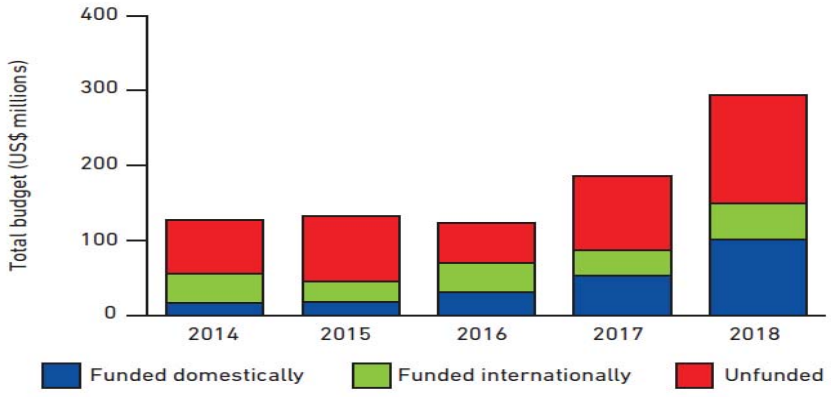
- Strengthen the supervision and monitoring of PMDT services by ensuring that the periodic reviews are conducted timely and action is taken on the identified gaps. A quarterly report should be taken from all DR-TB sites to assess the number of mini-cohort reviews and clinical audits done and from DHOs on MICA conducted in the quarter. Partners should support/facilitate the monitoring activities and the quarterly reporting.

N. PMDT plan including funding source

The comprehensive PMDT plan for the period 2018-20 as per the NSP is as below:

Activities	2018	2019	2020
Xpert sites	1043	1043	1043
SL-LPA labs	7	7	7
Culture labs	40	46	46
DST labs	15	17	17
Provinces with DR TB treatment centre	34	34	34
# (%) Districts with DR TB treatment centre	308 (60%)	411 (80%)	514 (100%)
# of DR TB Satellites	5500 (50%)	7900 (75%)	9754 (100%)
# of R-R/MDR patients initiated on treatment	10,242	13,500	15,582
# (%) to be initiated on STR	8,194 (80%)	10,800 (80%)	12,466 (80%)
# (%) to be initiated on the longer regimen	2,048 (20%)	2,700 (20%)	3116 (20%)

The funding status for TB since 2014 as per the WHO GTBR 2018 is as below:



There has been a significant increase in domestic contribution for TB programme including PMDT over the past years with the international funding remaining almost the same. For 2018 the total funding requirement for TB programme is ~300 m $ of which only 50% is secured (~34% from domestic and ~16% from international sources primarily Global Fund). There remains an unmet gap of ~50%.

Recommendations:

- Ensure availability of adequate funding for scale up and sustaining the PMDT services. The NTP should advocate with Govt of Indonesia to increase the domestic budget and also explore alternative

funding options to cover the unmet gap. This is also essential to achieve the ambitious End TB targets by 2030.

O. Community-based DR TB treatment service

The key challenges faced by the programme in PMDT are:

- High initial loss to follow up rates resulting in a large proportion of diagnosed R-R/MDR patients not being initiated on treatment.
- High loss to follow up during the treatment.
- High death rates during treatment.

A close look at the reasons for the above include:

- Poor access to diagnostic services.
- Poor communication with the patients resulting in misinterpretation of information and consequential anxiety and fear about their diagnosis and treatment.
- Multiple visits to DR-TB centres, which sometimes may be in another district, for evaluation and treatment initiation.
- Delayed identification and management of adverse reactions.
- Out of pocket expenditure, which may sometimes be catastrophic, for accessing the diagnostic and treatment services.
- Lack of social and family support.

Evidence has shown that Community based DR-TB services can address most of the above issues and provide accessible patient centric care ensuring timely diagnosis, treatment adherence and favourable outcomes.

Plan for Community based DR-TB diagnostic and treatment services:
The following framework can be used for planning the delivery of community based DR-TB services in a district.

