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EVALUATION

USAID/Uganda's District-Based Technical Assistance (DBTA) Model as Applied under Strengthening Tuberculosis and HIV/AIDS Responses (STAR) Projects in East, East-Central, and South-West Uganda

July 2015

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Cover Photo: A STAR-E ART client at Sipi HCIII in Kapchorwa District being interviewed as part of the DBTA/STAR evaluation client exit interviews. Photographer: Unknown

EVALUATION OF USAID/UGANDA'S DISTRICT-BASED TECHNICAL ASSISTANCE (DBTA) MODEL AS APPLIED UNDER STRENGTHENING TUBERCULOSIS AND HIV/AIDS RESPONSES (STAR) PROJECTS IN EAST, EAST-CENTRAL, AND SOUTH-WEST UGANDA

JULY 2015

USAID/Uganda's District-Based Technical Assistance (DBTA) model was designed with a regional technical assistance focus to improve accessibility, quality, and availability of integrated health service delivery as well as to improve health system financing and management. The USAID/Uganda funded STAR (Strengthening TB and HIV/AIDS Responses) projects in East, East-Central, and South-West Uganda were designated as the first of USAID/Uganda's projects to implement the DBTA model. The three DBTA programs were implemented by Management Sciences for Health (MSH) in East Uganda (STAR-E, 2010), by John Snow International (JSI) in East-Central Uganda (STAR-EC, 2010), and by Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) in South-West Uganda (STAR-SW, 2011). All three projects ended together in March 2015. As DBTAs, the three programs were expected to strengthen decentralized service-delivery systems for improved uptake of quality HIV/AIDS and TB services.

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired immunodeficiency syndrome
ANC	Antenatal care
ART	Antiretroviral therapy
ASSIST	Applying Science to Strengthen and Improve Systems Project Uganda
BCC	Behavioral change communication
BMU	Beach management unit
CAO	Chief administrative officer
CBDOTS	Community-based directly observed treatment short course
CBO	Community-based organization
CD4	Cluster of differentiation 4
CDO	Community development officer
CPHL	Central Public Health Laboratories
CSA	Community support agent
CSO	Civil society organization
DAC	District AIDS committee
DAT	District AIDS taskforce
DBM	District-based mentor
DBTA	District-Based Technical Assistance
DDP	District development plan
DFPP	District focal point person
DHO	District health officer
DHT	District health team
DHMT	District health management team
DHIS2	District Health Information System 2
DMC	District management committee
DOP	District operational plan
DOTS	Directly observed treatment short course
DQA	Data quality assessment
DTLS	District tuberculosis and leprosy supervisor
EGPAF	Elizabeth Glaser Pediatric AIDS Foundation
EMHS	Essential medicines and health supplies

EID	Early infant diagnosis
eMTCT	Elimination of mother-to-child transmission of HIV
FBOs	Faith-based organization
FGD	Focus group discussion
FLEP	Family life education program
FP	Family planning
FSG	Family support group
FSW	Female sex worker
GIPA	Greater Involvement of People Living with HIV/AIDS
GIS	Geographical information system
GoU	Government of Uganda
HC	Health center
HFA	Health facility assessment
HIV	Human immunodeficiency virus
HMC	Health management committee
HMIS	Health management information systems
HSS	Health systems strengthening
HTC	HIV testing and counseling
HUMC	Health unit management committee
IEC	Information, education, and communication
IP	Implementing partner
IPT	Isoniazid preventive therapy
JSI	JSI Research & Training Institute, Inc.
KII	Key informant interviews
KM	Knowledge management
KYCS	Know Your Child's Status
LC	Local council
LMIS	Logistics management information system
LSM	Logistics and supply management
LQAS	Lot quality assurance sampling
MARP	Most-at-risk population
MCH	Maternal and child health
MCPs	Multiple concurrent partnerships
MDR	Multidrug resistant tuberculosis
MEEPP	Monitoring and Evaluation of the Emergency Plan Progress

MIPA	Meaningful involvement of people living with HIV/AIDS
m2m	mothers2mothers
MMS	Multimedia messaging service
MoH	Ministry of Health
MoLG	Ministry of local government
M&E	Monitoring and evaluation
MSH	Management Sciences for Health
MSMTG	Men who have sex with men and transgender women
NACWOLA	National Community of Women Living with HIV/AIDS in Uganda
NAFOPHANU	National Forum for People Living with HIV&AIDS Networks in Uganda
NMS	National medical stores
OCA	Organization capacity assessment
OPD	Outpatient department
OVC	Orphans and vulnerable children
PACE	Program for Accessible Health Communication and Education
PCR	Polymerase chain reaction
PEP	Post-exposure prophylaxis
PEPFAR	President's Emergency Plan for AIDS Relief
PLHA	People living with HIV/AIDS
PLHIV	Person living with HIV
PMP	Performance monitoring plan
PMTCT	Prevention of mother-to-child transmission of HIV
PNFP	Private not-for-profit health facility
PWID	People who inject drugs
PY	Program year
QI	Quality improvement
RHITES	Regional Health Integration to Enhance Services
RTC	Routine testing and counseling
S&S	Surveillance and surveys
SACCO	Savings and credit cooperative
SCMS	Supply chain management system
SCORE	Sustainable comprehensive responses for vulnerable children
SCHW	Sub-county health workers
SDA	Special duty allowances
SDS	Strengthening Decentralization for Sustainability

SI	Strategic information
SLAMTA	Strengthening Laboratory Management Toward Accreditation
SMC	Safe male circumcision
SMS	Short message service
SOP	Standard operating procedure
SOW	Scope of work
SPAI	Service performance assessment and improvement
SPARS	Sparsely populated areas
SRH	Sexual reproductive health
STAR-E	Strengthening TB and HIV/AIDS Responses in East Uganda
STAR-EC	Strengthening TB and HIV/AIDS Responses in East-Central Uganda
STAR-SW	Strengthening TB and HIV/AIDS Responses in South-West Uganda
SURE	Securing Ugandans' Right to Essential Medicines
SUSTAIN	Strengthening Uganda's Systems for Treating AIDS Nationally
TB	Tuberculosis
TSR	Treatment success rate
UGX	Ugandan shillings
UHMG	Uganda Health Marketing Group
URHB	Uganda Reproductive Health Bureau
USAID	United States Agency for International Development
VFM	Value-for-money
VHTs	Village health teams
VMMC	Voluntary medical male circumcision
WAOS	Web-based ordering system
YCC	Young child clinic

EXECUTIVE SUMMARY

PROJECT BACKGROUND

The USAID/Uganda's District Based Technical Assistance (DBTA) model features integrated service delivery with a regional focus on improving accessibility, quality, and availability of integrated health service delivery, as well as health system financing and management. The USAID/Uganda-funded Strengthening TB and HIV/ AIDS Responses (STAR) projects in the Eastern, East-Central, and South Western regions of Uganda were the first opportunities to implement the DBTA model. The STARs projects were implemented from 2010 to 2015.

EVALUATION PURPOSE

This evaluation was commissioned in October 2014 to establish the extent of efficiency and effectiveness of the USAID/Uganda's DBTA project model as applied across the three STAR projects. The purpose of the evaluation was to comprehensively analyze the implementation process and results achieved through USAID/Uganda's DBTA model.

Evaluation Questions

The evaluation aimed to establish the extent of efficiency and effectiveness of the DBTA project model as applied across the three STAR projects pertaining to improved capacity and sustainability, service delivery, and cost efficiency. The evaluation questions were as follows:

Improved Capacity and Sustainability

1. Approaches utilized by the STARs to strengthen districts and local governments to deliver health services, differed and evolved over time. What are: a) the most successful and b) least successful approaches applied by STAR-E, STAR-EC, and STAR-SW respectively towards strengthening the institutional, management, and human capacity of CSOs and local governments to deliver health services? What are the facilitators and barriers of these approaches to achieving results? Are the approaches used and results achieved for old/established and relatively new/naive districts significantly different?
2. What was the effect of transition of direct implementation of district led health care management activities from the STARs projects to district grants through SDS?
3. To what extent has the STARS program developed, established and/or strengthened management and technical structures at the local government and health facility levels that will sustainably improve quality, availability and accessibility of HIV/AIDS and TB services?
4. What technical capacity in strategic information have the STARs developed, built and/or strengthened? Where has this capacity been developed, built and or strengthened? How is it manifested/ demonstrated? How sustainable is this capacity after the STARs' exit?

Service Delivery

1. How has the support by the STARs contributed to improved health service delivery? What are the Service delivery outcomes attributed to the DBTAs?
2. What was the effect of integration of HIV/TB, HIV/Family Planning, HIV/AIDS and health on overall health outcomes?

Cost Efficiency

- I. To what extent can the DBTA design be considered cost efficient in strengthening capacity of districts and CSOs to improve health service delivery?

Methods

The evaluation applied a cross-sectional design that used both quantitative and qualitative methods for data collection and analysis. Key informant interviews (KIIs) and focus group discussions (FGDs) were conducted with informants from the Ministry of Health, USAID/Uganda's health office staff, and representatives of programs and projects allied with the DBTA/STAR projects. More than one hundred people were interviewed, and thirty-eight focus groups were conducted. Additionally, more than six hundred client exit interviews were conducted at a random sampling of facilities visited by the three sub-teams.

KEY FINDINGS AND CONCLUSIONS

This section presents a synthesis of the key findings and conclusions of the evaluation, structured around the seven evaluation questions.

- **Approaches implemented under the DBTA/STAR programs:** The most successful approaches toward strengthening the institutional, management, and human capacity of CSOs and local governments to deliver health services included mentorship and training, integration of HIV/AIDS and TB services at lower-level health facilities, establishment of community linkages for HIV/AIDS and TB services, a commodity-tracking system to reduce stock outs, and the strengthening of laboratory services. Success was attributed to the supportive national HIV/AIDS policy environment, the competence of the STAR technical teams, and the availability of resources for the interventions.

The evaluation team identified a limited focus on empowering district health teams and health facility leadership as a primary shortcoming of the programs. It was also noted that an inadequate emphasis on systems strengthening was compounded by ambitious targets for service-delivery outputs. Incentives undeniably increased demand for and utilization of antiretroviral therapy (ART) sites but undermined sustainability. Other barriers included a heavy focus on biomedical components of HIV prevention and serious health system constraints, including inadequate human resources, irregularly scheduled and single-issue vertical training programs, and central-level stock outs.

Lastly, there were no significant differences across the three regions in terms of approaches applied or results achieved between old/established and relatively new/naive districts.

- **The effect of transition:** Transition of direct implementation of district-led healthcare management activities from the STARs projects to district grants through SDS was more difficult in STAR-EC and STAR-E. In these regions, SDS was preceded by the STAR projects, whereas in STAR-SW, SDS was launched together with the STAR project, resulting in better collaboration during early implementation. The evaluation notes that there was a much stronger collaborative relationship between SDS and STAR-SW compared with the other STAR programs. This manifested in stronger district leadership in planning and management of HIV/AIDS services, as well as improved partnership with other DBTAs.
- **Sustainability:** The STAR program developed and strengthened management and technical structures at the local-government and health-facility levels. To ensure sustainability, the

district health management teams (DHMTs) were integrated into SDS grant A to enhance a sense of ownership of HIV/AIDS and TB efforts, especially in STAR-SW. Technical structures to support HIV/AIDS service decentralization including teams of regional and district-based trainers, clinical mentors, supervisors, as well as multilevel quality improvement (QI), are expected to sustainably improve quality, availability, and accessibility of HIV/AIDS and TB services.

- **Strategic information:** SI technical capacity was strengthened through health management information systems/District Health Information System 2 (HMIS/DHIS2) and lot quality assurance sampling (LQAS) implementation. The revised HMIS, which integrated previously vertical reporting and introduced new forms for HIV treatment, was new to lower-level facilities. STARs supported the roll-out of the new HMIS forms and established internal district structures and processes for improving the quality of HIV/AIDS and TB data collection. Additionally, STARs improved the timeliness and completeness of HMIS reporting and its use at community, facility, and district levels. Among the mechanisms introduced were district platforms for performance reviews, data dissemination, and learning. District capacity to implement and use results from annual LQAS surveys was increased, although implementation of LQAS still depends on external funding.
- **DBTA contribution to improved health service delivery and related health outcomes:** The DBTAs' contribution to service delivery included rapid expansion of ART services to lower-level facilities, from 88 to over 330 sites within three years of implementation. This increase in service availability included infrastructure improvements at health centers to accommodate an increased number of clients, management of associated commodities, and improvements in laboratory support services. The DBTAs also supported the roll-out of new clinical guidelines and built adaptive capacity of districts for any new changes in guidelines through the establishment of local training teams and on-site training approaches. Other critical areas addressed in expanding services to lower facilities were the strengthening of logistics and supplies management (LSM) and SI management.

There were significant improvements in HIV/AIDS and TB service-delivery outcomes and access to services. These included significant improvements in HIV testing and counseling (HTC) uptake, with the percentage of people that had received HIV counseling and testing and knew their HIV results rising from 25% in 2010 to 47% in 2014. Furthermore, couples testing during the antenatal period increased from 76% to 94%, and individuals' disclosing HIV results to their spouses increased from 80% to 93% over the same period. There were also significant improvements in ART enrollment and initiation. There was increased ART enrollment, with new patients enrolled in HIV care doubling from 23,600 in 2011 to 40,100 in 2014. The number of new patients started on ART almost tripled from 10,821 in 2009 to 30,920 in 2014. However, though pre-ART enrollment and ART initiation improved, retention on ART and improvements in quality of care remained stagnant.

