

Report of Assessment and Support Mission to 5 Regions in Southern Sector

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Mr Kwami Afutu

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The National TB Control Programme has commenced implementation of the approved Global Fund Round 10 grant. This grant seeks to implement high value interventions in Ghana to improve TB case finding for both susceptible and drug resistant TB cases; to reduce delays associated with the health system, improve the quality of care provided to TB patients for better treatment outcomes and to strengthen programme management. These interventions have been considered as a result of the stagnating TB case finding experienced during the period 2007 – 2010. With the implementation of these high value interventions it is expected that national TB indicators will improve in support of the Global Stop TB Strategy.

Strategy

This mission focussed on discussing the identified high value interventions, identifying implementation strategies and possible challenges and to address these by proposing workable solutions in collaboration with key stakeholders in TB control in each region to be visited. The mission was conducted from the 3rd of January to the 21st of January 2012. Regions visited were Greater Accra, Eastern, Volta, Central and Western Regions.

The Team comprised of the Deputy Programme Manager, Dr Nii Nortey Hanson-Nortey and the Head of Monitoring and Evaluation for NTP, Mr Kwami Afutu.

The Team met with key stakeholders in TB care in each region to discuss the following key interventions:

- Hospital/OPD-based active TB Case Finding
- Contact Tracing Investigations for Index TB cases
- Drug Resistant TB Case Finding
- Improving Clinical Care for TB patients
- Identification of a Regional TB Referral Clinician
- Nutritional Assessment and Counselling Support for TB patients

Below is a report covering this activity. It includes specific activities undertaken, observations, proposals discussed and recommendations made towards implementing the identified interventions. This report will be shared with all regions visited as feedback and will be followed up as part of routine programme supervisory activities.

EASTERN REGION

Persons Met

- Dr Erasmus Agongo – Regional Director of Health Services
- Dr George Bonsu – Deputy Director Public Health
- Ms Angela Quaye – Regional TB Coordinator
- Dr Asare – Medical Director, Eastern Regional Hospital
- Dr Jim Appiah-Kusi – Head, Department of Medicine, Eastern Regional Hospital
- Dr Foster N. Fokuoh – Regional TB Referral Clinician
- Mr Richard Essien – District TB Coordinator, Birim South District
- Mr Jonas Adjei – District TB Coordinator, Birim Central District
- Mr Samuel Apraku – District TB Coordinator, West Akim District
- Mr Stephen Boakye – District TB Coordinator, Akyemansa District
- Henry Kusi-Appiah – District TB Coordinator, Kwabibirim District

Summary of Observations and Discussions

Hospital-based TB Case Finding

TB case finding in Ghana has stabilised around 61 cases per 100,000 population (national report 2010) in this light, the NTP is introducing a hospital-based TB case finding intervention to actively identify TB suspects from persons attending Out Patient Departments (OPD) in all hospitals.

- A cough suspect-screening programme exists in the OPD of the Eastern Regional Hospital that combines screening for H1N1 and Tuberculosis using a history of 3-day cough and 2 weeks respectively among patients. This is not done in most district hospitals.
- Health education is done daily by Health Information Officers and the importance of cough, as a symptom for TB diseases should be emphasised.
- All TB suspects (persons with a cough irrespective of the duration: 24 hours up to 2 weeks and beyond) should be actively identified and screened using a checklist (TB Screening Questionnaire). An OPD Attendant if available should immediately go along with confirmed suspects to the laboratory for sputum smear microscopy whilst their position is maintained in the queue as they wait for their turn to see the OPD clinician for whatever presenting complaints.
- A cough register should be kept in which all persons who have been sent to the laboratory with cough symptoms should be registered. Their contact details – traceable residential address and active mobile phone number – should be entered in the register with their name. This is to facilitate tracing in the event of the person not coming back for their results.
- The Institutional TB Coordinator (ITC) as part of their routine duties should daily go through the Cough Register in the OPD and synchronise this with the Laboratory Register in order to identify all new TB cases to be treated, persons

who have not come for their results to be tracked (Initial Defaulters) and possible drop-outs from the OPD.

Contact Tracing

To improve TB case finding it is important that Health Care Workers (HCW) conduct contact-tracing activities to identify TB suspects who live in the communities with index TB patients. This will serve to identify TB patients early before they develop significant symptoms.

- DOTS Corner staff (Clinical nurse, Public Health Nurse, Community Health Nurse or Community-Based Surveillance Officer) in the facility where the new TB patient is registered to receive their treatment should conduct a home verification visit in collaboration with the patient, to ascertain the correct residence of the new patient.
- During this visit all contacts shall be screened for TB symptoms using the TB Screening Questionnaire. All TB suspects should be invited to visit the health facility lab the next day with a sputum request form and sputum for AFB testing
- All contacts identified and screened during the home visit shall be registered in the Contact Screening Register. This is to ensure follow up on all persons screened in spite of their immediate TB test results.

Drug Resistant Tuberculosis

The Regional Hospital Laboratory has already identified and notified to the RHMT 6 persons with multidrug resistant tuberculosis from among previously treated TB patients in the region. No form of treatment has been started for these persons as there are no medicines available in the country to formulate a standard treatment regimen for them. To improve case finding of drug resistant TB patients the NTP recommends the following groups of patients on TB treatment as suspects for drug resistant TB patients. These 'suspects' should provide sputum for culture and drug sensitivity testing (DST) for *Mycobacterium tuberculosis*.

- **All CAT I cases who are sputum smear positive at Month 3.** They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified appropriately when results become available.
- **All Retreatment TB Cases.** They should submit sputum samples for culture and DST before starting CAT II treatment. Their treatment would be modified accordingly by the Regional Referral Clinician when results become available
- All HIV positive TB patients who are smear positive at Month 2 of TB treatment. They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified when results become available.

These recommendations have been put in place as part of implementing programmatic management of drug resistant tuberculosis in Ghana. They arise because the NTP and the global TB community places a high value on early detection of drug resistant TB cases, prevention of deaths as outcomes of TB treatment and transmission of drug resistant TB as a result of delayed diagnosis of resistant TB.

Public Health Unit

A Public Health Unit has been recently established in the hospital in line with the Ghana Health Service's vision of strengthening public health practice in health facilities. A Senior Public Health Nurse heads this Unit whose role is to coordinate all public health activities in the hospital.

- There is currently very little collaboration between the various Units/Departments that have public health functions and the Unit. There is very little information flow among them as well as reporting is done directly to the Municipal Health Directorate with little expression of their services in the Regional Hospital's Reports.
- The Medical Director of the Regional Hospital should insist on having all public health reports to go through this Unit and to review and endorse them before they are submitted to any higher authority.
- This Unit should directly supervise the DOTS Corner and TB control activities in the hospital and manage all data on OPD-based TB case finding and TB treatment.

Laboratory

The Eastern Regional Hospital has a highly accredited laboratory for TB services. The CDC accreditation has identified this lab as a specialised lab equipped for TB smear, culture and DST. This laboratory is part currently being used by the NTP to provide culture and DST services in Ghana.

The laboratory is currently part of the WHO and CDC SLMTA accreditation programme and will also receive supra-national reference support from Forschungszentrum Borstel – National Reference Center for Mycobacteria, Borstel, Germany.

To improve patient tracking and prevent initial default of suspects who test smear positive for TB the following recommendations have been proposed to for all laboratories. The Regional Laboratory Focal Person should disseminate all these guidelines to all the labs performing smear microscopy.

