DOCUMENTATION OF LESSONS LEARNT TB CARE I UGANDA PROJECT

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The TB CARE I project hopes that the findings and recommendations in this report will guide decision makers, planners, development partners and implementers of TB programs in Uganda and will be used to influence the TB management capacities at both the national and local government levels.

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Executive Summary

The TB CARE I project was intended to support the Uganda National Tuberculosis and Leprosy Program (NTLP) to improve Tuberculosis (TB) case detection and treatment success rates (CDR and TSR) in order to achieve national targets through support to selected districts.

Over a 15 month period, various project activities were implemented in order to: Enhance leadership and technical capacity of the NTLP to effectively guide and manage implementation of TB control activities at both national and district levels and to ensure integration in the general health systems; Support the implementation of DOTS in Kampala; Provide technical assistance (TA) for the coordination and implementation of comprehensive TB/HIV and Directly Observed Therapy Strategy (DOTS) interventions and strengthen NTLP capacity to initiate a quality multi-drug resistance (MDR) TB program.

The key lessons learnt during the implementation of the activities, have been captured for use by other TB management programs in Uganda and other countries. The lessons were generated over a 6 month period using a combination of methods such as review of project documents and reports, discussions with project staff and other stakeholders and interviews with TB and health program managers within the Kampala City Council Authority (KCCA) and the NTLP.

Overall, one of the key lessons was that 15 months is a rather short time in which to start, implement and close down a capacity building project. Capacity building involves changing attitudes, knowledge and practices. It therefore requires adequate time for the project to effectively engage with key partners, carry out recruitment and start up operations and to implement planned activities. The TB CARE I project was able to achieve most of its objectives due to the caliber, dedication and approaches used by its staff; by working in close collaboration and partnership with stakeholders both at the management and service delivery points and by working with already established structures rather than setting up new ones. Lessons were learnt about the importance of clear and regular communication among project partners and engaging with key TB stakeholders at all stages of project implementation.

For strengthening the management of TB services within Kampala City, the key lessons learnt were that the health workers in the various health facilities and TB treatment centers were keen to make a difference but need outside stimulation in the form of training and encouragement to perform better. It was seen that simple innovations, such as introducing the use of appointment books, coupled with regular and supportive supervision can make a very big difference in the management of TB cases. The importance of good quality data and the subsequent utilization of information by health managers in decision making was also a key lesson.

It is expected that these lessons will be used by TB stakeholders to promote the recurrence of desirable outcomes and to stop the recurrence of undesirable ones.

List of Acronyms

CDR	Case Detection Rates
DMO	District Medical Officer
DOTS	Directly Observed Therapy Strategy
DTLS	Division Tuberculosis and Leprosy Supervisor
HIV	Human Immunodeficiency Virus
KCCA	Kampala City Council Authority
MDR	Multi Drug Resistance
MoH	Ministry of Health
MoU	Memorandum of Understanding
NCC	National Coordinating Committee
NTLP	National Tuberculosis and Leprosy Program
SS	Support Supervision
TA	Technical Assistance
TB	Tuberculosis
TCR	Treatment Completion Rates
TOR	Terms of Reference
TSR	Treatment Success Rates
WHO	World Health Organization
ZTLS	Zonal Tuberculosis and Leprosy Supervisor

1. Introduction and Background

The TB CARE I project in Uganda is a 15 month project being implemented by KNCV Tuberculosis Foundation (KNCV) working in close collaboration with the Uganda National Tuberculosis and Leprosy Program (NTLP) and funded by USAID. KNCV as an organization works to reduce TB worldwide through Policy development, improved management of TB, human resource development, research and advocacy. With emphasis on reaching out to vulnerable communities, TB CARE I is intended to assist Uganda's move towards achieving universal access in TB management through patient centered approaches such as DOTS with short course chemotherapy.

The main goal of the TB CARE I project is to support the NTLP to improve case detection and treatment success rates (CDR and TSR) in order to achieve national targets through support to selected districts.

Specifically, the project is working to:
1. Enhance leadership and technical capacity of NTLP to effectively guide and manage implementation of TB control activities at national and district levels and ensure integration in the general health systems
2. Support the implementation of DOTS in Kampala
3. Provide technical assistance (TA) for the coordination and implementation of comprehensive TB/HIV and DOTS interventions
4. Strengthen NTLP capacity to initiate a quality multi-drug resistance (MDR) TB program.

The TB CARE I project began in January 2012 and ran until June 2013. During this period, the project was able to successfully implement all the key activities which were planned and made significant progress in reaching the project targets.
During the implementation of the various activities many lessons were learnt, including those that are related to project technical process and others are related to management processes. After the first half of the project period, TB CARE I contracted a consultant to undertake a systematic documentation of the key lessons learnt. This report presents the findings of that process. For the purpose of this document, the lessons learnt have been defined as the knowledge acquired during the implementation of the project. It is expected that these lessons will be shared with various project stakeholders and used by project staff to promote positive outcomes and prevent the repetition of undesirable ones.

2. Documentation Methodology

In close collaboration with the TB CARE I Monitoring and Evaluation Officer and other key Project staff, the consultant undertook a thorough review of the project activities and outcomes in order to generate the lessons learnt. The initial steps involved the development of a documentation framework which was subsequently utilized by the various project staff to identify possible lessons. This framework is presented in Annex 1. Key to the documentation process was a review of project activity reports as well as project progress reports. Once possible lessons were identified, either by the staff using the documentation framework or through the review of project reports, the consultant carried out in-depth follow up interviews with the relevant project staff as well as other key project stakeholders.

Interviews were held with service providers at four health facilities within KCCA; with five Division TB and Leprosy Supervisors (DTLSs) of the KCCA; with the Division Medical Officers in two divisions of the KCCA and with the Acting Director of Public Health and Environment of the KCCA. These provided information related to lessons learnt with regards to strengthening the management of TB within the KCCA as provided for under Objective 2 of the project.

