



Ministry of Health

National Tuberculosis Control Program

INTEGRATED TB HIV PROGRAM REPORT (JANUARY – JUNE
2015)



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Executive summary

This is the first report from TB program on integrated TB/HIV supportive supervision. This report is compiled based on two supervision for period covering January –March and April –June 2015

The following are summaries of key achievement and challenges.

- TB registration sites have reached **281** with reported 276 TB microscopic facilities of which 226 were reported functional during the supervision
- Forty health facilities provided Xpert service,
- A total **8582** health facilities TB cases were notified during the reporting period of which 92% were new or relapse cases
- Case detection rate has been minimal as proportion of presumptive TB among OPD visitors was less than 1%
- Smear positive rate among presumptive TB cases was **9.1%** with **15642** presumptive TB cases examined in a laboratory in quarter 2 of 2015
- The number presumptive TB cases documented in chronic cough register was 9233 of 15642 (59%) presumptive TB cases examined in a lab
- The estimated treatment success rate among smear positive TB cases for the period was 86% with death rate 5.8%. The death rate was higher among EPTB, smear negative and retreatment cases.
- Smear follow-up at 2nd and 5th month was 70% and 62 % respectively
- Of all notified cases **94%** had HIV test result, with 52% positivity rate and 95% ART coverage during Apr-June 2015
- **13** MDR /RR TB patients were started on second line treatment during first semester of 2015.

Overall case detection effort was minimal. NTP intend to improve case detection through strengthening the systematic TB screening in health care setting, community interventions and referrals and implementation of contact investigation. The integrated supportive supervision has also shown improvement over time, however, requires more action to capacitate supervisory skills of supervisors.

Background

National TB control Program is working in collaboration with HIV department to improve supervision, data management and quality of TB service. As part of the preparation for the first integrated supervision, NTP organized a workshop to discuss on a supervision tool.

NTP maintains the routine reporting system with the integrated supportive supervision serving as a complimentary system. The role of supervision is to improve quality of service. More data elements representing different program interventions are incorporated for review in the supervision tool. The NTP is working on building mentorship teams that will be going out to mentor health workers based on the finding of supervision.

National Tuberculosis Program Overview

National Tuberculosis Program is working towards improving TB control activities in the country. The national Tuberculosis Control program has developed a new strategic plan. The development of this strategic plan was necessitated by emerging evidence especially the preliminary findings from the national TB prevalence survey which showed a higher TB prevalence of 363/100,000 compared to the previous estimated prevalence of 140/100,000 by WHO,

This new strategic plan provides an opportunity for HIV and TB programs integration in pursuit of improved service delivery between the two disease control programs as well as other health sector programs such MNCH, chronic care, SRH and key affected populations such as prisoners.

The interventions which will be implemented under this NSP are organized under 4 main pillars and related over-arching principles. The pillars and the strategic orientations are formulated based on the WHO Post-2015 Global TB Strategy adapted to the local context to fit with national priorities and related national results frameworks. The four pillars of this NSP are:

1. Integrated case finding and patient centered TB diagnosis, treatment, care and support.
2. TB/HIV Collaboration and Integration.
3. Prevention and impact mitigation.
4. Program management.

In the pillar one, NTP intends to improved TB care, childhood TB, MDR TB detection and management and high risk and vulnerable groups.

TB/HIV collaborative activity is a key component of the NSP. It will be implemented in collaboration with HIV department.

The following are expected results of the program

Program description ¹

Strategic outcomes

Outcome 1: Improved diagnosis, treatment and care

1. Decentralization of TB diagnosis and treatment centers (registration centers) to reach 1 per 35,500 population.
2. Achievement and maintenance of a 90% treatment success rate.
3. 85% of all retreatment patients have first line DST done.
4. 100% of diagnosed MDR-TB patients are placed on treatment.

Outcome 2: Improved TB/HIV integration and collaboration

1. 96% of notified TB patients have documented HIV result by the end of NSP.
2. 95 % co-infected patients receiving co-trimoxazole.
3. 95% of co- infected TB/HIV patients receive ART.

Outcome 3: Improved prevention and impact mitigation

1. 80% of the districts have a programme of engaging TB patients, Ex-TB patients and civil societies through partnerships.
2. 80% of eligible patients receive psychosocial support.