- **Integration of HIV/AIDS care:** Integration of HIV/AIDS services with other health areas had the greatest impact on TB outcomes and uptake of ART among TB patients. There were also improvements in uptake of antenatal care (ANC) services, births in health facilities, and child health outcomes. However, there was no significant impact on practices like household sanitation, hygiene, and nutrition practices.

- **Cost efficiency:** While each of the STAR projects has been able to achieve substantial progress over the life of the projects, inefficiencies in program management suggest that more could have been achieved with the level of investment.

RECOMMENDATIONS

The evaluation team recommends the following changes to improve the design of future DBTA projects:

1. To strengthen DBTA capacity-building approaches, design future DBTA projects to address the strengthening of multiple components of the health system, since many factors affect technical assistance uptake.
2. Clearly delineate roles, responsibilities, and programmatic parameters among multiple programs working in the same district to improve coordination and collaboration.
3. Invest in developing the leadership capacity of existing health management committees (HMC) at the health-facility level to improve the quality assurance linkage between the health services and the communities served.
4. In collaboration with the DBTA's participating districts, establish and maintain a database to determine the extent of cost sharing among districts, with reference to DBTA interventions to improve long-term sustainability.
5. Continue to support maintenance and utilization of the LQAS methodology for data collection, strategic planning, and improvement of programs.
6. Continue to support community QI initiatives to strengthen linkages between health facilities and the communities they serve and to improve quality of care in service delivery.
7. Expand HIV/AIDS service integration to include other key health areas, such as chronic care and adolescent health.
8. Design DBTA programs with rigorous focus on the reduction to minimal necessary levels of the percentage of administrative support costs required to sustain DBTA technical assistance and DBTA operations to promote cost efficiency and value for money (VFM).

I. INTRODUCTION

USAID/Uganda's District Based Technical Assistance (DBTA) model was designed with a regional technical assistance focus to improve accessibility, quality, and availability of integrated health service delivery, as well as to improve health-system financing and management. The USAID-funded STAR (Strengthening TB and HIV/AIDS Responses) projects in East, East-Central, and South-West Uganda were designated as the first of USAID/Uganda's projects to implement the DBTA model. The three DBTA programs were implemented by Management Sciences for Health (MSH) in East Uganda (STAR-E, 2010), by John Snow International (JSI) in East-Central Uganda (STAR-EC, 2010), and by Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) in South-West Uganda (STAR-SW, 2011). All three projects ended March 2015.

Under a contract with USAID/Uganda, QED LLC, a consulting firm based in Washington, DC, with a base in Uganda under the USAID-funded Monitoring, Evaluation, and Learning Contract, recruited a professional team of eleven consultants supported by six research assistants to undertake an evaluation of the DBTA model as implemented by the three STAR projects. As defined by the evaluation's scope of work (see Annex A), the purpose of the evaluation was to assess the efficiency and effectiveness of the USAID/Uganda's DBTA project model as applied to the design and implementation of STAR project initiatives. The focus of the evaluation was on learning from experiences gained in the process of implementing the model. The evaluation, launched on October 27, 2014, was divided into two phases: October–December 2014 was dedicated to data collection while January–February 2015 was dedicated to final data validation, analysis, and preparation of the evaluation report.

EVALUATION PURPOSE

The purpose of the evaluation was to establish the extent of efficiency and effectiveness of the USAID/Uganda's DBTA project model as applied across the three STAR projects.

EVALUATION QUESTIONS

The evaluation was designed to provide answers to a number of questions pertaining to improved capacity and sustainability, service delivery, and cost efficiency of the DBTA projects. A key element of the evaluation was a comparison of what was in place before and after the STAR projects in order to understand changes that could be attributed to the program.

The evaluation strived to answer the following questions:

Improved Capacity and Sustainability

1. Approaches utilized by the STARs to strengthen districts and local governments to deliver health services, differed and evolved over time. What are: a) the most successful and b) least successful approaches applied by STAR-E, STAR-EC, and STAR-SW respectively towards strengthening the institutional, management, and human capacity of CSOs and local governments to deliver health services? What are the facilitators and barriers of these approaches to achieving results? Are the approaches used and results achieved for old/established and relatively new/naive districts significantly different?
2. What was the effect of transition of direct implementation of district led health care management activities from the STARs projects to district grants through SDS?

3. To what extent has the STARS program developed, established and/or strengthened management and technical structures at the local government and health facility levels that will sustainably improve quality, availability and accessibility of HIV/AIDS and TB services?
4. What technical capacity in strategic information have the STARS developed, built and/or strengthened? Where has this capacity been developed, built and or strengthened? How is it manifested/ demonstrated? How sustainable is this capacity after the STARS' exit?

Service Delivery

1. How has the support by the STARS contributed to improved health service delivery? What are the Service delivery outcomes attributed to the DBTAs?
2. What was the effect of integration of HIV/TB, HIV/Family Planning, HIV/AIDS and health on overall health outcomes?

Cost Efficiency

1. To what extent can the DBTA design be considered cost efficient in strengthening capacity of districts and CSOs to improve health service delivery?

As specified under the scope of work (SOW), the evaluation report was expected to include two distinct but linked sections, one of which (Section A of this report) was to focus on a comprehensive discussion of the overall DBTA approach, and the second of which was to consist of standalone pullouts for each of the three DBTA projects being evaluated (Sections B–D of this report).

II. PROJECT BACKGROUND

Working closely with the Ugandan Ministry of Health and through district health management teams (DHMTs), district councils, health facilities, and communities, the projects' general objective was to increase the accessibility, coverage, and utilization of quality comprehensive HIV/TB prevention, care, and treatment services within district health facilities and their respective communities. This general objective was expected to be achieved through the following specific objectives: (a) strengthening decentralized HIV/AIDS and TB service delivery systems; (b) improving the quality and efficiency of HIV/AIDS and TB service delivery within health facilities; (c) strengthening networks and referrals systems for HIV and TB services; and (d) increasing demand for comprehensive HIV/AIDS and TB prevention, care, and treatment services.

All three STAR projects were designed to strengthen systems at the decentralized level to facilitate improved delivery and uptake of HIV/AIDS and TB services. District-led performance reviews helped to identify coverage and service gaps. Anticipated service-delivery enhancements included, but were not limited to, issues associated with leadership, management, health management information systems (HMIS), and human resources for health care, supply chain management, SI, infrastructure, and laboratories.

In addition, under USAID's SDS project (started in 2010), the three STAR projects were expected to link their implementation with SDS grants to fund and provide technical support to CSOs to facilitate the uptake of comprehensive services. While the SDS project itself was not part of the STAR project configuration, STAR collaboration with the SDS project was considered of significant importance with respect to the impact of SDS on anticipated STAR project outcomes.

III. EVALUATION METHODS AND LIMITATIONS

METHODOLOGY

The evaluation applied a cross-sectional design that used mixed-method approaches, which included both quantitative and qualitative methods. The evaluation questions provided the framework around which the evaluation team developed evidence to support conclusions both about lessons learned in implementing the DBTA model and about the value of the DBTA approach. Various data collection techniques, such as structured observations, key informant interviews (KIIs), client exit surveys, and reviews of existing secondary data were used.

As detailed in Annex B, the evaluation methodology comprised nine distinct organizational steps:

Step 1: Document Review: Documentation reviewed and consulted through the evaluation were drawn from a significant volume of information available to the evaluation team. Among those documents consulted were documents that addressed DBTA and project design, planning and management, national policies, strategies and other kinds of related documents. (Please see Annex C for a complete list of principal documents reviewed and consulted.)

Step 2: Team Management: The fifteen-person evaluation team was divided into multiple technical teams with distinct responsibilities: a team leader dedicated to project management and to the management of national-level government and USAID interviews; a two-person team, each member of which was supported by two research assistants (“sub-teams”) for each of the three project areas and was dedicated to managing KIIs and focus group discussions (FGDs) within each project area; a two-person team that addressed issues associated with project-related information management and logistics and supply management (LSM); a specialist in economic analysis who assessed the DBTA model’s cost efficiency; and a specialist who conducted client exit interviews. (Please see Annex B for a detailed description of the team management methodology.)

Step 3: Review of Secondary Data: The sub-teams’ review of secondary data was supported by the evaluation team’s statistician, who focused on the collection and analysis of project-related statistics including, but not limited to, reports on lot quality assurance sampling (LQAS), annual program reports compiled by Monitoring and Evaluation of the Emergency Plan Progress (MEEPP), health facility assessment data, and the three projects’ operational statistics contained in annual reports and other documents.

Step 4: District Sampling: Given the large number of districts across all three projects, the evaluation team adopted purposive sampling, which included a mix of both the old and new districts. As indicated in Table 2.1.4, the districts were categorized as either old or new. New districts face markedly greater health system challenges than old districts, and those challenges may have affected DBTA programs. For the purposes of this undertaking, new districts are those established from July 2005. Table 1 provides an overview of the sampling frame for STAR districts.

Table 1. Sampling Frame for STAR Districts

STAR SOUTH-WEST		STAR EAST-CENTRAL		STAR EAST	
Old Districts	New Districts	Old Districts	New Districts	Old Districts	New Districts
Bushenyi	Buhweju	Iganga	Luuka	Kapchorwa	Bukwo
Kabale	Ibanda	Bugiri	Namayingo	Mbale	Kween
Kanungu	Isingiro	Kamuli	Buyende	Pallisa	Bulambuli
Kisoro	Kiruhura	Kaliro	Namutumba	Busia	Kibuku
Ntungamo	Mitooma	Mayuge		Sironko	Budaka
Rukungiri	Sheema				Bududa
	Rubirizi				Butaleja
33% sample (2 districts)	33% sample (2 districts)	33% sample (2 districts)	50% sample (2 district)	33% sample (2 districts)	33% sample (2 districts)

Building on the above sampling frame, it was decided to survey two districts per cluster, with a mix of old and new districts in each project area. Table 2 indicates those districts that were sampled as part of the STAR evaluation.

Table 2. List of Sample Districts for the STAR Evaluation

STAR SOUTH-WEST		STAR EAST-CENTRAL		STAR EAST	
Old Districts	New Districts	Old Districts	New Districts	Old Districts	New Districts
Bushenyi	Buhweju	Iganga	Luuka	Mbale	Kibuku
Ntungamo	Mitooma	Kamuli	Namayingo	Kapchorwa	Bulambuli

Finally, the evaluation team assigned to each project area selected an appropriate mix of HCIV, HCIII, and HCII (i.e., high client load to low client load) facilities to be visited. In addition, as private not-for-profit health facilities (PNFPs) are partially subsidized by the government of Uganda, the sample survey also included three HCII PNFPs. (For a detailed description of the sampling methodology employed for this evaluation see Annex B.)

Step 5: Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs): In each project area, sub-teams interviewed district-level chief administrative officers (CAOs), district medical officers (DMOs) and district staff, and DBTA/STAR project officers and their staff using standardized KII instruments. At the level of health facilities, the health worker in charge and other relevant healthcare providers were interviewed using similarly standardized instruments. Persons in charge of medical supply management and laboratory supply management were also interviewed. As beneficiaries of grants under the STAR programs, representatives of civil society organizations (CSOs) were jointly interviewed through structured FGDs. As representatives of the communities and as service beneficiaries, persons living with HIV/AIDS (PLHIVs) were organized with the assistance of the implementing partner (IP) project officers to participate in FGDs, all of which were recorded and transcribed for later reference by the evaluation team's research assistants.

At the national level, the evaluation team’s leader conducted KIIs with representatives of the Ministry of Health, allied ministries, USAID, and IPs working in collaboration with the STAR projects. As in the project areas, standardized instruments were employed for the interviews.

At both project and national levels, evaluation team members prepared daily summaries of interviews and of FGDs to serve as references during subsequent analyses, as indicated in Table 3.

Table 3. Summary of Number of KIIs and FGDS

Method	Category of Informant	Central Level	STAR-E	STAR- SW	STAR-EC	Total
KIIs	Central Govt.	12	NA	NA	NA	12
	USAID	8	NA	NA	NA	8
	ADPs	1	NA	NA	NA	2
	IPs	3	1	1	1	3
	CAO		3	4	3	10
	District DHT Staff		3	5	6	14
KIIs - Health In-Charge and Staff (# of Districts /Hard to Reach)	HCIV Groups		12	6	10	28
	HCHH Groups		12	6	10	28
	Hospitals		1			1
	District planner, CDO, other groups				6	6
FGDs	- PLHA - Adult Male Groups			2		2
	- PLHA - Adult Women Groups		15	6	6	27
	- PLHA - Young Men Groups				3	
	- PLHA - Young Women					3
	- Other Groups(CSOs, CSW,VHTs,MARPS ,VQIT)	2		2	2	6

Step 6: Review of DBTA’s Cost Efficiency: In response to question 7 of the evaluation’s SOW, the evaluation team’s economist reviewed and analyzed USAID/Uganda’s President’s Emergency Plan for AIDS Relief (PEPFAR) expenditure analyses reports for the three STARS. MEEP APR 2011–2014 reports as submitted by the STARS were reviewed.

Step 7: Client Exit Interviews: Using the same base of facilities selected for the facility-based KIIs, the evaluation team conducted client exit interviews. The client exit interviews were conducted during the month of January 2015 in the interest of triangulating the findings from the project KIIs and project reports, as well as collecting citizen perceptions on the quality of services.

