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## Tuberculosis Control Assistance Program (TBCAP)



NATIONAL TB & LEPROSY PROGRAMME (NTLP) - MINISTRY OF HEALTH

### Addressing the key challenges in Tuberculosis and Leprosy Control in Uganda

Elements of the National Tuberculosis and Leprosy Programme Strategic Plan-2010/11—2014/15

*Dr. Francis Adatu-Engwau – Programme Manager NTLP-Uganda*

#### Introduction:

Tuberculosis (TB) is a major public health problem in Uganda which is ranked 18th among the 22 high-burden countries that contribute 85% of the global burden. Epidemiological burden and clinical presentation of TB in the HIV-era demands a rethinking of the control strategies, health systems adjustments, health workforce re-orientation and exploration of health financing modalities. There is a marked decline in the number of leprosy cases notified annually, however this has stagnated at between 200–300 annually over 5 years, with 31% of cases having a disability and about 8% being children. This decline in incidence and prevalence is worrisome as health workers lose skills to detect and manage leprosy cases, which therefore results in a longer delay in diagnosis of the remaining cases. This has necessitated National TB & Leprosy Programme (NTLP) and its partners to revisit the

national strategies accordingly. In order to operationalise this strategic plan all key stakeholders must orient their operations to address the identified priorities. Success can only be achieved through the collective actions of:

1. Policy-makers at all levels,
2. Managers of national and district health services, and
3. Development partners involved in TB and HIV/AIDS control activities.

#### Background:

- HIV is the main driver of TB in Uganda, and this is reflected in a 5-fold increase in the cases of TB notified to the (NTLP) annually. 60% of the notified TB patients are also found to be HIV-infected. In recognition of this, the Ministry of Health in 2006 produced TB/HIV policy guidelines to guide

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*Greetings!*

Greetings to you all!

I am happy to bring you The Union – Uganda TBCAP Vol.3, Issue II newsletter. The theme for this year's World TB Day is "On the move against Tuberculosis. Innovate to Accelerate Action". The national commemoration for World TB Day was held in Luzira Prisons, Kampala on the 24th March 2010. This issue brings you the highlights of the day. In addition, we share with you a key message from the NTLP Manager, Dr. Francis Adatu, an update from The Stop TB Partnership and experiences/stories from the districts and partners.

Special thanks go to all those who have contributed articles to this newsletter. As a reminder, partners supporting and implementing TB/HIV activities in Uganda are invited to share their stories through this newsletter. Please direct all articles, comments and questions to [bnabaggala@theunion.org](mailto:bnabaggala@theunion.org)

Thank You.



Dr. Anna Nakanwagi –Mukwaya  
CHIEF OF PARTY  
TBCAP PROGRAM



implementation of joint control activities geared to addressing the burden of disease among those who are dually infected with TB and HIV.

- WHO in the 2009 Global Report estimated that Uganda has some 42,000 new infectious cases (smear positive) annually. This large pool of infectious cases is the seed for the spread of TB to susceptible populations. The 2008 NTLF report shows 8% of new cases are children, which is evidence of continuous transmission.
- The Uganda Bureau of Statistics 2002 National Census showed that about 51% of the population is children below 15 years of age. This vulnerable population is very susceptible to acquiring TB infection and is rapidly growing in number considering the annual population growth rate of 3.2%. Furthermore it is very difficult to diagnose TB in children since the majority do not produce sputum, which is the current mainstay of TB diagnosis in this country. A combination of clinical evaluation using algorithms and radiology is all the clinicians are left with.
- One of the five elements of the DOTS strategy is "establishment of a system for regular, uninterrupted, secure system for supply of quality anti-TB drugs". The goal is to ensure the availability of drugs in ample quantities, correct combinations and accessible to all who need them free of charge countrywide.

Financing for anti-TB drugs has been 100% donor-dependent for a long time, and this creates the risk of multidrug-resistant TB if there are interruptions in the drug supply and use or irrational use in terms of duration, combinations and the quality of the drugs.

- The health delivery infrastructure was not designed for the current epidemiological pattern of TB and HIV epidemics. The need for a "one stop shopping model" for TB/HIV patients cannot be over-emphasised, considering the fact that our health facilities are overcrowded and accessing care involves long waiting times with the attendant risk of acquiring hospital-based infections (nosocomial infections). There is a risk of infection to the vulnerable population of HIV-infected clients, children and health workers. The practice of infection control within health-care settings thus becomes a priority.
- Organisation of the health system is a key factor that will influence the success of any interventions set to address the TB and HIV dual epidemic. The decentralised health system is a double-edged sword for delivery of health services. While overall human resource capacity (filled established posts) stands at 62%, the spatial distribution and the skills-and-competencies mix remain a challenge along with the low morale associated with the dismal remuneration. Planning

capacities of district health services, prioritisation and integration of interventions, recruitment, retention and motivation suffer greatly as we further decentralise.

In order to address the challenges above, the NTLF has developed a national strategic plan for control of TB and leprosy.

### Elements of the NTLF National Strategic Plan

1. Consolidation of community-based TB care using the DOTS strategy and ensuring "Direct observation of treatment-DOT" for all patients started on TB treatment.
- 2. Expansion of implementation of "TB/HIV collaborative activities" countrywide including instituting "Infection control" in all health-care facilities, Setting up a system for "Prevention and management of drug-resistant tuberculosis" and "Addressing the problem of TB in congregate settings".
- 3. Contribution to health system strengthening through "Innovations, strengthening of M&E systems and logistics management" as an integral part of Primary Health Care (PHC).
- 4. Engagement of all health-care providers in TB control through "Adoption of public-private mix, dissemination and implementation of international standards of TB care and strengthening partnerships".
- 5. Empowerment of people with

TB and communities through implementation of "Effective Advocacy, Communication and Social mobilisation (ACSM)" strategies.