Outcome 4: Improved program management at all levels

1. No medicines and commodities stock outs reported.
2. Increase in the number of operational research projects conducted and published Logic model is used to show the logical linkage of different elements of the program implementation by key technical areas.

¹ MOH. National Tuberculosis strategic Plan 2015-20

Methods

The TB and HIV programs are working towards integration of their supervision. This report is compiled using data collected for two consecutive supportive supervision.

Intended coverage: the supervision covers all 732 facilities that provide HIV service. All TB registrations are also targeted during these supervisions.

Composition of supervision team: 23 teams composed of clinicians, program officers, technical personnel from programs and partners participated in the supportive supervision. The supervision team were oriented on the supervisory tools prior to deployment.

Capacity building: Each quarter, a one day pre-supervision meeting is organized for all supervisors participating in the upcoming round to share program updates, discuss observations from the previous round, distribute materials and organize logistics, transport and accommodation.

Period and duration of supportive supervision: Each supervision cycle has taken 3 weeks.

Data sources: Data sources for TB/HIV supervision were the following

- **TB unit register:** source of data for notification, treatment outcome, TB.HIV components of reporting system.
- **TB lab register:** Data is available on presumptive TB cases, yield, Xpert performance and yield / outcome of these tests.
- **Chronic cough register;** key source of data to monitor case detection effort in the facility. It is used to monitor the implementation of systematic TB screening health care setting.
- **Contact investigation register:** Source of data to monitor the implementation of contact investigation.
- **Quarterly facility report:** verification and data quality (accuracy) is performance using reports compiled by each facility.
- **MDR TB register (Second line register):** MDR TB detection and treatment outcome is reported from this source.
- **Stock card (pharmacies, drug store and registration facility):** Stock status in the facility updated using this card.

Components of supervision tool: The supervision tool is composed of the following section

- **Basic facility information:** Basic facility information is provided in this part of the study
- **Tuberculosis infection prevention:** help assess the implementation all components of TB IC. (Administrative managerial, personal protective and others)
- **Case detection effort:** primary data source is the chronic cough register. Information on presumptive TB cases and outcome of investigation.
- **Case finding (notification data):** the notification data disaggregated by age, sex and disease classification.
- **Patient monitoring:** smear follow up of smear positive TB cases is a key element of the supervisory tool.
- **Treatment outcome:** treatment outcome was assessed to all categories of TB patients. Outcome for children and HIV patients are included in the tool
- **Contact investigation and IPT:**
- **MDR TB (Detection, treatment outcome) :**

One copy of the supervision form is returned to the center, where data are entered. A second copy of the supervision form is left at the sites.

Data management: Database was created in EPI INFO V3.5. The data entry was done by 3 data clerks recruited for this purpose. Once the data entry was completed data was exported STATA 13. Data quality was checked through checking consistency and completeness.

Data was summarized using tables and figures. Analysis was done as per predefined indicators to monitor performance of the program.

Data quality issues:

During the first quarter, data was collected from 208 /280 (74%) and 279/281(99%) of the registration sites. Routine data for Central East, South west and South East zones were used to compile notification data at national level for first quarter.

For MDR TB, verification of data was done. There were issues with data aggregated from supportive supervision. There have been issues of double counting as reported cases were not consistent with report from the CRL. This may result as MDR TB patient usually diagnosed in district central referral hospitals and their follow up takes place in facilities closely associated with their neighborhood. .

The other components of this report were compiled from the supervision data.

Results

Coverage and service availability

Table 1 Number health facilities visited and data was available during the quarterly TB/HIV supervision

Variable	Jan – Mar 2015	Apr- June 2015
# Health facilities with data	457	504
TB registration sites	208	279(including those notified TB cases)
Functional Zn(Ziehl–Neelsen)	141	160
Functional LED microscopic sites	67	92
LED/ZN or both functional	186	226
GeneXpert Facilities	32	31

Of all health facilities visited during July 2015, the team collected and compiled data from **504** health facilities out of **714 static sites (70%)** of sties and had **99%** coverage of TB registration sites. Some facilities failed to use chronic cough register which also contributed to miss 30% health facilities with no TB specific data. Over the implementation of the joint supportive supervision, improvement have been noted in availability of reports from health facilities. During quarter 2, 226 TB microscopic centers were functional.