At the health-facility level, the interviewers selected at least nine clients from each of the HIV/AIDS services (prevention of mother-to-child HIV transmission (PMTCT), HIV testing and counseling (HTC), and antiretroviral therapy (ART)) as they exited the facility. An average of twenty-seven respondents per facility were interviewed from either one HCHH or one HCIV in each district. Overall, a total of 661 clients were interviewed. (Please see Annex B for a complete description of the methodology, Annex E for a list of instruments, and Annex D for a complete list of respondents.)

Step 8: Data Analysis: Building on the qualitative and quantitative data collected during the month of November 2014 and a preliminary analysis presented to USAID and the project's IPs in early December 2014, each of the three field teams returned to the field in January 2015 to further refine and validate its findings associated with the project area in which the team had been working. In addition, each team drew upon the findings of the team's economist and the exit interviews to expand its findings related to the viability of the DBTA model. Section A of this report's consolidated findings and the project-specific pullout sections (Sections B–D) of this report focus on the evaluation's findings, conclusions, recommendations, and lessons learned.

Step 9: Information Dissemination: As specified in the evaluation's SOW, the evaluation team's findings are to be disseminated. (Please see Annex B for a detailed discussion of the evaluation's information dissemination requirements.) A preliminary debriefing of the findings was held in December 2014, and the results were used to improve the dissemination of findings.

LIMITATIONS

Evaluating the efficacy of the DBTA model as it was applied across three different DBTA projects represented significant organizational and analytical challenges. The principal challenge was in reaching conclusions that were relevant across all three STAR projects. While every effort was made to validate such conclusions through consultations with each of the three IPs, the generalized conclusions reached by the evaluation team did not receive total agreement from all IPs.

ETHICAL CONSIDERATIONS

Much of the evaluation's data collection process entailed having access to informants whose willingness to respond to the evaluation's inquiries was predicated on the evaluation's adherence to its pledge to uphold their anonymity. Accordingly, verbal consent was obtained from all respondents prior to their interviews. (Please see Annex E for a sample of the verbal consent form.) In addition, no financial or other incentives were provided to participants. Finally, any information that could identify respondents was removed from the documentation associated with the interviews.

IV. FINDINGS

IMPROVED CAPACITY AND SUSTAINABILITY

What are the most successful approaches applied by the DBTA/STAR Programs towards strengthening the institutional, management, and human capacity of CSOs and local governments to deliver health services?

The most successful approaches used by the DBTA/STAR programs were the mentorship program, the integration of HIV/AIDS and TB care at lower-level facilities, and the strengthening of community linkages for HIV/AIDS and TB services.

Mentorship and Training

The mentorship program included off-site training as well as on-site practical support of local health staff by a team of trained, qualified, and experienced health workers. In all KIIs conducted with the local health workers across the DBTA regions, they reported mentorship as the main process through which they learned and mastered skills and practices for their work. The mentorship approach also helped local health workers to:

1. Improve their cognitive and practical capacity when handling HIV/AIDS and TB services and accelerating transition of clients from high-volume, standalone, higher-level sites to lower HCIII and HCII levels;
2. Gain skills in reporting processes and mechanisms, which in turn positively impacted the quality of services provided; and
3. Provide services in technical areas that they were originally not able to deliver, such as safe male circumcision (SMC) and Option B+.

Across the DBTA projects, mentorship was applied as an ongoing, capacity-building process rather than a one-time event. The mentorship process was mainly a frontline, health-worker-centered approach and did not focus closely on system management at the health-facility level. The mentorship program targeted HIV/AIDS service delivery points, providing on-site training and hands-on practice and imparting skills to the local health workers. The kinds of training and mentoring activities varied from project to project, with some programs emphasizing on-site training and others combining both approaches.

For STAR-SW, on-site training was emphasized because the process was cheaper and did not divert health workers from their stations. The STAR-SW mentoring teams were established at regional, district, and HSD levels to address key HIV/AIDS and TB service areas like ART, data management, laboratory services, and clinical performance. STAR-SW initially established a regional team of clinical mentors, as no single district would have

“We have seen improved baseline CD4 from 34% to 95%; update CD4 from 66% to 95% and have enabled streamlined services for follow-up.”

(Service provider KII, HCIV)

“We have been able to maintain twenty-seven mothers with increased quality of data from 0 to 54% ... routine visits are at 85% now.”

“One hundred sixty exposed babies were graduated to negativity, and this was 100%.”

(Service provider KII, HCIII)

been able to create such a team. Working alongside the STAR-SW technical team, the regional team established district clinical mentorship teams, members of which were selected from various facilities and included clinical officers and nurses.

In the STAR-EC region, the mentorship approach included a combination of on-site training at high-volume health facilities able to mobilize adequate trainees for cost-efficient training as well as off-site training, usually at centers of excellence in specific HIV/AIDS and TB service elements within or outside the region. In each of the four districts visited, seven to fifteen health workers were trained. Senior health workers were trained on how to teach their juniors and continue to mentor them in various HIV/AIDS and TB service areas.

In the STAR-E program, mentorship included training of sixty district-based mentors (DBMs) selected from the district health teams (DHTs) and various cadres of service providers at HCIV and HCIII levels. The districts in the region were divided into four clusters of three districts each. A clinical mentor was devoted to each cluster and was supervised by a STAR-E staff member, referred to as the district health adviser. The various cadres of service providers were taken for off-site training.

“We have gained from on-the-job training and mentorship. We started ART just last year in 2013 and have graduated clients to ART—312 adults and children...”

(Service provider, HC III)

“Before STAR intervention there was no HIV enrollments. In the ART clinic we had one technician, one nurse. After the training, staff can now freely rotate and perform other duties.”

(Service provider, HCIV)

Findings from the KIIs conducted with the district health managers and health providers showed that through the mentorship program, the DBTA did a commendable job strengthening the skills of service providers in the realms of ART and TB services. For STAR-E, the principal benefit of the mentorship program was the improvement of the individual and collective capacity to provide HIV and TB services with confidence.

An additional advantage of this approach was that training was tailored to the real working context and mentoring was on-site and did not disrupt service delivery. The facility-based mentors were readily available to transfer skills to new recruits.

“Seven of us have been trained in HIV patient management, and I am confident that any one of the seven can run the ART clinic.”

(In-charge, HCIII, Bulambuli District)

As an expression of appreciation, the district health officer (DHO) Mbale wanted the number of technical mentors to be increased to enable them to spend more valuable time at each facility. Some of the trainees also attested that the mentorship was beneficial.

Strengthening the Integration of HIV/AIDS and TB Care at Lower-level Health Facilities

Prior to the STAR projects, HIV/AIDS and TB services were provided solely at higher-level health facilities. The DBTA STAR projects emphasized the expansion of HIV/AIDS and TB services to the lower-level health facilities (HCII and HCIII) as well. This increased accessibility and utilization of HIV/AIDS and TB services, which led to increased opportunities for early detection of HIV/AIDS and TB and early initiation of treatment. This, in turn, prolonged the lives of both TB and HIV/AIDS patients.

Strengthening Community Linkage for HIV and TB Services

The strengthening of community linkage cut across all three projects, with some variations. Under the DBTAs, a common and successful approach to strengthening demand for and supply of HIV/AIDS services focused on the establishment of extensive networks of community health workers. In STAR-E, this network was created through the identification and training of linkage facilitators, who were identified as experts within the population of clients accessing clinical services. Linkage facilitators were mandated to mobilize community members for service delivery, conduct client follow-up visits, and provide non-clinical HIV/AIDS-related services, including counseling, organization of client records, and linking clients with health facilities. Village health teams (VHTs) were mainly used to provide TB services, which included community-based (CB) directly observed treatment short courses (DOTSs) and other non-HIV-related services such as immunization and family planning. In the STAR-EC region, VHTs were critical in intensified TB case finding and treatment referrals in hard-to-reach sub-counties and island communities. In other STAR program areas, a similar pattern was observed. In the STAR-SW region, VHTs, family support groups (FSGs), and peer educators were used to mobilize the delivery of HIV/AIDS services at the community level. Through community structures, STAR-SW reached over 120,000 clients and had a referral completion rate of 70%. Importantly, referral mechanisms among the STAR-supported facilities, CSOs, community members such as linkage facilitators, VHTs, FSGs, and mentor mothers were strengthened in all the three STAR projects. At the time of the evaluation, the DBTAs were in the process of curtailing their activities in the districts; however, during the FGDs with the expert clients it was noted that in the selected sampled facilities where the discussions were conducted, expert clients actively engaged in the delivery of HIV/AIDS and TB services, providing reasonable expectations for the sustainability of this important initiative.

Commodity Tracking System to Reduce Stock Outs

The STAR programs strengthened logistics and supply chain management at district and health-facility levels by introducing systems for tracking medicine orders and stock outs. The approaches varied across the DBTA/STAR program areas, but the intentions were the same. For example, STAR-SW introduced a range of systems, including an order tracker, a supply tracker, a commodity tracker, and a short message service (SMS)-based weekly report on stock status. STAR-E relied on a multimedia messaging service (MMS) to provide bimonthly reports and orders to the logistics advisor. The logistics advisor combined the reports to generate a consolidated report that detailed transfers of medicines between health facilities and districts. STAR-EC relied on a spreadsheet that was shared by focal persons at the districts to update and monitor the supply of medicines and indicate the quantity to be ordered or transferred. These interventions reduced stock outs of the relevant HIV/AIDS and TB commodities, excess accumulation of stock, and waste and expiration of health commodities at the district level.

Strengthening Laboratory Services

Support to laboratory services included space modifications as well as the provision of equipment, stationery, and staff training to enable the efficient delivery of quality HIV/AIDS and TB diagnostic and monitoring services, thereby improving the quality and accessibility of health care.

One of the vital interventions for strengthening laboratory services was the implementation of the hub system under the coordination of the Central Public Health Laboratories (CPHL) on

behalf of government of Uganda. As described by Kiyaga, et al,¹ the hub laboratory support system relied on the following: “Using Geographical Information System (GIS), a catchment area of 30 to 40 km radius was mapped around each hub. Using the same GIS, health facilities within that catchment area were identified with respective road networks. Motorbike routes were demarcated such that a hub rider collecting samples and returning results would visit facilities in the catchment area at least once a week. Each hub was provided with a motor bike and equipped with the required supplies to perform the daily routes. Each hub served between 20 to 40 health facilities.” The role of the STAR programs in the process was to strengthen district laboratory systems through infrastructure development (building and refurbishing labs), the recruitment and capacity building (through districts) of staff including hub riders, and initial operational support, including payment of salaries and the provision of fuel for hub riders. The DBTA projects also provided operational support to the external quality assurance programs of the Uganda Virus Research Institute (UVRI).

The success of the STAR programs is exemplified by the strengthening of labs under the Strengthening Laboratory Management Toward Accreditation (SLAMTA) program. An officer from CPHL noted that the hub system was especially successful in expanding and scaling up access to early infant diagnosis (EID) and viral load laboratory services.

What are the least successful approaches applied by the DBTA/STAR Programs towards strengthening the institutional, management, and human capacity of CSOs and local governments to deliver health services?

Although there were a number of successful technical approaches, the evaluation team identified the following as shortcomings of the programs: (1) limited focus on empowering health facility leadership; (2) limited focus on empowering DHT leadership; (3) limited education for clients about the role of sexual risk behaviors in HIV/AIDS transmission; and (4) limited orientation to day-to-day quality improvement.

Limited Focus on Empowering Health Facility Leadership

While the DBTAs achieved significant progress in implementing technical assistance approaches that focused on improving service delivery, there was limited attention directed toward upgrading health facility management capacity. Findings from the KIs with health facility management staff indicated that most of the technical support provided was considered to be one-time and subject-specific (e.g., accounting, finances, human resources), with a focus on performance of immediate objectives rather than on long-term sustainable management development. Moreover, for all of the approaches and initiatives introduced by the STAR programs, there was limited documentation left behind at the facility to assist the facility managers in guiding the process of long-term knowledge management (KM) for the facility’s management as well as the facility’s staff.

Empowerment for District Health Team (DHT) Leadership

As defined in the evaluation’s scope of work, the DBTA was “designed to strengthen decentralized service delivery systems for improved uptake of quality HIV/AIDS and TB services.” Based on discussions during the KIs with USAID staff, it was evident that the launch

¹ Kiyaga C, Sendagire H, Joseph E, et al. (2013) Uganda's New National Laboratory Sample Transport System: A Successful Model for Improving Access to Diagnostic Services for Early Infant HIV Diagnosis and Other Programs. *PLoS One* 8(11): e78609. doi:10.1371/journal.pone.0078609

of the DBTA projects consisted of two complementary elements associated with the model: service delivery improvements at all levels and health systems strengthening, predominantly at the district level.

The first initiative, direction for which should have been more clearly included in the technical assistance contracts of the three STAR IPs, was to focus on the provision of technical assistance to develop the HIV/AIDS and TB health service delivery capacity of the selected district health facilities with a peripheral, but empowering, linkage to district management.

The second initiative (SDS), under the direction of a separate IP, was to focus on the provision of technical assistance to strengthen the management capacity of the districts in which the three STAR projects were providing technical assistance to health facilities. SDS grants were intended to improve the linkage between the district systems, the facilities, and the community. According to USAID/Uganda respondents to the evaluation, both components of the DBTA model were to work together toward realizing the potential of a Ugandan DBTA model. Unfortunately, the timing of the launch of the second initiative under SDS was delayed, and by the time SDS assumed full operations in 2011, two out of the three DBTAs (STAR-E and STAR-EC) had already assumed, with the approval of USAID/Uganda, many of the district capacity-building responsibilities that eventually fell to SDS to undertake. In addition, the process by which SDS eventually assumed responsibility for district capacity development served to undermine the importance of the DBTAs' role in empowering and strengthening the technical and managerial relationships and linkages between the district health authorities and the health facility in-charges. Consequently, with the exception of STAR-SW, which had the programmatic planning advantage of starting up at the same time as SDS, interviews at health centers revealed staff generally looked to the DBTAs for technical, fiscal, and material support when addressing the needs of their HIV/AIDS and TB programs.

