CCM SITE VISIT ON TUBERCLOSIS SERVICES

1. INTRODUCTION

The HIV/TB oversight committee conducted a day's visit to the Korle Bu Teaching Hospital (KBTH) and the Pentecost Hospital (PH) in the Greater Accra region on the 24th October 2018. The facilities were selected based on their client load and programmatic performance as captured on the District Health Information Management System (DHIMS) for the period of April to June 2018:

	Screened	Presumed	Tested	TB+	Treated	% tested
Korle-Bu TH	8798	799	18	4	4	2%
Pentecost Hospital	5729	67	50	6	6	75%

The site visit had hence the following objectives:

I. Understand the TB screening and testing procedures in place in comparison to the recommended processes
II. Ascertain and verify reasons for the low recorded testing rate at KBTH
III. Ascertain and verify reasons for the low rate of presumed TB cases at Pentecoast Hospital
IV. Identify any difficulties and recommend solutions to increase TB screening, detection and treatment.

2. SUMMARY OF CHALLENGES AND RECOMMENDATIONS

Challenges	Recommendations	To whom
3 out of 22 KBTH OPDs offer TB screening.	Initiate systematic screening in all OPDs	KBTH
KBTH TSO is not screening at OPD. No systematic screening of OPD clients. Prescribers screen based on signs and symptoms.	Systematic screening of OPD clients by the TSO	KBTH
ART / KBTH does not provide screening data on DHIMS	Review if screening of ART clients is done Implement reporting	NACP / NTP KBTH
Screening of Pentecost OPD clients based on public call to those with signs and symptoms to present themselves at the screening desk.	Develop written SOPs for TSO including best practices to ensure a standardized approach to ICF. Pentecost hospital to consider more effective and confidential	NTP

Low percentage of OPD clients screened using the tool. Data show that contrary to the TSO's belief TB screening hardly takes place during her absence.	approaches to screen OPD clients. Ensure that TB screening is continued even when TSO is not present.	Pentecost Hospital
Different interpretations as when a client shall be considered as presumed TB case	Develop written SOPs for TSO to ensure a standardized ICF approach.	NTP
Low testing rate of presumed TB clients at KBTH	Take sputum sample at OPD instead of referring the client to the lab	KBTH
No sample referral system established in GAR. Most clients referred instead of sending the sample, many may not go to KBTH. 18% (Sep) do not come back to pick their result.	Set up a functional sample transport system. Establish a system in which results are transmitted to the referring facility using e-media	NTP
No funds for contact tracing, follow up of defaulter or community screening received. KBTH volunteers are not reimbursed for T&T or communication.		
Low capacity use of GeneXpert	Establish sample referral system. Enhance ICF and improve testing rate at KBTH	NTP KBTH
MDR-TB enablers package does not reach the facilities when needed. Pentecost hospital is not informed about how to access and manage the package.	Develop SOPs for enablers package including a chapter on how to access the package	NTP
DHIMS data for both facilities do not match with TSO data	Review data quality and capacities of data officers	PPME
Tests necessary before enrollment on MDR-TB treatment cost about 300 GHS monthly if carried out according to guidelines.	Accelarate integration of TB services into NHIA	NTP / GHS / NHIA / MoH
The same nurse administers the injections to MDR-TB client from Monday to Sunday over several months resulting in lack of motivation.	Ensure rotation so that nurses have an off day	KBTH, possibly other facilities
Serious drug interaction with second line ARVs		NACP

MDR-TB admission facility needed	Review possibility to refurbish vacant bungalows at KBTH	KBTH
Pentecost: PLHIV not X-rayed for TB diagnosis	Enhance awareness of respective guideline Ensure integration of TB services into NHIS	NTP NTP
Mismatch of DHIMS data and facilty based reports. Same DHIMS data retrieved from different persons do not match. Facility based data do not seem to be sufficiently validated and used by decision makers.	Consider capacity building for data officers. Improve facility data validation.	PPME
KBTH and Pentecost Hospital feel left out in GHS trainings		
e-tracker training several months before actual set up. Data officer trained, not chest clinic staff	Ensure that training and e-tracker implementation are carried out about simultaneously Review specification in invitation on the type of participants needed	PPME / NTP
Perception of health risks related to TB services among healthcare personnel resulting in low motivation to work at the chest clinic.	Scale up infection control trainings	GHS / NTP

3. FINDINGS

3.1 Korle Bu Teaching Hospital (KBTH)

The KBTH is the leading referral facility in Ghana, thus receives a significant proportion of clientele. It has 22 Out-Patient Departments (OPDs) out of which three (polyclinic, antenatal clinic and diabetes clinic) use the screening tool for intensified case finding (ICF). TB treatment services are provided by the chest clinic. The team visited the polyclinic OPD, the chest clinic as well as the chest clinic laboratory.