- All Sputum Smear Request Forms (TB 05) should come with patient's contact telephone number so that patients can be contacted to come for their results when these are ready.
- A tracking system can be established for sputum smear positive patients so that they can be sent text messages to report for their results and for follow up visits.
- There is a PCR machine in the molecular lab (COBAS AmpliPrep), which can be used for molecular diagnosis of TB. This would require the purchasing of specialised reagents for the machine.

Nutritional Assessment and Counselling Support for TB patients

TB patients in Ghana have been identified as being largely malnourished hence the introduction of the Nutritional Assessment and Counselling Support (NACS) intervention for TB patients. This intervention is based on the same principles of NACS being implemented among people living with HIV in Ghana and being coordinated by the Nutrition Department of Ghana Health Service.

To ensure effective implementation of this intervention the following activities should be conducted:

- Sensitize Nutrition Officers and Dieticians in the various health facilities about their role in the care of TB patients. DOTS Corner Nurses should also be sensitized about the supportive role of Nutrition Officers and Dieticians in TB care.
- TB patients should receive nutritional assessment at the beginning of their treatment and treatment should be monitored using Body-Mass Index (BMI) as well as sputum.
- Nutrition officers and Dieticians should train their colleague DOTS Corner Nurses to be able to do nutritional assessments of their patients and to provide appropriate nutritional counselling as part of their care.
- Patient Enabler's package should be properly applied to provide nutritious food supplements for TB patients to aid their response to treatment. Where available TB patients should be supplied with existing food packages being distributed for malnourished persons in health facilities.
- When available the NTP would procure nutritious food supplies for distribution nationwide using food vouchers or coupons from specific centralised stores.
- The NTP is already collaborating with the Nutrition Department of Ghana Health Service to develop guidelines for implementation of this intervention.

Identification of a Regional TB Referral Clinician

To deliver high value interventions for TB patients, it is important that clinical care for TB patients is improved. TB patients should now no longer be left at the mercy of DOTS Corner staff that does not have appropriate qualifications to manage co-morbidities that arise during the treatment of TB.

A review of co-morbidities developing in TB patients during treatment revealed significant impact of diseases such as Diabetes mellitus, Liver diseases and HIV on the outcomes of treatment. It is as such important that Clinicians are identified at district and regional levels that can be called upon to evaluate and manage TB patients with other co-morbidities during their treatment.

The Regional TB Referral Clinician should be preferably a Physician Specialist or Senior Medical Officer established in the Regional Hospital with an interest in Respiratory medicine of infectious diseases. He or she should be already supporting the care of TB patients in the Regional Hospital. The roles of this clinician shall include but not be limited to the following:

- Reviewing national TB treatment protocols and guidelines to in turn train other clinicians in the regional hospital and the region to be able to appropriately diagnose and manage TB patients
- Supervise the clinical care of TB patients in the Regional Hospital including all complicated and drug resistant TB cases
- Analyse and interpret medical data and clinical notes of patients in order to ensure the right clinical decisions have been made during treatment of complicated and drug resistant TB cases.
- Be the Referral Clinician for complex medical conditions arising in TB patients
- Participate in regional quarterly review meetings, trainings, national stakeholder meetings and trainings

RECOMMENDATIONS

Regional Health Directorate

- NTP and RHMT should create budget line for disbursement of funds to Eastern Regional Hospital as a 'district' outlining clear activities to be undertaken including hospital based case finding, improvement of clinical care for TB patients for each quarter. RHMT should provide targets for Hospital and should supervise activities.
- Medical Director of Regional Hospital and Regional TB Referral Clinician should be invited to participate in National and Regional TB Review Meetings to improve collaboration and implementation of R10 activities.
- Dates for Regional TB Quarterly Review Meetings should be fixed and schedule maintained for consistency in January, April, July October. These meetings should be used to improve the knowledge and skills of DTCs and ITCs to ensure better service in facilities
- Regional Hospital should be supported to systematically structure the OPD-based TB case finding intervention using the national guidelines.
- RHMT should facilitate linkages between Regional Hospital and District Hospitals to ensure better follow up of TB patients. Linkages should be re-enforced during the scheduled quarterly review meetings where the Regional Hospital should participate.
- The New Juabeng Municipal Health Directorate should be supported to establish new DOTS Corners to improve community based TB care in the Municipality. Municipal TB activities should be separated from the Regional hospital's TB activities.
- Locally sensitive information materials e.g. audio or video presentations should be produced for use in all OPDs to inform and educate waiting patients on cough symptoms and hygiene. This will also sensitize staff to identify 'coughers' to be screened.
- RHMT should involve all District Hospitals in OPD-based TB case finding intervention to improve the region's TB case finding. Facilities such as Oda Government Hospital, Kwae District Hospital, St Dominic's Hospital, Atua Government Hospital and St Martin de Porres Hospital should not be left out due to the large OPD attendance
- To improve TB suspects/patient tracking, all Sputum Smear Requests (TB 05) forms should be filled-in with a functioning cell phone number of the suspect/patient or a contact person through whom they can be reached.
- DTCs and ITCs should be encouraged to repeatedly visit labs to collect and follow up on persons who have not come for their sputum reports using the phone numbers recorded on the sputum request forms.
- RHMT should request Nutrition Officers in various facilities to collaborate with DOTS Corner staff to assess all TB patients using Body-Mass Index (BMI) and to provide appropriate nutritional counselling and support for TB patients. This will facilitate the use of patient's Enabler's Package for structured nutritional support for TB patients
- To disseminate information among all DTCs and ITCs about identifying all drug resistant TB suspects and to send samples for culture and DST in the Regional Hospital Laboratory.

- RHMT should ensure a system for specimen collection and transport to laboratory
- To consider instituting a system where patients deposit money in the facility at the start of treatment, which is paid back in parts as patients complete identified milestones in treatment for areas where default rates are high. This system should not replace the established and highly recommended system of defaulter prevention using Treatment supporters & CHO's.

Eastern Regional Hospital

- Regional Hospital has identified a Regional Referral Clinician – Dr Foster Nketia Fokuoh – who will be the Region's TB Clinical Expert to supervise the clinical care of TB in the region. The Medical Director and Head of Medical Department of the Regional Hospital did this appointment with support from the RHMT.
- Regional Hospital should continue the OPD-based TB case finding intervention using the nationally developed guidelines for this activity.
- Regional Hospital should begin to collect all TB logistics directly from the Regional Medical Stores and these should be managed by the Pharmacists and Laboratory Personnel in the Hospital using the national established TB LMIS TB commodities
- The DOTS Corner in the Regional Hospital should not continue to be under the direct control of the New Juabeng Municipal Health Directorate. All TB activity reports should be sent from the office of the Medical Director to the Regional TB Coordinator.
- ITC should repeatedly visit lab to collect and follow up on persons who have not come for their sputum reports.
- Ensure that Sputum Smear Requests (TB 05) forms are filled in with patient's checked and functioning cell phone numbers or checked phone number of a contact person of patient
- Involve the Nutrition Officers in the Hospital to support the Nutritional Assessment Counselling and Support for TB patients
- The Regional Hospital should second a Public Health or Community Health Nurse to the DOTS Corner to support Community Based TB Care and case finding including contact tracing.
- The Regional Hospital should prioritize treatment of childhood TB

GREATER ACCRA REGION

Persons Met

- Dr Edward Antwi – Deputy Director Public Health
- Mrs Dorothy Abudey – Regional TB Coordinator
- Ms Baaba Jones – Regional TB M & E Officer
- Dr George Mensah – Accra Metro TB Focal Person
- Dr Obeng Apori – Medical Director, Ridge Regional Hospital
- Ms Helena Ntoah Boadi – Ridge Regional Hospital TB Coordinator
- Institutional TB Coordinators of all Metro Hospitals

Summary of Observations and Discussions

Hospital-based TB Case Finding

Most facilities in Accra Metropolitan Area are implementing the Accelerated TB Case Finding intervention being supported by WHO and CIDA in their OPDs. The success of this intervention was discussed with focal persons.