Limited Emphasis on Systems Strengthening in the Program Design and Program Implementation

A critical examination of the STAR program descriptions, with a focus on the overall goal and the four objectives, clearly indicates that while the programs were physically located in districts, the programmatic emphasis was on health facilities and their catchment communities. As such, the focus of the DBTAs as implemented was on increasing both the supply and demand sides for HIV/AIDS and TB services, with little emphasis on the systems strengthening. It was not the mandate of the STAR programs to strengthen the systems, and this was evident in their contracts, the approved Activity Monitoring Evaluation and Learning Plans (AMELPS), and quarterly and annual reports. The lack of emphasis on systems strengthening was further compounded by the very ambitious service-delivery output targets, especially in the voluntary medical male circumcision (VMMC) and elimination of mother-to-child transmission of HIV (eMTCT) program areas, both of which were expected to be delivered within short time frames. This design and implementation weakness inevitably forced the DBTAs to take shortcuts to achieve the required results while building some capacity along the way. In STAR-E for example, the project personnel reported that targets for VMMC and eMTCT services were overly ambitious and, as a result, targets for VMMC were mainly achieved through outreach activities with allowances for the staff instead at the health facilities. This meant that health workers were removed from their stations to conduct outreach operations and that there was a lack of clarity about where to refer clients who experienced complications. Health workers

who were involved in the outreach circumcision activities did not continue to perform circumcision activities at their stations because there were no financial gains.

Limited Focus on Behavioral HIV Prevention Activities

The Uganda National HIV Prevention Strategy (2011–2015) emphasizes the need for combination prevention, focusing on both behavioral and biomedical components. The main focus of HIV prevention activities in the STAR programs has largely been on biomedical approaches, including safe male circumcision (SMC), eMTCT, and the reduction of community viral load through ART. However, little attention was paid to sexual risk behavior–focused prevention approaches, such as education about the benefits of monogamy and abstinence/delay of sexual debut among youth. It was evident that condom distribution largely focused on key populations at risk as opposed to other groups, such as married couples. This did not reflect the findings of the 2012 Uganda AIDS Indicator Survey reports, in which married couples were found to be at high risk of infection due to extramarital sexual relationships.

According to findings from the KIIs conducted with service providers and the FGDs conducted with PLHIVs across the DBTA regions, behavior change communication about the role of sexual risk behaviors in the prevention of HIV transmission was limited. Additionally, respondents noted, especially youths interviewed, that power relations at the family level negatively impacted their ability to practice HIV prevention behaviors, including condom use, delay of sexual debut, monogamy, and abstinence.. Mitigating HIV/AIDS exposure risk to others received limited program attention under the DBTAs. It was reported by health workers and PLHIVs that women who were enrolled in Option B+ had difficulty informing their husbands and other relatives about their situation.

Provision of Incentives for Clients and Service Providers

The provision of maize flour and sugar to clients utilizing ART sites undeniably increased demand for and utilization of those sites while also contributing to clients' improved nutritional status. However, as STAR programs came to a close, the availability of costly incentives similarly came to an end. At the time of the evaluation, there was a question of whether the program's cessation would result in decreased supply and demand for ART services. In one of the STAR-E–supported facilities, health workers and their in-charges categorically stated that they were no longer inclined to work long hours in the ART clinic or provide outreach services since there were no more allowances for the additional work. Another example that cut across the DBTA programs was the delivery of VMMC services at the health facilities. The health workers stated they would no longer take time off from their mandated duties to provide circumcisions without the special allowances that they were previously provided with for participating in the program. The evaluation teams also noted during client exit interviews that the clients included the availability of welfare benefits obtained from the health centers as one of the measurements by which they judged a health center's quality of services. Failure to maintain welfare benefits as part of the service delivery package is likely to negatively impact demand for HIV/AIDS and TB services.

Logistics and Supply Management (LSM) of TB Drugs

Although not specifically included as a DBTA deliverable, during implementation of the STAR programs, there was a country-wide gap in LSM of TB drugs. Initially, LSM for TB drugs was operated by the National TB and Leprosy Program, under a separate arrangement from that of other essential medicines and health supplies (EMHS). This arrangement had challenges that

necessitated its integration into the national supply system starting in 2012. The quantity of TB drugs delivered to health facilities was determined by the National Medical Stores (NMS) until 2013. During this period, there was less emphasis on placing orders and there were no order forms. As a result, TB drugs were sent to all facilities in excess and there was no room for redistribution across the districts. This led to the expiration of TB drugs in health facilities, yet the STAR programs had limited scope for intervention.

What are the facilitators and barriers of these approaches to achieving results?

Facilitating Factors

The following narrative describes the common factors that facilitated the application of the DBTA model across all STAR programs.

Conducive HIV/AIDS Policy Framework

The national HIV/AIDS policy and clinical guidelines in Uganda are well defined. The STAR project across the three regions and the district staff were well guided in terms of what was required of them. With support from MoH, the project technical teams, together with the DHTs, were well placed to respond to any changes in the relevant policies and implementation guidelines.

“We do not have enough local revenue and so we need STAR-E to help us with putting up essential services, and the health sector that STAR-E supports is our priority.”

(Local council chairman, STAR-E district)

Technical Competencies of the STAR Teams

As noted above in the report’s discussion of successful approaches to the provision of technical assistance, the DBTA/STAR programs achieved significant progress toward the STAR projects’ defined deliverables. Despite the rather high personnel turnover across the three programs, the evaluation team attributes the programs’ success to staff competency in the required technical areas. During KIIs with DHT members, they acknowledged the high specialization and practical competency of the clinical advisors and mentors. The health workers who benefited from mentoring also acknowledged the staff’s level of competence. At the same time, a number of DHTs in selected districts indicated that they “...liked the project but not necessarily the team.” Comments of this sort were assessed as reflecting more on the quality of professional and personal interactions between program and district leadership rather than on technical competence.

Conducive Community Environment

Based on KIIs with service providers, FGDs with community beneficiaries, and exit interviews across the DBTA project regions, over the life of the DBTA interventions there was a positive community-based environment for service delivery. The clients who participated in the exit interviews reported that this conducive environment was not experienced at the health facilities prior to the support provided by the STAR projects. In addition, the DBTA projects facilitated the collaboration of health center staff and expert clients to develop a positive community-based working environment. The expert clients helped in the delivery of HIV/AIDS and TB services, both at the facilities and in the communities across the DBTA project regions. At each health facility, the network of expert clients supported the provision of HIV counseling, organized files, participated in mobilizing people to access HIV/AIDS and TB services, and conducted client

follow-ups in the communities. This led to an increased demand for HIV/AIDS and TB services, improved adherence to treatment regimens, and reduced the number of clients who were lost to follow-up. FGDs noted the important role of CSOs in community mobilization and other family support services. The positive community receptivity and the involvement of expert clients were principal factors that led to the improved community environment and the attainment of the set service delivery targets required by the STAR projects.

Receptivity for Technical Assistance

The technical assistance introduced by the DBTA/STAR programs was well received at the district and health facilities. The district and health facility managers provided the needed support to ensure that the interventions were easily rolled out. The technical assistance that was provided was judged to be adequate and relevant to health workers. There was good will from the district leadership across the three STAR projects (both administrative and technical). MOUs were signed, and the relevant district officials provided the necessary support. As a result, the district health teams saw the valuable additions of the projects and were willing to support the operationalization of the technical assistance, helping to make it a success. The evaluation team also noted that the new districts were more committed to supporting the DBTA projects.

Resources for Priority Technical Assistance Interventions

Availability of sufficient funds to implement the mandated activities was a cross-cutting facilitating factor. The three DBTA projects were well funded, and this enabled service delivery to take place. Funds were available to facilitate transport refunds, allowances for health workers in HIV clinics, support for supervision, and male circumcision camps. Funds were also available to enable the IPs to flexibly spend on ad hoc requests from USAID, MOH, and local government. This kind of arrangement enabled continuity of the critical services. In addition, once the SDS initiative was launched and the first grants were awarded in March 2011, the environment was established for significant district-level support in concert with support provided by the STAR projects. Finally, working in partnership with other USAID IPs, including ASSIST, TRAC TBSRING, and SURE, enabled the STAR projects to secure additional health systems strengthening support, such as human resource capacity strengthening, quality assurance, and monitoring and evaluation support.

Barriers and Challenges

The following section describes common barriers or challenges associated with program planning, management, and implementation that impacted the application of the DBTA model across all STAR programs.

Inadequate Human Resources

The problem of human resources affected both the performance of district leadership and health facilities. In the districts, especially new ones, recruitment and retention of medical officers, midwives, clinical officers, and laboratory technicians was a general problem. The CAOs cited the limitations in the district wage bill as another challenge. The problem of inadequate capacity was, however, partly ameliorated through the Human Resources for Health (HRH) and SDS grants, which enabled districts to recruit critical staff for the district health system, with the understanding that they would later be absorbed into the districts' payrolls at the end of the program.

Continued High Levels of HIV-related Stigma and Discrimination

Based on discussions with clients in both FGDs and in client exit interviews, the spectrum of stigma and discrimination continues to impact the willingness of PLHIVs to access health centers for health issues. Women reported unwillingness to disclose their test results to their spouses, especially if they were HIV positive.

Health System Weaknesses

The health system in Uganda is characterized by a number of inherent weaknesses.

- Inadequate financing (low pay, low morale, poor work climate)
- Low staffing for DHMTs (about sixty-four districts had staffing below 60% at the DHO's office)
- Poor infrastructure, including lack of accommodations for health workers and geographical barriers such as rough terrain and bad roads
- Shifts in policies to match global trends, regardless of the readiness of available systems

Due to low salaries for health workers, the STAR projects resorted to “double-edged” financial incentive schemes to encourage staff to continue to provide HIV/AIDS services. Laboratory infrastructure was also limited in many facilities, with staff expressing concern for their safety when conducting TB microscopy. The issue of equipment was, to a large extent, addressed by the program, which ensured that the basic equipment for delivering minimum healthcare packages was provided to all the supported facilities.

A number of districts in the STAR regions had health-sector leadership challenges that affected district capacity to absorb and utilize the available technical assistance. In the evaluation team's discussions, both district and facility staff noted the existence of incomplete district, health sub-district, and health-facility management structures, with many officers in “acting” capacities. It was also observed that, even where DBTAs built capacity at the facility level, institutional capacity for effective management was significantly diminished in a number of instances where senior in-charge personnel were demonstrably under-qualified for their levels of responsibility.

The impact on DBTA programming and implementation associated with irregularly scheduled and single-issue vertical training programs

During the lifespan of the three STAR programs, HIV/AIDS care continued to evolve with concomitant changes in policy, most notably with reference to the eMTCT policy of Option B+ and safe male circumcision. As a result, the time and resources consumed to engage facility staff in what key informants described as constant and single-issue training cycles significantly impacted DBTAs' ability to effectively and efficiently program facility and community-level capacity building initiatives.

Central-level Stock Outs of Vital Commodities

Earlier sections of this report cited facility-level improvements in LSM as one of the DBTAs' most successful approaches. However, inadequacies associated with centrally controlled deliveries of vital commodities resulted in stock outs of antiretroviral medications, test kits, and reagents across all program regions. In response, DBTA staff adopted the practice of canvassing facilities in the area to determine whether these facilities had reserves that could be distributed

to those facilities lacking critical drugs and medical supplies. While the willingness of facilities to share resources is to be commended, inadequate central-level management of vital commodities was identified as a source of frequent frustration among LSM facility-based managers who, with assistance from DBTA technical staff, approached their drug and medical supply responsibilities in a professional and efficient manner.

Were the approaches used and results achieved for old/established and relatively new/naive districts significantly different?

The evaluation team noted district-specific approaches, without reference to a standard pattern across a program area or across the DBTAs' regions. Generally, however, there were not significant differences across the three regions in terms of approaches applied or results achieved between old and new districts. Differences in implementation of the approaches noted between old and new districts related more to elements of the regions' health systems, including availability of transport, human resources, and infrastructure. These elements were beyond the programmatic or technical scope of the three DBTAs.

What was the effect of transition of direct implementation of district led health care management activities from the STARs projects to district grants through SDS?

USAID/Uganda introduced the SDS project as a supplementary mechanism that would focus on strengthening district-led coordination of health services and local government systems and would provide performance-based grants to districts to complement service-delivery resources. While the SDS project was not directly part of the evaluation of the STAR projects, it was important to assess the effects of transitioning to the SDS grants on the DBTA. The evaluation aimed to understand the extent to which transitioning direct implementation of district-led health care management activities from the STARs projects to district grants through SDS impacted the STARs projects' provision of technical services under the DBTA model. The findings indicate that the recipient districts felt positively about the arrangement.

Inaugurated in April 2010, with its first grant issued in March 2011, the SDS project and its implementation of activities was preceded by the inauguration of the STAR-E and STAR-EC projects in late 2009. Prior to the start-up of SDS activities, both STAR-E and STAR-EC assumed many of the district capacity-building activities that were eventually taken over by SDS.