- 6. Addressing "Childhood TB challenges".
- 7. Enabling and promoting "Relevant operational research"
- 8. Improvement of active and passive case finding for leprosy in high-burden and other districts through "Leprosy campaigns, active case finding, systematic contact tracing and training of health workers on diagnosis, referral and treatment of leprosy plus awareness creation and self-care of persons affected by leprosy".

### Conclusion

An effective and appropriate national response to the growing TB/HIV pandemic and the declining leprosy menace demands an integrated approach, engaging all stakeholders and cognizant of the socioeconomic dimensions of these public health scourges. Resources both financial and human need to be committed for a coordinated intervention by all stakeholders with shared vision, mission and clear objectives, otherwise we will end up with a worse epidemic of MDR-TB and drug-resistant HIV and resurfacing of the leprosy problem. Let us get our acts together for a Uganda free of TB, HIV and leprosy.

# Setting up a Drug Resistant-TB programme in Uganda

Dr Adatu Francis Engwau - PM, Dr Kasozi Samuel-MDR-TB Coordinator, NTLP/MOH

**D**rug-resistant TB (DR-TB) is a reality in Uganda. Between January 2008 and March 2010, 90 cases were notified to the National TB and Leprosy Programme (NTLP). The actual DR-TB burden in Uganda is not known, but the programme is currently conducting a drug-resistance survey to ascertain the burden.

Multidrug-resistant tuberculosis (MDR-TB) occurs when the TB bacteria are resistant to at least Isoniazid (H) and Rifampicin (R), the two most powerful anti-TB drugs. Extensively drug-resistant TB (XDR-TB) refers to bacteria that are resistant to Rifampicin, Isoniazid, any Fluoroquinolone and at least one of the three injectable second-line drugs (Kanamycin or Amikacin or Capreomycin). MDR-TB cases are diagnosed by drug susceptibility tests (DSTs) on sputum samples. The National TB Reference Laboratory (NTRL) has built enough capacity to diagnose MDR-TB.

The emergency of DR-TB is believed to be linked to:

- drug delivery disruptions
- poor adherence
- lack of transportation/long distances to health facilities
- social barriers such as stigma, discrimination and poverty
- poor directly observed treatment (dot)
- non-compliance with the guidelines by prescribers and
- drug stock-outs (partly) in some facilities.

DR-TB can be controlled by addressing the reasons for the emergence of DR-TB highlighted above, in addition to implementing TB infection control (IC) measures and managing the notified DR-TB cases based on Green Light Committee (GLC)-approved guidelines and International Standards of TB Care. As part of the preparation to set up the DR-TB programme, the following have been put in place:

- DR-TB coordination office at NTLP Central Unit that provides overall coordination of DR-TB activities;
- Sputum referral system that ensures

- that sputum specimens are delivered to the NTRL through Posta-Uganda from targeted patients (Category 2 TB patients, Category 1 failures);
- Draft National DR-TB Guidelines (with infection control component), which will guide DR-TB management;
- Patient follow-up system to ensure good case holding;
- Registering & Reporting System (all M&E tools);
- Second-Line Drugs(SLDs) Information Management system,;
- DR-TB training curriculum to provide recommended training packages at the different levels;
- Submitted GLC application to GLC secretariat
- Strategies to be followed while setting up the DR-TB management in the country.

To accomplish this, NTLP with support from partners engaged a consultant from The Union to help the programme prepare to set up a DR-TB programme in Uganda. The consultant worked with the DR-TB core team and partners.

Currently the programme, is working on the following action points to operationalise the DR-TB programme:

- Establish National (and Regional) DR-TB Panels whose role is to approve and initiate DR-TB patients on SLDs.
- Define the purpose and functions of the DR-TB National (and Regional) Panels.
- Finalise, print and disseminate the National DR-TB Guidelines.
- Develop DR-TB training plan and staff training for the DR-TB programme.
- Prepare a short DR-TB guideline for primary health care (PHC) workers and treatment supporters.
- Print and distribute M&E tools.
- Source funds for the renovation and equipping of the current central store with cold storage facilities, min-max thermometers and hygrometers for SLDs.
- Explore the feasibility of implementing the Open MRS (a computer medical record system)

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## Setting up a Drug Resistant...

*Dr Adatu Francis Engwau - PM, Dr Kasozi Samuel-MDR-TB Coordinator, NLP/MOH*

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framework to assist in DR-TB programme management)

- Mobilise resources for the preparation of the National Referral Hospital (Mulago Hospital)'s TB ward which requires beds, mattresses, renovation of doors and windows, flush toilet, window/ventilator wire meshes and training of staff).
- Identify resources for SLDs, ancillary drugs and clinical laboratory examinations.
- Solicit resources for psychosocial and economic support for the DR-TB patients, as well as for supervision of the DR-TB programme (national, regional, district and local level facilities).

Mulago hospital will serve as a national DR-TB treatment centre. Four regional referral hospitals will be brought on board during project expansion in a phased approach.

In order to operationalise the DR-TB programme, there is need for partner support to harness efforts towards setting and sustaining the DR-TB programme. For the progress so far made, thanks go to The Union consultant, DR-TB core team and all partners for participation and support to the process of setting up of the DR-TB programme.