- TB case finding has improved due to the accelerated TB case finding initiative. All Polyclinics are implementing this intervention with few challenges. Cough registers are in place.
- Facilities conduct daily health education for patients attending the clinics. This activity is done by OPD Nurses. The importance of cough as a symptom for TB and other respiratory diseases should be emphasised.
- In spite of adequate education for OPD staff active TB case finding is not intensive. Identified TB suspects (all persons with a cough of duration 24 hours up to 2 weeks and beyond) are identified and screened using a checklist (TB Screening Questionnaire). An OPD Attendant if available should help such confirmed suspects to the laboratory for sputum smear microscopy quickly whilst their position is maintained in the queue as they wait for their turn to see the OPD clinician for whatever presenting complaints.
- Most facilities keep a cough register at the OPD in which all persons who have been sent to the laboratory with cough symptoms are registered. Their contact details – traceable residential address and active mobile phone number are entered in the register beside person's name. This is to facilitate tracing in the event of the person not coming back for their results.
- The institutional TB Coordinator as part of their routine duties should daily go through the Cough Register in the OPD and synchronise this with the Laboratory Register in order to identify all new TB cases to be treated, persons who have not come for their results to be tracked (Initial Defaulters) and possible drop-outs from the OPD.
- These activities should be scaled up to all the district hospitals in the region and should be done with intense supervision

Contact Tracing

To improve TB case finding it is important that Health Care Workers (HCW) conduct contact tracing activities to identify TB suspects who live in the communities with index TB patients. Contact tracing is an important component of the TB case finding.

- A HCW (Clinical nurse, Public Health Nurse, Community Health Nurse or Community-Based Surveillance Officer) associated with the DOTS Corner in the facility where the new TB patient is receiving their treatment should conduct a home verification visit in collaboration with the patient, to ascertain the correct residence of the new patient. During this visit all contacts of the index TB patient should be screened for TB symptoms using the TB Screening Questionnaire. All TB suspects should be invited to visit the health facility lab the next day with a sputum request form and sputum for AFB testing
- All contacts identified and screened during the home visit should be registered in the Contact Screening Register. This is to ensure follow up on all persons screened in spite of their immediate TB test results.

Drug Resistant Tuberculosis

A number of drug resistant TB (DR-TB) patients have been identified in the region. Korle Bu Teaching Hospital Chest Clinic and Noguchi Memorial Institute of Medical Research Bacteriology labs have been involved in the diagnosis of these cases. Three persons are being managed as multidrug resistant tuberculosis cases from among this lot of patients in Korle Bu Teaching Hospital.

To improve suspicion and early detection of DR-TB cases the listed criteria below have been put in place to define all suspects. These 'suspects' should provide sputum for culture and drug sensitivity testing (DST) for *Mycobacterium tuberculosis*.

- **All CAT I cases who are sputum smear positive at Month 3.** They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified appropriately when results become available.
- **All Retreatment TB Cases.** They should submit sputum samples for culture and DST before starting CAT II treatment. Their treatment would be modified accordingly by the Regional Referral Clinician when results become available
- All HIV positive TB patients who are smear positive at Month 2 of TB treatment. They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified when results become available.

These recommendations have been put in place as part of implementing programmatic management of drug resistant tuberculosis in Ghana. They arise because the NTP and the global TB community places a high value on early detection of drug resistant TB cases, prevention of deaths as outcomes of TB treatment and transmission of drug resistant TB as a result of delayed diagnosis of resistant TB.

Laboratory

Access to laboratory services within the Greater Accra Region is the best. These laboratories have good expertise to conduct sputum smear microscopy. The Ridge Regional Hospital Laboratory conducts sputum smear microscopy but no culture services. The Hospital however has linkages with Korle Bu Teaching Hospital Chest Clinic Laboratory and Noguchi Memorial Institute of Medical Research Bacteriology Laboratory, which are currently conducting TB culture and DST. Noguchi Memorial Institute Laboratory has the capacity to perform Line Probe Assays. These labs are currently part of the WHO and CDC SLMTA accreditation programme and will also receive supra-national reference support from Forschungszentrum Borstel – National Reference Centre for Mycobacteria, Borstel, Germany.

To improve patient tracking and reduce the numbers of initial TB defaulters the following recommendations have been proposed:

- All Sputum Smear Request Forms (TB 05) should come with patient's contact telephone number so that patients can be contacted to come for their results when these are ready.
- A tracking system can be established for sputum smear positive patients so that they can be sent text messages to report for their results and for follow up visits.
- Capacity for molecular testing of TB samples should be increased and equipment provided for these labs to perform these tests for the benefit of TB patients.

Nutritional Assessment and Counselling Support for TB patients

TB patients in Ghana have been identified as being largely malnourished hence the introduction of the Nutritional Assessment and Counselling Support (NACS) intervention for TB patients. This intervention is based on the same principles of NACS being implemented among people living with HIV in Ghana and being coordinated by the Nutrition Department of Ghana Health Service.

To ensure effective implementation of this intervention the following activities should be conducted:

- Sensitize Nutrition Officers and Dieticians in the various health facilities about their role in the care of TB patients. DOTS Corner Nurses should also be sensitized about the supportive role of Nutrition Officers and Dieticians in TB care.
- TB patients should receive nutritional assessment at the beginning of their treatment and treatment should be monitored using Body-Mass Index (BMI) as well as sputum.
- Nutrition officers and Dieticians should train their colleague DOTS Corner Nurses to be able to do nutritional assessments of their patients and to provide appropriate nutritional counselling as part of their care.
- Patient Enabler's package should be properly applied to provide nutritious food supplements for TB patients to aid their response to treatment. Where available TB patients should be supplied with existing food packages being distributed for malnourished persons in health facilities.
- When available the NTP would procure nutritious food supplies for distribution nationwide using food vouchers or coupons from specific centralised stores.
- The NTP is already collaborating with the Nutrition Department of Ghana Health Service to develop guidelines for implementation of this intervention.

Identification of a Regional TB Referral Clinician

To deliver high value interventions for TB patients, it is important that clinical care for TB patients is improved. TB patients should now no longer be left at the mercy of DOTS Corner staff that does not have appropriate qualifications to manage co-morbidities that arise during the treatment of TB.

A review of co-morbidities developing in TB patients during treatment revealed significant impact of diseases such as Diabetes mellitus, Liver diseases and HIV on the outcomes of treatment. It is as such important that Clinicians are identified at district and regional levels that can be called upon to evaluate and manage TB patients with other co-morbidities during their treatment.

