BEST PRACTICES ON COMMUNITY-BASED TUBERCULOSIS CARE IN TANZANIA

Geita district experience on involving sputum fixers in increasing TB case notification

2013
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ADDO</td>
<td>Accredited Drug Dispensing Outlets</td>
</tr>
<tr>
<td>AFB</td>
<td>Acid- Fast Bacilli</td>
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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<tr>
<td>CHMT</td>
<td>Council Health Management Team</td>
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<tr>
<td>DAS</td>
<td>District Administrative Secretary</td>
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<tr>
<td>DED</td>
<td>District Executive Director</td>
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<tr>
<td>DMO</td>
<td>District Medical Officer</td>
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<td>DOT</td>
<td>Directly Observed Treatment</td>
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<tr>
<td>DTLC</td>
<td>District Tuberculosis and Leprosy Coordinator</td>
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<tr>
<td>FIDELIS</td>
<td>Fund for Innovative DOTs Expansion through Local Initiative to Stop TB</td>
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<td>MDR TB</td>
<td>Multi- Drug Resistant Tuberculosis</td>
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<tr>
<td>MOHSW</td>
<td>Ministry of Health and Social Welfare</td>
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<tr>
<td>MUHAS</td>
<td>Muhimbili University of Health and Allied Sciences</td>
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<td>NTLP</td>
<td>National Tuberculosis and Leprosy Programme</td>
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<tr>
<td>PATH</td>
<td>Project for Appropriate Technology for Health</td>
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<tr>
<td>PCT</td>
<td>Patients Centred Treatment</td>
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<tr>
<td>RAS</td>
<td>Regional Administrative Secretary</td>
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<tr>
<td>RHMT</td>
<td>Regional Health Management Team</td>
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<tr>
<td>RMO</td>
<td>Regional Medical Officer</td>
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<tr>
<td>RTLC</td>
<td>Regional Tuberculosis and Leprosy Coordinator</td>
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<tr>
<td>TB</td>
<td>Tuberculosis</td>
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<tr>
<td>TLCU</td>
<td>Tuberculosis and Leprosy Central Unit</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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Acknowledgement

Gratitude and appreciation goes to the Ministry of Health and Social Welfare (MOHSW) through the National Tuberculosis and Leprosy program (NTLP) under Global Fund ATM support for the opportunity provided to me as a consultant to document best practices in community-based TB care in Tanzania which took place in Geita district.

I would like to express my gratitude to Geita District authority which in one way or another supported the implementation of community TB care through involving sputum fixers in TB control. Particularly, I would like to thank Mr. John Karoko (District TB and Leprosy Coordinator) and Mr. Issa Makame Issa (District TB/HIV Officer) for their coordination of the initiative in the district and for their cooperation to ensure availability of the required information. They are also appreciated for linking the consultant to health workers, sputum fixers and TB patients at health facilities for interviews. Sincere gratitude is also expressed to Mr. Masumbuko Marunde Mpenzwa and Mr. Filbert John Kongolo who are sputum fixers in Geita district; TB patients who were on TB treatment and they were diagnosed through the work of sputum fixers; and laboratory staff (Ms. Benifrida Thomas Msaki at Nzera diagnostic centre, Mr. Alstides Katabazi and Mr. Malunde Mpendwa at Kashishi diagnostic centre) and other health workers who provided all required information concerning sputum fixing in Geita district.

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Finally, I take this opportunity to thank all those who provided comments on the various drafts shared to them. Specifically, I would like to recognize contributions from Dr. B.F. Njako and other staff members at NTLP and PATH.

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Consultant
Executive summary

Tuberculosis (TB) is among the top ten causes of global mortality and morbidity accounting for about 26% of all preventable deaths. It is the third leading killer of adults behind Malaria and Acquired Immune-deficiency syndrome (AIDS). In Tanzania, the average of 61,500 new TB patients is notified annually. The rapid increase of TB in Tanzania is mainly attributed by the HIV epidemic, but factors like population growth and urban overcrowding have also contributed.