“Before SDS came on board, we were doing the technical assistance and funding of those activities. When SDS came, we would do the work planning with the district, but SDS would fund those work plans, which then meant that our role was to work with the district and give technical assistance to the district while they do the funding.”

(KII, STAR-EC)

The entry of SDS in STAR-EC was poorly initiated by the districts. The local governments had high expectations that were beyond the SDS mandate. The districts anticipated receiving funds for infrastructure development and hardware purchases. On realizing that this was outside the SDS mandate, the motivation for local governments to perform stagnated. As a result, it took STAR-EC and SDS time to define roles, responsibilities, and programmatic parameters with the local governments. It was only in the case of STAR-SW (launched in 2011) that transitioning issues from a STAR project to the SDS project did not occur. In the South-West region, SDS

grants and the DBTA program began around the same time, and therefore the transition was collaborative.

Strengthening district capacity to lead and manage service development: SDS grants facilitated effective planning at the district level. Working in close collaboration, SDS and the DBTA ensured proper coordination of the planning process in each district, including the sharing of approved work plans, budgeting with other USAID-funded health projects, and HIV/AIDS initiatives with district political and technical teams. The districts were also supported to develop multiyear and annual implementation plans, determining key activities for achieving targets for HIV/AIDS programming.

Provision of performance-based grants: SDS provided performance-based grants to the districts, and this supported service-delivery coordination within districts and regions, as well as USAID support to district health sector programs. SDS strengthened the district capacity to manage vital SI. Support was provided for: the recruitment of additional staff at the facility level and for technical positions in the district planning office; HMIS training that benefited all STAR-SW districts; printing and reproduction of HMIS reporting registers/forms; coordination meetings for SI committees; and the implementation of LQAS-related activities.

Strengthening of district capacity for managing partnerships: SDS coordinated USAID-funded activities and contributed to improving district capacity to engage multiple funding sources effectively. The role of SDS in the districts promoted alignment of USAID support to districts, which facilitated alignment of priorities and linkages between partners. However, weak partnerships among districts, CSOs, training institutions, private health partners (PHPs), and non-PEPFER partners still exists.

Institutionalizing the culture of transparent accountability for both results and finances: The ability of districts to manage grants and accounting transparently, while linking financing to performance, was a major breakthrough for sustained district leadership and led to greater outcomes in service delivery.

To what extent has the STAR program developed, established, and/or strengthened management and technical structures at the local-government and health-facility levels to sustainably improve quality, availability, and accessibility of HIV/AIDS and TB services?

Sustainability is one of the seven essential design elements described in the USAID request for application (RFA) for the DBTA programs. The RFA defined two elements of sustainability—the program activities and the program impact—and indicated that sustainability is dependent on the development of local capacity to design, manage, and maintain services. The RFA further stated that sustainability would be achieved through the direct technical and institutional capacity building of: (a) government counterpart agencies; (b) local partner service providers (civil society, faith, and PHA groups); and (c) community organizations and other groups. Two results of such support as described in the RFA were: (a) greater involvement in planning, implementation, and monitoring of HIV/AIDS and TB services; and (b) effective partnerships with other service providers to link PHAs to a continuum of care through the network model approach. The final requirement in the RFA related to sustainability was an exit strategy for the program.

The evaluation sought to establish the extent to which the STAR project developed management and technical structures that would sustainably improve quality, accessibility, and availability of HIV/AIDS and TB services in targeted districts. The evaluation team found that the STARS programs had developed, established, and/or strengthened the following management and technical structures:

Management Structures

- **Strengthening of management structures:** Supervisory and planning structures were strengthened, including the DHTs and district AIDS committees (DACs), particularly in STAR-EC and STAR-SW. The STAR programs facilitated the operationalizing of specific management functions, which were enhanced through training, mentorship, and joint implementation opportunities. Specific STAR program staff were assigned clusters of districts to support on a monthly basis. With the aid of the STAR programs, the DHTs convened monthly and quarterly meetings, mainly to review performance and develop implementation plans. As part of the mentorship activities, the STAR programs supported the restructuring of quarterly meetings and supervisory plans to incorporate essential elements of QI management. To ensure sustainability, operations of the DHTs as coordination mechanisms were integrated into SDS grants to enhance a sense of ownership of HIV/AIDS and TB efforts by the respective districts.
- **Strengthened regional and district teams:** Regional and district teams were strengthened for the management of SI through centralized training, practical on-site training, and in-field practical skills transfer opportunities. The areas of focus included streamlining and overseeing management of data collection for entry in the HMIS and the DHIS2 and utilizing the web-based supply ordering system.
- **Strengthened capacity for CSOs participating in the DBTA/STAR projects:** CSOs were strengthened in several areas, including resource mobilization, financial management, supervision, training and mentorship, and specialized aspects of proposal writing. This was a significant step in developing institutional capacity of partner organizations to develop strategic plans that can be funded by alternative partners.

Technical Structures

- **Strengthening of districts-based trainers, mentors, and supervisors:** The DBTA/STAR projects established district-based teams of trainers, mentors, and supervisors to serve as hubs of technical expertise for expanding and sustaining the technical competencies of the healthcare workforce in the respective districts. Each district had a team of about five trainers and eight to twelve clinical mentors, comprising members from the district and health-facility levels. To increase sustainability, these teams were mainstreamed in their respective district health systems and at the facility level. As a result, most of the health facilities will be able to sustain on-site training and mentorship.
- **Capacity building for service providers:** Under the DBTA/STAR program, service providers from over 680 health facilities were trained in various technical areas including clinical skills, client management, management of QI, and service data management of integrated HIV/AIDS and TB and HIV/AIDS and family planning (FP) services. On average, the structure supported the development and maintenance of teams of seven to eight multi-skilled service providers at 680 HCIV and III.

- Strengthened district, health facility, and CSO quality improvement (QI) teams:** In partnership with the MOH and other USAID partners, the STAR programs established and/or strengthened a total of twenty-eight district QI teams, eighty-four facility QI teams, and nine CSO QI teams. To pave the way for sustainability and also to create a sense of ownership of QI activities, the project ensured that members of these teams included district and facility mentors.
- Capacity building for LQAS teams:** A team of fifteen members, comprising representatives from the DHT and district planning unit, were trained in LQAS methodology and supported to apply it in their respective target DBTA/STAR project districts on an annual basis. Training in LQAS included technical concepts, data collection and analysis, and dissemination. Using the LQAS methodology, the districts were able to identify performance gaps. The LQAS methodology was widely accepted by the Ministry of Local Government (MoLG), DHTs, district planning units, district political leadership, and DBTA managers.

What technical capacity in strategic information have the STARs developed, built, and/or strengthened? Where has this capacity been developed, built, and/or strengthened? How is it manifested/demonstrated? How sustainable will this capacity be after the STARs' exit?

To strengthen the technical capacity in SI management, the DBTA focused on three elements: human capacity development, systems development, and material support. The evaluation team measured technical capacity in SI in terms of focus, benefit, and potential for sustainability. Technical capacity was strengthened in the following aspects:

- Capacity to generate and process routine service data:** Working in close collaboration with MOH and SDS, the STAR programs supported the streamlining of data collection at the facility level by providing essential materials for documenting and reporting on service delivery. Also, the STAR programs provided technical assistance in improving data quality by introducing the concept and practice of data auditing and cleaning. This support went to all districts and their respective health facilities. With improved capacity to generate data, the STARs went further to train and mentor health facility teams in reviewing and using data at the facility level to plan QI. Interviews with service providers showed that various teams now recognize the use of service data as a strategic tool in identifying gaps and making improvements.

“The in-charge at a facility can make simple analysis of data collected in a month or a quarter to identify any striking issues that might need the attention of the facility. For example, check number of clients per service and compare it to a previous month or quarter. Find out lost-to-follow-up clients who were on ART, PMTCT, or TB treatment. This data has informed the facility to generate action points for the coming month or quarter.”

(KII, Busembatya HCIII)

- Electronic medical record systems:** KIIs reported that in some regions, STAR programs supported the rolling out of patient-level electronic medical record systems (MOH OpenMRS), particularly in

“We have the skills to collect data, do data tabulations manually, and reporting.”

(KII, Kamuli DHT)

high-volume facilities. As a result, there was quicker retrieval and access of patient medical records.

- **Capacity for application of LQAS in community surveys:**

The STAR project strengthened the capacity of all participating districts to apply LQAS methodology in annual community surveys. LQAS application in the STAR project aimed at generating population-based data on key outcome indicators for HIV/AIDS and TB prevention, care and treatment, and related components of maternal and child health. LQAS allowed generation of district-specific data for strategic planning and improvement of programs. In each district, a team of eight to ten people was trained in concepts and principles of LQAS, data collection, tabulation of results, and use of information.

“LQAs has been very useful and we have often referred to the information in our planning and budgeting”.

“... data collected helped the district team to analyse and plan, for example HIV will be streamlined in district work plan, we have to recruit more workers to extend services”

“Results collected by LQAS help us in planning because it is evidence based as compared to HMIS development plans. This helps in resource allocation”

(KII DHT)

- **District and facility-level platforms for performance review and data dissemination:**

The STAR project revitalized and strengthened district and health-facility processes for performance reviews and dissemination of strategic data. The effort institutionalized HMIS data review and feedback processes, quarterly review meetings for key stakeholders, dissemination of SI from LQSA, and learning sessions for peer review and sharing. A culture of evaluating performance and generating and sharing lessons was inculcated in the management operations of the respective district teams.

- **Capacity to generate information and data from communities and service users:**

The STAR project supported the creation of a community-based data system to solicit and document information from and about targeted communities using the existing system of VHTs. The project facilitated introduction of record books to document eligible clients, referrals, and follow-up mechanisms for VHTs and Mother Mentor. The practice resulted in greater service utilization.

“We have the referral books, and with follow-up we get to know the clients in the area. There are VHTs based at health facilities and community-based VHTs. Every month we have parish meetings organized by the parish VHT coordinator, and we synchronize the data and write in the parish register from which we make the report.”

(FGD, VHT, Busesa)

Manifestation and Utilization of Strategic Information

The STAR project’s strengthening of technical capacity in SI management is evident in three distinct elements of capacity building: human capacity development, systems development, and material support. Human capacity development entailed organizing and conducting training and mentorship opportunities that targeted district-based biostatisticians, HMIS focal persons, records assistants, CSO technical persons, and service providers.

Systems development entailed installation and facilitation of computerized data collection systems like HMIS, DHIS2, patient records systems, web-based ordering systems, surveillance

systems, and data quality assessment processes. Systems development also involved initiation of regular performance review forums, annual application of the LQAS methodology, and a community information system managed by VHTs and Mother Mentors. Strengthening systems that generate SI notably improved reporting rates for the HIMS systems in all districts. On average, timeliness and completeness increased from 40% to 97% for all STAR-

supported districts between 2013 and 2014. In addition, improvements in capacity to use the web-based supply ordering system translated into timely ordering of supplies, stock redistribution within a district, and reductions in stock out rates. Furthermore, the capacity to generate and utilize LQAS data is evident in all STAR districts. District-specific data for HIV prevention and maternal child health (MCH) outcome indicators were available on an annual basis in 2010, 2011, 2013, and 2014. KIIs with DHTs, service providers, and district leadership confirmed the use of LQAS and HMIS data in planning, and all districts disseminated strategic data widely through the public display of dashboards and other wall charts. Most districts expressed appreciation for the utility of SI, as well as confidence in being able to conduct LQAS without external technical support.

SI management capacity was also manifested in the existence and use of systematic district and facility-level platforms for performance reviews, data dissemination, and learning. Although the STAR project provided technical assistance in restructuring monthly and quarterly performance review meetings, those meetings have been district led over the years. The meetings improve intra- and inter-sectoral coordination by providing platforms for district health departments and CSOs to share their immediate plans and routine information and present experiences from their activities and processes. The platforms enhanced collaborative learning and adaptation of change.

Strategic data was also used at the district level for annual performance assessments, development of district implementation plans, and other health service delivery programs beyond HIV/AIDS and TB care. One example is the use of LQAS data in Mitooma District, where LQAS data showed weak performance in sanitation. In response, the district council formulated a by-law to improve community response to water, sanitation, and hygiene (WASH) interventions. DHTs and service providers appreciated and were proud of the developments and the strengthening of systems for SI management.

Material support entailed reproduction and provision of record-keeping books and reporting tools, computers, power generators, and solar power systems. Acknowledging the importance of collecting service data after the initial support from SDS grants, districts continued to solicit support for reproduction and distribution of data collection and reporting tools. In general, all STAR-supported health facilities have adequate data collection and reporting tools. The rest of the equipment, such as computers, power generators, and solar power systems, are located in the fields of operation.

“...the monthly data review district meetings ensure that all facilities complete their summaries, including internal data quality assessments, on time.”

(KII, STAR-SW)

“I have used LQAS information for accountability during district council meetings.”

(DHO)

Sustainability of Strategic Information Management Capacity

The evaluation team observed that investments in strengthening technical capacity for SI management were made in the development of district-based human resources, and therefore, they were found to be sustainable. However, sustainability of SI management capacity in district-based human resources relies on the ability of districts to motivate and retain staff and refrain from staff transfers that do not consider the existing capacity at individual health facilities. Nonetheless, it will be necessary for districts to sustain SI capacity through sustained demand for and utilization of SI. Current use of strategic data generated with support from the DBTA is limited to health departments, DHTs, and health-facility teams, with minimal involvement of other sectors, local government, and political leadership.