Screening and diagnosis

Since March 2016, KBTH has had a Task Shifting Officer (TSO). While initially he approached the polyclinic OPD clients, he was discouraged by the OPD senior staff who felt that there was not enough space at the OPD to carry out ICF. This is why he is based at the chest clinic. Case finding is undertaken based on signs and symptoms by the prescribers, however, there is no systematic screening of all OPD attendants. During a follow up call in November, the TSO informed the CCM about recent discussions with the Head of Department to implement systematic screening of OPD clients at the polyclinic OPD.

Presumed TB clients are referred to the chest clinic for testing. Considering the long distance between the polyclinic OPD and the chest clinic and the lack of personnel to accompany presumed TB clients, many of them do not arrive at the chest clinic. This could explain the 2% testing rate as derived from DHIMS. The TSO informed the team about the planned TB lab to be set up next to the OPD, however, this idea is still at discussion stage. The lab forwards the test results to the OPD, however, it is the chest clinic that initiates treatment. There is no systematic TB screening at the wards, however, the TSO confirmed that the doctors have adequate TB knowledge to spot a presumed case. While ANC and the diabetic clinic report on TB screening results, no data are reported on DHIMS on screening at the ART.

Data quality / DHIMS reporting

A comparison of the DHIMS data the team received in preparation of the visit with the screening data of the task shifting officer revealed great disparities:

Korle-Bu TH OPD Q2	Screened	Presumed	Tested	TB+	Treated	% tested
DHIMS data	8798	799	18	4	4	2%
TSO data	1455	430	181	32	32	42%

The team was not able to obtain an explanation for these disparities but was informed that TB DHIMS are not locked after the usual 90 days and that the data were updated after the CCM site visit.

IEC

The polyclinic OPD does not have any TB IEC materials available. However, looking at the number of OPD clients on a daily basis, the staff suggested to run short films on TB on their TVs instead of the usual telenovelas in order to create a greater awareness and knowledge on TB in the general population and to facilitate diagnosis of early stages of TB through the clients' self-declaration.

GeneXpert

The Chest clinic has a laboratory attached with a GeneXpert that can test 16 samples at a time. One out of the 16 modules has not been functional for two months before the CCM visit. The test of each sample can be started individually, i.e. it is not necessary to wait for a critical mass of samples to test them all at once. GeneXpert is used systematically for initial diagnosis, even though a facility may request microscopy out of ignorance. While in the beginning of the year, only around 100 samples were tested per month, in July/ August this number increased to roughly 300 and dropped to 216 in September. The team learned that July/August are the high season for respiratory infections, which is why more tests are requested. Most of the tests are requested from the KBTH, only few are requested by other facilities. Considering the capacity of the GeneXpert to test more than 1000 samples per month, the importance of the KBTH as the leading referral facility in Ghana, and the fact that the surrounding hospitals do not have a GeneXpert, these numbers seem very low.

Sample referral and results dissemination

The laboratory personnel was not aware of any sample referral system in Greater Accra. While some facilities send the actual samples, it is estimated that 80% of the facilities refer the client to the KBTH lab to provide a sample. There is no electronic forwarding of results. The result needs to be picked up by the person bringing the sample, i.e. the patient needs to come twice. While most of the results are collected within a week, 38 test results from September (or about 18%) were not picked up by the time of the CCM visit. The lab personnel explained that it is not possible to continuously spend money out of their own pocket to follow up on these clients.

Enrollment in treatment

The chest clinic enrolls all confirmed cases on treatment instantly. They receive an average of 600 TB clients per year. From Q1-3/2018, they have enrolled 313 clients including one MDR-TB client, which seems to be significantly less than in previous years as an average of 600 clients per year was communicated to the team.

Follow up / Contact tracing / Community screening

Before NFM1, part of the enablers package was used to pay ten treatment supporters who were also engaged for contact tracing and loss to follow up. However, with the discontinuation of the enablers package for drug susceptible TB, these treatment supporters could no longer be paid. The chest clinic has not received any contact tracing funds in 2018. Additionally, the staff strength (only two public health nurses) limits the possibility of comprehensive contact tracing. The previous treatment supporters are partly engaged on a voluntary basis for these tasks, however, they are not even reimbursed for T&T or their communication costs. Home visits by nurses do not take place anymore for the lack of funds. For contact tracing, either the index case is requested to brings his immediate household members or the closest facility is contacted with a request to do the contact tracing. This is confirmed by the DHIMS data according to which zero household contacts were screened during the first half year 2018. As the chest clinic does not create revenues for the KBTH, there is an impression that they cannot ask for financial or logistics support in order to engage in contact and defaulter tracing more effectively. Similarly, there are no funds for community screening.