Ministry of Health and Social Welfare (MOHSW) through the National TB and Leprosy Programme (NTLP) has been strengthening TB control strategies including involving communities in TB control at their localities.

The MOHSW wishes to determine contribution of community based TB activities in TB control in the country. This documentation therefore aimed at determining the contribution of community TB control activities in Mwanza. Among the nine districts in Mwanza, Geita was chosen for the documentation because it has consistently maintained a high number of new smear positive cases compared to other districts in the region.

Documentation of this community TB care best practices involved collection of relevant information on community TB activities in the district from the TB and Leprosy/HIV coordinators; interviewing health care providers and sputum fixers at health facilities where sputum fixing and investigations are conducted; and TB patients who were on TB treatment course and were diagnosed through sputum fixation initiative; and going through official data in relation to TB control in the district for the past ten years.

Sputum fixation was found to be the only community based initiative for TB control in Geita. Sputum fixers played a crucial role in increasing the number of TB case notification in the district. From 2009 - 2012, only two sputum fixers were able to contribute smear positive TB patients between 11.2 – 18.6 percent in TB case notification of the district. Sputum fixing has proven to be an effective approach in hard to reach areas and where there are no TB diagnostic centres. It enhances early detection and thus reduction of TB transmission rate in the respective communities. With effective transport and better allowances, sputum fixers would be more efficient in terms of reaching more people and reducing TB transmission.
1. Introduction

Tuberculosis (TB) is among the top ten causes of global mortality and morbidity accounting for about 26% of all preventable deaths. It is the third leading killer of adults behind Malaria and Acquired Immune-deficiency syndrome (AIDS). Tanzania is notifying more than 61,500 new TB patients per year. The rapid increase of TB in Tanzania is mainly attributed by the HIV epidemic, but factors like population growth and urban overcrowding have also contributed.

Ministry of Health and Social Welfare (MOHSW) through the National TB and Leprosy Programme (NTLP) has been strengthening TB control strategies including involving communities in TB control at their localities. Communities have been facilitated to increase early TB case detection through community sensitization on symptoms and signs of TB disease; TB contact tracing; bringing TB suspects for investigations, supporting TB patients during treatment and sputum fixing.

Mwanza is one of the regions in which the number of new TB cases has been significantly increasing. On average the region has been notifying more than 5550 new TB cases per year in the past three years. This number is ranking Mwanza the second among the top ten regions with high TB burden in the country following Dar es Salaam which is notifying more than 13,600 TB cases (24%) per year1.

Geita district is one of the nine districts in Mwanza region which has high number of TB case notification especially smear positive cases compared to other districts in the region. Basing on this, Geita was selected and visited to document community TB care best practices.

2. Structure of the National Tuberculosis and Leprosy control Programme in Tanzania

Tuberculosis control activities in the country are centrally managed by the Tuberculosis and Leprosy Central Unit (TLCU) at the Ministry of Health and Social Welfare (MoHSW). TLCU is responsible for developing policy guidelines, planning, monitoring, evaluation, resource mobilization and financial management at national level and oversee TB control services at regional and district level. The TLCU advises the Regional Health Management Teams (RHMTs) and other partners on all matters pertaining control of TB and TB/HIV. The TLCU is also responsible for mentoring of Regional TB and Leprosy Coordinators

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1 NTLP database (2009 – 2012)
(RTLCs), District TB and Leprosy Coordinators (DTLCs) and TB/HIV officers and other staff during supervision visits and meetings.

The RTLC is administratively answerable to the Regional Medical Officer (RMO) and to TLCU on technical issues. The RTLC is responsible for management and co-ordination of all TB and TB/HIV activities in the region including supportive supervision to districts.

At the district level, the DTLC and TB/HIV Officer/Coordinator provide technical support to Council Health Management Teams (CHMTs) and they are answerable to the District Medical Officer (DMO). They are responsible for management and co-ordination of all TB control activities including TB/HIV and MDR TB in the district. They also oversee the implementation of community TB and TB/HIV based care activities. Activities for TB and TB/HIV care and control are integrated in the basic health services, supported and facilitated by the MoHSW in collaboration with councils through training, supportive supervision, provision of drugs, laboratory equipment and reagents.