Access to diagnostic services for presumptive TB patients	Location of the nearest healthcare facility where diagnostic services are available or linked.	Average distance to be travelled to the health facility and cost	Facilitating sputum collection and transportation from patients residence and/or from the local health facility to the DST lab	Availability of Community groups/CSOs to create awareness among community about TB and DR-TB and facilitate screening and sputum transportation
Access to treatment services for diagnosed DR-TB patients	Location of the nearest healthcare facility where patients baseline tests can be done	Average distance to be travelled to the health facility and cost	Decentralisation of DR-TB treatment centres and facilitating transport of patient to the health facility through enablers	Availability of Community groups/CSOs to facilitate patient transportation to the health facility for evaluation and treatment initiation
DOT services	Availability of trained Community DOT	Early identification of adverse		

	provider (CDP) or family DOT	reactions by the CDP and referral to the nearest health facility equipped to manage the		
Social and counselling support	Provided through trained community groups/counsellors			
Economic and nutritonal support	Incentives and nutritional support funded by the NTP and philanthropists and	Provided through trained community groups/CSOs		
Measuring impact of the community DR-TB services	Increase in proportion of diagnosed patients enrolled on treatment outcome	Increase in favourable outcomes	Improvement in patients quality of life	

Agenda

Day/Date	Activity	People met
6 August, Monday	Briefing with acting MO TB WHO and meeting WHO country team	Ella Regina Jonathan Yoanna Anandita Benjamin
	Briefing with NTP Manager Discussion with PMDT and Laboratory team: • Presentation of PMDT situation in Indonesia • Review progress and challenge of DR TB expansion in Indonesian • Discuss the progress of previous rglc recommendation • Review STR and new drugs early implementation	Dr Nurjehan Dr Lukitosari Endang Dr Daisy Rina Hanifa Lucy Dina Ayu Dr Sandeep Dr Ratno Kusumadevi
7 August, Tuesday	Visit JRC PPTI • Discuss TB and DR TB service in the clinic • Visit to the clinic • Discussion with the community members	Marianne
	Visit to Mampang hospital • Discuss TB and DR TB service in the clinic • Visit to the clinic • Meet the patient	Dr Davi Dr Shirley
8 August, Wednesday	Discuss PMDT guidelines – update in global level (incl DR TB in paediatric)	NTP team Dr Firzan
	Travel to Bandung	
9 August, Thursday	Visit to RSP Rotinsulu • Presentation of Province Health Office concerning DR TB situation and expansion plan in West Java • Presentation DR TB Service in RSP Rotinsulu • Visit to DR TB clinic • Laboratory • Pharmacy • Discussion with CET • Discussion with Patients and patient treatment supporter/community	Dr Edi Dr Reza
	Visit To BBKPM Bandung • Presentation DR TB Service in BBKPM Bandung • Visit to DR TB clinic	Dr Ian Dr Maya

	• Laboratory • Pharmacy • Discussion with CET • Discussion with Patients and patient treatment supporter/community	
	Travel to Cirebon	
10 August, Friday	Visit to RSUD Gunung Jati • Presentation DR TB Service in RSP Rotinsulu • Visit to DR TB clinic • Laboratory • Pharmacy • Discussion with CET • Discussion with Patients and patient treatment supporter/community • Visit to 1 satellite Puskesmas in Cirebon	Dr Syifa Dr Said Fahmi Ibu Ayi
11 August, Saturday	Return to Jakarta	
12 August, Sunday	Jakarata	
13 August, Monday	Visit to NADFC (National Agency of Food and Drugs Control) • Recent situation of aDSM in Indonesia • Expansion plan for aDSM implementation in Indonesia Visit to Jakarta referral Laboratory (BBLK Jakarta) • BBLK Jakarta support for DR TB in Indonesia	Dr Rita Ibu Aina Reni
14 August, Tuesday	Visit to Persabhatan Hospital • Mini cohort review Vist to Puskesmas	Dr Erlina Dr Fathiyah Dr Ngabila Salama
15 August, Wednesday	Discussion with PMDT, M&E and lab team for IT application to support DR TB treatment adherence Discussion with Community groups	NTP team Representatives of LKNU
16 August, Thursday	Debriefing NTP	NTP team