Case notification and treatment outcome

A total of 8582 TB cases were notified during the first semester (Jan-June 2015). The reported notified cases has declined from 8675 of the period of previous year .Projected case notification (all forms) and detection rate were 105/100,000 and **40%** respectively. Xpert contributed to diagnosis of **6.7%** TB cases notified. Of all notified cases, **(92%)** were new and relapse cases.

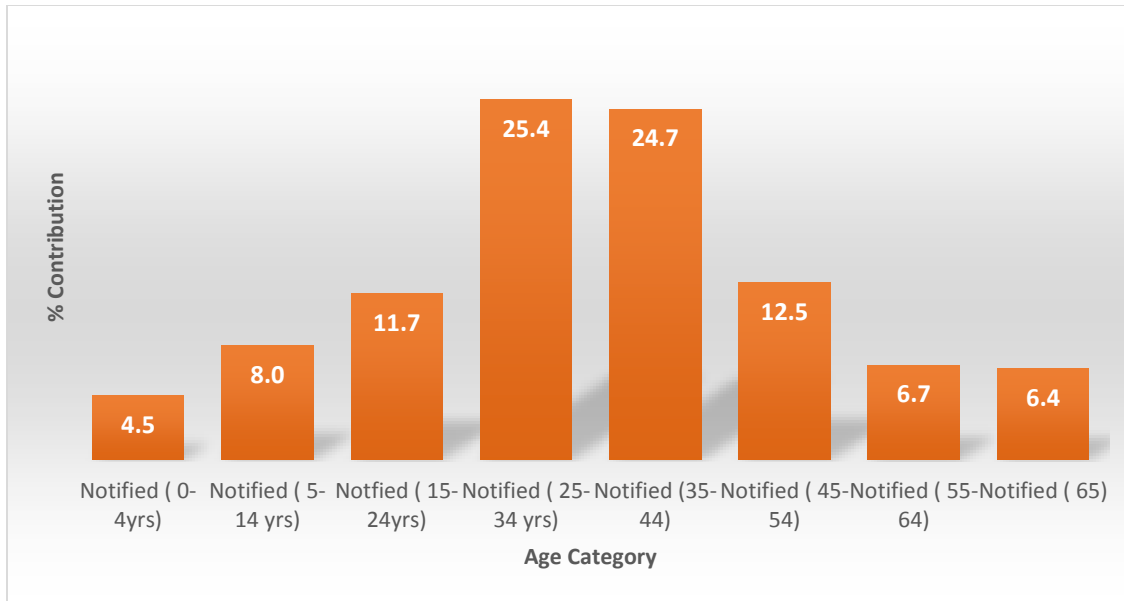


Figure 1 Age distribution of notified TB cases Malawi (Apr- June 2015)