At the community level, TB and TB/HIV care and control is implemented as part and parcel of routine NTLP activities for DOTs expansion beyond health facilities and community involvement. The NTLP is recommending Patient Centered TB Treatment (PCT) approach as part of community based DOT activities. Health care workers at health facility level are responsible for providing and sustaining the quality of TB and TB/HIV services including quality implementation of PCT for TB and TB/HIV patients. The health care workers are also responsible for overseeing all community TB and TB/HIV activities at community level. All community social support groups for TB and TB/HIV care and control at the community level are working with the guidance and support from health care workers. The patients and communities are empowered to participate in TB and TB/HIV care and control.
All health facilities in the country are supplied with anti-TB drugs and laboratory equipments from MoHSW through NTLP mainly supported by the Global Fund and other partners.

3. Documentation purpose, area and process

3.1 Documentation purpose

The aim of this activity was to document community TB care best practices in high TB burden regions in Tanzania.

3.2 Documentation area

Documentation of community best practices was conducted in Mwanza region. The region was selected on the basis of its good performance in TB case notification, where by Mwanza is one of the two leading regions in which the number of new TB cases has been increasing significantly for consecutive five years. It was noted that among the nine districts in the region, Geita district has a significant high number of new smear positive cases notified for the past five years compared to other districts in the region. Thus Geita was visited to document best practices that may be contributing to the success.

Geita district is dominated by Sengerema district in Mwanza region in its northern and northeastern borders. The district is sharing its southern boundary with Shinyanga region and the western with Kagera region. The district has a population of 807,619 in 7,825 sq. kms total surface area. Administratively, Geita has 35 wards with 163 villages. Economic
activities in Geita district include Mining, fishing and small scale farming. This population is getting health services from 52 health facilities (1 hospital, 9 health centre and 42 dispensaries) of which 13 facilities are DOT centres and 8 are diagnostic centres.

Sputum fixers cover areas around three dispensaries (DOT centres) in Lwamgasa, Nyarugusu and Nkome wards. The populations in these wards are 29,148; 40,589 and 32,726 respectively. Thus fixed sputum smears are usually transported to Kashishi and Nzera diagnostic centres twice a week. The distance from one dispensary to diagnostic centre is between 28 - 35 kms depending on the location of the dispensary.

The region has been supported by PATH – Tanzania for implementation of all TB and TB/HIV control activities and for some laboratory supplies. Anti – TB drugs and major part of laboratory supplies and equipment are supported through the Global Fund.

**Figure 2: Map of Tanzania indicating Mwanza region and Geita district**

3.3 Documentation process

The MoHSW through NTLP as main organizer of this activity hired a consultant to document community best practices in the country. A consultant reviewed NTLP TB control data to identify potential areas for undertaking this activity basing on TB case notification whereby Geita district in Mwanza was selected.

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2 District investment profile (Geita District Council, 2011)
The consultant in collaboration with a National community TB care Coordinator from NTLP, TB/HIV technical officer from PATH – Tanzania, Regional TB/HIV Coordinator (Mwanza) and RTLC (Mwanza) visited the area for documentation.

The district coordinators were interviewed to provide the history of community based activities in the district. The main community based TB control activity in Geita was noted to be Sputum fixing. Sputum fixing approach started in 2006-2008 under FIDELIS (Fund for Innovative DOTs Expansion through Local Initiative to Stop TB) project. After FIDELIS, PATH adapted the approach and continued to implement the initiative to date.

3.4 Data collection

Data collection involved the use of key informants’ in-depth interviews and focus group discussions (FGD). The key people were of three categories:

- Health care providers at selected health facilities in which either sputum samples are being collected or sputum fixing procedures are conducted. The informants were DOT nurses and clinical officers.
- Community volunteers (sputum fixers).
- TB patients that were obtained through sputum fixers.

In total, 6 health care providers, all sputum fixers, and 4 TB patients were interviewed. Additional official data for the past ten years were obtained from NTLP database and various reports in the district.