*MDR TB core team during DR-TB guidelines development meeting.*

# Update on the Uganda stop TB Partnership (USTP)

*Dr. H. Joseph Kawuma, Executive Secretary*

**Uganda  
Stop TB  
Partnership**

P.O. Box 16069 Wandegaya-Kampala

## Quarterly Meeting:

The quarterly Partners' meeting was hosted by the World Health Organization (WHO) Country Office on 18 February 2010. The fairly well-attended meeting focused mainly on the TB-REACH initiative and World TB Day 2010. A brief presentation was made on the objectives of this funding opportunity with illustrations describing who could apply. At the time of the meeting the National TB and Leprosy Programme and Uganda Prisons Service were already working on applications. USTP was not in a position to submit a stand-alone application, as they had not yet completed registration procedures. Members agreed to go ahead with preparations for a national function marking World TB Day 2010 in spite of the late start. Because of the urgency of the matter, what would ordinarily be the function of the

**This year,  
Uganda Prisons  
Service was  
chosen to host  
the national  
function to  
mark the day in  
the grounds of  
Luzira Prison**

Advocacy, Communication and Social Mobilisation (ACSM) Working Group of the Partnership was assigned to a task force that was appointed during the meeting.

## World TB Day 2010:

The theme for 2010 is INNOVATION and the slogan "On the move against Tuberculosis. Innovate to accelerate action". This year, Uganda Prisons Service was chosen to host the national function to mark the day in the grounds of Luzira Prison in Kampala. The selection of the Prisons Service was based on the recognition of their innovation in collaboration with partners for intensifying TB case finding and improving TB case management in 3 large prisons in Kampala, Gulu and Fort Portal, in addition to the fact that

addressing TB in this special population group is part of the Stop TB Strategy. It was hoped that, apart from being an occasion for recognizing those that have made significant contributions to TB control in Uganda, this event would provide an opportunity to advocate for support in rolling out the fight against TB in prisons to other as yet uncovered parts of the country by both government and USTP partners.

## USTP legal status:

The process to get USTP registered as a legal entity has advanced. The USTP constitution has been endorsed by both the Ministry of Health and the WHO Country Office; satisfaction of these two essential pre-requisites means that USTP will become a legal entity in the very near future. The invaluable support of The Union/TB CAP in this endeavor is highly appreciated.

## What next?

The next quarterly meeting is scheduled for Thursday 13th May 2010; members will then be expected to agree on activities based on the requirements of the new constitution. For the desired acceleration of action, we must in the first place keep TB on the agenda and get the wide variety of stakeholders to acknowledge that there is a role for all of them in enhancing the move against TB.

## Strengthened support supervision improves TB care services in Manafwa District

*Mr. Wamakale Fred, DTLS Manafwa.*

Support supervision is one of the key areas needed to improve not only TB control activities but also general health service delivery. Although support supervision has been recommended widely by the Government of Uganda at all levels, achieving quality support supervision in health centres has been a challenge for a long time. Inadequate resources and skilled manpower, as well as the low motivation of health workers, have been cited among the many factors hindering this process. However, these challenges have not barred Manafwa district health office from providing adequate support to its health units. Manafwa district has improved the mode of support supervision in the following ways.

Initial meetings on the importance of good and regular supervision are held with all staff in a health unit. These are guided by district supervisors, and health workers appoint from among themselves the specific people who will take the lead in implementing different activities intended to meet a particular goal. The appointed staff serve as sub-

managers for the assigned activities, provide internal support supervision and direct implementation of their activities within the health unit. This is different from the traditional process of leaving supervision of all duties to the health unit in charge, head of nursing or any other department.

The success of this decentralised system depends on regular reporting to the health unit manager regarding progress on the assigned activities. The health unit manager then reports to the district health team (DHT). Simple reports written on paper are used, rather than more complicated formats requiring computers and printers.

To improve the motivation of health unit staff, the DHT offers non-monetary rewards to the best performing team, such as certificates of recognition for the best performer of the quarter/year or an invitation to attend a district review meeting. Some health workers have benefited from promotions, not as a result of their length of service, but based on level of performance they have attained.

This system inspires a form of competition between the health workers. The choice of the best performer is not subject to any bias, as it is arrived at through consideration of performance results and agreed upon by all health workers in the facility. This has led to marked improvement in general service delivery and specifically in TB control activities in the district, as shown by the TB care indicators below.

**Table 1:** TB performance indicators for Manafwa District

	2007	2008	2009
Case Detection Rate (CDR)	28.2%	31.6%	46.1%
Treatment Success Rate (TSR)	85% (2006 cohort)	90% (2007 cohort)	97% (2008 cohort)
Patients on DOT	No data	48.2%	78.2%
HIV testing for TB patients	No data	100% (at treatment outcome)	100% (at case finding)
Cotrimoxazole for TB/HIV patients	42.9% (at treatment outcome)	79.3% (at treatment outcome)	83.1% (at case finding)
ART for TB/HIV patients	No data	28% (at treatment outcome)	9.5% (at case finding)

The limitation for ART is because only one health unit offers ART services.

These support supervision activities were supported by The Union Uganda Country Office, TB CAP project, with funding from the United States Agency for International Development (USAID).

# 2010 World TB Day Commemoration At Luzira Prisons Grounds, Kampala District

*By The Union/TB CAP staff*

World TB Day 2010 was marked on 24th March 2010 in Luzira Prisons, Kampala. The occasion was organised by the Uganda Stop Tuberculosis Partnership (USTP), the Ministry of Health's National Tuberculosis and Leprosy Programme (NTLP) and the Uganda Prisons Service. The theme for this year's World TB Day is "On the move against Tuberculosis. Innovate to Accelerate Action".

## Activities to mark the day included:

- March from Kitintale to the Prisons' grounds by the medical staff, prisons' custodial staff, school children, NTLP staff and community members.
- Exhibition stalls run by partners: these included Luzira Prisons Health Services; AIDS Information Centre (AIC), which offered free HIV counseling and testing services during the function; Malaria Consortium; International Union Against TB and Lung Disease (The Union); Foundation for Innovative New Diagnosis (FIND); Supporting Public Sector Work places to Expand Action and Responses to

HIV/AIDS (SPEAR); Traditional and Modern Health Practitioners Together Against AIDS and other diseases (THETA); Mengo Hospital; and The AIDS Support Organization (TASO).