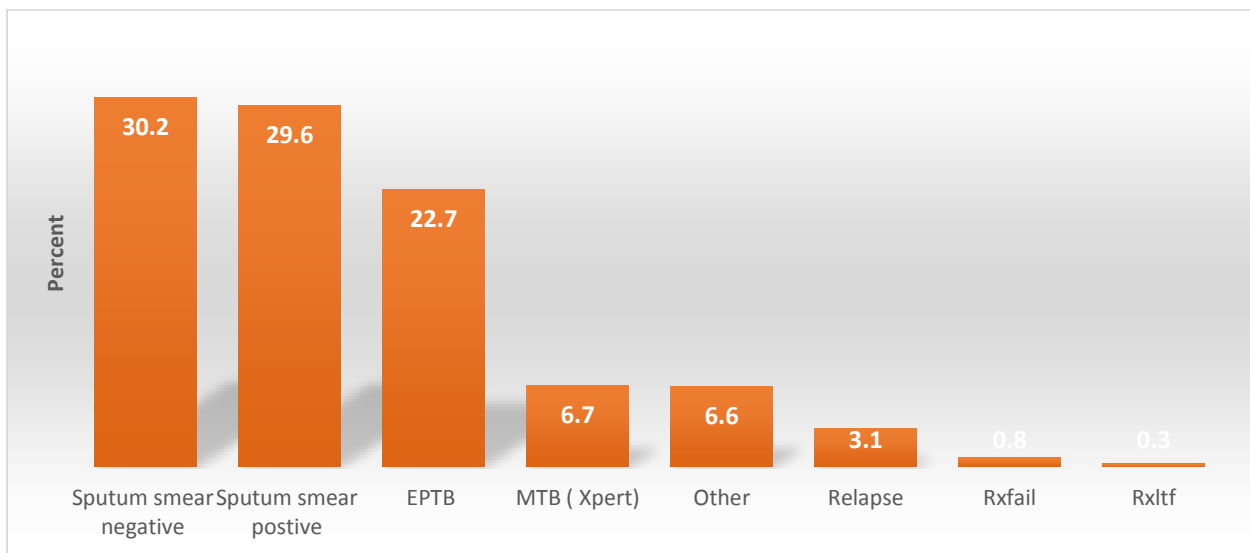


Figure 2 notified TB cases by disease classification (Apr-June 2015)

Smear negative pulmonary TB cases contributed to 30.2 % of the notified cases followed by smear positive TB cases. Overall bacteriologically confirmed TB cases contributed to 40% (SSP, MTB +, Relapse, Rxfail, Rx LTF). And **22.7** of the cases were EPTB. Adopting new WHO case definition may improve the proportion of incident cases as significant proportion of **other** category in older definition are likely to be relapse cases according to revised WHO reporting and recording framework. NTP will implement the revised framework. Implementation of revised framework requires revision of reporting forms, guideline, printing, training and distribution of revised tool. Children also contributed to 12.5% of the notified cases.

Consistency with the routine data was assessed using the routine data from 111 health facilities compiled at national level. Comparison was made and a 2 % difference was noted between two data sets.

Table 2 Comparisons of notified TB cases by quarter data with similar previous year quarters.

Zone	Q1 2014	Q1 2015	Q2 2014	Q2 2015
North	447	526	453	375
Central East	266	299	345	313
Central West	1339	1328	1212	1376
South East	874	783	830	803
South West	1555	1362	1432	1410
Total	4481	4305	4194	4277

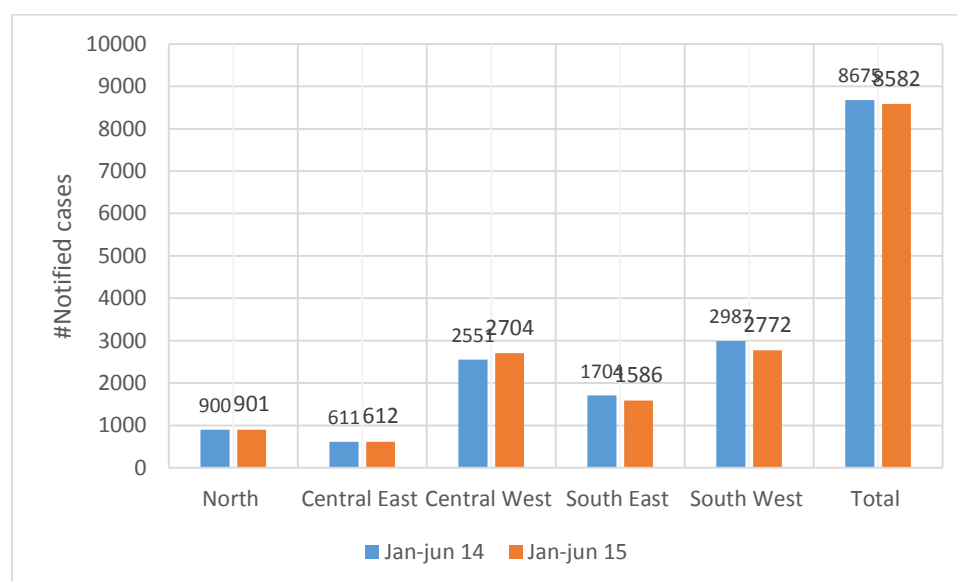


Figure 3 Comparison of notified cases between Jan-jun14 and Jan – jun2015 by zone, Malawi

Table 3 Treatment outcome for new smear positive TB cases enrolled Jan-June 2014

Indicator	% Percent
TSR	85.97
Death Rate	5.84
LTF	2.99
Failure	2.21
Not Evaluated	2.94

For the reporting period (cohorts of Jan –June 2014) the treatment success rate was **85.97 %** with death rate at 5.8% for cohorts of Jan-Mar and Apr – Jun 2014.

