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CHANGE PACKAGE

Improving TB screening at Nine TB Diagnostic Treatment Units: Tested Changes and guidance from Uganda

JULY 2018

This change package for improving TB screening in Uganda was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID) and authored by Sylvia Nakibuuka, Herbert Kisamba, and Esther Karamagi of URC. It was developed as part of the Tuberculosis work in Uganda carried out under the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project, which is made possible by the generous support of the American people through USAID.

Cover photo: A provider screens a patient for TB. Photo by: Sylvia Nakibuuka, URC.

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Acronyms

ARI	Annual Risk of TB Infection
ART	Antiretroviral therapy
ARVs	Antiretroviral Drugs
ASSIST	Applying Science to Strengthen and Improve Systems project
CME	Continuous Medical Education
DTLS	District TB Leprosy Supervisor
DTU	Diagnostic Treatment Unit
HIV	Human Immunodeficiency Virus
IP	Implementing partner
KCCA	Kampala Capital City Authority
MDR-TB	Multi-drug resistant TB
MOH	Ministry of Health
OPD	Out Patient Department
QI	Quality Improvement.
RHITES	Regional Health Integration to enhance Services.
SCHW	Sub County Health Worker
STAR E	Strengthening TB and HIV responses in the Eastern region
STAR EC	Strengthening TB and HIV responses in the East Central region
TB	Tuberculosis
USAID	United States Agency for International Development

I. Introduction

Uganda continues to notify thousands of tuberculosis (TB) cases (46,171 TB cases in the year 2014) but these are only half of the estimated TB cases (87,000) (The Uganda National Population Based Tuberculosis Prevalence Survey 2014-2016). These figures exemplify the progress made but also highlight the task ahead for Uganda as a country if it is to achieve the new ambitious global target of ending tuberculosis by the year 2035.

The Annual Risk of TB Infection (ARI) for Uganda remains high, at 3%. The National TB Prevalence Survey conducted in 2015 puts the incidence of TB at 234/100,000 population for all TB cases and prevalence of TB is 253/100,000 population. Based on the 2015 Global TB Report, the mortality rate from TB (excluding HIV positive TB) in 2014 was estimated at 12/100,000 population. Multidrug resistant TB (MDR-TB) is an emerging problem with more than 1,040 estimated every year and the actual case finding is around 200 cases per year. (Tuberculosis and Leprosy Manual 3rd Edition 2016). Amidst the high TB burden, the quality of TB services is not at its best with a number of TB Diagnostic Treatment Units (DTUs) leaving care of TB patients in the hands of low cadre health workers.

Active TB case finding through improved TB screening at health care facilities increases the number of persons diagnosed with TB and prevents transmission of TB infection (Ending Tuberculosis by 2030 INT J TUBERC LUNG DIS 20@:1148-1158 2016 The Union).

USAID, through its Applying Science to Strengthen and Improve Systems (ASSIST) project in Uganda, has since October 2015 worked in collaboration with the ministry of health (MOH) and implementing partners (IPs) to build the capacity of health workers to screen, diagnose, and manage TB so as to improve TB care services using the continuous quality improvement (QI) model as well as the collaborative approach.

ASSIST, together with the MOH and regional IPs provided support to selected health facilities in Eastern, East Central, Central Kampala Capital City Authority (KCCA), and South Western regions through conducting eight monthly onsite coaching visits, two learning sessions, and one harvest meeting to ensure TB care services improved at all the TB supported facilities for a period of eight months. The experience gained while doing this work is the basis for this change package.

II. Intervention

Following a baseline assessment conducted in October 2015 at the participating health facilities it was found that TB screening for clients aged 0-14 years attending the out-patient department (OPD) was at 8.1% and clients aged 15 years and above was at 11.5% at all the sites. ASSIST engaged the facility-based health workers to review the performance and identify reasons for the observed poor performance. Regular support through on-site coaching was provided to the facility teams to review performance and teams came up with service innovations (changes) which they tested to attain improved TB screening for all clients attending OPD.