MDR-TB: tests

In 2018, three clients were tested positive for MDR-TB. One of them was enrolled on treatment about two months ago, one passed on. Another one is yet to be enrolled, which is challenging due to the lack of a permanent residence and lack of funds to cover the necessary baseline lab tests (FBC, hearing test, liver and renal function test, thyroid hormons, ECG). NTP provided portable ECG and hearing test equipment to each region. In GAR this equipment is at Ridge Hospital where the respective tests shall be free of charge. However, the hearing test requires a sound proof room that is currently being put in place. Currently, MDR-TB clients have to pay roughly 170 GHS for the ECG and hearing assessment, 120 GHS for the blood tests and 150 GHS for the thyroid test. According to the protocol, these tests have to be repeated

on a monthly basis except for the thyroid test (bi/trimonthly). If these are to be paid from the clients' component of the enabler package, there will be hardly any funds left for T&T, nutritious foods or medication to treat side effects of the TB drugs.

MDR-TB: enablers package

The enablers package is now to be paid for a period of 12 months maximum due to the short term regimen and consists of a client component (3,000 GHS) and a health worker's component (2,000 GHS). The clients' component should serve as a compensation for lost income as clients are encouraged to stop working during their treatment. However, looking at the cost related to the monthly lab tests (see above), the enablers package may not be sufficient to serve this purpose. NTP releases the MDR-TB enablers package twice a year to the RHD, which means that some clients may not get the support when they really need it unless the hospital prefinances it. There is a suspicion that the enablers package is reduced at the regional and/or district level for an administration fee or similar. Facility based bureaucratic procedures to release the enablers money to the chest clinic may delay the disbursement to the client by another several weeks. Clients sign for the amounts that they receive. The chest clinic staff called for a standardization of the enablers package as there are no clear cut guidelines.

MDR-TB: treatment

MDR-TB clients receive daily injections for several months. Not only because the drugs weaken the clients but also to reduce the risk of contamination, nurses do home visits to administer the injections to the client. It is usually the same nurse who sees a client seven days a weak over a period of several months. Understandably, motivation is rather low to take up this responsibility, this practice may also not be in line with existing labor laws.

Training

While the TSO received training before he was placed at KBTH, he has not received a refresher course ever since. NTP visited the TSO about twice during the period for a supervison. At the polyclinic OPD, public health nurses were trained on TB during a workshop in 2015. It was pointed out that teaching hospitals tend to be left out of trainings organized at the regional level. This is not only for disease specific trainings but also when it comes to data collection and capturing.

TB/HIV

Out of the 74 HIV+ TB clients, 42 are on treatment. As long as HIV+ patients are TB clients, they receive their drugs at the chest clinic, even though they may have already been registered with an ART facility. After the end of the TB treatment, they are referred to the fevers unit or any other ART center to continue ART there. The chest clinic pointed out that treatment challenges exist particularly with ART defaulters who have to be enrolled on second line treatment. The TB drugs reportedly cause serious drug interaction and lessen the efficacy of

ART. The team understood that an alternative ARV is available for such cases that should be procured in the future.

e-tracker

e-tracker has never been implemented at the chest clinic, which is surprising looking at the importance of this teaching hospital. The staff confirmed though that the implementation of the e-tracker is planned and a training is scheduled within October.

MDR-TB facility

The chest clinic staff re-emphasized the necessity of a dedicated MDR-TB facility looking at the state of health of some of the clients. They pointed out that this needs to be a separate facility/building as an integrated solution increases the risk of hospital based contamination.

Commodity security

The Principal Nursing Officer did not remember a situation in which the chest clinic ran out of drugs. However, shortages and stock outs reportedly did occur in other facilities that approached the chest clinic with a request to share.

Other

There is a perception among health workers that those providing TB services risk their own health, which limits their willingness to engage in this field. The chest clinic does not have an isolation unit to take care of MDR-TB clients, which increases the perceived risk even further. As a consequence, there is a high staff attrition rate at the chest clinic.

3.2 Pentecost Hospital, Madina

The Pentecost Hospital in Madina is a CHAG facility and serves as the Municipal Hospital.

Screening and diagnosis

The hospital has a dedicated Task Shifting Officer (TSO) working at the OPD daily from 7am to 4pm. She has a desk that is very close to the one of the OPD nurses. Each morning, she gives a talk on TB to OPD clients and asks those with symptoms to come up for further diagnosis and treatment. The TSO was provided with a few examples from other facilities how to go about TB screening in a less obvious way. Not surprisingly, most OPD clients with respiratory symptoms are however identified at the level of the prescriber who poses the questions for TB symptoms as a standard question. These clients will be referred back to the TSO for the screening procedures. When the TSO is not at work, clients with symptoms suggestive of TB will hence still be identified and screened by the prescriber.