Generally, data collection activities for documentation of best practices in TB control in Geita district council involved the following:

- Visiting District TB coordinators’ offices and collecting relevant information on community TB activities in the district.
- Meeting and interviewing health care providers and sputum fixers at health facilities where sputum fixing is conducted and TB patients who have been diagnosed with TB through sputum fixers and are currently in TB treatment course.
- Telephone interviews with laboratory technicians in diagnostic centres involved in the approach.
- Going through official data in relation to TB control in the selected health facilities for the past five years.

Figure 3: Documentation team conducting interviews to a DOT nurse (first picture) and sputum fixer (second picture) at Lwamgasa dispensary, in Geita.
4. Community TB care best practice in Geita

4.1 Sputum fixing:
Sputum fixing is one of the laboratory procedures where by a dried smear held by forceps and passed over the flame (smear side up) five times for about four seconds to avoid smear washout.

Sputum fixers are community based volunteers who have been involved in TB control at their communities with specific role of collecting, fixing and transporting fixed sputum smears from hard to reach areas (communities and dispensaries) to the nearest TB diagnostic centres.

4.1.1 Recruitment and Training of sputum fixers
Sputum fixers were originally recruited under the FIDELIS project way back in 2006. A total of 13 sputum fixer were recruited and trained to work in areas with limited access of diagnostic centres. Each sputum fixer was serving the population living in catchment areas of 13 dispensaries and the fixed smears were transported in 8 diagnostic centres. After FIDELIS project, 11 sputum fixers dropped out, and thus only two of them remained and continue serving the population around Lwamgasa, Nyarugusu and Nkome dispensaries. Therefore, two diagnostic centres namely Kashishi and Nzera out of eight are currently receiving fixed smears for TB diagnosis through sputum fixers.

Under FIDELIS project sputum fixing activities were supported including transport allowances for sputum fixers, supplies for sputum fixing, and various enablers like bicycles, sputum boxes and carriers. The FIDELIS project ended in 2008 where by PATH Tanzania took over and provided refresher training to the two sputum fixers for three days.
4.1.2 Recruitment criteria

The sputum fixers were selected basing on the following criteria:

- Trained as medical attendants
- Living in areas with limited access to TB diagnostic centres
- Accepted and respected by the respective members of the community.
- Knows how to read and write.
- Willingness to volunteer for the activity

4.1.3 Training

The training for sputum fixers was done at Muhimbili National Hospital for 5 days. The package included the following components:

- How to receive/approach TB suspects.
- How to document relevant information for clients/TB suspects.
- How to collect and fix sputum from clients/TB suspect and patients.
- How to protect themselves from contracting TB from their clients.
- Safe way of transporting sputum smear.
- Approaches to trace TB treatment defaulters.
- Approaches to trace TB contacts.

4.1.4 Roles of sputum fixers

Sputum fixers target their community awareness activities through house to house visiting approach; community gatherings including open markets (Magulio), political and governmental meetings, fish markets (Mialo), and evangelical congregations. The main role of sputum fixers include:

- Educating and raising community awareness on signs and symptoms of TB through village meetings, house to house visits and at traditional healers’ working environment, markets, churches etc
- Educating and encouraging health workers in Accredited Drug Dispensing Outlets (ADDO) to refer clients with TB symptoms to sputum fixers or nearby health facilities.
- Provide instruction to TB suspects on how to collect sputum for TB investigation.
- Collecting and fixing sputum for diagnostic purposes during TB diagnosis and TB treatment sputum follow up. All smears are labelled for easy identification. One sputum fixer has been fixing the average of 15 -16 smears per week.
• Transporting fixed sputum smears to diagnostic centres: all sputum samples collected at home by sputum fixers and those collected by DOT nurses at the dispensaries/ DOT centres are together transported.
• Collecting TB test results from diagnostic centres: when they bring fixed sputum smears for diagnosis, on the same day they collect laboratory results for previous transported sputum smears.
• Educating traditional healers on signs and symptoms of TB and encouraging them to refer their clients with symptoms to sputum fixers or the nearby health facilities.
• Document and keep records for activities related to sputum fixing in their catchment areas.