During the intervention it was vital for health facility teams to document the process of their improvement journey, which they did through use of a specific tool called the QI Documentation Journal. At the start of the intervention health facilities did not have a tool for capturing TB assessment so the health workers improved by creating a column in the OPD register to cater for that. However, shortly after the new MOH register that had specific space for documenting TB assessment findings become available and facilities were all supported to utilize it.

III. Results

TB screening for clients aged 0-14 years attending the OPD was at 8.1% and clients aged 15 years and above was at 11.5% at all the sites in October 2015. USAID ASSIST engaged the facility-based health workers to review the performance and identify reasons for the observed poor performance. Facility teams implemented various changes explained in **Table 1** which led to 90% TB screening

among OPD clients 0-14 years by August 2016 (**Figure 1**) and 88% for OPD clients above 14 years (**Figure 2**).

Figure 1: Percentage of children 0-14 years seen at OPD who were screened for TB at 15 health facilities (May 2015-Aug 2016)

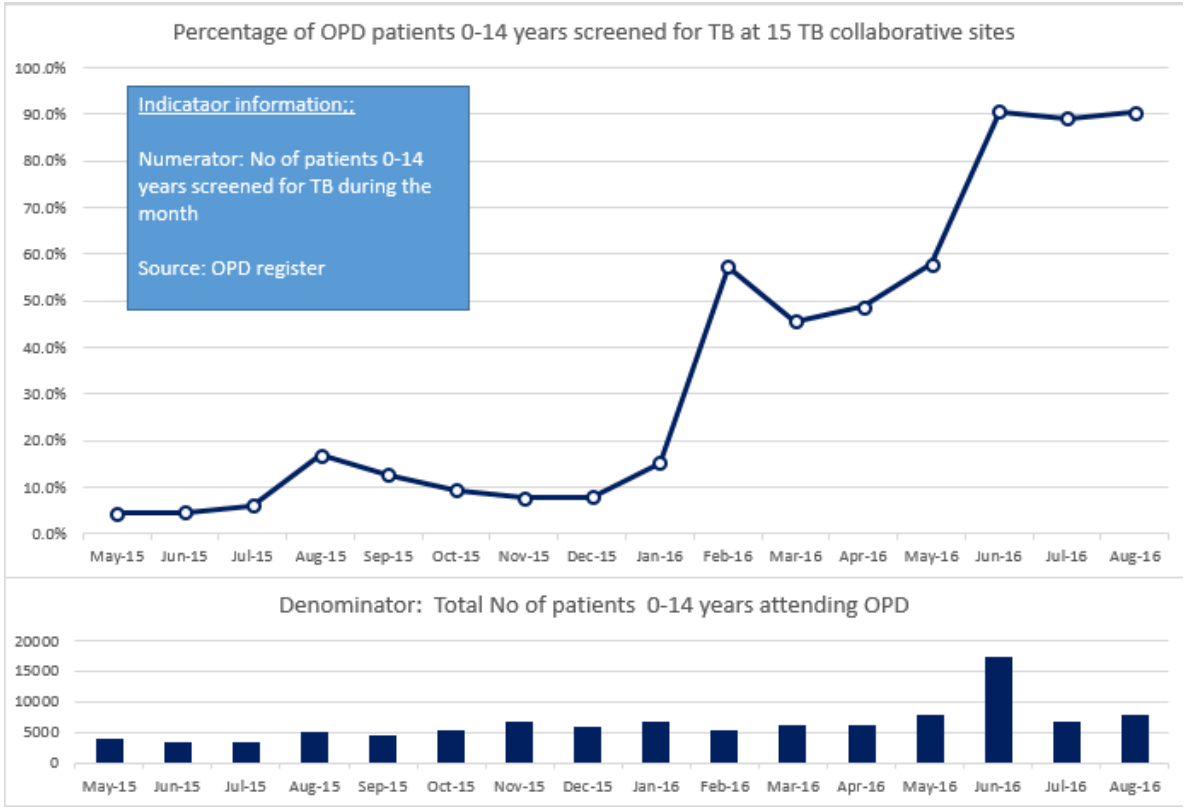
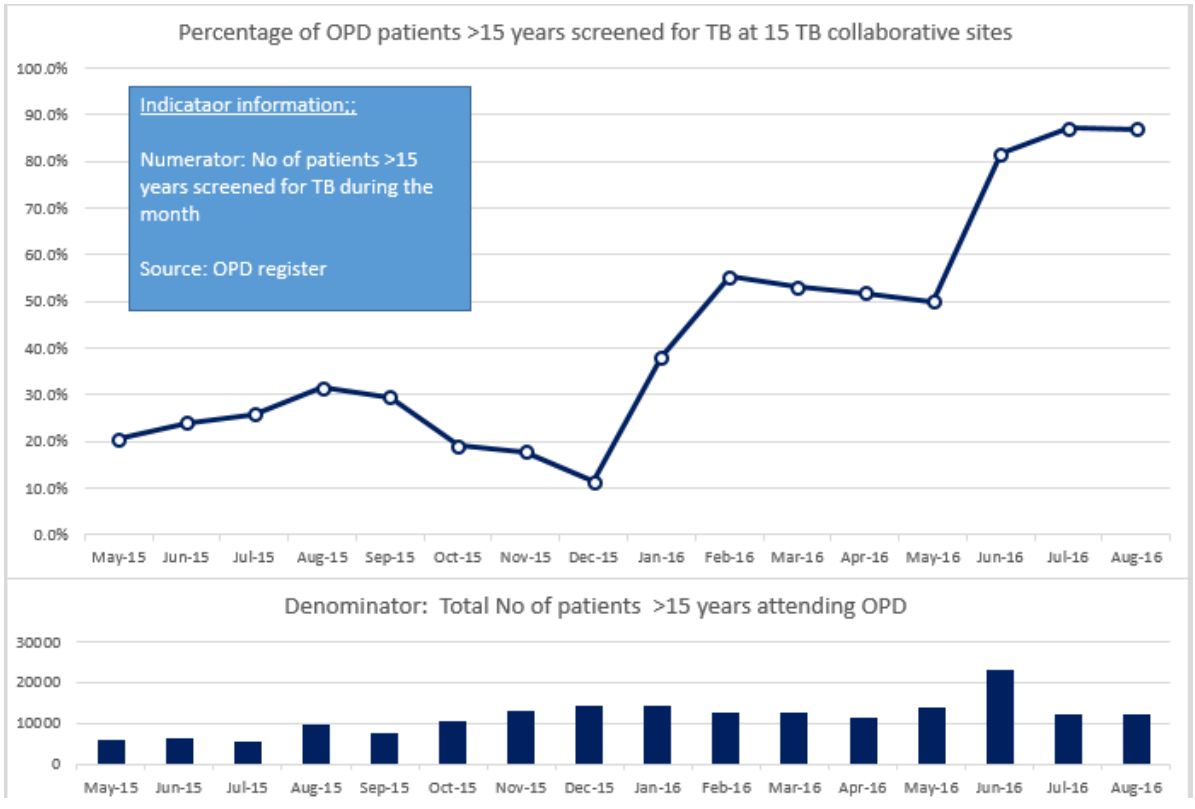