Further detailed review, on 1219 (Apr-June 14) smear positive TB cases revealed that the treatment success rate was **86.2 %** with death rate of **7.3%** higher than average for the two quarters. Cohorts of other category (Apr –Jun 2014) had the highest death rate (**12.5%**) followed by EPTB (**11.5%**) and smear negative TB cases (**8.5%**). TB/HIV coinfection, other comorbidities and sociodemographic variables may contribute to the observed differences. The higher death rate among EPTB could be attributed to difficulties of ascertaining diagnosis in this groups. Hence these probable TB cases with other conditions of relatively poor prognosis cases may be treated and reported. Compliance to TB diagnosis of (EPTB) and smear negative pulmonary TB cases is required. NTP will monitor trend in death rate among different categories of TB patients.

Table 4 Treatment outcome of Tuberculosis patients enrolled in 2014(Apr-June)

	Smear Positive	Smear negative	EPTB	Relapse	Other
Cohort	1219	1094	765	116	278
TSR	86.2	83.3	83.3	90.5	80.2
Death rate	7.3	8.5	11.5	6.9	12.5
LTF	1.2	1.2	2.0	0.9	1.7
Not evaluated	3.3	7	4.2	0.9	5.4

Community TB strengthening activities

Three hundred eighty seven sputum sample collection points were reported to be functional during the supervision. Six hundred nineteen presumptive TB cases were referred from community service outlets. Of which 43 were found to be TB cases. This is 1% of all notified cases during the reporting period. Functionality is reported by health workers and there is a potential bias. Functionality of sputum collection should be assessed by their ability to identify and refer presumptive TB cases.

Table 5 community TB interventions Apr_June 2015

	Central East	Central West	North	South East	South West	Total
Functional	58	31	74	139	85	387
Community referrals presumptive TB	15	42	67	325	170	619
Number reported TB cases	0	5	4	25	9	43

TB diagnostics and lab services

Table 6 Smear positivity rate among presumptive TB cases by type of health facility , April – June 2015

Type of HF	# Presumptive TB cases examined in Lab	Positive cases	SPR	% LED contribution
District Hospital	6379	620	9.71	
Health center	4381	336	7.66	
CHAM	2018	207	10.25	
Referral hospital	1742	148	8.49	
Total	15642	1410	9.1	63.8

Of the 15542 presumptive TB cases, 1410(9.1%) had smear positive TB. CHAM hospitals had the highest positivity rate followed up by district hospitals. Health centers had the lowest positivity rate. Sixty four percent of the presumptive TB cases had gone through LED test.

Table 7 Smear positivity rate among presumptive TB cases by type of health facility , April – June 2015

Type of HF	# Presumptive TB cases examined in Lab	Positive cases	SPR	% LED contribution
North	1586	153	9.64	
Central West	3521	358	10.16	
Central East	1411	111	7.86	
South East	4313	315	7.3	
South West	4779	472	9.87	63.8

Central west zone had the highest smear positivity rate followed by South West zone. Differences could be related disease burden, quality of TB screening and performance of the lab.

Table 8 Number of Xpert tests performed during the reporting period, Malawi, Jan – Jun2015

Variable	Jan- Mar 2015	Apr- June 2015
# facilities with Xpert machine with Xpert data	32	31
# presumptive TB cases tested Xpert	3718	4265
Projected annual test	464	550

In the reporting period 3718 and 4265 presumptive TB/ MDR TB cases were tested through Xpert in 32 and 31 Xpert facilities during quarter 1 and 2 of 2015, respectively. Projected annual test has been 464 and 550 test per machine per year. Achievement is nearly 35% of target

indicating suboptimal utilization of Xpert platform. Inadequate knowledge, limited sample transportation and interruption of cartridge are to key reasons for the sub optimal utilization

External quality assurance: Of the total TB microscopic during Apr-Jun 2015 supervision, 69 reported participating in the External quality assurance.