- Testimony from previously treated TB patients. One patient managed by Nsambya Hospital is infected with HIV/AIDS and had fallen sick due to TB twice. He defaulted after two months of taking his first treatment. He was restarted on treatment and that time the regimen contained 60 injections. He completed treatment and was cured but developed TB again after 2 years. This time he was again put on the same regimen that contained 60 injections. He completed the treatment, was cured and is now receiving antiretroviral treatment. He is healthy and thanked the management of

**"To diminish the transmission of commissioner advised that the problem should be tackled from a multi-sectoral approach."**

Nsambya Hospital for taking care of him.

The second patient is HIV positive and is currently under the management of TASO. She developed TB and, two months after starting her treatment, she discovered she had conceived. The health worker was very harsh with her on discovering that she had gotten pregnant even though she was HIV positive. Because of the pregnancy, she feared to collect her monthly supply of drugs from the hospital and defaulted. She returned to TASO when she became very sick and was restarted on treatment. She completed treatment and was cured of TB. She carried the pregnancy to term, but unfortunately the child died after some months. After completing her TB treatment, she started taking ARVs. Her CD4 cells greatly increased, and she has managed to deliver two babies free of HIV. Many years later, she developed TB and was put on treatment which she

completed and was cured. She is now living a healthy life and has continued to take her ARVs. She thanked the management of TASO for taking good care of her.

- Entertainment by drama groups from TASO – Mulago, and Prisons (Murchison Bay and Upper Prison)
- Recognition:
  - Gulu district was recognised as the best-performing district and the district that had showed the greatest improvement.
  - The Uganda Prisons Service was given an award for having hosted the national commemoration of World TB Day 2010.
  - Mr. Peter Enou, an office attendant at NTLP, and Mr. William Okitoi, the Field Operations driver of NTLP, were recognised for providing commendable services to NTLP. They are responsible for packing and transporting TB drugs to districts.

The Regional Prisons Commander, Mr. Zachary Owoko, who is responsible for Kampala Extra region welcomed guests

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## 2010 World TB Day...

*By The Union/TB CAP staff*

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to the occasion and thanked NTLP for having given Prisons' Services an opportunity to host World TB Day. He expressed appreciation to the various partners that have supported TB control in the prisons. He pledged continued support for TB control in the prisons. To diminish the transmission of TB, the Assistant Commissioner advised that the problem should be tackled from a multi-sectoral approach. "The national TB programme should continue working actively together with the prison health staff, while concurrent steps are taken to diminish overcrowding through expeditious handling of judicial procedures and implementation of alternative punishments instead of prison sentences".

Dr. Issa Makumbi, Assistant Commissioner for Epidemic Surveillance who represented the Minister of Health. In his speech, he appealed to the Ugandan population to recognise that TB is our own problem and that we must own it and actively participate in activities to eliminate it. "Our development partners can only help, but we must lead the struggle ourselves from the front", he said. He

encouraged all TB patients to test for HIV, and all those screened and found positive for HIV to be screened for TB as well. He appealed to the district and local political leaders saying, "TB is a community problem, not a medical problem. With community mobilisation as your strength, communities can effectively weed out TB cases from the population". He also encouraged the religious leaders to support and encourage communities to come forward and seek appropriate care. Finally, he advised health workers to cooperate with communities such that TB suspects referred to their facilities receive quick and quality assessment. He also pledged on behalf of MoH in collaboration with partners to continue ensuring the availability of a regular supply of effective anti-TB drugs to all patients who need them free of charge countrywide.

Dr. Adatu Francis – Programme Manager of NTLP said that Uganda is the 18th most affected of the 22 high-burden TB countries in the world. "Tuberculosis is a major health problem in Uganda. About 60% of TB patients in the country are also infected with HIV

which increases their chances of dying if the two diseases are not handled properly". He clearly explained that the disease mostly affects young adults and people living in congested and poorly ventilated houses, such as slums and prisons. He appealed to all funding and implementing partners to take keen interest in supporting and developing health services within the prison by improving infrastructure to allow adequate light and airflow to prevent the spread of TB; implementing infection control activities; improving nutrition, education and psychosocial support; and finally by supporting district health services to extend services to all prisons in the country. He concluded saying, "Together we can defeat TB and defeat HIV".

Dr. Michael Kyomya –Director of the Prisons Health Services said that the prevalence of TB and other infections has always been higher in prisons than in the general community. "In Uganda, recent studies have indicated that the prevalence of TB, HIV and sexually transmitted infections is almost twice as high among prisoners compared to the general community. (UPS/UNODC

study 2009). TB is the major cause of morbidity and mortality and contributes over 45% of all deaths registered in Uganda prisons". He emphasised that overcrowding combined with the high-prevalence rates of TB among prisoners is a key factor that calls for action from various stakeholders.

cont...

## 2010 World TB Day...

*By The Union/TB CAP staff*



*Left to right: Programme Manager NTL-Dr. Adatu Francis, WHO Rep. Dr. Saweka and Assistant Commissioner-Dr. Issa Makumbi at the World TB Day celebrations at Luzira Prison Service.*



*TASO -Mulago drama group entertaining guests during the World TB Day celebrations at Luzira Prison.*



*Award given to Gulu district in recognition of greatly improved and best-performing district*

# Changing the cadre of sub-county health workers improves TB DOT coverage:

## The Mukono district experience

*James Kimmula, DTLS-Mukono*

Mukono district has a general population of over 926, 000 people and an area of 11,764 sq km, 24 sub-counties and 4 town councils. It has 34 health facilities that provide TB/HIV services. According to the Uganda TB control guidelines, TB patients should be enrolled on treatment under directly observed therapy short-course (DOTS). This can be either community-based or facility-based. In circumstances where patients are treated in the community, there is need for a sub-county health worker (SCHW) who delivers TB drugs to the patients' homes within each sub-county. Until recently, Mukono had 28 SCHWs, most of whom were health assistants. The SCHWs' activities included the following:

- Community mobilisation for better health, including TB services
- Assisting the community to select community volunteers for DOT
- Supervising TB DOT volunteers
- Delivering drugs in the community.