While the team was informed that everyone should be tested who has been coughing for more than two weeks or who has been coughing for less than two weeks but has at least one additional symptom, the hospital requires at least two to three additional symptoms in order

to consider a client as a presumed TB case. It is hence possible that a number of potential TB cases is not tested.

The TSO accompanies most presumed cases to the lab to ensure that a sample is taken. Samples are tested using microscopy, in some instances, particularly if the client cannot produce sputum, an X-ray is done at the hospital at 50 GHS. It was pointed out that Madina Polyclinic has a digital X-ray but no radiologist, so it is not in use.

Data quality / DHIMS reporting

A comparison of the DHIMS data the team received in preparation of the visit with the screening data of the task shifting officer revealed great disparities:

Pentecost Q2	Screened	Presumed	Tested	TB+	Treated
DHIMS OPD data	5729	67	50	6	6
TSO OPD data	201	67		5	6
DHIMS all screening data	6981	126	138	6	6
TSO all screening data	424	88		5	6

The team wondered why according to DHIMS less than 2% were identified as presumed cases. The data officer explained that initially the number of OPD clients was entered as clients screened. This mistake was reportedly rectified in May 2018. Additional disparities reveal if one compares the screening data across all departments. The team was not able to obtain an explanation for these disparities. The hospital's data officer pointed out that his DHIMS data are consistent with the reports of the task shifting officer. The TSO seems to use an old version of the reporting tool at it does not contain the number of people tested (it only contains number presumed TB cases and number diagnosed).

Screening in other departments

TB screening is also done at the ART clinic (see HIV/TB collaboration below) and at the ANC.

GeneXpert

The hospital does not have a GeneXpert. The closest GeneXpert that was confirmed to be functional is at Madina Polyclinic Kekele a few kilometers away. Therefore all samples are initally tested using microscopy; in cases of suspicion of TB despite a negative test result, the TSO takes a sample to Kekele for GeneXpert testing. A vehicle is made available by the hospital.

Sample referral and results dissemination

The lab technicians pointed that the facility used to receive samples for TB testing from other facilities. However, many seem to have their own microscopies so that sample referrals have become rare. In fact, between July and August 2018, all 56 TB samples were internal clients - no sample has been sent from other facilities for TB testing.

Enrollment in treatment

During the first semester 2018, the hospital tested 13 clients positive for TB and all were enrolled on treatment within the same month with one exception.

Follow up / Contact tracing
Even though the facility has not received any funds for contact tracing from the NTP, the TSO is reportedly very active in this respect and support is provided by the hospital administration. When clients do not come for a scheduled appointment, they are contacted immediately and if necessary visited at home the same day. The hospital also contacts clients with reminders to collect their medication. However, contact tracing has only been documented in June 2018 for the first half year on the TB screening reports.

MDR-TB: enrollment on treatment
All laboratory tests related to MDR-TB performed at the hospital are free; reimbursements are expected from the NTP through the enablers package. Other tests not performed at the hospital such as hearing tests are done at the Korle Bu Teaching Hospital at a cost to the client (estimated 180-200 GHS). Due to the large variety of lab tests that are all provided free of charge with the exception of the hearing test that is not available at the hospital, there was about a one month delay between the diagnosis and enrollment on treatment. The client was enrolled on the short term treatment.

MDR-TB : enablers package
The hospital was generically informed about the availability of a MDR-TB enablers package but even almost two months after the notification of a MDR-TB client no details on the enablers package were known. They have not received the enablers package either. However, support for their MDR-TB client is urgently needed as he does not even have accommodation. Despite the lack of an enablers package, the client is visited at home, using hospital funds.

HIV/TB collaboration
All TB cases notified in the first semester 2018 were tested for HIV and one of them was reactive. An HIV+ TB client gets TB treatment at the chest clinic and HIV treatment at the ART center for his. 110 PLHIV are taken care of by the hospital's ART center. While according to the guidelines, all PLHIV shall have one chest X-ray per semester, the facility was not aware of it and screens HIV+ clients using the screening tool only.

Training
The hospital is usually not invited to trainings as those are targeted towards GHS facilities only. The hospital's personnel is very disappointed about his as they feel that as the Municipal Hospital their staff needs to be up to date at all times.

e-tracker
At the time of the visit, the hospital was not equipped with e-tracker. The data officer completed training, however several months ago and it is questionable if the training can serve its purpose if the equipment is not made available promptly.

Commodity security / LMD
In 2018 the commodity situation has been very stable. In case of shortages, the hospital would contact nearby facilities with a request to borrow stock. The hospital gets its TB commodities

from the Regional Medical Stores, it is not served by the LMD. During the last visit to the RMS, the hospital staff was informed about hsopital's eligibility for being included in the LMD. Discussions are currently ongoing about the way forward.

4. ANNEX

Site visit participants

Name	Designation	Organization
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Korle Bu Teaching Hospital

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