Table 9

	Central East	Central West	North	South East	South West	Total
Functional CSCP	58	31	74	139	85	387
Community referrals (presumptive TB)	15	42	67	325	170	619
TB cases	0	5	4	25	9	43

Quality of TB services in health care settings

Case detection effort

One of the key case finding strategy to improve case finding is implementation of systematic TB screening in health care settings. Systematic TB screening entails asking for TB symptoms to any OPD client irrespective of their presenting illness. The target for this intervention is 5% of all OPD visitors are presumptive TB cases, which is set based on evidence generate through prevalence survey.

The following table summarized data on case detection effort in 268 health facilities. Of reported OPD visits, 15642 (<1%) presumptive TB cases were identified and had microscopic examination for TB. This performance the indirectly indicates great potential for case finding.

Chronic cough register has been introduced to assist case detection effort in health care setting. Chronic cough register is being utilized in many of the health facilities to facilitate implementation of systematic TB screening.

Only 59 % (9233 /15642) presumptive TB cases examined in the laboratory had documentation in chronic cough register. In addition to this, 4265 patients had Xpert test. As Xpert is used as an ads on the smear microscopy, it has been difficult to add the number into the total of presumptive TB cases.

Table 10 Summary Case Detection effort in the implementation sites Apr- June 2015

Item	Apr- Jun 2015
Number of registration sites	268
Number of OPD visitors	1,792,434
Number of presumptive TB cases (Chronic cough registers)	8787
Number of presumptive TB cases for AFB/ Lab microscopy examination	15642
Number of Xpert Test	4265
Number of smear positive TB cases	1410

Table 11 detailed case detection parameters , health facilities in TB / HIV supervision , Apr-Jun 2015

Variable	All facilities	TB registration sites	Non registration sites
Number of health facilities	504	268	236
OPD visit	2,401,990	1,792,434	609,556
Presumptive TB	9233	8787	446
Presumptive TB pre-ART	430	421	9
Presumptive tb ART	1586	1538	48
Presumptive TB Neg Hiv	3633	3542	91
Pres TB new HIV positive	759	752	7
Unknown HIV status	2825	2534	291
Smear positive cases	657	639	18
MTB + Xpert	138	137	1
No result	933	792	141
New TB HIV positive	320	313	7

For **28.8%** of reported presumptive TB cases, their HIV status was not ascertained. Of all presumptive TB cases, 30% had HIV infection. (43% of known HIV status). Of the HIV patients reported among presumptive TB cases, **27%** were newly diagnosed. Implementation of systematic TB screening also creates an opportunity to identify undetected HIV infected individuals. As the implementation of systematic TB screening expands, the results will be double fold (improving both TB and HIV case findings).

Patient monitoring through smear follow up

A supervision tool allowed to monitor smear follow of smear positive TB patients. According to Q2 (April –June 2015), among Cohort of patients illegible for 2nd month evaluation,

Documentation was available for 70% of the patients and smear conversion was 92.7 % at end of 2nd month of treatment.

Smear conversion at end of 5th month of treatment was 96% however, only 63% of patients had documentation /smear done during this period.

Table 12 Smear follow of sputum smear positive TB (Apr-Jun 2015)

Smear follow up at 2 nd month			Smear follow up at 5 month		
		%			
# in cohort	1219		# in cohort	1264	
Examined at end of 2nd month	858	70.4	Examined at end of 5th month	791	62.6
Not Examined	361		Not Examined	415	
Smear converted	795	92.7	Smear conv	764	96.6

Program and clinical management of MDR TB:

Table 13 Number of MDR / RR patients on treatment Sept 2015

Zone	Number on SLD sept1 ,2015	Percent
Central East	5	5.8%
Central West	25	29.4%
North	20	23.5%
South East	6	7.05%
South West	29	34.5 %
Grand Total	85	100

GeneXpert is used to diagnose TB and RR cases and as initial screening mechanism for culture and DST at central reference laboratory. In Malawi, low MDR TB burden country, RR result doesn't entail automatic initiation of treatment for MDR TB as a result of low positive predictive value of a test. WHO recommends second test for those who have low risk of MDR TB <5% MDR prevalence in specified population^{2,3,4}. Hence a second test is required to make a decision

² WHO. Rapid implementation of the Xpert MTB/RIF diagnostic test: technical and operational „How-to“; practical considerations. 2011

³ Anete Trajman^{1,2}, Betina Durovni^{1,3}, Valeria Saraceni^{3,4}, Marcelo Cordeiro-Santos^{4,5}, Frank Cobelens^{6,7} and Susan van den Hof⁶. High positive predictive value of Xpert in a low rifampicin resistance prevalence setting. Eur Respir J 2014; 44: 1711–1713 | DOI: 10.1183/09031936.00115514 |

⁴ WHO. Xpert MTB/RIF implementation manual Technical and operational 'how-to': practical considerations.2014

on treatment initiation. In the two quarters 43 RR cases were reported from the Xpert facilities (after verification done). Of these, 8 were started on second line treatment.