Other interviews were held with senior managers of the NTLP, including the National Manager, and the National MDR-TB Coordinator as well as with the staff at Mulago MDR clinic. These provided valuable insights on key lessons learnt during the implementation of activities related to Objectives 1, 3 and 4 of the project.

Documentation Limitations:
Initially, it was planned that the project staff would use the documentation framework to generate possible lessons on a monthly basis. However, this was found to be time consuming and thus not very useful as many of the activities tended to carry on beyond a month, so it was more useful to do it on a quarterly basis.
It had been expected that the documentation process would generate some case studies that focus on lessons at the client or patient level. This however, was not possible because the project was so well integrated within the overall TB management process that the clients only knew about the services they received and not about the TB CARE I project.

The main thrust of the TB CARE I project was capacity building; however the project duration was too short to allow for observation of long lasting changes in capacity. Moreover, the KCCA, the NTLP and Mulago Hospital, where the capacity building efforts were focused, were undergoing major management changes during the project period.

3. Lessons Learnt

3.1 Lessons from project design and management

The TB CARE I project was designed to be implemented within a 15 month period. One of the key lessons learnt from the start up and implementation of the project overall, was that this is too short time to effectively start up, implement and close a capacity building project. More time is required if sustainable capacity is to be built and even more time is required for projects that have a construction component, especially when several key stakeholders are involved in decision making. The start up of renovations work at the MDR ward in Mulago were delayed until the 10th month of the project. The renovations were almost complete but the ward was still to start admitting patients. The project team had to turn down a request to support renovation works at Mbarara Hospital as a result of the limited project period.

The TB CARE I project team did a highly commendable job with the project start-up. Within three months, they had set up offices in Uganda, carried out the recruitment of staff, briefed project partners and established mutually acceptable working modalities, including those for the procurement of services and commodities. A key lesson from this is the importance of having the right caliber of staff in place from the beginning. All the key stakeholders interviewed, from the national level NTLP managers to the service providers, acknowledged that TB CARE I was able to achieve all it did because of the staff it recruited. The staff were described by the partners and other TB stakeholders as professional and knowledgeable, but even more importantly as: "approachable, friendly, and being willing to work in consultation with partners rather than imposing their ideas on others".

3.2 Lessons from stakeholder perceptions of project objectives and achievements

Discussions with the project stakeholders showed that they were all knowledgeable about the objectives of the project and their expected roles.
Key project achievements as reported by the project stakeholders interviewed as part of the documentation process include:

For Objective 1: Enhancing leadership and technical capacity of the NTLP to effectively guide and manage implementation of TB control activities at national and district levels and ensure integration in the general health systems, the achievements included:
 • Revision of the National TB Strategic Plan 2012/13 – 2014/15 so that it is more responsive to national and global recommendations
 • Development of the National Action Plan for TB
 • Advocacy for improved TB drug availability at treatment centres
 • Harmonisation, printing and distribution of the national TB registers
 • Support for the national TB Symposium and for commemorating national TB days annually.

For Objective 2: Supporting the implementation of DOTS in Kampala, achievements have been realised in all the five basic components of DOTS and include:
 • Carrying out a baseline assessment on TB patient management and care in the 38 TB diagnostic and treatment units in Kampala and integrating the key findings on case

notification, treatment success, DOTS coverage, TB/HIV, combined with GIS mapping to align interventions in Kampala
- Building the skills of frontline TB case workers in Kampala through in-service training and follow up
- Instituting regular and focused support supervision visits to TB treatment centers
- Engagement with top health managers within the KCCA through regular coordination meetings between staff of the NTLP, the KCCA and the TB CARE I Project
- Revitalization and update of divisional TB registers, printing and distribution of TB cards
- Support for phone call reminders to clients are a way of reducing treatment drop-outs
- Instituting the use of appointment books for better client tracking.

For Objective 3: Provision of TA for the coordination and implementation of comprehensive TB/HIV and DOTS interventions, the achievements included:

- Strengthened coordination among various TB partners, including USAID funded projects. The improved coordination has been achieved through the TB/HIV national coordinating committee and the Uganda STOP TB partnership, that now hold regular meetings
- Revision of the national guidelines for the integration of TB and HIV/AIDS
- Country wide technical supervisory visits for strengthening TB management has been carried out twice during the TB CARE I project.

For Objective 4: Strengthening NTLP capacity to initiate a quality multi-drug resistance (MDR) TB program:

- Improving the management of MDR-TB through the renovation of the MDR ward in Mulago. This ward will remain a legacy of the TB CARE I project and serve as a center of excellence, a national referral center and a center of training to scale-up MDR management in the country. As a result of this momentum, the enrolment of MDR cases has increased
- A position for an MDR coordinator has been established within the NTLP structures to ensure a continued focus on MDR-TB management
- MDR-TB committees have been set up at various levels, including at the Ministry of Health (MoH) (chaired by the Director General of Health services) to ensure that MDR patients are put on the correct regimens, to coordinate the management of MDR-TB and to ensure that established measures are implemented
- Training of the staff in Mulago in MDR-TB management
- Provision of international TA to assess MDR-TB wards at Mulago, Mbarara and Fort Portal hospitals. Recommendations for the architectural works for these hospitals were drafted pending approval by the respective hospital administrations
- Establishing a mechanism for preparing health workers at lower level health units to provide treatment and monitoring of identified MDR-TB cases.
- The key lesson learnt from this was that working closely with various stakeholders ensures that they understand what the project is expecting to achieve, and they can invest their knowledge, skills and other resources to ensure that objectives are met.