To facilitate all the above activities, sputum fixers’ mobile telephone numbers are kept open 24 hours for their clients to reach them at anytime when they have concerns.

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3 Acid-Fast Direct Smear Microscopy, a laboratory training program (WHO, 2000)
4.1.5 Role of laboratory technicians at diagnostic centres

- Receive fixed sputum smears from sputum fixers for TB investigation.
- Record lab TB investigation results.
- Provide TB investigation results to sputum fixers for further actions at the respective dispensaries.
- Provide mentoring and supportive supervision to sputum fixers.

4.1.6 Role of DOT nurses at dispensaries

- Collect sputum specimens and submit to sputum fixers for fixing and transporting them to the diagnostic centres.
- Receive sputum examination results for medical judgement including initiation of TB treatment for smear positives.
- Provide TB medicines and monitor TB patients according to NTLP guidelines.

4.1.7 Enablers and Incentives

Sputum fixers are provided with the following enables and incentives:

- Transport allowance (approximately 5000 per trip usually 2 trips per week). This is the current rate (from 2012). The allowance used to be 125,000Tshs per month, but for sustainability, it was advised to reduce the rate.
- Sputum fixing equipment like slides, carrier/box, dettol/disinfectant, pencil, sputum smear transportation carriers, spirit lamps, wire loops, bags, spirit etc.
- Other equipments like boots, bicycle, and rain coats.
- No incentives have been provided to laboratory staff.
4.2 Findings

4.2.1 TB case notification trends in Geita district

TB case notification (all forms) trends in Geita district from 2003 – 2012

In Geita district the number of TB cases notified was declining from year 2003 to 2005. From year 2006 to 2008 the number has been increasing and started to slightly decrease from 2009 to 2011. Major decline occurred in the year 2011 (See figure 6). According to TB coordinators in Mwanza and Geita, the decline could have been contributed by:

i. The main diagnostic laboratory at Geita district hospital closed in the year 2011 for renovation.

ii. Cessation of TB diagnostic activities at Chikobe health center due to lack of a technician. The centre was previously contributing 7% of district TB notification.

iii. Irregular supplies of laboratory reagents including sputum containers and sulphuric acid.

iv. Reduction of sputum fixers from 12 to 2 in 2009.

Figure 6: TB case notification (all forms) trends in Geita districts from 2003 – 2012

4.2.2 Sputum fixers’ contribution in TB control in Geita district

From 2009 - 2012, only two sputum fixers were able to contribute between 11.2 -18.6 % of smear positive TB case notifications in Geita district. This is an average of 74 smear positive patients per year. Based on the fact that, smear positive TB patients are the most infectious group and that one untreated TB patient can infect 10 to 15 people, this means

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4 NTLP database (2003 – 2012)
that in the four years, sputum fixers reduced the infection to more than 700 people in Geita. This demonstrates a significant contribution of sputum fixers in TB control in Geita. Table 1 and figure 7 below show the contribution of sputum fixers in Geita.

**Table 1: TB case notification (Smear positive) contribution of sputum fixers in Geita districts from 2009 – 2012**

<table>
<thead>
<tr>
<th>Year</th>
<th>Smear positive in Geita</th>
<th>Smear positive from sputum fixers</th>
<th>Contribution (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>526</td>
<td>59</td>
<td>11.2</td>
</tr>
<tr>
<td>2010</td>
<td>614</td>
<td>114</td>
<td>18.6</td>
</tr>
<tr>
<td>2011</td>
<td>485</td>
<td>56</td>
<td>11.5</td>
</tr>
<tr>
<td>2012</td>
<td>401</td>
<td>66</td>
<td>16.5</td>
</tr>
</tbody>
</table>

**Figure 7: TB case notification (Smear positive) and sputum fixers’ contribution in Geita district from 2009 – 2012**

Among sputum smears examined for AFB at Kashishi and Nzera health facilities (the two diagnostic centres which have been receiving sputum smears for examination) for

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NTLP database (2009 – 2012)
consecutive four years, contribution from sputum fixers were by 32.6% (2009), 87% (2010), 45.9% (2011) and 85.8% (2012). See figure 8 (a).