In the Central reference lab there were 5 confirmed MDR TB cases who are initiated on second line treatment.

TB HIV collaboration

Of all reported notified cases reported through the supervision, **92%** and **94%** for quarter 1 and 2 respectively of reported cases were with HIV test result. The positivity rate was 52 for both periods and 95 % of the coinfecting patients were reported to be on ART.

HIV positivity rate among TB patients had shown a difference among zones, with the highest rate reported in South Western Zone (58.5%). Some of the districts have rates as high as 70% (Mulanje Blantyre). ART coverage was greater than 90% in all zones.

Table 14 HIV testing, ART uptake and positivity rate among registered TB patients during Jan –June 2015

<i>Period</i>	<i>With HIV Test result</i>	<i>Positive</i>	<i>On ART</i>	<i>On CPT</i>
Jan – Mar 2015	3743(92%)	1949(52%)	1808(92%)	1605(82%)
Apr- June 2015	4038(94%)	2101(52%)	1997(95%)	1864(89%)

Table 15 Zonal performance, HIV test result, ART uptake and HIV positivity rate among newly registered TB patients, April Jun 2015

<i>Category</i>	<i>Central East</i>	<i>Central West</i>	<i>North</i>	<i>South East</i>	<i>South West</i>
% with HIV test result	87.2	92.4	99.2	97.8	94.3
% HIV positive	40.7	48.0	49.2	53.2	58.5
% On ART	92.8	97.7	94.5	97.6	91.6
% On CPT	89.2	90.7	86.3	83.3	90.6

Table 16 Treatment outcome of cohorts of TB/HIV coinfecting patients enrolled Apr-June 2014

Variable	Number %
Number in the cohort	1387
TSR	83.20
Death rate	9.37
Failure rate	0.93
LTF(lost to follow up)	1.8
Not Evaluated	4.54

Treatment success for all forms of TB/HIV patients was 83.2 % which is comparable with overall treatment success rate. Death rate is high at 9.3%. For 5% of the cases, status was not known.

Summary of key finding and action points

Key finding and observations

Case detection effort

- Declining case finding
- Chronic cough register used in most health facilities
- Completeness of chronic cough register is a challenge
- Case detection effort is low
- Integrating HIV testing among presumptive TB cases shows good results

Treatment outcome and patient monitoring

- Treatment success rate has different values for different categories of patients
- High death rate among EPTB, Other previously treated patient and TB.HIV coinfecting patient
- Only 70% and 63% of smear positive TB patients had smear examination at 2nd and 5th month of treatment
- Issues with treatment card use (completeness and updates)

Supportive supervision

- Improvement in the coverage and completeness of data was observed
- Data quality issues were observed, requiring more work to improve supervisors skills
- mentoring is a gap which is associated with limited time
- Follow up mechanisms especially to facilities that have performance issues

Action points

Case detection effort

- Improve case detection through implementation of systematic TB screening.
- Supervisory teams need to ensure that facility in charges own implementation of these activity. SOPs will be finalized and distributed to all health facilities.
- Documentation on chronic cough register will be targeted through supervision and mentoring in the coming quarters.

Treatment outcome and patient monitoring

- Mentoring and targeted supervision will target the smear follow in all health care settings
- Explore cause of death in facilities where there is high death rate
- Ensure compliance to diagnostic algorithms
- Improve documentation and availability patient treatment card

Supportive supervision

- Organize the supervisory team in cluster to ensure proper monitoring during the supportive supervision
- Train supervisory team to improve their supervisory skills (data management mentoring skill)
- Institute a follow up mechanism to facilities that have poor performance during the supportive supervision
- Dispatch mentoring team to poor performing facilities before next integrated supervision