The financial implications for sustaining systems that generate SI are far beyond the financial capacity of the districts. Although the first application of LQAS seems high, at 15–20 million Ugandan shillings (UGX), there is evidence that subsequent applications are cheaper, at a reduced cost of about 8 million UGX. Most districts showed willingness to include LQAS in their annual budgets. Another potential limitation to sustaining the capacity for SI management is minimal engagement of the private sector in the institutionalization of LQAS as a management tool. The private sector has potential to be the future custodian of and a technical resource for maintaining its use. The evaluation noted that the STAR project needed to do more in soliciting SI on client satisfaction.

CONTRIBUTION TO IMPROVED HEALTH SERVICE DELIVERY

How has the support contributed to improved health service delivery in the targeted districts?

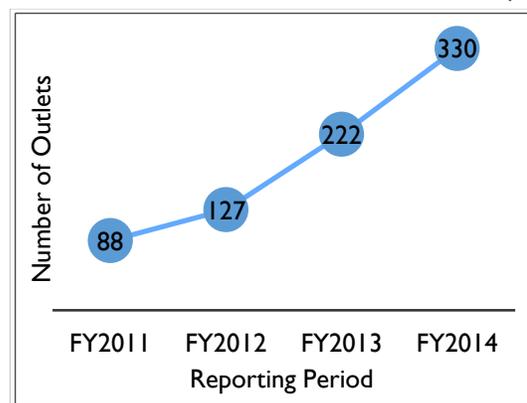
While the evaluation does not fully attribute progress and achievements in the target districts to the DBTAs, the DBTA/STAR programs are major contributors in terms of both inputs and outputs, with consequent outcomes in health service delivery. The DBTAs' contributions to service delivery included expansion of ART services to lower-level health facilities, support for the roll-out of new policy guidelines, strengthened logistics and supplies management, and strengthened SI management.

Expansion of ART Services Delivery to Lower-level Facilities:

By expanding ART services to lower-level health facilities, the DBTAs increased access to services. The STAR programs supported the accreditation of a number of health facilities in the districts to enable increased access to and utilization of comprehensive HIV/AIDS and TB services. By 2014, the number of facilities accredited to provide HIV/AIDS and TB services increased by more than three times. As illustrated in Figure 1, the number of outlets providing ART services increased almost four fold over the life of the three DBTAs, increasing from 88 in 2011 to 330 outlets in 2014. This was mainly achieved through the efforts of accreditation support by the DBTAs.

Figure 1: Change in Number of Sites Providing both Adult and Pediatric ART

STAR Annual Reports



Increase in access to services was demonstrated by findings from client exit interviews; 84% of clients reported that they found it easy to access and utilize HIV/AIDS and TB services.

“The STAR projects have revolutionized care for HIV/AIDS in the country.”
(MoH central-level official)

Expansion of infrastructure for HIV/AIDS and TB services at selected health facilities: The key infrastructure improvements at health centers included: expansion and redesign of the service delivery space to accommodate large numbers of clients; refurbishments of clinical care and laboratory areas; improvements in clinic furniture; and improvements in facilities for the systematic storage of the large amounts of client records inherent in the high-volume chronic care clinics and for the storage of HIV/AIDS and TB supplies, such as medicines and surgical kits for male circumcision, through provision of shelves, store pallets, file folders, etc.

Support to districts to enable them to quickly adapt revised national clinical guidelines: To achieve rapid adaptation of revisions in national clinical guidelines, the DBTA established regional and district training teams that supported dissemination of national policies and clinical guidelines for SMC, Option B+, ART, and TB care.

Strengthened HIV/AIDS and TB laboratory services: The DBTA supported construction and renovation of laboratories, provided equipment, including microscopes and CD4 machines, trained laboratory staff, and improved sample transportation through the national laboratory hubs strategy. This increased access to appropriate TB and HIV/AIDS diagnostic tests and reduced rejected samples to less than 2% of the total samples, as reported by STAR-SW. The DBTAs also supported revitalization of TB diagnostic services at health facilities and outreach based at the sub-county level.

Strengthened logistics and supplies management: Although strengthening supply chain management was listed as an element to be addressed under the DBTA model for the three STAR programs, this was not specified in the program results framework. The interventions were, therefore, ad hoc in nature, and it was understood that another mechanism, the Securing Uganda’s Right to Essential Medicines (SURE) project, would work on supplies. DBTAs worked closely with the SURE program to fix some of the ad hoc challenges in medicine supplies. Relevant SURE activities included mentoring staff and direct support to the districts and health facilities to ensure that orders were submitted to NMSs in a timely manner and followed up on to ensure that supplies were received, properly stored, and accounted for. As a result, there were reductions in stock outs of essential commodities at health facilities, as well as reductions in stock accumulation, wastage, and expiration of health commodities within the districts.

The DBTA/STAR program used various approaches to strengthen logistics and the supply system. STAR-E was particularly successful with facility-based training in each district, tagging medicine management supervisors (MMSs), and establishing innovative distribution of condoms through its behavior change communication (BCC) function. STAR-EC successfully provided operational support to the districts, including facilitating the ordering process by providing facilitation fees to the district officials. Overall, STAR-EC experienced general improvement in the management of medicines by providing MMSs with facilitation fees to implement in sparsely populated areas. STAR-SW was particularly successful in capacity building through mentorship, on-site training in logistics management, coaching with a focus on newly accredited sites, and use

of VHTs and peer support groups to improve distribution of underutilized commodities like female condoms.

Strengthened the quality improvement processes in health facilities: The DBTAs expanded and mentored QI teams at the district and health-facility level to continuously improve the administrative and technical competence of the district health system. They built the district and health-facility staff capacity to generate and utilize data for performance. Currently the data is used in continuous monthly introspection for quality defects, monitoring improvement in projects, and learning at the facility level. In addition, the districts and the facilities are utilizing the data during performance reviews to make improvements in implementation.

Strengthened linkages and referral systems with the community: The efforts of the DBTAs involved mobilizing and supporting community structures such as VHTs, FSGs, mentor mothers, and peer educators to increase HIV/AIDS and TB service demand, initiate active referrals, and perform client follow-up in the community. Additionally, the program supported outreach, including SMC camps, moonlight clinics, and the “4-6 tent model” to reach pockets of key at-risk populations as well as adolescents and men who could not easily access facility-based services for diagnostic and care services. Importantly, all community mobilization interventions were achieved through direct support to CSOs to carry out such activities.

What are the service delivery outcomes attributed to the DBTA/STAR programs?

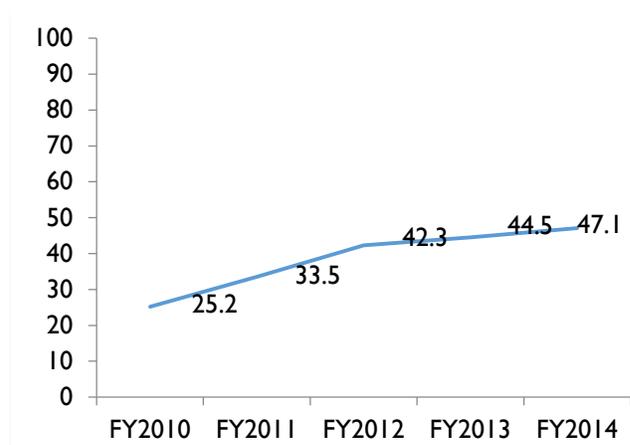
It is difficult to determine the cause-effect relationship between the DBTA interventions, which were largely facility based and to, a small extent, demanded creation at the community level, and service delivery outcomes. As a proxy, it can be argued that the integration of HIV/AIDS services with other services at the health facilities was one way of improving HIV/AIDS service outcomes.

Significant Improvement in HTC Uptake:

As a result of the DBTA project interventions, there was increased uptake of HTC services. The MEEPP APR showed that there was an increase in the number of people counseled, tested, and given their results; this number increased from 937,882 in 2011 to 1,486,633 in 2013. Similarly, findings from the LQAS showed that there was an increase in the percentage of people counseled and tested who received their HIV test results in the last twelve months; this figure rose from **25% in 2010 to 47% in 2014 (Figure 2).**

The increased uptake of HTC services is as a result of the improved quality of service delivery as reported in the client exit surveys, wherein 83% of the clients felt they

Figure 2: Percentage of Patients Who Were Counseled and Received an HIV Test in Last 12 Months and Know Their Results



were appropriately counseled, while three-quarters of the respondents mentioned that the health workers discussed with them specific actions to be taken in light of their HIV test results.

Furthermore, couple testing has improved, as shown in the DBTA LQAS results. There was an increase in the proportion of mothers of children eleven months old and younger who were tested for HIV and received their results with their partners, rising from 76% in 2011 to 94% in 2014 across all supported districts.

Increased enrollment in ART services: As a result of the DBTA interventions in the districts, there was improvement in the numbers of clients enrolled for pre-ART and ART services. As noted in MEEPP APR data, the number of new patients enrolled in HIV/AIDS care annually doubled from 23,600 in 2011 to 40,100 in 2014. As illustrated in Figure 1, the number of outlets providing ART services increased almost four fold over the life of the three DBTAs, increasing from 88 in 2011 to 330 outlets in 2014. This was mainly achieved through the efforts of accreditation support by the DBTAs. The number of new patients started on ART almost tripled from 10,821 in 2009 to 30,920 in 2014. A number of factors contributed to this result, including the roll-out of national policies such as the Option B+ in eMTCT, test-and-treat for special groups, as well as the revision of ART eligibility threshold during the STAR program's implementation period.

No improvement in ART retention: MEEP APR (2011–2014) showed that the percentage of adults and children with HIV known to still be on treatment twelve months after initiation of ART in the DBTA districts remained stagnant; the median figure of 90.8% in 2011 only decreased to 87.8% in 2014 across the STAR-supported districts. However, the majority of client exit survey respondents reported that services improved over time. On average, 50% of the respondents said there was some improvement, while 25% said there was significant improvement.

Increased utilization and uptake of PMTCT services: There was an increase in uptake of couple counseling and testing for HIV during pregnancy. MEEP APR data showed an increase in the number of male partners who were tested and received HIV test results in the PMTCT clinic; the numbers more than doubled over the four years from 19,850 in 2011 to over 52,877 (6% to 15%) in 2014. Despite the increased number of male spouses who were tested, male attendance for couple testing still remains low.

The number of HIV-exposed babies born to HIV-positive mothers who were given ARVs doubled from 3,128 in 2010 to 6,082 in 2014, and 91% of these HIV-positive mothers were given ARVs for PMTCT. Furthermore, all HIV-exposed infants were given co-trimoxazole prophylaxis within two months, pointing to increased utilization and uptake of PMTCT services.

Reduced drop-out of clients on ART: Retention in care and adherence to ART are critical elements of HIV/AIDS care interventions and are closely associated with optimal individual and public health outcomes and cost effectiveness. The percentage of adults and children with HIV/AIDS known to still be on treatment twelve months after initiation of ART decreased from 95% in 2011 to 87% in 2014 across the STAR-supported districts (MEEPP APR 2011–2014).

Increased access to ART for TB patients: There was an increase in ART initiation during TB treatment and improved HIV case detection among TB patients. Data showed an increase in the percentage of registered HIV-positive TB cases who initiated ART across the STARs, with

the district median rising from 12% in 2011 to 77% in 2014. However, this still falls short of the national target of 100%. In most districts, the increase was seen between 2012 and 2013.

Finding and diagnosing patients with TB and HIV/AIDS is a prerequisite for timely TB treatment and ART initiation, and it improves health outcomes among HIV-infected TB patients. Data shows that the median percentage of registered new and relapsed TB cases with documented HIV status in STAR-supported districts rose from 7.5% to 90% between 2011 and 2014. Despite these improvements in clinical care, the DBTAs have had minimal impact on level of community awareness regarding TB. Awareness across the districts that TB is a curable disease only rose from 60% to 77%, and knowledge of at least two signs and symptoms of TB only increased from 61% to 63% over the four years.

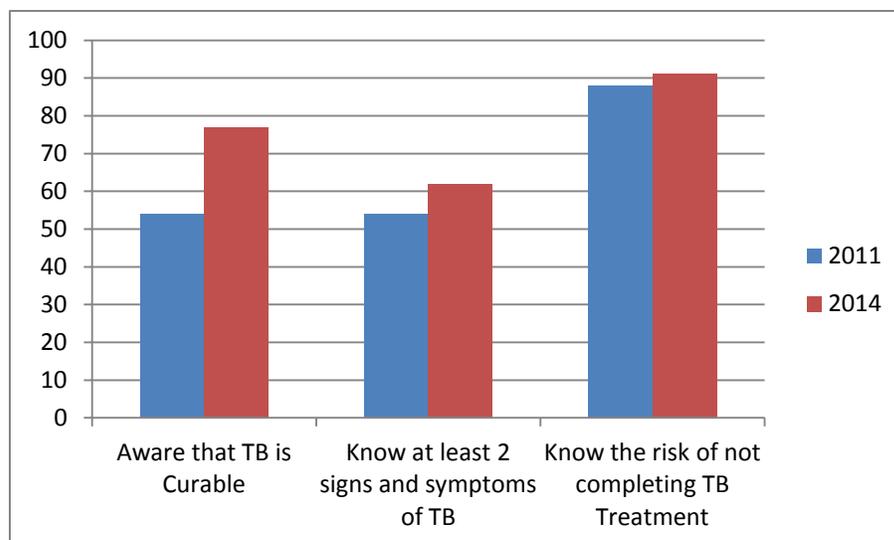
Change in risky sexual behavior and sexual debut before the age of fifteen remained at 9%. LQAS findings showed no major change in the percentage of individuals who had sex with more than one sexual partner in the last twelve months; the figures increased slightly from 14% in 2011 to 15% in 2014. The proportion of individuals who had sex with a non-marital or non-cohabiting sexual partner in the last twelve months remained at 18% over the same period. Condom use during sex with a non-marital or non-cohabiting sexual partner in the last twelve months declined from 67% to 56%, and only 3% of youth knew at least three correct steps for proper condom use.