3.3 Lessons from implementation of project activities

The rest of this report presents the various lessons learnt during the implementation of project activities. It is presented in two main chapters. Chapter 4 presents the lessons that are general to the overall TB CARE I project while Chapter 5 presents the lessons that are specific to DOTS Strategy in Kampala.

4. Lessons Related to the Overall TB CARE I Uganda Project

4.1 Lessons about Partnerships

The design of the TB CARE I Project required a close working relationship with several partners for the objectives to be met. The key project partners include: the NTLP, the KCCA, the MoH and Mulago Hospital. Other partners include the WHO, the national Global Fund management team and the HIV/AIDS program. At the beginning of the project, TB CARE I signed a memorandum of understanding (MoU) with the MoH which covered the entire scope of its activities in Uganda. While partnerships are key to ensuring sustainability of achievements, changes within partner organizations can cause delays in implementation and this needed to be taken into consideration when planning for activities. Several key lessons have been learnt regarding working in partnerships to achieve set goals:

4.1.1 It is important to have a document that clearly spells out the expected role of each partner from the beginning. Clear mandates are required for good partnerships. It is particularly important to spell out the responsibilities for decision making, funding and operations.

4.1.2 However, having a memorandum or written description of partner responsibilities alone is not enough to ensure a smooth and efficient partnership relationship. Equally important is the need to have adequate engagement with all key partners at a high level and on a frequent basis, in order to have harmonization in the scheduling of activities and to avoid problems, a forum for engagement with partners must be deliberately created and worked on. TB CARE I has seen a lot of benefits accruing from the weekly coordination meetings held between TB CARE I staff and the KCCA. Bi-weekly meetings held between the NTLP, the WHO, the Global Fund and TB CARE I have helped avoid the duplication of activities and in harmonizing activities implemented, such as the review of the TB registers, and the development of the NTLP Strategic plan. The quarterly STOP TB partnership meetings have been instrumental in creating a forum for sharing information among key TB partners in Uganda. Having a physical office within the NTLP offices made it easier for the TB CARE I project staff to coordinate with the NTLP and to accelerate the pace of decision making.

4.1.3 It was necessary from the beginning to fully brief the key decision makers in each partner organization about the project objectives and strategies to be used and to obtain their buy-in and commitment. During the first few months, there were key management changes at both the NTLP, the KCCA and Mulago hospital and in all cases, the TB CARE I project found it useful to engage with the new managers and carry out a full orientation so that they would understand what TB CARE I's purpose and aims were. It would have been a mistake to assume that the new management would have been briefed by the outgoing team. While carrying out a full orientation of new management every time there is a change can be time consuming for project staff and may cause a delay in implementation of activities scheduled, it is important to ensure a smooth transition.

4.1.4 Different partners have different priorities and operational challenges and there is a need for flexibility when dealing with them in order to accommodate their needs,

including where possible, helping them overcome operational challenges and meeting some ad hoc demands. TB CARE I had to provide support to the bi-weekly meetings and the National TB symposium which had not previously been planned for.

4.1.5 While partnerships are important in maximizing returns from the resources available, for them to work, someone has to take the lead. At the beginning of the TB CARE I project it was found that TB/HIV partnerships and the STOP TB partnerships were dormant and they needed to be re-energized, while ensuring that the responsible parties were supported to carry out their assigned responsibilities to make the partnerships function.

4.1.6 One of the key challenges in efficient partnerships is communication. Although e-mails and the internet offer a good communication medium, it is not adequate. There is a need to proactively follow up e-mails to partners with phone calls and face to face interactions in order to ensure that what is agreed on is done. In addition, partner assumptions and expectations of what the project can do usually exceed reality and there is a need to share information among the partners in a clear and sensitive manner. Regular formal and informal communication is important among the technical teams of the partner organizations, and in addition, effort should be made to regularly to inform the higher level decision makers in each organization. Some of these, for instance, Health committees and local government administrators are non-technical and therefore communications with them should be structured in an easy to understand manner.

4.2 Lessons about Procurement and the Start –up Process

4.2.1 The TB CARE I project is funded by USAID and uses USAID approved procurement processes. However, some processes have to depend on the Ugandan government's procedures e.g. the process of registration of KNCV and the registration of vehicles. This is a lengthy process and it took a long time. However, the MoU signed with the MoH, enabled the project to implement activities even before KNCV was even registered. To hasten the process of registration, the project engaged the services of a lawyer who was able to dedicate time to following up the process. Outsourcing some of the project start-up functions can be a good way of ensuring a quick start-up.

4.2.2 New projects usually take up to one year before they become operational and some time needs to be built in for the start up process. The TB CARE I project was however, operational within the first three months of project implementation. This was possible because the first staff recruited were knowledgeable of partner organizations, were able to effectively network with them and to identify critical activities as a priority. The correct choice of the initial project staff is critical and should include those who have a good working knowledge of the national systems and an established network.

4.2.3 Delayed signing of the contract with the MDR-TB ward contractors meant the renovation works were halted.

4.3 Use of Consultants

The TB CARE I project is being implemented by a team of 10 full time members of staff. Since the beginning of the project, local and international short term TA (Consultants)

have been utilized for a number of activities, in order to boost the technical capacity of the TB CARE I team. Consultants have provided guidance on the procurement process, technical input into and management of, the renovation of the MDR ward in Mulago, development of the NTLP Strategic plan, documentation of lessons learnt, reviewing the scale up of the Programmatic Management of Drug Resistant TB (PMDT) in the country and formation of the PMDT central team.

The TB CARE I team realized that the use of local and international Consultants brought some benefits to the project including:

- Regional and international consultants bring in lessons and experiences from other countries. In addition to bringing in expertise which may be lacking in the country
- Consultants are able to put in the high level of concentration that may be required to complete an assignment in a timely function compared to project staff who have several responsibilities to carry out at the same time. The use of consultants for high intensity, time consuming assignments e.g. development of the strategic plan, saves the time of the full time project staff for other routine but equally important activities e.g. strengthening supervision
- Because consultants work on specific assignments for specific amounts of time, they can help the project realize some cost savings compared to having all the technical expertise required by the project working on a full time basis
- Consultants work with the project staff and bring in an external eye, that may help identify gaps in project implementation and can also help strengthen the technical capacity of the project staff.