The SCHWs have been facing a number of challenges that contributed to inadequate participation in and

performance of TB control activities, which then resulted in a low DOT coverage (30%) for TB patients. Among the challenges, two stood out: first, the health assistants who served as SCHWs had many diverse activities to carry out within their sub-counties, including market inspection, water and sanitation activities and more; second, these officers did not interface regularly with the health facility staff or even the patients. This resulted in SCHWs not being able to follow-up most of their patients in the community, and they became strangers to the patients whom they were supposed to serve. This further created weak interpersonal relationships between the SCHWs, the treatment supporters and the TB patients. Though these SCHWs were trained to work in the community, the above constraints outweighed their capacity to improve DOT coverage,

**“According to the Uganda TB control guidelines, TB patients should be enrolled on treatment under directly observed therapy short-course (DOTS).”**

and so the performance continued to be poor.

In 2008, with technical and financial assistance from the Tuberculosis Control Assistance Programme (TB CAP), the district developed a comprehensive TB and TB/HIV work plan that included strategies and activities that addressed the above challenges among others. One of the key activities implemented involved a review of each SCHW's performance, identifying the reasons and possible solutions that would address their performance gaps. It was decided to use the approach of task shifting to solve these constraints. Health facility-based health workers (including laboratory personnel, nurses and clinical officers) who were in frequent touch with the patients and had already created rapport with them, were identified

and charged with the responsibility of supervising the implementation of DOT in the community. This task shifting took place over the period between June and September 2008. The table shows the trends in the number of patients started on DOT and the graph shows the DOT coverage trends before and after the task shifting was effected.

**Table 2:** DOT coverage before and after changing SCHWs

Quarter	Total No. of New Patients	No. of patients enrolled on DOT
Jan – March, '08	307	23
April – June '08	249	19
July – Sept. '8	325	39
Oct – Dec. '08	282	52
Jan – March '09	282	87
April – June '09	249	101
July – Sept. '09	295	149

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## The Mukono district experience

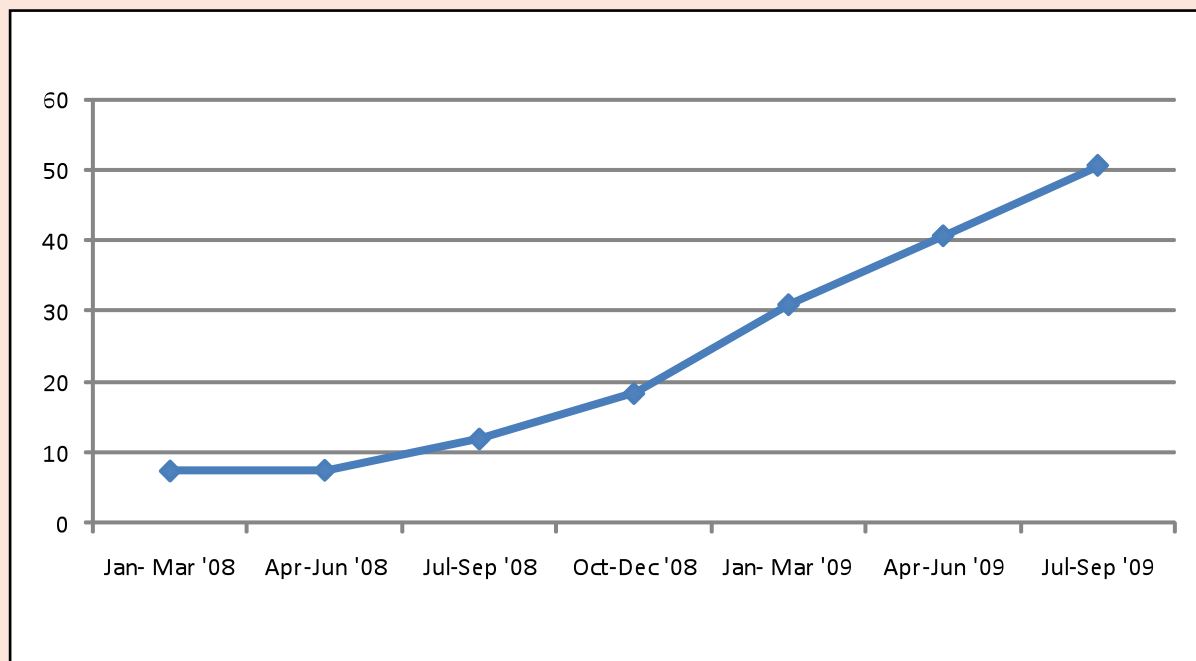
*James Kimmula, DTLS-Mukono*

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Although the improved performance in DOT coverage is not entirely dependent on the intervention of task shifting, it does suggest that the new SCHWs did contribute significantly to increasing the DOT coverage.

**Conclusion:** Shifting SCHWs' responsibilities from health assistants to other medical health workers, who usually have a closer relationship with the patients, can improve DOT coverage among TB patients because the latter category of health personnel is more available and reliable.