Increased client confidence in the services: As a result of the DBTA project interventions, there was an improvement in the quality of HIV/AIDS and TB services and increased client satisfaction.

The client exit survey revealed that 75% of respondents reported an improvement in the quality of HIV/AIDS and TB services provided at the health facilities, citing a conducive environment as one of the causes. Almost all clients were satisfied with the way the services were provided to them: 98% felt that they were attended to in a friendly and respectful way; 95% said that they had sufficient privacy; and 96% reported that the services they received were safe. Highlighted improvements included better time management by the health workers, friendlier staff, and the availability of shelters and chairs for clients waiting to receive services. Clients also cited the formation and establishment of family support groups for eMTCT as a pillar that supports eMTCT.

Increased TB community awareness also improved, with 77% of people aware that TB is a curable disease in 2014 compared with 54% in 2011 LQAS year. As illustrated in Figure 3 below, over the same period (2011–2014), the percentage of individuals who knew at least two signs and symptoms of TB increased from 54% to 62%, and those who knew the risk of not completing TB treatment increased from 88% to 91% (LQAS, 2011–2014).

Figure 3: Increased Knowledge about TB



Increased knowledge about sexually transmitted infections (STIs): LQAS (2011–2014) data showed that the percentage of individuals who correctly identified at least two common signs or symptoms of STIs remained low, at 45% among men, and changed from 54% to 61% among women over the four years. The percentage of individuals who knew three or more actions to take when infected with an STI slightly changed from 36% to 42%.

Findings show anecdotal improvements in uptake of HIV testing and identification of HIV-positive individuals through integrating HTC in outpatient, maternity, and outreach services. Integration appears to have improved linkage to HIV/AIDS care, but serious weaknesses in retention on ART remain. There were no data to assess retention in pre-ART care or adherence to ART.

What was the effect of integration of HIV/TB, HIV/Family Planning, HIV/AIDS and health on overall health outcomes?

The effect of integration was assessed based on outcomes related to non-HIV/AIDS-related services within the general population and, where data were available, among PLHIVs. HIV services were integrated with other health services within the primary healthcare context, such as maternal health, child health, family planning, and TB care. In some cases, like TB care and maternal health, clear improvements were observed in service outcomes related to non-HIV/AIDS-related services. There were also notable gaps, such as weak service integration with adolescent health. The evaluation team looked at the changes that occurred shortly after integration in 2010 and after three years of implementation in 2014 but did not compare before and after service integration.

Effect of integration on HIV/AIDS and TB service outcomes: The integration of HIV/AIDS and TB care increased HIV testing and ART initiation among TB patients. This was confirmed by the MEEPP APR 2009–2014 service data, which showed that the number of registered new and relapsed TB cases with documented HIV status increased, with the district median of 8% to 90%. The number of TB patients started on treatment also increased from 14% to 79% over the four-year period.

Increased uptake of ART for TB patients: Patients in TB treatment were also tested for HIV. Findings of the MEEP APR 2011–2014 data showed an increase in the percentage of registered TB cases who were HIV-positive and accessed ART services across the DBTA/STAR project areas, with the district median rising from 12% in 2011 to 77% in 2014. However, this still falls short of the national target of 100%. In most districts, the increase was between 2012 and 2013.

Detecting and diagnosing patients with TB and HIV/AIDS is a prerequisite for timely TB treatment and ART initiation, as this improves health outcomes among HIV-infected TB patients. MEEP APR 2011–2014 data showed that the median percentage of registered new and relapsed TB cases with documented HIV status rose from 7.5% to 90%.

Effect on maternal health outcomes: Implementing PMTCT in antenatal care (ANC) may have influenced the uptake of ANC services and births in health facilities from 2011 to 2014 across the DBTAs. The proportion of mothers receiving ANC at least four times rose from 43% to 53% over this period. This did not vary much (54% in 2014) when compared with the total LQAS USAID districts. There were also improvements in the number of births registered in the health facilities, with the proportion of mothers who delivered in health facilities increasing from 60% to 74% over the four years. This did not vary much (75% in 2014) when compared with the total LQAS USAID districts.

Effect of integration on HIV/family planning outcomes: Family planning uptake, though still low, showed improvement. The percentage of sexually active women age fifteen to forty-nine years who used a modern method of family planning increased from 31% to 37%. This shows better performance when compared with the total USAID LQAS districts, which reduced from 37% to 35% over the same period.

Effect on child health outcomes: Integrated outreach services covered: ANC, immunization, EID, HTC, and eMTCT. LQAS 2011–2014 data showed general improvements in child health outcomes. The percentage of children aged twelve to twenty-three months who were fully vaccinated increased from 58% to 74%; this was a greater improvement compared with the total LQAS USAID districts at 56% to 67%, respectively.

Effect on other health services outcomes: In addition to delivering HIV/AIDS services at health centers, the DBTAs also conducted integrated outreach services using a “4-6 tent model,” whereby HIV/AIDS services were provided alongside other medical services. This approach registered many patients coming in for non-HIV/AIDS-related services, but data were not readily available for this assessment. However, there seemed to be little impact on practices like household sanitation, hygiene, and household nutrition. The percentage of individuals who wash their hands with soap after visiting the toilet remained at 60% over the four-year period.

COST EFFICIENCY

To what extent can the DBTA design be considered cost efficient in strengthening capacity of districts and CSOs to improve health service delivery?

Within the context of this evaluation, *cost-efficiency* refers to a rough assessment of value-for-money (VFM) that considers an analysis of both the level of investment and what the project has achieved given the level of spending. This assessment is not a comprehensive economic

evaluation (cost-effectiveness) or thorough assessment of efficiency of the project. It was agreed that the amount time and resources available for the cost-efficiency assessment were not adequate to permit a detailed efficiency assessment.

VFM is a term used to assess whether or not an organization has obtained the maximum benefit from the goods and services it both acquires and provides, with the resources available to it. Some elements may be subjective, difficult to measure, intangible, and misunderstood. Judgment is therefore required when considering whether VFM has been satisfactorily achieved or not. It not only measures the cost of goods and services, but also takes account of the mix of quality, cost, resource use, fitness for purpose, timeliness, and convenience to judge whether or not, together, they constitute good value. Achieving VFM is often described in terms of the “three Es”: *economy*, *efficiency*, and *effectiveness*. The definitions of the three are as follows:

- **Economy:** Careful use of resources to save expense, time, or effort
- **Efficiency:** Delivering the same level of service for less cost, time, or effort
- **Effectiveness:** Delivering a better service or getting a better return for the same amount of expense, time, or effort

This section provides a rough assessment of VFM for each of the STARs projects. Within the resource constraints for doing this evaluation, this assessment was able to assess *economy*, and to some extent *efficiency*, but was not able to measure the *effectiveness* of the projects given the level of effort required do this and the resources available (time and money) to undertake the assessment.

Overall Project Spending

Table 4 provides details of annual spending by each project. Since inception of the projects up until end of FY14, the three projects have spent a total of about \$103 million.

Table 4. Annual Expenditure by Project

US \$	FY09	FY10	FY11	FY12	FY13	FY14	TOTAL
STAR-E		7,268,918	6,578,800	7,291,409	6,737,277	8,211,381	36,087,785
STAR-SW			6,052,665	6,695,637	8,838,639	8,047,211	29,634,152
STAR-EC	1,289,882	4,960,701	8,135,570	6,424,473	8,310,362	8,647,004	37,767,992
						Total	103,489,929

Spending by Program Area, FY13 and FY14

This assessment transitioned into on a detailed review and analysis of the PEPFAR expenditure reports for FY13 and FY14. However, the assessment made an attempt at reviewing the programs’ expenditures for the whole period of 2010–2014. Unfortunately, expenditure information for FY10, FY11, and FY12 are not detailed enough to permit a proper trends and overall analysis of project spending. Based on the PEPFAR expenditure analysis data for FY13 and FY14, a review of the spending allocations by program area was considered (see Tables 5 and 6).

Table 5. Spending for FY13, Broken Down by Program Area

	STAR-SW	STAR-E	STAR-EC	TOTAL	% of total
Facility-Based Care, Treatment, and Support	1,405,049	801,785	1,410,921	3,617,756	15.1%
Community-Based Care, Treatment, and Support	1,229,417	451,661	-	1,681,078	7.0%
PMTCT	1,781,684	1,323,133	1,316,958	4,421,775	18.5%
Voluntary Medical Male Circumcision	1,317,233	1,540,659	3,311,005	6,168,897	25.8%
HIV Testing and Counselling	263,447	511,485	973,464	1,748,396	7.3%
Post-exposure Prophylaxis	-	-	50,370	50,370	0.2%
Blood Safety	-	-	-	-	
Laboratory	1,524,577	263,253	433,100	2,220,930	9.3%
Infection Control	263,447	267,587	-	531,033	2.2%
Orphans and Vulnerable Children	-	-	-	-	
SORP-General Population	263,447	-	489,572	753,019	3.2%
Key Populations-PWID	-	-	-	-	
Key Populations-FSW	174,646	40,122	39,510	254,278	1.1%
Key Populations-MSMTG	-	-	-	-	
Other Vulnerable Populations-Prevention	615,693	135,522	152,782	903,996	3.8%
Medically-Assisted Therapy					
SI			8,994	8,994	0.04%
Surveillance					
HSS		1,402,071	123,684	1,525,754	6.4%
TOTAL	8,838,639	6,737,277	8,310,362	23,886,278	

Table 6. Spending for FY14 and 2 Years Combined, Broken Down by Program Area

FY 14	STAR-SW	STAR-E	STAR-EC	TOTAL		2 Years Combined	
Facility-Based Care, Treatment, and Support	2,066,045	1,357,224	1,030,543	4,453,812	17.9%	8,071,568	16.5%
Community-Based Care, Treatment, and Support	531,622	1,046,559	711,362	2,289,542	9.2%	3,970,621	8.1%
PMTCT	2,390,329	699,714	908,799	3,998,842	16.1%	8,420,617	17.3%
Voluntary Medical Male Circumcision	786,266	1,046,921	3,129,702	4,962,889	19.9%	11,131,786	22.8%
HIV Testing and Counselling	461,982	261,811	1,123,597	1,847,389	7.4%	3,595,786	7.4%
Post-exposure Prophylaxis	9,451	-	-	9,451	0.0%	59,821	0.1%
Blood Safety	-	-	-	-		-	
Laboratory	650,148	378,456	441,547	1,470,150	5.9%	3,691,080	7.6%
Infection Control	80,665	104,906	-	185,571	0.7%	716,605	1.5%
Orphans and Vulnerable Children	-	158,134	390,617	548,751	2.2%	548,751	1.1%
General Population –Prevention	232,569	105,691	400,938	739,198	3.0%	1,492,217	3.1%
Key Populations-PWID	-	-	-	-		-	
Key Populations-FSW	299,045	89,048	44,372	432,465	1.7%	686,744	1.4%
Key Populations-MSMTG	160,934	-	-	160,934	0.6%	160,934	0.3%
Other Vulnerable Populations-Prevention	378,155	845	232,443	611,444	2.5%	1,515,440	3.1%
Medically-Assisted Therapy	-	-	-	-		-	0.00%
SI		1,303,023	119,104	1,422,127	5.7%	1,431,121	2.9%
Surveillance		216,614	113,979	330,594	1.3%	330,594	0.7%
HSS		1,442,434		1,442,434	5.8%	2,968,189	6.1%
TOTAL	8,047,211	8,211,381	8,647,004	24,905,596		48,791,874	100.0%

Results in Tables 5 and 6 provide insight into how each of the projects allocated its resources across the different program areas. Key findings from these results are:

- I. Each of the three projects allocated its resources differently, and as such there were differences in priorities for each project. The only priorities consistent across all three projects were PMTCT and VMMC. However, for PMTCT, there was a change in priorities in FY14, and PMTCT received a relatively lower proportion of the funds allocated by STAR-E and STAR-EC.

2. Care and treatment took up nearly 25% of total funds for the two-year period. This is in line with the government of Uganda’s priorities, as noted in the Ugandan National HIV Prevention Strategy.
3. The key priorities for all three projects were: care and treatment, VMMC, PMTCT, HTC, and laboratory. These priorities took up about 80% of total resources for the two years. The remaining program areas (infection control, blood safety, prevention for general population and key populations, and orphans and vulnerable children (OVCs)) took up the remaining 20%. These priorities are aligned to what the USAID Mission Uganda provided as guidance for how money should be spent over the project life.

Spending by Level

Table 7 provides details on the levels where funds were spent. Results show that spending at the district level (to support direct provision of HIV/AIDS services) took less than half (57.8%) of the total resources for all three projects over the two-year period. It can be argued that spending on SI and health systems strengthening (HSS) was at the program level. A more detailed assessment is required to provide further information on whether spending on SI and HSS were directed at improving systems at the district and health-facility levels.