Sputum fixers also contributed to smear positive cases notified at the two diagnostic centres by 45% (2009), 96% (2010), 45% (2011) and 66% (2012). See figure 8 (b)

It is worth noting that, in 2010, there was a huge contribution by sputum fixers to the number of smear positive cases notified in Geita.

Figure 8: Number of sputum smears examined at Kashishi and Nzera diagnostic centres
(a) Number of sputum smears examined per year at Kashishi and Nzera

(b) Number of AFB positive per year at Kashishi and Nzera

6 TB laboratory registers at Nzera and Kashishi health facilities; Sputum fixers district reports; Geita (2009 -2012)
4.2.3 Suspicion index among sputum fixers

Sputum fixers in Geita district managed to bring 1878 TB suspects for investigation from 2009 – 2012, out of those, 295 were TB smear positive. This indicates good suspicion index among sputum fixers. Table 2 below shows the percentages of smear positive results obtained out of identified TB suspects.

Table 2: Number of TB suspects investigated and AFB positive notified under sputum fixing approach

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of TB Suspect (Sputum smears investigated)</th>
<th>Numbers of AFBP</th>
<th>Suspicion index in %</th>
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</thead>
<tbody>
<tr>
<td>2009</td>
<td>291</td>
<td>59</td>
<td>20.3</td>
</tr>
<tr>
<td>2010</td>
<td>794</td>
<td>114</td>
<td>14.4</td>
</tr>
<tr>
<td>2011</td>
<td>338</td>
<td>56</td>
<td>16.6</td>
</tr>
<tr>
<td>2012</td>
<td>455</td>
<td>66</td>
<td>14.5</td>
</tr>
<tr>
<td>Total</td>
<td>1878</td>
<td>295</td>
<td>15.7</td>
</tr>
</tbody>
</table>

4.2.4 Benefits obtained through sputum fixers

Benefits to the public

- Contribution to TB case notification: Sputum fixers have shown to substantially contribute to the total number of new TB case notification in Geita (ranging from 11-18%)
- Enhance early TB case notification and reduce TB transmission in the community: TB cases through sputum fixing have been early notified and initiated TB treatment. For instance, a sputum fixer at Lwamgasa facilitated in TB diagnosis and treatment to one traditional healer and since then, the traditional healer is very much cooperative in referring TB suspects to the sputum fixer.
- Enhance TB control services beyond health facilities.
- Increase community awareness and access to TB care services in the respective areas.
- Contribute to cure rate in the district by enhancing sputum follow up examination among TB patients under treatment.
- Help to following up patients and tracing defaulter.
- Help in relieving the burden of work to the health care providers (they have been supporting DOT nurses to do some works (e.g. keep patients records, provide TB control health education and collecting sputum).
Personal benefits/gains as sputum fixers:

- Highly respected and trusted by the community members. Most of people who suspect themselves or their neighbours with TB symptoms, they do call them to collect sputum sample for fixing and investigation. Their telephone numbers are known to most of people in the involved villages.
- Improved socio-economic conditions (one of the sputum fixers managed to build a house, paid dowry, bought TV, bought 3 goats).
- Knowledge gained help in self/family protection against TB.
- Have built a network of friends with their clients and their relatives.
- Personal satisfaction for changing the lives of those who have been healed from TB after being recruited/identified by the sputum fixers.

4.2.5 Challenges and limitations in relation to sputum fixing approach

Challenges

Apart from the success and many good returns for the communities, sputum fixers are continually faced with many challenges that hamper their efforts to reach more people in their respective communities. They work under difficult conditions and are in reality sacrificing their time working with very little personal gains. Some of the challenges that were expressed by the sputum fixers, health care providers and TB patients include the following:

