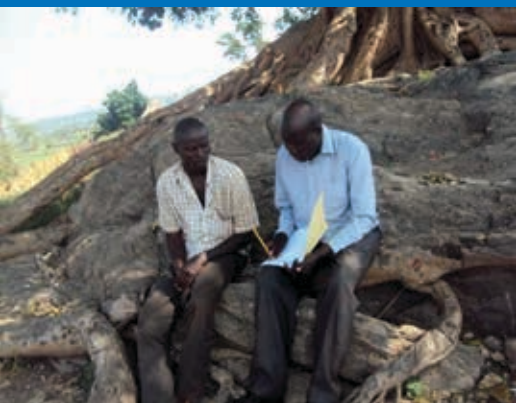




SURVEY PROGRESS REPORT

Results from Nine Districts in East Central Uganda
July, 2012



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List of Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
BCC	Behavior Change Communications
CDO	Community Development Officer
CI	Confidence Interval
CSO	Civil Society Organizations
CTX	Cotrimoxazole
DHO	District Health Office(r)
DOTS	Directly Observed Therapy Short Course
EC	East Central
FP	Family Planning
HIV	Human Immunodeficiency Virus
HC	Health Center
HF	Health Facility
HTC	HIV Testing and Counseling
HMIS	Health Management Information System
HSD	Health sub-district
IEC	Information, Education and Communication
JSI	JSI Research & Training Institute, Inc.
LQAS	Lot Quality Assurance Sampling

LG	Local Government
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MTCT	Mother-to-Child Transmission of HIV
NGO	Non-Governmental Organization
NLTP	National TB and Leprosy Control Program
P value	Probability Value
PLHIV	People Living with HIV&AIDS
PMTCT	Prevention of Mother-to-Child Transmission of HIV
RH	Reproductive Health
SA	Supervision Area
STAR-EC	Strengthening Tuberculosis and HIV&AIDS Responses in East Central Uganda
STRIDES	STRIDES for Family Health program
TB	Tuberculosis
UAC	Uganda AIDS Commission
UDHS	Uganda Demographic Household Survey
USAID	United States Agency for International Development
USG	United States Government
VHT	Village Health Team

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Highlights

The Strengthening TB and HIV/AIDS Responses in East Central Uganda (STAR-EC) program has conducted four surveys over each of the last four years starting with the 2009 health facility assessment and household Lot Quality Assurance Sampling (LQAS) baseline survey. Six districts were assessed during 2009 while a total of nine STAR-EC supported districts (Bugiri, Buyende, Iganga, Kaliro, Kamuli, Luuka, Mayuge, Namayingo and Namutumba) have been assessed during the subsequent years that include the 2012 survey.

A total of 63 Local Government (LG) personnel from all the aforesaid districts as well as 3 Civil Society Organization (CSO) personnel from the Family Life Education Project (FLEP), Youth Alive (YA) and the Uganda Reproductive Health Bureau (URHB) were trained/re-trained in the application of the LQAS survey methodology. Details on the survey methodology and specifics on all of the findings can be found in the main body of this report. Table 1 summarizes data trends from 2009 to 2012 on key indicators assessed during the 2012 survey in comparison with prior years.