The Regional TB Referral Clinician should be preferably a Physician Specialist or Senior Medical Officer established in the Regional Hospital with an interest in Respiratory medicine of infectious diseases. He or she should be already supporting the care of TB patients in the Regional Hospital. The roles of this clinician shall include but not be limited to the following:

- Reviewing national TB treatment protocols and guidelines to in turn train other clinicians in the regional hospital and the region to be able to appropriately diagnose and manage TB patients
- Supervise the clinical care of TB patients in the Regional Hospital including all complicated and drug resistant TB cases
- Analyse and interpret medical data and clinical notes of patients in order to ensure the right clinical decisions have been made during treatment of complicated and drug resistant TB cases.
- Be the Referral Clinician for complex medical conditions arising in TB patients
- Participate in regional quarterly review meetings, trainings, national stakeholder meetings and trainings

RECOMMENDATIONS

Regional Health Directorate

- NTP and RHMT should create budget line for disbursement of funds to Ridge Regional Hospital as a 'district' outlining clear activities to be undertaken including hospital based case finding, improvement of clinical care for TB patients for each quarter and supervision of other hospitals in Accra Metro. RHMT should provide targets for Hospital and should supervise activities.
- Medical Director of Regional Hospital and the TB Regional Referral Clinician should be invited to participate in National and Regional TB Review Meetings to improve collaboration and implementation of R10 activities.
- Dates for Regional TB Quarterly Review Meetings should be fixed and schedule maintained for consistency in January, April, July October. These meetings should be used to improve the knowledge and skills of DTCs and ITCs to ensure better service in facilities
- RHMT should facilitate linkages between Ridge Hospital and other hospitals to ensure better follow up of TB patients. Linkages should be re-enforced during the scheduled quarterly review meetings.

- Locally sensitive information materials e.g. audio or video presentations should be produced for use in all OPDs to inform and educate waiting patients on cough symptoms and hygiene. This will also sensitize staff to identify 'coughers' to be screened.
- To improve TB suspects/patient tracking, all Sputum Smear Requests (TB 05) forms should be filled-in with a functioning cell phone number of the suspect/patient or a contact person through whom they can be reached.
- DTCs and ITCs should be encouraged to repeatedly visit labs to collect and follow up on persons who have not come for their sputum reports using the phone numbers recorded on the sputum request forms.
- RHMT should request Nutrition Officers in various facilities to collaborate with DOTS Corner staff to assess all TB patients using Body-Mass Index (BMI) and to provide appropriate nutritional counselling and support for TB patients. This will facilitate the use of patient's Enabler's Package for structured nutritional support for TB patients
- To disseminate information among all DTCs and ITCs about identifying all drug resistant TB suspects and to send samples for culture and DST in the Korle Bu Hospital Chest Clinic and NMIMR Laboratories.
- Laboratory Contact Persons should be introduced to all DTCs and ITCs and their phone numbers provided so they can be reached.
- RHMT should ensure a system for specimen collection and transport to laboratories and feedback mechanism to ensure prompt delivery of results to clinicians for clinical decision-making.
- To work hard on maintaining defaulter prevention activities and keep default rates at their lowest using Treatment supporters & CHO's.

Ridge Regional Hospital

- Ridge Regional Hospital has identified a Regional Referral Clinician – Dr Henrietta Fiscian – who will be the Region's TB Clinical Expert to supervise the clinical care of TB in the region. This appointment was done in consultation with the Medical Director, Head of Department of Medicine and the ITC.
- ITC should repeatedly visit labs to collect and follow up on persons who have not come for their sputum reports.
- Ensure that Sputum Smear Requests (TB 05) forms are filled in with patient's checked and functioning cell phone numbers or checked phone number of a contact person of patient
- Involve the Nutrition Officers in the Hospital to support the Nutritional Assessment Counselling and Support for TB patients
- The DOTS Corner should be supported to do more Community Based TB Care activities and case finding including contact tracing.

VOLTA REGION

Persons Met

- Dr Winfred Ofosu – Deputy Director Public Health
- Mr Evans Attivor – Regional TB Coordinator
- Mr Simon Dzokoto – Clinical Information & M & E Officer
- Mr Pius Abgeviade – Regional TB M & E Officer
- Dr Agbeme – Orthopaedic Surgeon, Volta Regional Hospital
- Dr Jerry Doe – Medical Officer, Accidents & Emergency, Volta Regional Hospital
- Mrs Keh – DDNS, Volta Regional Hospital

Summary of Observations and Discussions

Hospital-based TB Case Finding

Volta Region has introduced the concept of active TB case finding in some district hospitals across the region, which has seen some improvement in numbers of TB cases notified in 2011.

- All district hospitals are currently implementing OPD based TB case finding upon the initiative of the RHMT. Some other health facilities at lower levels have also been added on. This is in support of the active TB case finding.
- Health education is done daily by Health Information Officers in district hospitals. These officers should be taught the importance of cough, as a symptom for TB disease which should be emphasised.
- All TB suspects (persons with a cough irrespective of the duration: 24 hours up to 2 weeks and beyond) should be actively identified and screened using the TB Screening Questionnaire. An OPD Attendant if available should immediately go along with confirmed suspects to the laboratory for sputum smear microscopy whilst their position is maintained in the queue as they wait for their turn to see the OPD clinician for whatever presenting complaints.
- A cough register should be kept in which all persons who have been sent to the laboratory with cough symptoms should be registered. Their contact details – traceable residential address and active mobile phone number – should be entered in the register with their name. This is to facilitate tracing in the event of the person not coming back for their results.
- The Institutional TB Coordinator (ITC) as part of their routine duties should daily go through the Cough Register in the OPD and synchronise this with the Laboratory Register in order to identify all new TB cases to be treated, persons who have not come for their results to be tracked (Initial Defaulters) and possible drop-outs from the OPD.
- In health facilities without laboratories, sputum is collected, stored and transported to the next diagnostic facility by the DTC.
- Suspects have their contact phone numbers recorded on the TB 05 Request forms to facilitate patient tracing when results are ready.
- Available Community-Based Volunteers are used to support this intervention.

Pharmacy-Based TB Case Finding

Upon the initiative of the RHMT, some private pharmacists and chemical shop owners in Ho have been sensitized on how to probe for cough symptoms and are involved in pharmacy-based TB case finding among persons coming to buy cough mixtures from their facilities. Registers have been provided for them to document the details of persons who are referred to laboratories with cough symptoms.

This is a laudable initiative which and the region is encouraged to supervise this activity intensely and to assess the yield of this intervention soon.

Contact Tracing

In spite of the introduction of active TB case finding several facilities in the region, systematic tracing of contacts of diagnosed TB cases is not being done. To improve TB case finding it is important that Health Care Workers (HCW) conduct contact-tracing activities to identify TB suspects who live in the communities with index TB patients. This will serve to identify TB patients early before they develop significant symptoms.

- A HCW (Clinical nurse, Public Health Nurse, Community Health Nurse or Community-Based Surveillance Officer) associated with the DOTS Corner in the facility where the new TB patient is receiving their treatment should be trained to conduct contact tracing during the home verification visit done prior to initiation of treatment for newly diagnosed TB patients. This activity should be done in collaboration with the patient in order to avoid creating a stigmatising situation for the patient in their household.
- All TB suspects should be invited to visit the health facility lab the next day with a sputum request form and sputum for AFB testing
- All contacts identified and screened during the home visit should be registered in the Contact Screening Register. This is to ensure follow up on all persons screened in spite of their immediate TB test results.

Drug Resistant Tuberculosis

To improve case finding of drug resistant TB patients the NTP recommends the following groups of patients on TB treatment as suspects for drug resistant TB patients. These 'suspects' should provide sputum for culture and drug sensitivity testing (DST) for *Mycobacterium tuberculosis*.