**Figure 1:** Trends in DOT coverage (%) in Mukono district after changing SCHWs



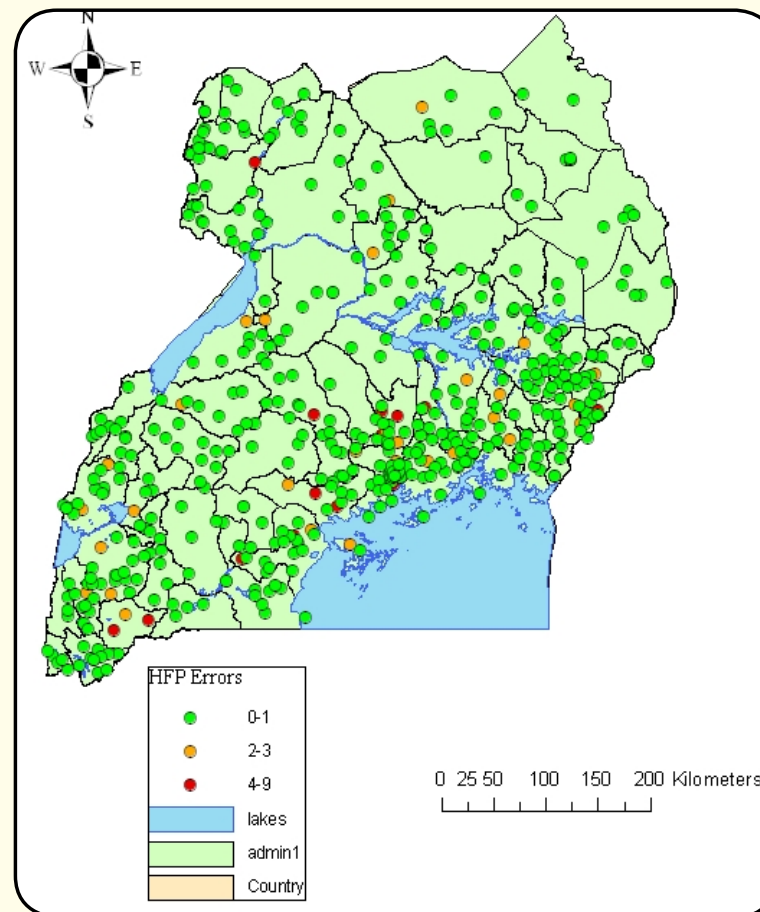
# Improved planning for countrywide laboratory support at the National TB Reference Laboratory (NTRL) through the use of Global Positioning Systems (GPS)

*Diana Nadunga-Data administrator, NTRL; dnadunga @theunion.org*

The National TB Reference Laboratory (NTRL) is mandated to offer TB diagnostic services for the retreatment TB cases. This involves culture and drug susceptibility testing for the samples that are referred from health facilities countrywide. NTRL is also mandated to ensure that quality and reliable TB diagnostic services are offered in all the TB diagnostic units in the country. This is attained through the process of external quality assurance (EQA), which involves the random sampling of slides from each health facility that are then re-read by two independent experienced laboratory staff. Target follow-up visits are made to the specific health units where the report given by the laboratory staff at facility level is inconsistent with that of the independent experienced laboratory staff.

The coordination and management of these activities at NTRL has been enhanced by the use of GPS. A GPS locator is used by the NTRL's personnel to locate the coordinates of TB diagnostic units countrywide when they carry out routine supervision visits. The coordinates of 6-8 satellite

**Fig. 2:** Map showing areas with high positive errors



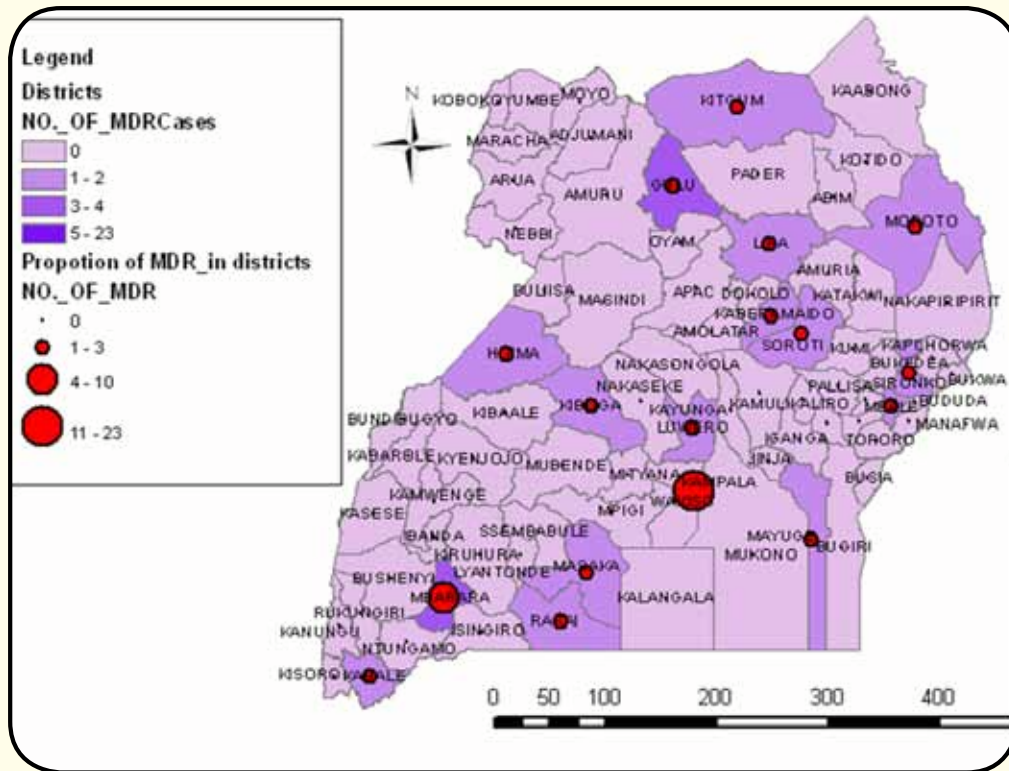
positions at a particular health facility are captured at the entrance of the TB diagnostic units' laboratories using the GPS locator. At present, almost 70% of all the TB diagnostic units in Uganda have been mapped onto NTRL's GPS database.