Table 1: STAR-EC Household Baseline LQAS Survey Results

Indicator definitions	Survey Results				Notes (unless mentioned, all notes herein refer to the year 2012 results)
	2009 baseline	2010	2011	2012	
REPRODUCTIVE HEALTH					
% of pregnant women attending ANC at least 4 times during the last pregnancy	49.1	44.8	42.3	47.9 ^{oo}	There are increments in women attending ANC at least 4 times over the last two years however there has been a decline in the proportions of women receiving ANC services at least once (from 96.8% in 2011 to 92.7% in 2012).
% of deliveries (in the last 2 years) that took place in a health facility	69.1	66.3	66.9	67.4	Result's stagnation. More efforts needed.
% of married/cohabiting women 15-49 years using modern family methods			26.2	29.2	30.3% (15-49) of married/cohabiting women reported currently using any family planning method
PMTCT					
% of women tested and received their HIV test results during ANC in last 2 years	43.9	48.5	62.8	70.7 ^{oooo}	Significant increase since baseline (Pearson chi2 (6) =224.5, p<0.001).
% of adults who know all the 3 MTCT ways (during pregnancy, delivery and breast feeding)	45.2	44.7	47.0	50.3 ^{oooo}	Women (53.3%) were more likely than men (45.8%) to know of all three MTCT ways (Pearson chi2 (1) = 18.1, p<0.001). Most respondents mentioned transmission through delivery (81.9% males and 83.8% females.)
HIVTESTING AND COUNSELING (HCT)					
% of adults (15 years and above) who have ever taken an HIV test	47.9	51.3	58.6	63.7 ^{oooo}	Significant changes (p<0.001) when comparing sex as well as when comparing performance since baseline.
% of adults (15 years and above) who have tested and received their HIV test results in last 1 year.	33.2	35.8	44.3	48.4 ^{oooo}	Significant changes (p<0.001) when comparing sex as well as when comparing performance since baseline
% of adults (15+ years) who know where they can be tested for HIV	82.5	83.2	85.0	90.4 ^{oooo}	68.5% of those who know of a place where to go for an HIV test in case they wanted one, have actually tested for HIV
BIO-MEDICAL HIV PREVENTION					
% of men (15-54 years) who have ever been circumcised	37.4	34.2	35.8	45.0 ^{oooo}	Significant change (Pearson chi2 (3) = 38.2, p<0.001) on the number of circumcised adult males since baseline. Among districts, Bugiri (61.3%) had the highest result. More efforts should be placed on Namayingo District (32%) as it is one of the districts with the highest population of MARPs yet fewer proportions of males are circumcised.

Indicator definitions	Survey Results				Notes (unless mentioned, all notes herein refer to the year 2012 results)
	2009 baseline	2010	2011	2012	
Of those who have never been circumcised, % of males who say they would accept to undergo circumcision in case they were offered a chance at a health facility	66.6	72.9	74.6	75.9 ⁰⁰⁰⁰	The majority of respondents (47.1% and 30.9%) among those who reported would turn down a chance to go for free circumcision reported that they would do as such because of fear of pain and religious/cultural beliefs respectively. Pearson chi2(3) = 15.7, p = 0.001
ANTI RETROVIRAL THERAPY (ART)					
% of adults (15+ years) who believe that HIV patients should take ARV drugs and/or cotrimoxazole	36.1	35.5	31.6	51.8 ⁰⁰	52.8% were males and 51.2% females.
% of adults (15+ years) who know a place to get ARV drugs for HIV patients	58.0	58.8	66.3	76.5 ⁰⁰⁰⁰	More proportions of adults are getting to know where to obtain ARVs.
BEHAVIORAL PREVENTION					
% of adults (15+ years) who know a place to obtain condoms	82.8	90.5	82.6	88.8 ⁰⁰	Fewer females (85.2%) than males (94.4%) knew of where to obtain condoms.
% of adults who can mention the 3 major ways of HIV&AIDS prevention (Abstinence, Being faithful and Condom use)	58.7	64.3	63.6	68.8 ⁰⁰	Kamuli (88.4%) had the highest while Namayingo had the lowest at 47.6%
% of adults (15+) able to reject all the major HIV&AIDS misconceptions (witchcraft, mosquito bites and sharing food)	48.3	42.9	51.8	57.9 ⁰⁰⁰	Among those that believe in these misconceptions, most believe that HIV can be transmitted through mosquito bites.
CARE AND SUPPORT					
% of households with a person who is very sick or bed ridden for a period of three or more months, or anyone who died after being sick for more than three months	12.7	11.6	11.3	8.7 ⁰⁰⁰⁰	Pearson chi2(6) = 25.8408 p < 0.001 over the years. Among districts, the highest proportions were reported from Namutumba (12.7%), Bugiri (11.8%) and Iganga (11.6%) while the lowest was reported from Kaliro (4.2%) and Buyende (4.8%).
(Of those affected households) % of households receiving care and support for a sick bedridden person or someone who died after being sick or bedridden for more than 3 months	55.9	54.0	56.3	65.5 ⁰⁰⁰	Support received by affected households included: <ul style="list-style-type: none"> ▶ Free Medical 61.0% ▶ Free emotional 38.6% ▶ Free material 20.7% ▶ Social Support 29.0%
TUBERCULOSIS					
% of adults (15+ years) who know that it is possible for a person to have TB and HIV at the same time	81.9	80.8	84.8	86.9 ⁰⁰⁰	Most respondents (84.2%) mentioned that they would take a family member to a health facility once they suspected them of TB infection.
% of adults (15+ years) who know that TB is a curable disease	55.4	53.1	61.5	69.1 ⁰⁰⁰	Significant differences across all districts for all survey years (p<001).
% of adults (15+ years) who know of any signs and symptoms of TB	84.4	80.6	85.3	88.1 ⁰⁰⁰	Findings were high across all districts, however results show low proportions of those who know of two or more important signs.