- **All CAT I cases who are sputum smear positive at Month 3.** They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified appropriately when results become available.
- **All Retreatment TB Cases.** They should submit sputum samples for culture and DST before starting CAT II treatment. Their treatment would be modified accordingly by the Regional Referral Clinician when results become available
- All HIV positive TB patients who are smear positive at Month 2 of TB treatment. They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified when results become available.

These recommendations have been put in place as part of implementing programmatic management of drug resistant tuberculosis in Ghana. They arise because the NTP and the global TB community places a high value on early detection of drug resistant TB cases, prevention of deaths as outcomes of TB treatment and transmission of drug resistant TB as a result of delayed diagnosis of resistant TB.

Capacity of the Regional Hospital Laboratory to perform TB cultures is currently weak. This capacity exists in Accra (Korle Bu Chest Clinic and NMIMR Bacteriology Labs) and Koforidua Regional Hospital Lab and the region is encouraged to send samples to these places while steps are taken to equip the Regional Hospital for this activity.

Regional Hospital TB Activities

TB control activities in the Regional Hospital have been recently observed to weaken. TB case finding has reduced. The numbers of cases being referred to the laboratory for sputum smear microscopy has reduced. This situation may be arising from the dire human resource situation that the Regional Hospital is currently facing.

- The Medical Director of the Regional Hospital should be encouraged to increase interest in TB activities in the hospital.
- The DOTS Corner staff should be supported to do more visible TB control activities in the hospital
- There should be more frequent OPD educational activities on TB to sensitise patients and staff to report cough symptoms and be screened for TB.

Laboratory

To improve patient tracking and prevent initial default of suspects who test smear positive for TB the following recommendations have been proposed to for all laboratories.

- All Sputum Smear Request Forms (TB 05) should come with patient's contact telephone number so that patients can be contacted to come for their results when these are ready.
- A tracking system can be established for sputum smear positive patients so that they can be sent text messages to report for their results and for follow up visits.
- There is a PCR machine in the molecular lab (COBAS AmpliPrep), which can be used for molecular diagnosis of TB. This would require the purchasing of specialised reagents for the machine.

The Regional Laboratory Focal Person should disseminate all these guidelines to all the labs performing smear microscopy.

Nutritional Assessment and Counselling Support for TB patients

TB patients in Ghana have been identified as being largely malnourished hence the introduction of the Nutritional Assessment and Counselling Support (NACS) intervention for TB patients. This intervention is based on the same principles of NACS being implemented among people living with HIV in Ghana and coordinated by the Nutrition Department of Ghana Health Service. To ensure effective implementation the following activities should be conducted:

- Sensitize Nutrition Officers and Dieticians in the various health facilities about their role in the care of TB patients. DOTS Corner Nurses should also be sensitized about the supportive role of Nutrition Officers and Dieticians in TB care.
- TB patients should receive nutritional assessment at the beginning of their treatment and treatment should be monitored using Body-Mass Index (BMI) as well as sputum.
- Nutrition officers and Dieticians should train their colleague DOTS Corner Nurses to be able to do nutritional assessments of their patients and to provide appropriate nutritional counselling as part of their care.
- Patient Enabler's package should be properly applied to provide nutritious food supplements for TB patients to aid their response to treatment. Where available TB patients should be supplied with existing food packages being distributed for malnourished persons in health facilities.
- When available the NTP would procure nutritious food supplies for distribution nationwide using food vouchers or coupons from specific centralised stores.
- The NTP is already collaborating with the Nutrition Department of Ghana Health Service to develop guidelines for implementation of this intervention.

Identification of a Regional TB Referral Clinician

As part of care, TB patients should receive appropriate clinical care especially for persons developing co-morbidities during TB treatment. TB patients should be reviewed by Clinicians not be seen only by DOTS Corner staff that do not have appropriate skills to manage co-morbidities. Clinicians are needed at district and regional levels that can be called upon to evaluate and manage TB patients with other co-morbidities during their treatment.

The Regional TB Referral Clinician should be preferably a Physician Specialist or Senior Medical Officer established in the Regional Hospital with an interest in Respiratory medicine of infectious diseases. He or she should be already supporting the care of TB patients in the Regional Hospital. The roles of this clinician shall include but not be limited to the following:

- Reviewing national TB treatment protocols and guidelines to in turn train other clinicians in the regional hospital and the region to be able to appropriately diagnose and manage TB patients
- Supervise the clinical care of TB patients in the Regional Hospital including all complicated and drug resistant TB cases
- Analyse and interpret medical data and clinical notes of patients in order to ensure the right clinical decisions have been made during treatment of complicated and drug resistant TB cases.
- Be the Referral Clinician for complex medical conditions arising in TB patients
- Participate in regional quarterly review meetings, trainings, national stakeholder meetings and trainings

Dr Jerry Doe, the Medical Officer-in-Charge of the Emergency Department who also doubles as the Medical Officer for the ART Clinic has been proposed as the regional Referral Clinician. Discussions with him show that he is not the right person at this time for this position. He is also currently overwhelmed by his duties and may not be able to

meet the demands of this position. It is recommended that another Medical Officer preferably in the Municipal Hospital be considered for this position.

RECOMMENDATIONS

Regional Health Directorate

- The RHMT should review TB control activities in the Regional Hospital, as there is not enough capacity for strengthening clinical care of TB patients. The quality of DOTS should be improved and supervision of services should be increased.
- NTP and RHMT should create budget line for disbursement of funds to Volta Regional Hospital as a 'district' outlining clear activities to be undertaken including hospital based case finding, improvement of clinical care for TB patients for each quarter. RHMT should provide targets for Hospital and should supervise activities.
- Medical Director of Regional Hospital and the Regional Referral Clinician should be invited to participate in National and Regional TB Review Meetings to improve collaboration and implementation of R10 activities.
- Regular Regional TB Quarterly Review Meetings should be held and the dates communicated to all stakeholders to ensure full participation. These meetings should be used to improve the knowledge and skills of DTCs and ITCs to ensure better service in facilities.
- Regional Hospital should be supported to systematically structure the OPD-based TB case finding intervention using the national guidelines.
- RHMT should facilitate linkages between Regional Hospital and District Hospitals to ensure better follow up of TB patients. Linkages should be re-enforced during the scheduled quarterly review meetings where the Regional Hospital should participate.
- Locally sensitive information materials e.g. audio or video presentations should be produced for use in all OPDs to inform and educate waiting patients on cough symptoms and hygiene. This will also sensitize staff to identify 'coughers' to be screened.
- RHMT should review data accruing from OPD-based TB case finding intervention in place in the district hospitals and results shared with the NTP
- To improve TB suspects/patient tracking, all Sputum Smear Requests (TB 05) forms should be filled-in with a functioning cell phone number of the suspect/patient or a contact person through whom they can be reached.
- DTCs and ITCs should be encouraged to repeatedly visit labs to collect and follow up on persons who have not come for their sputum reports using the phone numbers recorded on the sputum request forms.
- RHMT should request Nutrition Officers in various facilities to collaborate with DOTS Corner staff to assess all TB patients using Body-Mass Index (BMI) and to provide appropriate nutritional counselling and support for TB patients. This will facilitate the use of patient's Enabler's Package for structured nutritional support for TB patients
- To disseminate information among all DTCs and ITCs about identifying all drug resistant TB suspects and to send samples for culture and DST to KBTH Chest Clinic Laboratory, NMIMR Laboratory or Eastern Regional Hospital Laboratory.
- RHMT should ensure a system for specimen collection and transport to laboratory

- RHMT should identify a Regional Referral Clinician urgently possibly in the Ho Municipal Hospital

Volta Regional Hospital

- Volta Regional Hospital suggested a Regional Referral Clinician – Dr Jerry Doe. In the assessment of the national Team he currently does not have enough skills and expertise to perform this duty. He is also very much overwhelmed by his existing work schedule and would not be able to commit enough time for this role. He however can review TB patients whilst efforts are made to identify another person for this role.
- Management should continually support the DOTS Corner to improve its services for TB patients.
- ITC should repeatedly visit lab to collect and follow up on persons who have not come for their sputum reports.
- Ensure that Sputum Smear Requests (TB 05) forms are filled in with patient's checked and functioning cell phone numbers or checked phone number of a contact person of patient
- Involve the Nutrition Officers in the Hospital to support the Nutritional Assessment Counselling and Support for TB patients
- The Regional Hospital should second a Clinical Nurse to the DOTS Corner to support the Public Health Nurse there.