However, the project has learnt several lessons about what is important if the use of consultants is to lead to these benefits:

4.3.1 The project should have a clear mechanism in place for the recruitment, supervision and working with consultants. TB CARE I has in place a system that starts with the development of clear terms of reference (TOR) for each consultant. The TOR is reviewed by several key project staff to ensure that it meets the project objectives, that it has clear objectives and the required qualifications of the consultant. Using the TOR, the consultant is recruited through a competitive process that looks at the evidence of prior good work done by the consultant and recommendations from professional sources.

4.3.2 Multiple consultants require a lot of time from the project staff so it is important that the scheduling of consultant assignments is done with the consideration of the other duties of the staff who will work with the consultant.

4.3.3 Other key stakeholders and partners need to be given an opportunity to make an input into the consultant TOR and selection criteria. This is especially important if the consultant is expected to work with these partners, as their involvement in the selection process makes the consultants more acceptable to the partners. Involvement of the partners in the development of the consultant TOR and the selection process also contributes to their capacity building (NTLP Manager).

4.4 Strengthening of TB/HIV Integration

At the start of the TB CARE I project implementation in Uganda, the joint TB/HIV National Coordinating committee (NCC) was no longer functioning. TB CARE I has provided the push necessary to reactivate the NCC and its various sub-committees. Joint monitoring visits have been carried out in over 200 TB treatment centers countrywide. Several lessons have been learnt during the reactivation of the NCC and the joint monitoring visits.

4.4.1 For purposes of sustainability and continuity, the TB CARE I project gave the push required to reactivate the NCC but has not taken over responsibility. It is working to support the MoH to build the capacity needed to lead the NCC.

Some of the participants that attended the re-activation meeting of the TB/HIV National Coordination Committee held in July 2012

4.4.2 Simpler tools are required for the joint monitoring visits. The revision process has started and requires the participation of all key stakeholders to ensure their buy-in. After the tools are revised, there will be a need to training the various stakeholders on how to administer them.

4.4.3 Joint planning at all levels is important for TB/HIV integration from policy level to implementation level. Realistic integration could be achieved if efforts are made to deliver HIV/AIDS services and TB treatment services in a "one-stop" service manner. Indicators of integration should be built in, at all levels of service monitoring for both services.

4.4.4 The HIV/AIDS program has a lot of experience with counseling of clients for treatment adherence and the TB program could benefit from this counseling experience. There is a need to integrate the counseling services at the treatment centers so that all HIV/AIDS patients get counseled about TB and its management, and TB patients also get counseled about HIV testing and treatment compliance.

4.5 Strengthening NTLP capacity to initiate quality MDR-TB program

Although there has been a significant increase in the proportion of MDR-TB cases identified and that were put on treatment from 2010 to 2012, there were delays at several stages of renovation works on the MDR ward in Mulago and patients have been managed from home, posing the risk of poor monitoring.

The management of MDR-TB is lengthy and difficult, ideally patients should be treated close to their homes but because there are few centers where MDR-TB can be managed

Audiometer procured by TB CARE I and handed over to the Mulago Hospital to assist in the management of MDR-TB patients

within the country, this is often not possible. The TB CARE I project has provided TA for the establishment of MDR treatment centers in other regional referral hospitals, however the high costs of establishing such centers means that few of them are fully functional.

The use of GIS mapping can help with the identification of MDR patients' locations and can help in identifying where they can be sent for treatment as well as in identifying where MDR-TB treatment support centers should be established.

The renovation and equipping of the TB ward in Mulago to provide a national referral centre for MDR-TB treatment is a major achievement of the TB CARE I project. However, the process took longer than expected due to the bureaucracy in decision making with several key players involved. The process was also more difficult because they were working with an old building, in a crowded location.

4.6 Key Challenges

Despite the many successes in building the capacity for improved management of TB registered by the TB CARE I project in Uganda, the project has learnt that key challenges still remain in improving CDR and TSR. There are also challenges to improving the capacity for management of MDR-TB. Some of these challenges include:

4.6.1 Systems and structural programs that affect the health sector in Uganda in general. These include poor staffing levels in most health facilities, poor remuneration and motivation of health workers, delayed supply of drugs and other commodities and poor access to health facilities due to various factors.

4.6.2 TB treatment is expected to be free in all health facilities, including the private ones. However, in the private facilities, laboratory investigations e.g. sputum examination are not free as the facilities have to recover their costs. This makes it difficult for the poorer patients to be effectively monitored, as they can't afford the sputum examinations at the recommended intervals. Likewise, MDR patients who are being referred home to receive treatment from their nearby health facilities are sent with free drugs but are not given the needles, syringes and water that are required for injection. This is a cost burden to the patients and makes it difficult for them to receive all the treatment as recommended. The NTLP must ensure that if TB treatment is expected to be free, all the various components needed should also be made free.

4.6.3 Although there is now a system in place for the identification of MDR-TB cases and there is an excellent TB laboratory in place with a free telephone hotline where health facilities can easily follow up on the specimens they send, once the patients have been identified, provisions are still not in place to ensure that they start treatment immediately. This includes the lack of a biochemical laboratory to carry out baseline biochemical analysis and hormonal assays, including liver and kidney functions tests and yet these tests are critical in MDR-TB treatment monitoring. Provisions are also not yet in place for the improved care of patients on MDR-TB treatment which is also necessary for treatment success.

4.6.4 Counseling of patients for TB treatment is still weak compared to the counseling of HIV/AIDS patients, and yet it is important for treatment compliance and completion.