GPS has facilitated the easy coordination of NTRL's activities since it offers a direct pictorial approach/presentation that eases planning. For example:

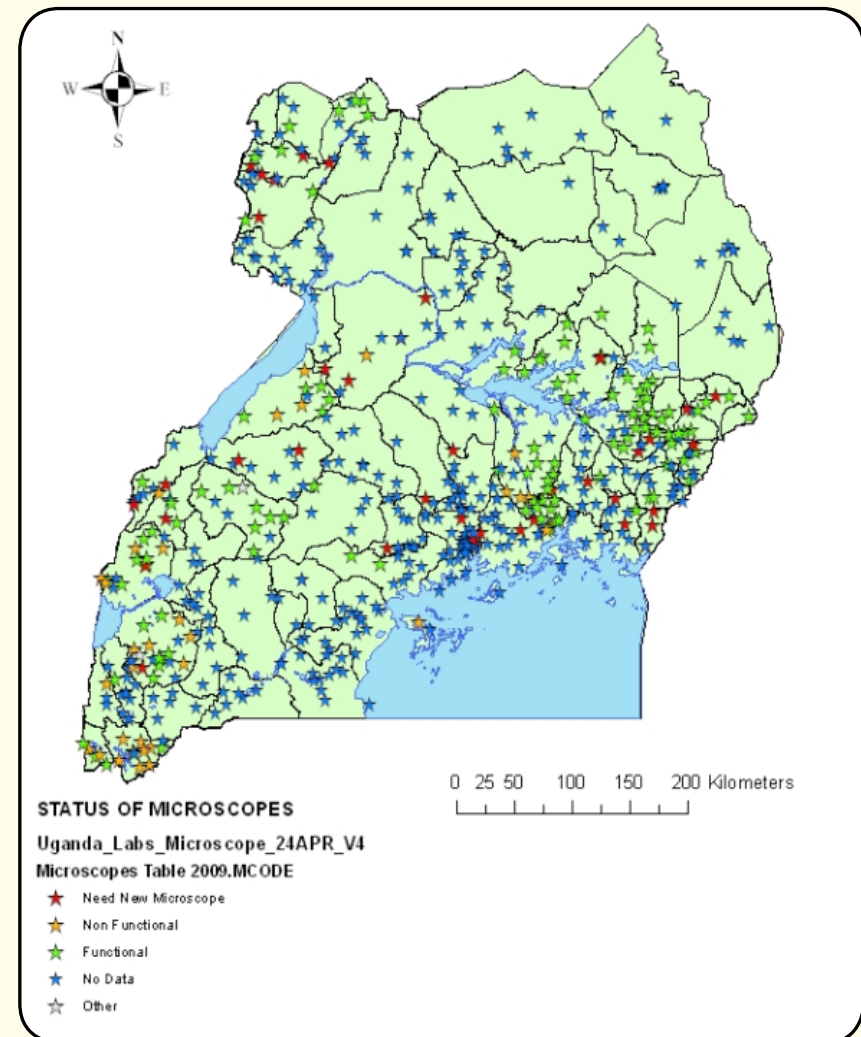
- Location of laboratories that have errors and require urgent intervention (Fig. 1)
- Location of units that have laboratory personnel that are either trained or refreshed in quality acid fast smear microscopy
- Identify the status (functionality and availability) of the microscopes at the health facilities (Fig. 2)
- Location of health units/regions where multi-drug resistant (MDR) TB cases have been identified, enabling their further management (Fig. 3).

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**Fig 3: Status of Microscopes at Health Facilities**



**Fig 4: Districts with facilities where MDR-TB cases have been diagnosed**



In conclusion, GPS system has helped NTRL plan and budget for laboratory support activities in the various health facilities especially those where EQA is being implemented. It has enabled the distribution of microscopes to the priority areas in the country and also enabled NTRL to plan the training of laboratory personnel who have not yet been refreshed in quality TB laboratory diagnosis.

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# The problem of TB recurrent infection in Northern Uganda

By Luigi Cicciò & Edson Tumushere, Northern Uganda Malaria HIV/AIDS & TB Programme (NUMAT), Gulu

HIV infection strongly influences the clinical aspects of TB: cases tend to be less typical, with many extra-pulmonary forms and, also, with less clear pulmonary forms. This poses critical problems for a prompt and accurate diagnosis by clinicians. Additionally, in the presence of concurrent HIV infection, TB disease progresses more rapidly, even in adults, and patients may suffer a relapse usually caused by one of two reasons: a true relapse, when dormant nodules suddenly become active again even after a successfully completed anti-TB treatment, and a re-infection.

The true relapse may be a sign of treatment failure especially for non-optimal anti-TB treatment regimens. Evidence has shown that a 6-month rifampicin-based treatment is more effective in preventing TB relapse than one where rifampicin is used only for the 2-month intensive phase. The re-infection is determined by a new infection with a different strain, commonly a multi-drug resistant one. This problem

is likely to occur in situations where HIV-infected individuals mix and gather together, for example, in health facilities, waiting rooms, offices, laboratories and hospital wards.

It is difficult to estimate the real burden of TB relapse, since some cases may go unnoticed. It is still an issue that has received little attention, yet it represents a serious public health threat: treating these cases is more complex and less successful, and they contribute to further transmission of TB among their direct contacts and the general population as well.

In the Central North Region – according to data from the districts – the total smear-positive recurrent cases in 2009 have been 219 (6% of all smear-positive

cases), with an uneven distribution by district (Figure 1). This occurrence seems to have followed an upward trend in recent quarters (Figure 2).

**“It is difficult to estimate the real burden of TB relapse, since some cases may get unnoticed.”**

Prognosis of recurrent TB cases is also worse than in new TB cases, with a particularly higher fatality rate (Figure 3).