CENTRAL REGION

Persons Met

- Dr Samuel T. Kwashie – Regional Director of Health Services
- Dr. Eleeza – Deputy Director Public Health
- Mr Charles K. Eshun – Regional TB Coordinator
- Dr B. K. Sabeng– Medical Director, Regional Hospital
- Ms Theodora Otoo – DDNS, Central Regional Hospital
- Mr Adjei-Frimpong – Administrator, Central Regional Hospital
- Dr Dorcas Obiri-Yeboah – Specialist, Central Regional Hospital

Summary of Observations and Discussions

Hospital-based TB Case Finding

To improve TB case finding the NTP recommends the continuation of hospital-based TB case finding intervention on-going in the facility to actively identify TB suspects from persons attending Out Patient Departments (OPD) in all hospitals.

- Health education done daily at OPDs should be used to stress the importance of cough, as a symptom for TB disease.
- All persons with a cough of duration more than 24 hours with other symptoms and 2 weeks without other symptoms qualifies as a TB suspect
- All TB suspects should be actively identified and screened using a checklist (TB Screening Questionnaire). Suspects should immediately go to the laboratory for sputum smear microscopy whilst their position is maintained in the queue as they wait for their turn to see the OPD clinician for whatever presenting complaints.
- A cough register should be kept in which all persons who have been sent to the laboratory with cough symptoms should be registered. Their contact details – traceable residential address and active mobile phone number – should be entered in the register with their name. This is to facilitate tracing in the event of the person not coming back for their results.
- The Institutional TB Coordinator (ITC) as part of their routine duties should daily go through the Cough Register in the OPD and synchronise this with the Laboratory Register in order to identify all new TB cases to be treated, persons who have not come for their results to be tracked (Initial Defaulters) and possible drop-outs from the OPD.

SOPs for this activity are available and will be provided to the region for distribution and use.

Pharmacy-Based TB Case Finding

NTP recommends the engagement of some private pharmacies and chemical shops in the regional capital and other big towns in the region to introduce a screening programme for persons coming to buy cough mixtures from them. Pharmacists and shop owners should be sensitized on how to probe for cough symptoms among this category of clients

visiting their facilities. Registers should be provided for them to document the details of persons who are referred to laboratories with cough symptoms.

Contact Tracing

With the introduction of active TB case finding among persons visiting the OPDs it is also recommended that contacts of diagnosed TB patients be screened for TB. This will help to improve TB case finding in the region. SOPs are available to guide this activity and will be made available.

- A HCW (Clinical nurse, Public Health Nurse, Community Health Nurse or Community-Based Surveillance Officer) associated with the DOTS Corner in the facility where the new TB patient is receiving their treatment should be trained to conduct contact tracing during the home verification visit done prior to initiation of treatment for newly diagnosed TB patients. This activity should be done in collaboration with the patient in order to avoid creating a stigmatising situation for the patient in their household.
- All TB suspects should be invited to visit the health facility lab the next day with a sputum request form and sputum for AFB testing
- All contacts identified and screened during the home visit should be registered in the Contact Screening Register. This is to ensure follow up on all persons screened in spite of their immediate TB test results.

Drug Resistant Tuberculosis

To improve case finding of drug resistant TB patients the NTP recommends the following groups of patients on TB treatment as suspects for drug resistant TB patients. These 'suspects' should provide sputum for culture and drug sensitivity testing (DST) for *Mycobacterium tuberculosis*.

- **All CAT I cases who are sputum smear positive at Month 3.** They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified appropriately when results become available.
- **All Retreatment TB Cases.** They should submit sputum samples for culture and DST before starting CAT II treatment. Their treatment would be modified accordingly by the Regional Referral Clinician when results become available
- All HIV positive TB patients who are smear positive at Month 2 of TB treatment. They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified when results become available.

These recommendations have been put in place as part of implementing programmatic management of drug resistant tuberculosis in Ghana. They arise because the NTP and the global TB community places a high value on early detection of drug resistant TB cases, prevention of deaths as outcomes of TB treatment and transmission of drug resistant TB as a result of delayed diagnosis of resistant TB.

The Central Regional hospital is willing to admit and manage drug resistant TB cases and requests support for this activity. The medical wards are available to be expanded and upgraded to admit drug resistant TB cases.

The TB Ward in the Cape Coast Municipal Hospital was also suggested as a place for admitting drug resistant TB patients but due to its location its in a bad state and must be renovated before this can be done. The level of deterioration since the last renovation is significant.

Regional Hospital TB Activities

TB control activities in the Central Regional Hospital have been recently seen a significant boost since its accreditation as a Teaching Hospital for The School of Medical Sciences of University of Cape Coast. Dr Dorcas Obiri-Yeboah, an Infectious Diseases Specialist who manages both TB and HIV infected persons is supporting all TB activities. The Medical Director of the Regional Hospital and the hospital management team are keen to see more improvement in TB activities in the hospital. Currently all persons on admission who cough for whatever reason are screened for TB to improve case finding.

Laboratory

To improve patient tracking and prevent initial default of suspects who test smear positive for TB the following recommendations have been proposed to for all laboratories.

- All Sputum Smear Request Forms (TB 05) should come with patient's contact telephone number so that patients can be contacted to come for their results when these are ready.
- A tracking system can be established for sputum smear positive patients so that they can be sent text messages to report for their results and for follow up visits.

The Regional Laboratory Focal Person should disseminate all these guidelines to all the labs performing smear microscopy.

Nutritional Assessment and Counselling Support for TB patients

TB patients in Ghana have been identified as being largely malnourished hence the introduction of the Nutritional Assessment and Counselling Support (NACS) intervention for TB patients. This intervention is based on the same principles of NACS being implemented among people living with HIV in Ghana and being coordinated by the Nutrition Department of Ghana Health Service.

To ensure effective implementation of this intervention the following activities should be conducted:

- Sensitize Nutrition Officers and Dieticians in the various health facilities about their role in the care of TB patients. DOTS Corner Nurses should also be sensitized about the supportive role of Nutrition Officers and Dieticians in TB care.
- TB patients should receive nutritional assessment at the beginning of their treatment and treatment should be monitored using Body-Mass Index (BMI) as well as sputum.

- Nutrition officers and Dieticians should train their colleague DOTS Corner Nurses to be able to do nutritional assessments of their patients and to provide appropriate nutritional counselling as part of their care.
- Patient Enabler’s package should be properly applied to provide nutritious food supplements for TB patients to aid their response to treatment. Where available TB patients should be supplied with existing food packages being distributed for malnourished persons in health facilities.
- When available the NTP would procure nutritious food supplies for distribution nationwide using food vouchers or coupons from specific centralised stores.
- The NTP is already collaborating with the Nutrition Department of Ghana Health Service to develop guidelines for implementation of this intervention.