5 Lessons Related to DOTS Kampala

According to the health workers and health managers interviewed in Kampala, the TB CARE I project has helped increase awareness and concern about TB management through its various activities that have also empowered health workers and improved patient care and follow up. Training provided to the health workers, regular supervision that is supportive and not punitive and the provision of logistical support such as appointment diaries, TB registers and funds for phone calls have made it possible for the health workers to do their work more efficiently.
There are several lessons that have been learnt during implementation in Kampala and some gaps have been identified.

5.1 Support Supervision of TB services

Support Supervision (SS) visits have proved to be very important in finding out what is happening at the treatment centers for DOTS Kampala, for providing hands on technical support to the service providers and for addressing identified shortcomings as well as for identifying issues that need to be brought up and then resolved at the KCCA and the NTLP levels. SS has helped improve data collection: "Prior to TB CARE I we were not really focusing on filling the registers properly as no one ever looked at them or tried to help us fill them better, but now we all fill the registers properly and both patient records and lab records are now kept together". (TB Focal persons at Kisenyi HC and at Rubaga Hospital).

Although the project had planned for SS visits to be carried out once every quarter by a zonal TB and Leprosy supervisor (ZTLS) and monthly by a DTLS, to each treatment center, experience has shown that the ZTLS and DTLS have several other duties and are unlikely to achieve these frequencies. Joint weekly planning amongst the TB CARE I technical officers, Kampala TB Control Officer and the DTLS to ensure a combined commitment from all the parties was started as a possible solution.

One of the key lessons of TB CARE I project was that regular, focused and structured SS visits are essential for effective DOTS services. However, SS should not just happen as a matter of routine but needs detailed planning. Each SS should have a clear objective and focus, a budget of time, money and other resources and involve credible supervisors that are able to provide hands on TA to the supervisees. One of the key challenges to effective SS, is the availability of skilled personnel within the supervisory teams; "It was learnt that proper planning of SS visits can make it possible for the supervisory team to draw on technically skilled personnel from various institutions e.g. the hospitals to supervise the lower level health facilities" (Dr. Okello, DMO, KCCA). The well structured and planned SS visits have served as a way to constantly build the skills of the TB treatment staff through the provision of continuous medical education sessions.

The TB CARE I project has also learnt that it is important to work with the partner (KCCA) to identify specific supervisory gaps and to address them as a way of strengthening supervision. Key gaps that have been identified and addressed include:

- At the beginning of engagement with the TB CARE I team, it was realized that the DTLSs were not very clear on their roles and had only been focusing on the quarterly reporting. They were visiting health facilities only to get data they needed for their

reporting and not carrying out the other supervisory duties. The TB CARE I project helped the supervisors to be more aware of their roles, and in addition, encouraged the KCCA to identify assistant supervisors to increase the supervisory capacity. The assistant supervisors will help boost the capacity for supervision especially for the bigger facilities that can't be properly supervised in only one day.

- The division supervisors were not very comfortable with the planning process, including planning their schedules and therefore tended to carry out supervision in an ad hoc manner. The DTLSs have been encouraged to make monthly plans that can be supported and a simple planning template is being introduced for their use.
- Many of the initial supervisors were health educators and Health Assistants, as the initial TB DOTS in Uganda was conceived as Community-based DOTS. It has however been realized that the best supervisors are mostly clinical persons e.g. Nurses and Clinical Officers who can give hands on technical guidance to the treatment providers at treatment centers. The training provided was only for one week, but this is not enough to produce top quality supervisors. As a result, the project hired a consultant to work with the trained supervisors, working for two days with each to give additional support.
- Supervision was found to be weak in Mulago Hospital because the designated DTLS for Mulago was not an employee of Mulago hospital and was a pharmacy technician whose main responsibility was dispensing drugs. He was therefore unable to carry out any meaningful supervision to the 4 treatment centers within Mulago which are managed by more highly trained persons. TB CARE I is negotiating with the NTLP program manager and the head of the TB unit in Mulago in order to solve this problem.
- A shortage of staff at the health facilities and interruptions in the supply of drugs, hinder the realization of the full effects of improved supervision.
- Some of the challenges/problems identified during supervision can not be quickly resolved by the supervisors, since they are structural in nature e.g. in terms of TB infection control, supervisory teams found blocked ventilation systems in some health facilities. The ventilation was blocked by additional structures that had been constructed over the vents. There is therefore a need for a system of reporting and feedback of the information from supervisory visits to higher level decision makers within the KCCA (the local government authorities).

5.2 TB Registers

A correct and complete TB register is important in monitoring patients and ensuring treatment completion. When TB CARE I started working with the KCCA, they found challenges and learnt several lessons about the use of TB registers in the city, these included:

- Although by 2010 they had TB CAP project support and some KCCA funding and all divisions had TB registers, when the TB CAP project ended and there were changes within the KCCA in 2011. By the beginning of TB CARE I, none of the divisions had registers for 2011/12, so the project printed new registers and distributed them to all the divisions
- The people who were supposed to keep the registers didn't appreciate their importance and therefore did little to get new ones. The regular meetings between TB CARE I and the DTLSs have helped them understand the importance of the registers and of filling all the required information in. The registers have been used in the verification of those who have completed treatment and in the follow up of patients

who have missed appointments. The use of the registers has led to the realization that there is a lot of movement of patients within the KCCA and only a proportion of patients can be expected to complete their treatment at the facility in which they are first treated. The rest may get treatment in other health facilities within the KCCA or in facilities in neighboring districts, particularly the Mukono and Wakiso districts. Regular meetings between supervisors enable them to track the patients across facilities and to see if they have completed treatment. Because the registers are manual, it is still a challenge to track patients who may move to other health facilities in the country beyond the KCCA. Meetings have been held with Wakiso and Mukono districts to harmonize patient records, however, working with the NTLP to have electronic registers would make it a lot easier to track patients across different health facilities.