- Insufficient incentives to sputum fixers as compared to the work load.
- Sputum fixers are forced to pay their own money as fare for areas that cannot be reached by bicycles e.g. reaching small islands.
- Diagnostic centres are not equally distributed in the district that leads to long distance travels. According to WHO standards, the district is supposed to have a minimum of 8 diagnostic centres so that each would save 50,000 -100,000 people and the centre should be accessible within 5 kms. In Geita the centres are not easily accessible to some people because they have to walk up to 35 kms to the centres.
- Transport fare: A sputum fixer living in Nkome ward has been collecting and fixing sputum smears in Nkome islands and transport them back to Nzera diagnostic centre. He needs to pay Tsh. 6000 per trip and he has been travelled at least once per month where by 5 - 6 smears have been transported per trip (per month).
- Few diagnostic technicians, that leads to delayed results.
- Often, laboratories would run out of TB diagnostic reagents, a problem which is normally corrected by the district coordinators, but it contributes in delay of results.
- Poor transport, while travelling very long distance (up 70 Kms for one round trip). This distance illustrate how long the sputum fixers have to travel during
transportation of the sputum smears and the results back to their respective communities.

- Large catchment areas per TB sputum fixer (up to six villages).
- Delay of payments
- Allowances have been paid through sputum fixers’ bank accounts, while banks are located only in Geita town. This leads to inconveniences to them in terms of accessing the money.
- Lack of incentives/ overtime allowances to laboratory technicians (workload).
- Lack of continuity/sustainability especially when the funding organizations withdraw their support due to different reasons.
- Lack of knowledge on MDR TB.
- Lack of community awareness and wrong believes concerning TB disease.

**Limitations**

- Because of time and limited resources, the documenting team did not manage to reach diagnostic centres that are involved in performing sputum microscopy brought by sputum fixers. Laboratory staff were interviewed through telephones.
- Unavailability of data on the work of sputum fixers from 2006 to 2008.

**4.2.6 Lesson learned**

- Sputum fixing has demonstrated a significant contribution in TB case notification (11 – 18% of total notification of all TB case notification in Geita district).
- Sputum fixing has proven to be a very good approach in hard to reach areas and where there are not diagnostic centres.
- Sputum fixing enhances early TB case detection and thus reduces transmission of TB in the respective communities.
- Sputum fixing is one of the community approaches for TB control which is economical and effective that can be scaled up to complement facility based TB control program.
- With more effective transport (e.g. Motorcycles) sputum fixers are expected to be more efficient in terms of reaching more people and reducing TB transmission rate.

**5. Conclusion and Recommendations**

**Conclusion**

The documentation of community best practices has demonstrated that the use of sputum fixers is effective for early TB case notification hence reducing TB transmission at community level. Sputum fixing could be more efficient with provision of better transport (Motorcycles) for sputum fixers. If scaled up, sputum fixers could complement facility based TB control programme in the country.
Recommendations

The following are the recommendations:

- Increase fare to cover for transport in areas where sputum fixers cannot reach by bicycles such as in islands.
- Increase rates for allowances per month to compensate time consumed for the work. This is based on the fact that sputum fixers have little time for self income-generating activities.
- The allowances should be paid on time to keep the sputum fixers motivated to work.
- Due to long distance travels, there is a need to replace bicycles with motor cycles to facilitate travel within catchment areas.
- To facilitate communication with their clients, airtime (at least 5000/month) could be given to sputum fixers.
- A cost benefit analysis study is highly recommended to describe the effectiveness of sputum fixing against other community TB control initiatives.
- Mobile phone payments should be an option for easy access for instance Airtel Money, M-Pesa, Tigo Pesa e.t.c.
- Various TB control stakeholders (MoHSW-NTLP, PATH Tanzania, Regional and district councils and other development partners) are encouraged to recognised the benefits of the initiative, support and whenever possible to scale up to other hard to reach areas.
References
1. NTLP database (2009 – 2012)
2. District investment profile (Geita District Council, 2011)
3. Acid-Fast Direct Smear Microscopy, a laboratory training program (WHO, 2000)
4. NTLP database (2003 -2012)
5. NTLP database (2009 – 2012)
6. TB laboratory registers at Nzera and Kashishi health facilities; Sputum fixers district reports; Geita (2009 -2012)
## Appendices

### Appendix 1: Documentation team

<table>
<thead>
<tr>
<th>Name</th>
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</tbody>
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Pictures showing team members for the documentation at Lwamgasa dispensary