Identification of a Regional TB Referral Clinician

A Regional TB Referral Clinician is needed to support care in the Regional Hospital. This person should be preferably a Physician Specialist or Senior Medical Officer established in the Regional Hospital with an interest in Respiratory medicine of infectious diseases and should be already supporting the care of TB patients in the Regional Hospital. The roles of this clinician shall include but not be limited to the following:

- Reviewing national TB treatment protocols and guidelines to in turn train other clinicians in the regional hospital and the region to be able to appropriately diagnose and manage TB patients
- Supervise the clinical care of TB patients in the Regional Hospital including all complicated and drug resistant TB cases
- Analyse and interpret medical data and clinical notes of patients in order to ensure the right clinical decisions have been made during treatment of complicated and drug resistant TB cases.
- Be the Referral Clinician for complex medical conditions arising in TB patients
- Participate in regional quarterly review meetings, trainings, national stakeholder meetings and trainings.

This Clinician will support the delivery of high value interventions for TB through improved clinical care for TB patients. Management of co-morbidities developing in TB patients during TB treatment such as Diabetes mellitus, Liver diseases and HIV will be prioritized. It is also important that Clinicians are identified at district levels that can be called upon to evaluate and manage TB patients with other co-morbidities during their treatment. The Medical Director of the Regional Hospital and his team recommended Dr Dorcas Obiri-Yeboah for this role. This was agreed to by the Regional Director of health Services, Deputy Director Public Health and Regional TB Coordinator.

RECOMMENDATIONS

Regional Health Directorate

- A budget line should be created for disbursement of funds to Central Regional Hospital as a ‘district’ outlining clear activities to be undertaken including hospital based case finding, improvement of clinical care for TB patients for each quarter. RHMT should provide targets for Hospital and should supervise activities.

- Medical Director of Regional Hospital and Regional Referral Clinician should be invited to participate in National and Regional TB Review Meetings to improve collaboration and implementation of R10 activities.
- Regular Regional TB Quarterly Review Meetings should be held and the dates communicated to all stakeholders to ensure full participation and adherence. These meetings should be used to improve the knowledge and skills of DTCs and ITCs to ensure better service in facilities
- RHMT should facilitate linkages between Regional Hospital and District Hospitals to ensure better follow up of TB patients. This should be reinforced during the scheduled quarterly review meetings.
- Locally sensitive information materials e.g. audio or video presentations should be produced for use in all OPDs to inform and educate waiting patients on cough symptoms and hygiene. This will also sensitize staff to identify 'coughers' to be screened.
- All Sputum Smear Requests (TB 05) forms should be filled-in with a functioning cell phone number of the suspect/ patient or a contact person through whom they can be reached.
- DTCs and ITCs should be encouraged to repeatedly visit labs to collect and follow up on persons who have not come for their sputum reports using the phone numbers recorded on the sputum request forms.
- RHMT should request Nutrition Officers in various facilities to collaborate with DOTS Corner staff to assess all TB patients using Body-Mass Index (BMI) and to provide appropriate nutritional counselling and support for TB patients. This will facilitate the use of patient's Enabler's Package for structured nutritional support for TB patients
- To disseminate information among all DTCs and ITCs about identifying all drug resistant TB suspects and to send samples for culture and DST to KBTH Chest Clinic Laboratory, NMIMR Laboratory or Eastern Regional Hospital Laboratory.
- RHMT should ensure a system for specimen collection and transport to laboratory

Central Regional Hospital

- Dr Dorcas Obiri-Yeboah has been identified as the Regional Referral Clinician.
- Management should continually support the DOTS Corner to improve its services for TB patients.
- OPD-based TB case finding intervention should be structured and done systematically using the national guidelines.
- ITC should repeatedly visit lab to collect and follow up on persons who have not come for their sputum reports.
- Ensure that Sputum Smear Requests (TB 05) forms are filled in with patient's checked and functioning cell phone numbers or checked phone number of a contact person of patient
- Involve the Nutrition Officers in the Hospital to support the Nutritional Assessment Counselling and Support for TB patients
- Encourage all TB patients to register on the National Health Insurance Scheme to have coverage for co-morbidities.

WESTERN REGION

Persons Met

- Dr Kweku Karikari – Deputy Director Public Health
- Dr Atsu Dodor – Deputy Director Clinical Care
- Mr Newton – Regional TB Coordinator
- Mr Murtala Mohammed – Regional TB M & E Officer
- Dr Anthony – Head, Department of Medicine, Effia-Nkwanta Regional Hospital

Summary of Observations and Discussions

Hospital-based TB Case Finding

To improve TB case finding the NTP recommends the introduction of hospital-based TB case finding intervention to actively identify TB suspects from persons attending Out Patient Departments (OPD) in all hospitals.

- Health education done daily at OPDs should be used to stress the importance of cough, as a symptom for TB disease.
- All persons with a cough of duration more than 24 hours with other symptoms and 2 weeks without other symptoms qualifies as a TB suspect
- All TB suspects should be actively identified and screened using a checklist (TB Screening Questionnaire). Suspects should immediately go to the laboratory for sputum smear microscopy whilst their position is maintained in the queue as they wait for their turn to see the OPD clinician for whatever presenting complaints.
- A cough register should be kept in which all persons who have been sent to the laboratory with cough symptoms should be registered. Their contact details – traceable residential address and active mobile phone number – should be entered in the register with their name. This is to facilitate tracing in the event of the person not coming back for their results.
- The Institutional TB Coordinator (ITC) as part of their routine duties should daily go through the Cough Register in the OPD and synchronise this with the Laboratory Register in order to identify all new TB cases to be treated, persons who have not come for their results to be tracked (Initial Defaulters) and possible drop-outs from the OPD.

SOPs for this activity are available and will be provided to the region for distribution and use.

Pharmacy-Based TB Case Finding

NTP recommends the engagement of some private pharmacies and chemical shops in the regional capital and other big towns in the region to introduce a screening programme for persons coming to buy cough mixtures from them. Pharmacists and shop owners should be sensitized on how to probe for cough symptoms among this category of clients visiting their facilities. Registers should be provided for them to document the details of persons who are referred to laboratories with cough symptoms.

Contact Tracing

With the introduction of active TB case finding among persons visiting the OPDs it is also recommended that contacts of diagnosed TB patients be screened for TB. This will help to improve TB case finding in the region. SOPs are available to guide this activity and will be made available.

- A HCW (Clinical nurse, Public Health Nurse, Community Health Nurse or Community-Based Surveillance Officer) associated with the DOTS Corner in the facility where the new TB patient is receiving their treatment should be trained to conduct contact tracing during the home verification visit done prior to initiation of treatment for newly diagnosed TB patients. This activity should be done in collaboration with the patient in order to avoid creating a stigmatising situation for the patient in their household.
- All TB suspects should be invited to visit the health facility lab the next day with a sputum request form and sputum for AFB testing
- All contacts identified and screened during the home visit should be registered in the Contact Screening Register. This is to ensure follow up on all persons screened in spite of their immediate TB test results.