Figure 2: Percentage of patients 15 years and above seen at OPD who were screened for TB at 15 Health facilities (May 2015-Aug 2016)



IV. Harvest Meeting

ASSIST held a harvest meeting with the 15 participating health facilities to compile effective changes that the facilities tested for improving TB screening at the OPD. The facility teams compiled the changes that they implemented in their facilities. The change ideas were analyzed and made into change concepts. Using a specific template, the participants described step by step how the changes were implemented at each facility (**Appendix 1**). This led to a detailed how to guide of the change package (**Table 1**).

The change ideas were further analyzed by the participants to identify those that are related and were collapsed into change concepts.

V. The change package

A. Intended use

The change package was developed for frontline health workers, IPs, and others engaged in TB care, especially those working at OPD with the intension of improving TB screening at OPD.

The document has all the changes that were implemented at 9 DTUs. Those intending to use it can focus on changes that apply to their setting. This change package is intended to provide guidance among individuals and quality improvement teams wishing to improve TB screening among clients attending OPD. Teams are urged to adapt these changes to suit their clinic settings for improvement to occur.

Table 1: Detailed change package for improving TB screening for patients attending OPD at 9 facilities in Uganda

Change Idea	Reason for the change	How the change happened?
Change concept 1: Building Health workers capacity to screen for TB		
Sensitize health workers on TB screening	Some health workers were not updated with TB screening requirements at OPD	• Schedule date for continuing medical education (CME) and communicate to the staff. • Identify staff with knowledge on how to screen TB using the ICF guide • Conduct CME with support of the District TB Laboratory Supervisor (DTLS). • Distribute ICF guides to all care entry points. • Display ICF guides in all clinicians' rooms
Displaying of ICF job guides	Health workers needed a quick reference for symptom TB screening	• List out all the necessary TB screening Job aids available for use • Order missing job aides from the DTLS or IP • Retrieve available job aides from store. • Display ICF job aids on table or wall within all clinicians' rooms
Change concept 2: Assigning specific TB screening roles		
Assign a specific staff to oversee TB screening at OPD	No staff was responsible to ensure patients were being screened	• Identify a particular staff at OPD • Orient him/her about TB screening using ICF guide • Explained to her/him the roles involved. Some of the roles included; ensuring ICF job aids are available at OPD, review patient records to see if TB status is recorded, reminding other staff about TB

		assessment
Change concept 3: Documenting TB screening data		
Writing TB assessment codes alongside patient diagnosis.	TB screening done by clinician but not evidence of assessment.	• Hold meeting to agree on codes to use. • Identify staff who missed the meeting and orient them on agreed codes • Team agree to record codes alongside patient diagnosis so that the person recording in the OPD register does not miss it
Continuous verbal reminders to records staff to record patients TB status in OPD register.	Records staff or anyone in OPD forget to record TB status in the OPD register	• Identify member of staff to review register for completeness • Daily review of OPD register to identify particular staff missing out recording of the TB status • Focal person or any assigned persons remind record staff to record TB status for every patient and where they lack what to record get to the clinicians to assess the patients
Daily review the OPD register for completeness	TB columns in the OPD registers are blank for Some patients	• Agree of a particular staff to review OPD register daily to check if patients have their TB columns filled out • Assign staff checks registers daily • Give feedback on staff who miss some parameters in the register to in-charge by staff assigned to review • In-charge follow-up staff to establish why and take corrective action
Weekly review of OPD register to check if TB status was recorded.	Some patients have TB columns blank in the OPD register	• Identify a particular staff and assign them to review the OPD registers for completeness of TB column • Assigned staff choose a convenient day in the week to review OPD register • Staff review OPD register routinely • Give feedback to staff who miss filling in the OPD register by OPD in-charge
Change concept 4: Use of Reminders		
Pin/ stick reminder notice to ensure OPD clients are screened for TB and TB status recorded in clients' books and OPD register.	Staff were not screening all OPD clients for TB. And a few who were screened, the TB status was not recorded in the patient book and OPD register	• Print out reminder notes on Manilla paper • Pin reminder clinical rooms • Write TB status alongside diagnosis in patients' books.

VI. Recommendations

These changes are recommended because the 9 health facilities that tested and implemented these changes reported significant improvement in TB screening for clients attending OPD. Persons involved in TB work need to focus on:

- **Capacity enhancement for health workers:** District TB and leprosy supervisors should regularly enrich health workers with new TB information and new TB job aides during their

support supervision. The TB job aides should be displayed in areas where they are easily accessed by all health workers.

- **Improving documentation and routine data reviews:** The TB team members should document the findings of the TB assessment process for proper action taking by whoever sees the patient there after. Use of specific tools that support this like the current version of OPD register is encouraged. A specific day to review TB data tools for completeness should be set for the teams to analyze their performance.
- **Communicating between providers:** All service providers at the facility should be well versed with TB screening codes, verbally remind health workers who miss recording TB status in clients' treatment book.
- **Assigning roles:** Specific staff should be assigned roles of overseeing TB screening at all care entry points.