Table 7. Breakdown of Expenditure for FY13 and FY14 (Combined) by Level of Spending

Level of Spending	STAR-SW	STAR-E	STAR-EC	TOTAL	
Investment (Site Level)	1,808,814	2,069,053	1,551,930	5,429,797	11.1%
Recurrent (Site Level)	7,882,074	1,949,836	8,082,929	17,914,839	36.7%
Program Management	3,051,380	6,828,682	5,617,492	15,497,554	31.8%
Strategic Information	1,669,332	2,658,282	1,273,913	5,601,527	11.5%
Health Systems Strengthening	2,474,250	1,442,804	431,102	4,348,156	8.9%
				48,791,874	

Results in 7 show that nearly 32% of total project funds (for all three projects combined and over the two-year period) was spent on program management. While the critical role of program management cannot be understated in ensuring the achievement of project objectives and proper use of funds, the current structure of project management is inefficient and is the main cause of high management costs. For instance, there are up to three tiers of management for these projects (international, national, and lower-level implementers and partners). At each of these levels, both personnel and other management-related overheads are incurred. This approach to management is inefficient and results in further inefficiencies. For example, for STAR-SW, in FY13, a total of \$1.41 million (17.6% of total annual spending) was spent on program management. Of this \$1.41 million, about \$1.22 million (86.4%) was spent on “above national” level program management, implying that this is not spent in-country.

These findings point toward some degree of allocative inefficiency; a more efficient allocations of project resources would spend funds in-country on actual project targets. Ultimately, a large percentage of funds were spent on program management outside the country, with a relatively high level of spending on the enabling environment, and high levels of spending outside the country to administratively support the project. This approach to supporting improvements in service delivery is both expensive and not sustainable in the long run.

Cost drivers

A further look into expenditures on specific line items reveals the main cost drivers. This assessment provides better insight about the efficiency of resource allocation and use. Table 8 shows that expenditure on personnel took up 38% of total resources for all three projects over the two-year period (FY13 and F14). This is personnel expenditure at site, national, and above-national levels. A more detailed assessment of the breakdown of personnel expenditure at the different levels is recommended in order to provide further insights about allocative efficiency. From an *economy* point of view, it is highly probable that this level of spending on personnel is inefficient.

As noted earlier, program management took up near 32% of total resources for the three projects over the two-year period. Program management is the second highest cost driver for these projects. This level of spending on program management is inefficient and cannot be sustained if to the programs must achieve more outcomes with fewer resources.

Table 8. Cost Drivers of Expenditures FY13 and FY14 (Combined) in All Three Projects

US \$	FY13	FY14	TOTAL	% of total for 2 years
Personnel (at all levels)	9,546,174	9,111,340	18,657,514	38.2%
Program Management	6,606,900	8,890,654	15,497,554	31.8%
Other General/Administrative	4,571,265	6,752,808	11,324,073	23.2%
National Level	3,940,874	4,545,220	8,486,094	17.4%
Travel and Transport	3,511,234	3,719,979	7,231,214	14.8%
Above National	2,056,802	3,619,391	5,676,194	11.6%
Training (Site Level)	3,021,047	1,868,978	4,890,025	10.0%
Other Supplies (Site Level)	2,243,895	2,499,509	4,743,404	9.7%
Consultants	158,229	329,434	487,663	1.0%

These expenditure categories are standard as required and reported in the PEPFAR expenditure analysis. See also <http://www.pepfar.gov/documents/organization/195700.pdf>. An effort has been made to explain some of the categories below.

In the paragraph below the previous Table 7, the explanation does not suggest that 32% includes personnel. The explanation attempts to explain the inefficiencies of having a three-tier system of program management and how each tier would require its own resources.

The third cost driver is “other general expenses,” which mainly support the administrative functions of the projects at site and national levels. These expenses include, but are not limited to: office utilities and rent; staff meetings; telephone systems; staff recruiting; bank charges; office equipment; computer equipment for staff and facilities; vehicle purchases; printing and stationery; contractual services, including legal, accounting, and consultation; trainers; costs associated with GHC fellows; data entrants and clerks; translation of program information, education, and communication (IEC) materials into local languages; temporary staff; and materials related to the casual labor loading program. Table 8 shows that these expenses took up 23% of total project funds, which is considered relatively high. Potentially, cutting back spending on these items could lead to efficiency gains.

The three projects spent 11.6% of their total resources on “above national” expenses. These include personnel and other overhead costs supported by the projects. Expenditure of \$5.6 million at this level is considered inefficient, despite the critical and important role the international support plays in the projects.

Comments on Value-for-money

The following issues should be noted in relation to the findings on VFM for the three projects:

Economy

- As noted earlier, program management costs (and above-national costs) took up a significantly large proportion of the total project budget. This is partly due to the three-tiered management structure, with negotiated salaries and overheads for each level (above-national, national level, and sub-grantee level). This management structure is inefficient.
- Through KIs, it was noted that USAID supports local governments through a grant that is managed by the SDS project. This support was implemented in parallel with the STARs project, but it targeted the same districts. While the SDS support is directed toward improving the capacity of local governments to implement their mandates, the SDS support and STARs support were not well synchronized, and this resulted in inefficiencies. Most specifically, implementation of some of the activities by STARs project was delayed due to poor coordination and synchronization of activities with SDS.

Efficiency

- **Allocative efficiency:** Results in Table 8 show a relatively high allocation of funds to program management, SI, and HSS, compared with the proportion of funds allocated to supporting actual provision of HIV/AIDS services (prevention, care, and treatment). While the importance of an enabling environment is clear, an allocation of close to 52.2% does not reflect allocative efficiency, considering the needs and gaps in service provision.
- **Technical efficiency:** Although an attempt was made to calculate unit expenditure and benchmark it against the unit costs of implementing similar services for each of the projects, we note that we are not “comparing apples with apples” and that the findings on this should not form the basis for judgments about the technical efficiency of the DBTA model.
- The approach being used for mentoring, training, and supervision attracts costs, particularly related to (a) personnel, (b) training, and (c) travel and transport. A further inquiry into the approaches used by the projects for these is recommended as there are potential efficiency gains in changing the way mentoring, training, and supervision are done.

V. CONCLUSIONS

The evaluation team examined and reported its findings with reference to the SOW's seven evaluative questions. On the basis of our examination, with input from multiple informants and available documentation, we conclude the following:

IMPROVED CAPACITY AND SUSTAINABILITY

- 1. Approaches implemented under the DBTA/STAR programs:** The three DBTA/STAR programs have achieved the program objectives and intermediate results to a large extent, especially with respect to increasing availability and accessibility of HIV/AIDS and TB services. There were no major differences across the regions in terms of implementation approaches and results. The evaluation team found that the majority of DBTA approaches used were successful and appropriate for improving accessibility, quality, and availability of integrated health service delivery, as well as health financing and management. The most successful approaches were mentorship and training, HIV/AIDS and TB care integration, and the establishment of community linkages. The success of these approaches was attributed to a conducive HIV/AIDS care environment and the technical competence of the STAR teams. However, resources for priority technical assistance interventions were constrained by specific barriers within the context of operation, which included health systems constraints outside the scope of the project, inadequate human resources, and poor infrastructure.
- 2. Effect of transition from the STAR programs to district grants through SDS:** The discordance between the STAR programs' emphasis on defined facility-based service-delivery results, together with the SDS program's emphasis on the provision of grants focused on strengthening decentralized systems, resulted in limited synergy between the two elements of the DBTA program. Furthermore, there was poor coordination between SDS and STAR in the East and East-Central regions, as well as unclear expectations for beneficiaries and local government regarding the role of SDS versus STAR.
- 3. Sustainability:** While technical initiatives introduced under the STAR programs were sustainable, the STAR programs' limited emphasis on health systems strengthening, on the development of programmatic linkages between districts and health facilities, and on ways to address financial resources required to maintain the program's monetary investments undermined prospects for long-term sustainability.

CONTRIBUTION TO IMPROVED HEALTH SERVICE DELIVERY

- 1. Use of strategic information:** Under the DBTA/STAR programs, capacity to collect and use information for health systems management purposes specific to HIV/AIDS and TB services was significantly enhanced. The STAR project strengthened the capacity of all participating districts to apply the LQAS methodology in annual community surveys. LQAS allowed generation of district-specific data for strategic planning and improvement of programs. KIs with DHTs, service providers, and district leadership confirmed the use of LQAS and HMIS data in planning and data dissemination.
- 2. DBTA contribution to improved health service delivery and related health outcomes:** The DBTA/STAR programs were major contributors to the improvement of health service delivery, especially in HIV/AIDS and TB services. The program contributed to the expansion of quality HIV/AIDS and TB service delivery to lower-level health facilities. As a result of improvements in service delivery, the evaluation found significant improvements

in HIV/AIDS and TB service-delivery outcomes, including increases in HTC uptake for individuals and couples, PMTCT uptake, and pre-ART enrollment and ART initiation. However, while ART initiation improved, ART retention remained stagnant despite efforts.

3. **The effects of integration on health outcomes:** Integration, as supported by the DBTAs, had a clear impact on health outcomes specifically related to HIV/AIDS service integration with TB and maternal health. The integration of HIV/AIDS and TB dramatically increased HIV testing and ART initiation among TB patients. However, outcomes related to HIV/AIDS integration with other health service areas did not show much improvement, and there were integration gaps, such as with adolescent health and chronic care.

COST EFFICIENCY

1. **Cost efficiency:** While each of the STAR programs has been able to achieve substantial progress over the life of the projects, inefficiencies in program management suggest that more could have been achieved with the level of investment.

The evaluation team has assessed that the three STAR programs were successful in terms of meeting the requirements of their technical assistance contracts. However, an increased focus on health systems strengthening, sustainability, integration of services, and cost efficiency could have facilitated the programs' reaching the full potential of a comprehensive District Based Technical Assistance (DBTA) program.

VI. RECOMMENDATIONS

The evaluation team recommends the following changes to improve the design of future DBTA projects:

- 1. To strengthen DBTA capacity-building approaches, the design of future DBTA projects should address the strengthening of multiple components of the health system, since many factors affect technical assistance uptake.** The evaluation team especially recommends continued support for DBTA's strengthening of facility-level laboratories. The DBTA/STAR programs' advancements in the quality of facility-based laboratories, laboratory equipment, and laboratory technicians, as well as support for the innovative development of laboratory hubs, merits continued inclusion under future DBTAs. Such recognition under future DBTAs should be accompanied by an explicit program of district and national-level advocacy that will lead to budgetary line-item support for laboratory systems within the period of time covered by the next DBTA projects.
- 2. Clearly delineate roles, responsibilities, and programmatic parameters among multiple programs working in the same district to improve coordination and collaboration:** The evaluation notes that there was a much stronger collaborative relationship between SDS and STAR-SW compared with the other STAR programs. Working in close collaboration, SDS and the DBTA ensured proper coordination of the planning process, including sharing of approved work plans, budgeting with other USAID-funded health projects, and HIV/AIDS initiatives with district political and technical teams. Clearly delineating roles, responsibilities, and programmatic parameters will also improve understanding among beneficiaries and local governments of what can be expected from the various programs being implemented in their communities.
- 3. Invest in developing the leadership capacity of existing health management committees (HMCs) at the health-facility level:** Such investment should center on strengthening the role of the HMCs as a focal point for a proactive quality assurance linkage between the health services and the communities they serve and would constitute a holistic approach to managing community engagement and improving health outcomes.
- 4. In collaboration with the DBTA's participating districts, establish and maintain a database to determine the extent of cost sharing among districts, with reference to DBTA interventions to improve long-term sustainability:** By establishing such a database, DBTAs and USAID will foster an environment of understanding between districts and their partner DBTAs that will strengthen the potential for a knowledge-based program under which DBTAs, USAID, and local governments will be able to identify ways in which districts can progressively and realistically assume fiduciary responsibility for selected DBTA initiatives.
- 5. Continue to support maintenance and utilization of the LQAS methodology for data collection, strategic planning, and improvement of programs:** The current DBTAs have established the value of LQAS for district management and evaluation purposes. Continued short-term investment should focus on refresher training of district data collectors and on continued development of user-friendly mechanisms and processes designed to enhance the effective use of LQAS for district-level monitoring and response to performance indicators. At the same time, it is recommended that USAID work with the MoLG to build upon the expressed interest of the government to progressively institutionalize support for the LQAS.

6. **Continue to support community quality improvement initiatives to strengthen linkages between health facilities and the communities they serve and to improve quality of care in service delivery:** Current DBTA initiatives have made significant progress in development of QI linkages between the health facilities and the communities they serve. Continued development of these linkages should focus on progressive institutionalization of the capacity of health services to effectively identify ways to enhance client satisfaction and sustained utilization of HIV/AIDS and TB services. Improvements in quality of care at the community and facility level have the potential to positively impact ART retention and other benefits of HIV/AIDS and TB service decentralization. Lastly, there is a need to strengthen measurements of the parameters of quality and the utilization of results in QI interventions.
7. **Integration should be expanded to include other key health areas:** There is need to review whether strengthened facilities can take on other key health areas, including chronic care, integration of out- and inpatient services, and facility management. This would require integrated access to records, ability to provide daily ART regimens, and multiskilled health workers. Furthermore, the design of the intended integration should be developed in parallel with clear indicators to measure the effectiveness of integrating services.
8. **Design DBTA programs that rigorously focus on the reduction to minimal necessary levels of the percentage of administrative support costs required to sustain DBTA technical assistance and DBTA operations to promote cost efficiency and value for money:** Such reductions should be applied at all three levels (international, national, and sub-grantee) of DBTA program management. The focus of such reductions should be on promoting cost efficiency and VFM with an explicitly forward-looking and transparent orientation toward the districts' capacity to progressively absorb programmatic costs during the execution and at the completion of the DBTAs' contracts.