KCCA health care workers undergoing practical induction in report compilation during the 5-day TB management training

5.3 Lessons about coordination of services with the KCCA

The key organizations involved in TB services within Kampala include the KCCA, the NTLP, TB CARE I and various TB treatment service providers, both public and private. Within the KCCA, there is a Directorate of Medical services, headed by a Director who has overall responsibility for all health services within Kampala. For TB management, the KCCA has a ZTLS and 6 DTLSs who are responsible for overseeing services in up to 38 treatment centers. At the time of the baseline survey, 36 of the centers were operational, while one was under renovation (Naguru Hospital) and another (Makerere University Hospital) was only making referrals. There was also some confusion on whether the three treatment centers within Luzira Prison should be considered as one or as three separate units.

During the first nine months of the TB CARE I project, it was ascertained that it is extremely important to engage in regular coordination meetings with the management of the KCCA as well as with the managers of the various treatment facilities. As a result, a weekly coordination meeting bringing together the TB CARE I project, the ZTLSs and the NTLP has been initiated. The meetings have already helped in harmonizing the planning of activities, harmonizing relationships, the sharing of information, the identification of priorities and streamlining mandates e.g. regarding reporting.
As a result of the improved coordination with the KCCA, even though the KCCA is in the process of restructuring and has essentially laid off many of the staff, an arrangement

has been reached to enable TB CARE I to continue working with the ZTLSs and the DTLSs until the new ones are in place. This has enabled the project activities to continue as planned.

5.4 Lessons about improving monitoring of patients

Through simple innovations the TB CARE I project has been able to support the service providers to better monitor the compliance of patients, improve treatment completion rates and identify cases of MDR-TB for referral to Mulago treatment center.
The provision of simple appointment diaries to health workers has enabled them to know when a patient has not shown up as expected for an appointment. Providing them with "air-time" has enabled them to make phone calls to the patients or their primary contacts to follow up and know what is happening. Between July and September 2012, phone calls were made to a total of 309 patients who had defaulted. Out of these, 59 were confirmed dead, 204 were confirmed as having completed TB treatment at other health facilities, 24 were verified as defaulters and 7 were failures/MDR-TB. With the positive results realised from this intervention, TB CARE I will continue providing monthly air-time to TB focal persons at health facilities and spread this to other health facilities within Kampala. Interviews with the confirmed defaulters has helped the project identify the key causes of defaulting and is now working to improve the counselling of the patients so that they understand the importance of completing treatment.

Good documentation is important in monitoring, especially with coding and patient numbers. At the beginning, the DTLSs were working with data that was not very good but through the TB CARE I project, the realization of the importance of reconciling data at various levels has been achieved e.g. within the treatment facility, it is important to harmonize laboratory records with treatment records.

5.5 Key Challenges Remaining

Lessons have been learnt regarding the challenges that remain and that need to be addressed to further strengthen the implementation of DOTS in Kampala. These include:
 • There are few staff in the treatment facilities and most are poorly remunerated. Though they have been trained by the TB CARE I project, unless their terms and conditions of services are improved, they will look for employment elsewhere
 • The training provided by the TB CARE I project was of a high standard but was mostly attended by nurses and clinical officers. Medical officers who see the TB patients did not attended the same training. There is a need to design a specific training modules to reach medical officers with the same information. These could be in the form of one day continuous medical education sessions rather than the week-long training workshops already conducted
 • One key element of DOTS is patient supervision, care and support. In a metropolitan area like Kampala, many of the patients do not have treatment supporters as they often live alone or amongst people they don't know and who are not able to provide the support required. There is a need therefore to design a patient care and support strategy that is suitable for urban areas. Many of the patients who lack support eventually stop treatment before completion, as they lack food or the encouragement to continue
 • Patient tracking has improved through the use of phone calls. However, some patients

cannot be reached on the phone and home follow up is still not possible
- There are missed opportunities for the cross-referral of patients from other clinics e.g. Antenatal to TB clinics or vice versa. In many of the facilities, the TB clinics are operated as standalone clinics
- Through the work of the TB CARE I project, data management has improved with registers being filled in properly and reviewed during coordination meetings. As a result, it is now possible to know how many patients are on treatment, the proportion that are completing treatment and the defaulters. However, data management still needs to be strengthened especially to show the linkage between TB treatment and Anti-Retroviral Therapy (ART) for HIV/AIDS cases. Analysis of the data also needs to be strengthened to identify the TB hot spots within the city and to strengthen the internal referral systems e.g. between the laboratory, the clinician and the counselors
- Contact tracing is weak or non-existent in most areas of the city
- During the TB CARE I project, the KCCA was undergoing re-structuring and its management systems are still evolving. Under the new system, there will be a manager for epidemiology and disease control and a supervisor at division level. These should be the officers involved in the TB program, instead of the DTLSs under the old system. Likewise, there are provisions for medical officers to be available at all the health Centre three facilities.