VII. Annex

Appendix 1. Rank-ordered changes to improve TB screening for OPD clients

Improvement indicator: Percentage of OPD clients screened for TB

Tested change	No. of sites	Evidence from Pilot tests	Relative importance	Simplicity/ scalability	Affordability	Total rating
Triage staff to review patients TB status and remind health workers	1	5	5	5	5	20.0
Assigning codes to help identify presumptive cases at OPD	1	5	5	5	5	20.0
Continuous reminding of clinicians to screen and dispensers to record patients TB status in OPD register	1	5	5	5	5	20.0
Retrieving and displaying ICF s on all patients care points	1	5	5	5	5	20.0
One on one mentoring to clinicians on TB screening	1	4	5	5	5	19.0
Record TB status along patients' diagnosis and orient records personal on agreed code	1	5	5	5	4	19.0
Assigned a specific staff to review the OPD register on a weekly basis	3	4	5	4	5	18.0
Assigning a triage staff/nurse to oversee TB screening	2	4.5	4.5	4.5	4.5	18.0
Introduced codes for TB status along patients' diagnosis	1	3	5	5	5	18.0
Orientation of staff to use TB codes which were recorded along patients' diagnosis	1	5	5	3	5	18.0
Assigned a focal person to supervise TB assessment and documentation	1	5	5	4	3	17.0
Assigned staff to supervise filling of the OPD register	2	4	4	5	4	17.0
Staff assigned to screen TB in OPD	1	4.5	4	4	4	16.5
Created a column in OPD register to document clients TB status	2	3	3	5	5	16.0
CME conducted to staff on TB screening	3	4	3.25	4.25	4.25	15.8
Conducted a screening of all patients by clinicians		1	3	2	3	9.0

Appendix 2: List of facilitators during the harvest meeting

Name	Title	Organization/ District
Dr.Kisamba Herbert	Senior Quality Improvement Advisor	USAID-ASSIST
Nakibuuka Sylvia	Quality Improvement Officer	USAID-ASSIST
Birungi Rosette Florence	Quality Improvement Officer	USAID-ASSIST
Kigonya Angella	Knowledge management Officer	USAID-ASSIST
Amayo stephen	Regional Coach	Wakiso district
Masette Elsie	Regional Coach	Bulabuli district
Tumushabe Belinda	Regional Coach	Wakiso district
Banturaki Expedito	Regional Coach	Rubirizi district

Appendix 3: Participating sites and their quality improvement teams

Facility	QI team members
Busiu HC IV	Dr. Maumbe Benard, Mwiyikinma Emma, Nabulo Janet, Kakai Sylvia, Orena Stephen, Chelogoi Rashid, Wanyana Geofrey, Nambuya Betty.
Nakaloke HC III	Wanyenze Bridget, Abwin Christine, Namatome Falida, Wafenya Sam, Arikod Mary, Wakalanga Muhamad, Otunyi Levi, Nandere Margaret, Nagudi Doreen.
Busia HC IV	Oduya Betty, Lule Yusuf, Katuutu Christine, Edaku Joseph, Nekesa Getrude
Kityerera HC IV	Wabaire Lydia, Gidudu Mariam, Maganda Johson, Bazibu Bosco, Mbera, Sarah, Namuyaga Diana, Magumba Asuman, Kirumira Mutwalibi, Basalirwa Robert, Nabirye Topie.
Nankoma HC IV	Magoola Saadi, Bamwose Moses, Musitwa Cloves, Tumwebaze Simon, Kyota Robert
Mutumba HC III	Opio Humphrey, Namumbya Faith, Namusoke Mangadalena, Munyori Valeria, Baraka Robert, Othieno Williams, Naigaga Besi
Kanungu HC IV	Bagwiza Vincent, Martin Mpimbaza, Katto, Moses Besisira, Kamugisha Augustine, Tuwakire Emily, Tumuramye Justus, Kembabazi Winnie, Musimenta Barbra.
Kyadondo medical centre	Ssekyanzi Maurice, Nalubega Resty, Nakirijja Cissy M.
Nsambya Police clinic	Balaba Luke, Anderu Christine, Nabbona Jane, Sekayise Ronald, Nekesa Harriet

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