Drug Resistant Tuberculosis

The Communicable Diseases Unit (CDU) has already on its register diagnosed drug resistant TB patients one of whom is currently on treatment. To improve case finding of drug resistant TB patients the NTP recommends the following groups of patients on TB treatment as suspects for drug resistant TB patients. These 'suspects' should provide sputum for culture and drug sensitivity testing (DST) for *Mycobacterium tuberculosis*.

- **All CAT I cases who are sputum smear positive at Month 3.** They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified appropriately when results become available.
- **All Retreatment TB Cases.** They should submit sputum samples for culture and DST before starting CAT II treatment. Their treatment would be modified accordingly by the Regional Referral Clinician when results become available
- All HIV positive TB patients who are smear positive at Month 2 of TB treatment. They should continue on continuation phase treatment and produce sputum for culture and DST. Their treatment would be modified when results become available.

These recommendations have been put in place as part of implementing programmatic management of drug resistant tuberculosis in Ghana. They arise because the NTP and the global TB community places a high value on early detection of drug resistant TB cases, prevention of deaths as outcomes of TB treatment and transmission of drug resistant TB as a result of delayed diagnosis of resistant TB.

The CDU has been recommended for renovation by the NTP to be used as an admission facility for DR-TB patients. Capacity would be built for staff in the CDU to be able to effectively manage this category of patients.

Regional Hospital TB Activities

TB control activities in Effia Nkwanta Regional Hospital have always been prioritized. More support is however needed from management and clinicians in the hospital to follow national guidelines of the diagnosis of TB patients.

Laboratory staff are not interested in conducting sputum smear microscopy for TB and usually present various unfounded reasons. This has created a situation where only 1 elderly laboratory technician conducts TB tests for the hospital. This situation must be addressed quickly.

Laboratory

The hospital lab is currently being renovated to accommodate increased capacity expected to be put in the region. The hospital has been earmarked as a treatment centre of drug resistant TB cases. The new laboratory will be equipped with molecular and culture equipment.

To improve patient tracking and prevent initial default of suspects who test smear positive for TB the following recommendations have been proposed to for all laboratories.

- All Sputum Smear Request Forms (TB 05) should come with patient's contact telephone number so that patients can be contacted to come for their results when these are ready.
- A tracking system can be established for sputum smear positive patients so that they can be sent text messages to report for their results and for follow up visits.

The Regional Laboratory Focal Person should disseminate all these guidelines to all the labs performing smear microscopy.

Nutritional Assessment and Counselling Support for TB patients

TB patients in Ghana have been identified as being largely malnourished hence the introduction of the Nutritional Assessment and Counselling Support (NACS) intervention for TB patients. This intervention is based on the same principles of NACS being implemented among people living with HIV in Ghana and being coordinated by the Nutrition Department of Ghana Health Service.

To ensure effective implementation of this intervention the following activities should be conducted:

- Sensitize Nutrition Officers and Dieticians in the various health facilities about their role in the care of TB patients. DOTS Corner Nurses should also be sensitized about the supportive role of Nutrition Officers and Dieticians in TB care.
- TB patients should receive nutritional assessment at the beginning of their treatment and treatment should be monitored using Body-Mass Index (BMI) as well as sputum.
- Nutrition officers and Dieticians should train their colleague DOTS Corner Nurses to be able to do nutritional assessments of their patients and to provide appropriate nutritional counselling as part of their care.
- Patient Enabler's package should be properly applied to provide nutritious food supplements for TB patients to aid their response to treatment. Where available

TB patients should be supplied with existing food packages being distributed for malnourished persons in health facilities.

- When available the NTP would procure nutritious food supplies for distribution nationwide using food vouchers or coupons from specific centralised stores.
- The NTP is already collaborating with the Nutrition Department of Ghana Health Service to develop guidelines for implementation of this intervention.

Identification of a Regional TB Referral Clinician

Discussions with Dr Anthony, Head of Department of Medicine revealed his personal interest to take up the responsibility of being the Regional TB Referral Clinician. Being a Physician Specialist with an interest in Tuberculosis he is in a good position to offer support to TB care in the hospital. He has already been supporting the care of TB patients in the Regional Hospital.

The roles of this clinician shall include but not be limited to the following:

- Reviewing national TB treatment protocols and guidelines to in turn train other clinicians in the regional hospital and the region to be able to appropriately diagnose and manage TB patients
- Supervise the clinical care of TB patients in the Regional Hospital including all complicated and drug resistant TB cases
- Analyse and interpret medical data and clinical notes of patients in order to ensure the right clinical decisions have been made during treatment of complicated and drug resistant TB cases.
- Be the Referral Clinician for complex medical conditions arising in TB patients
- Participate in regional quarterly review meetings, trainings, national stakeholder meetings and trainings

It is expected that TB patients would now no longer be left at the mercy of DOTS Corner staff that do not have the appropriate expertise to manage co-morbidities that arise during the treatment of TB.

RECOMMENDATIONS

Regional Health Directorate

- NTP and RHMT should create budget line for disbursement of funds to Effia-Nkwanta Regional Hospital as a 'district' outlining clear activities to be undertaken including hospital based case finding, improvement of clinical care for TB patients for each quarter. RHMT should provide targets for Hospital and should supervise activities.
- Medical Director of Regional Hospital and the Regional Referral Clinician should be invited to participate in National and Regional TB Review Meetings to improve collaboration and implementation of R10 activities.
- Regular Regional TB Quarterly Review Meetings should be held and the dates communicated to all stakeholders to ensure full participation. A consistent schedule should be adhered to. These meetings should be used to improve the knowledge and skills of DTCs and ITCs to ensure better service in facilities
- Regional Hospital should be supported to systematically structure the OPD-based TB case finding intervention using the national guidelines.

- RHMT should facilitate linkages between Regional Hospital and District Hospitals to ensure better follow up of TB patients. Linkages should be re-enforced during the scheduled quarterly review meetings where the Regional Hospital should participate.
- Locally sensitive information materials e.g. audio or video presentations should be produced for use in all OPDs to inform and educate waiting patients on cough symptoms and hygiene. This will also sensitize staff to identify 'coughers' to be screened.
- To improve TB suspects/patient tracking, all Sputum Smear Requests (TB 05) forms should be filled-in with a functioning cell phone number of the suspect/patient or a contact person through whom they can be reached.
- DTCs and ITCs should be encouraged to repeatedly visit labs to collect and follow up on persons who have not come for their sputum reports using the phone numbers recorded on the sputum request forms.
- RHMT should request Nutrition Officers in various facilities to collaborate with DOTS Corner staff to assess all TB patients using Body-Mass Index (BMI) and to provide appropriate nutritional counselling and support for TB patients. This will facilitate the use of patient's Enabler's Package for structured nutritional support for TB patients
- To disseminate information among all DTCs and ITCs about identifying all drug resistant TB suspects and to send samples for culture and DST to KBTH Chest Clinic Laboratory, NMIMR Laboratory or Eastern Regional Hospital Laboratory.
- RHMT should ensure a system for specimen collection and transport to laboratory

Effia Nkwanta Regional Hospital

- Dr Anthony, Head of the Department of Medicine has been appointed the Regional Referral Clinician
- Management should continually support the CDU to improve its services for TB patients. Doctors should visit that Unit to see and review patients
- ITC should repeatedly visit lab to collect and follow up on persons who have not come for their sputum reports.
- Ensure that Sputum Smear Requests (TB 05) forms are filled in with patient's checked and functioning cell phone numbers or checked phone number of a contact person of patient
- Involve the Nutrition Officer in the Hospital to support the Nutritional Assessment Counselling and Support for TB patients