Which measures should be taken to minimise and control the episodes of TB recurrence? First of all, ensuring adherence to and completion of appropriate therapy for all TB patients is of the utmost importance to reduce both the relapse rate and the development of drug-resistant strains. This can best be achieved by the Directly Observed Treatment strategy that NUMAT emphasizes within the region. Findings from various studies encourage the use

of secondary preventive therapy with isoniazid after the anti-TB treatment is successfully completed to prevent a recurrent episode. At the same time, improving the immunological capability by scaling-up anti-retroviral therapy among TB patients can also contribute as a long-term solution. Finally, more stringent infection control measures should be generally adopted by all facilities where HIV-positive patients gather and mix together.

1 Harries A., Maher D., Graham S. TB/HIV: a clinical manual, WHO/HTM/TB/2004.329 2nd Edition, Geneva 2004

2 Lambert ML. et al. Recurrence in tuberculosis: relapse or reinfection? Lancet Infect Dis 2003;3:282–87

3 Chaisson RE., Churchyard GJ. Recurrent Tuberculosis: Relapse, Reinfection, and HIV The Journal of Infectious Diseases 2010;201:653–655

4 HIV and TB in Practice: encouraging data on IPT HATIP Issue 140, 09 July 2009 www.aidsmap.com

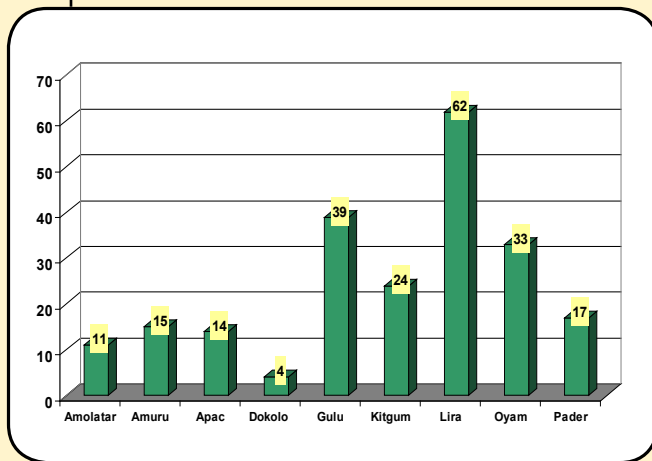
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## The problem of TB...

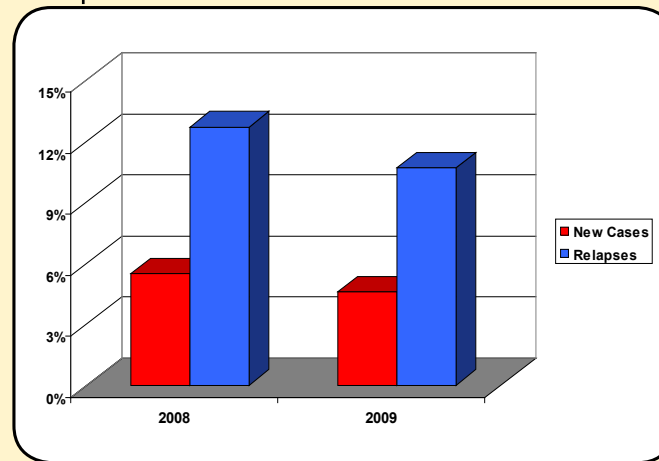
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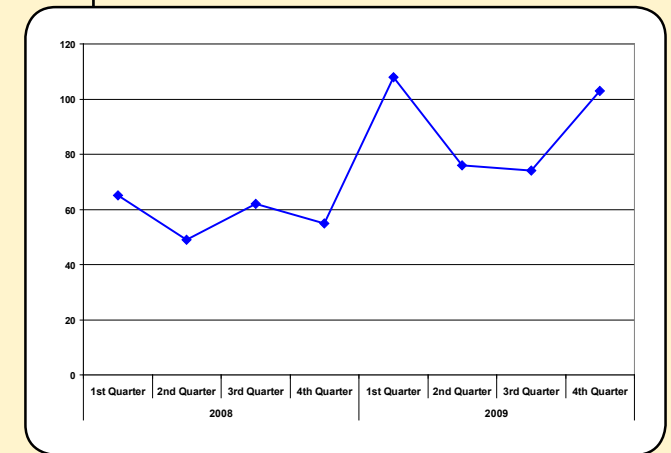
**Figure 5:** Number of TB smear-positive relapses by district in 2009



**Figure 6:** Case fatality rate during TB treatment of new cases and relapses, 2008-09



**Figure 7:** Time trend of P/Pos TB re-treatment cases by quarter, 2008-09



# Upcoming *Events*

- 1** N.C.C meeting/TB HIV – 30<sup>th</sup> April 2010
- 2** Stop TB partnership meeting, 13<sup>th</sup> May 2010
- 3** Quarterly PEPFAR Coordination meeting, 11<sup>th</sup> June 2010
- 4** XVIII International AIDS Conference, Vienna Austria  
18<sup>th</sup> – 23<sup>rd</sup> July 2010  
Theme: Rights Here, Right Now.  
For more: [www.aids2010.org](http://www.aids2010.org)  
Late breaker submission of abstracts:  
20<sup>th</sup> April - 20<sup>th</sup> May 2010
- 5** IMDP Course –Mass Media and Communication in Singapore, 4<sup>th</sup> - 8<sup>th</sup> May 2010, for more visit [www.union-imdp.org](http://www.union-imdp.org) or email [imdp@theunion.org](mailto:imdp@theunion.org)
- 6** IMDP Course – Leading Management Teams, Bangkok- Thailand, 28<sup>th</sup> June -10<sup>th</sup> July 2010, for more visit [www.union-imdp.org](http://www.union-imdp.org) or email [imdp@theunion.org](mailto:imdp@theunion.org)