6. Success Stories

6.1   Use of Appointment Books

During the early phases of the TB CARE I project, staff found that it was often hard for the service providers to know which of their patients had not reported for treatment as expected. Even with the improved used of the TB registers, it would only be realized after several months that a patient had defaulted. The introduction and use of a simple appointment book made a big difference. The health workers were able to give appointments to their patients, based on the amount of drugs provided, and to record in the appointment book the day when the patient was expected. If the patient did not come by on that day, the health worker would immediately realize that the patient had missed their appointment.
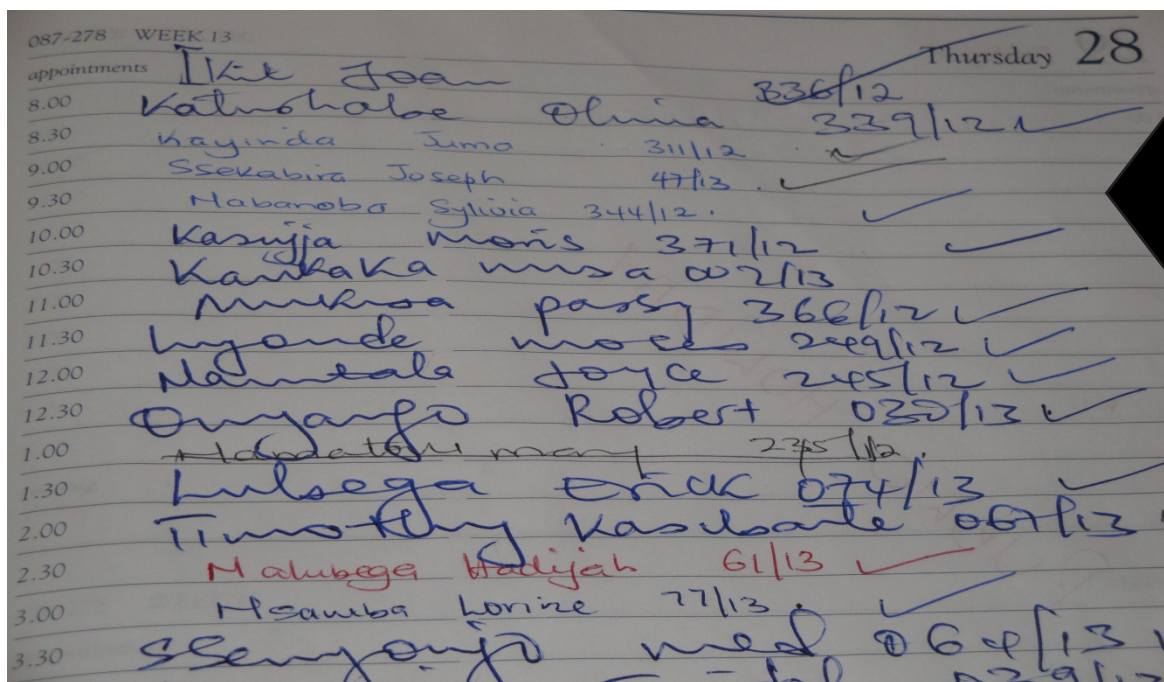
Snapshot of a page in an appointment book (Rubaga Hospital)

The picture above shows a page in an appointment book, the health worker can see at a glance which patients are expected, and can tick off the names as they are seen. The page also has the registration number of the patients and the health worker can easily check or enter additional details into the register. At the end of the day, the health worker knows which patients have not kept their appointments and need to be followed up.

The appointment books also helped the health workers in spreading out the visits of the patients and to avoid having too many patients on a particular day, or very few/none on another day thereby making their workload easier. In addition, by using the appointment book, they are able to schedule their patients around days when health workers need to be away e.g. on training.

The appointment book is a simple tool that is easy to use, it is low cost and has made a big difference in tracking patient attendance at clinics.

6.2   Use of phone calls for follow-up of patients

Before the TB CARE I project, health workers in Kampala were unable to follow-up patients who did not show up for appointments. Even when they realized that a patient hadn't shown up as expected, they were unable to find out why.
Taking advantage of the wide use of cell phones in Uganda, especially in the urban areas, the TB CARE I project provided minimal funds to the health workers to enable them call-up patients who did not keep their appointments. This initiative has made a big difference to patient tracking and to the motivation of the health workers. The health workers interviewed reported that because they have the ability to call, they feel empowered and can do something to help get the patients back before it is too late. The perceived benefits of being able to make the phone calls include:

- *"An improved relationship with the patients who feel the health workers really care for them by calling to find out why they didn't keep the appointment. This makes it easier for the health worker to provide counseling to the patient when he/she returns"* (Sr. Ichumar, Kisenyi HCIII).
- *"Even when the patient does not return, you get to know what has happened. It may be that the patient died, or that they moved to another place. This is much better than not knowing what happened"* (Titus Buule, Counsellor, Rubaga Hospital).
- *"Being able to call the medical officer for help if there is a complication with any of the patients in a clinic".* (Sr. Christine, Nsambya Home Care Clinic).
- *"Being able to talk to a patient and explain to them the importance of continuing with treatment even when they feel better"* (Service provider, Kiswa Health Center).
- The amount of money provided depended on the number of clients to be followed-up but in most cases was less than 20,000 Uganda shillings or $8 USD per month per health facility.

7. Conclusions and Recommendations for Sustainability

The main purpose of documenting the lessons learnt during the implementation of the TB CARE I project in Uganda was to generate ideas about approaches that work and to scale these up in other programs, and also to identify approaches that do not work and should be avoided. In order for this to happen, the lessons learnt should be disseminated as soon as possible to all key TB stakeholders in Uganda.
It is therefore recommended that the TB CARE I project undertakes the dissemination of the lessons learnt to the NTLP, to the new TB project, i.e. TRACK TB and to the KCCA as soon as possible. The dissemination should be done both in writing and through verbal presentations. In addition, the lessons learnt should be disseminated to all the other TB stakeholders, including the WHO and the members of the STOP TB coordinating committee as well as the TB/HIV working group during the dissemination of the project reports.

Some of the key lessons learnt can also be written up and disseminated through various media e.g. the websites of TB CARE I, KNCV Tuberculosis Foundation and the MoH.

Annex 1: Category of People Consulted

1. Division TB and Leprosy Supervisors from 5 city divisions
2. TB CARE I Uganda project staff
3. NTLP manager and staff
4. National MDR-TB coordinator
5. Service providers from Kisenyi and Kiswa Health centers, Rubaga and Nsambya hospitals and from Mulago MDR treatment center
6. Division Medical Officer from Makindye and Rubaga Divisions
7. KCCA Acting Director of Public Health and Environment.

Annex 2: The Lessons Learnt Log

Project Lessons Learnt Log
Purpose of the lessons learnt log

This project lessons learnt log will be used by the TB CARE I project staff responsible for carrying out planned activities to identify the lessons learnt from each planned activity and implemented or not implemented. It will be filled in on a monthly basis and takes into consideration all the activities planned for each objective during that month. It is intended to ensure that all lessons learnt, either positive or negative are captured. The lessons learnt log will provide a basis for the documentation consultant and Project M&E officer to further explore the lessons learnt with the project staff and with other stakeholders e.g. the DTLS and NTLP staff in detail, and will be able to document the lessons systematically as needed. It is important to note that while several activities may lead to the same lesson, each activity and lesson(s) from it must be recorded in the log individually.
Assumptions:
1. That each project activity planned and implemented may have a lesson to benefit the team.
2. That there are lessons to be learnt even when implementation of activities doesn't occur as planned.

Project Name: TB CARE I UGANDA PROJECT						
Chief of Party: Dr. ABEL NKOLO						
Project Description: TB CARE I, a USAID funded project that works in close collaboration with the National TB and Leprosy Program (NTLP) supports the NTLP and TB control in Kampala. The overall Objective of the project is to Support the NTLP to improve both the Case Detection Rate (CDR) and Treatment Success Rate (TSR) to achieve national targets through support to selected districts.						
Month of reporting:						
Activities planned*	**Staff responsible (name/ position)***	**Was activity implemented (yes/no)****	**Program technical process lessons (list all)****	**Management and human resources Lessons (list all)****	**Any Other lessons learnt****	**Recommendations /Suggestions of ways in which the lesson can be applied****
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NOTE: * to be filled by M& E Officer. More rows for activities planned can be inserted as needed

** to be filled by the staff responsible for the activity
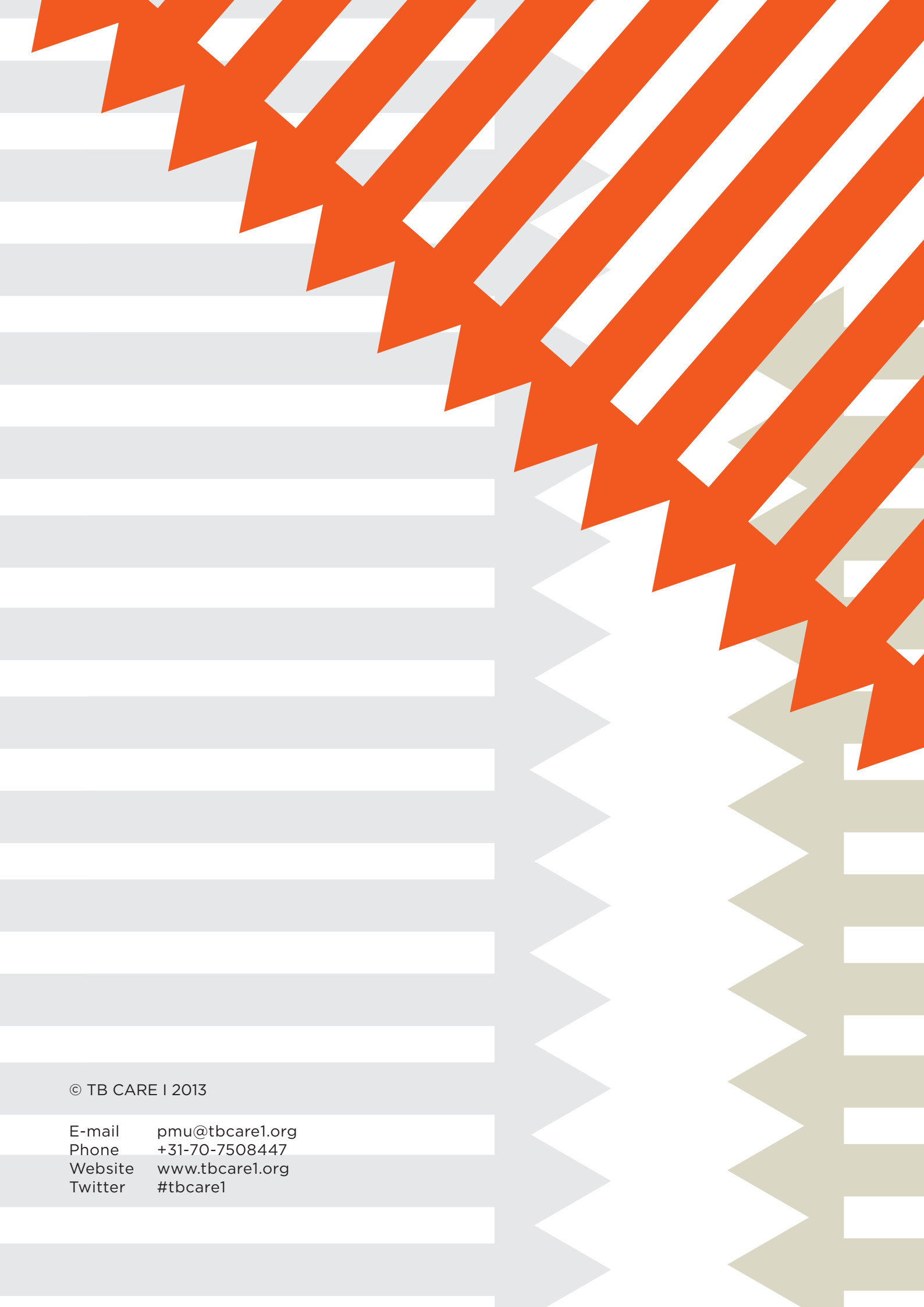
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