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Indicator definitions	Survey Results				Notes (unless mentioned, all notes herein refer to the year 2012 results)
	2009 baseline	2010	2011	2012	
BEHAVIORAL CHANGE COMMUNICATION					
% of households that received at least one message about HIV&AIDS prevention in the last 3 months	63.1	60.0	65.1	75.5 ⁰⁰⁰	Most of the BCC indicators show an increment in coverage especially over the last two years when compared to the first two years of this assessment.
% of households that received at least one message about HIV&AIDS care and treatment in the last 3 months	55.9	53.2	60.4	70.6 ⁰⁰⁰	
% of households that received at least one message about TB in the last 3 months	39.9	41.7	51.7	68.1 ⁰⁰⁰⁰	
% of households that received at least one message about ART treatment in the last 3 months	40.6	40.3	48.1	62.2 ⁰⁰⁰	
% of households that received at least one message on other HIV prevention (OP) methods in the last 3 months.	58.9	56.5	50.1	65.3 ⁰⁰	
% of households that received at least one message on AB in the last 12 months.	58.6	45.0	59.5	69.7 ⁰⁰⁰	
HEALTH FACILITY (HF) ASSESSMENT (out of all health facilities interviewed including Govt and private)					
Number of HFs interviewed	292	319	328	301	Some health facilities that had been assessed in the previous years were either found to be non-functional or were private drug stores not worthy re-assessing as health facilities thus the decrease in the number of health facilities assessed in some districts.
% of HFs that counsel HIV+ clients on TB prevention and treatment	25.7	24.8	27.4	30.2	
% of HFs that reported conducting HCT outreach services	15.8	22.6	28.4	30.2	
Number of HFs that were found to be offering any form of PMTCT services i.e. Counselling, referrals or HIV testing itself	206	170	207	187	
% of HFs that reported that HIV+ mothers receive ARVs for PMTCT purposes	19.2	25.1	26.5	30.9	
% of HFs that reported that all HIV+ clients are screened for TB	18.8	22.9	25.0	25.9	
% of HFs that reported that all patients diagnosed with TB are tested for HIV	21.6	21.9	26.8	28.2	

Source: Health facility assessment and household LQAS 2009-2012 surveys

⁰⁰⁰⁰ Significant trend in improvements since baseline survey ($p < 0.05$)

⁰⁰⁰ Significant trend in improvements for the last three survey years ($p < 0.05$)

⁰⁰ Significant trend in improvements for the last two survey years ($p < 0.05$)

1.0 Introduction

1.1 Background

STAR-EC is a USAID PEPFAR funded program which is being implemented in nine districts of east central Uganda. STAR-EC aims at expanding access to and utilization of the comprehensive package of TB and HIV&AIDS services by building upon existing networks, expanding geographical coverage and populations served through strengthening district specific responses and expanding the role of CSOs and communities in planning, implementing and monitoring activities. Routine monitoring and periodic evaluation are crucial aspects of effective and efficient program implementation. The STAR-EC Program adopted the LQAS survey, a rapid and cost-effective tool to measure coverage of relevant indicators while identifying gaps in performance. This survey is conducted annually and commenced with a baseline assessment in 2009. Additionally, it is conducted simultaneously with a health facility assessment. Both surveys provide a good source of routine health statistics that complement the existing national Health Management Information systems (HMIS).

1.2 Major Objectives of STAR-EC

STAR-EC has five major objectives that include:

- ▶ Increasing access to, coverage of, and utilization of quality comprehensive HIV&AIDS and TB prevention, care and treatment services within district health facilities and their respective communities.
- ▶ Strengthening decentralized HIV&AIDS and TB service delivery systems with emphasis on health centers (HCs) IV and III and community outreach.
- ▶ Improving quality and efficiency of HIV&AIDS service delivery within health facilities and civil society organizations.
- ▶ Strengthening networks and referral systems to improve access to, coverage of, and utilization of HIV&AIDS and TB services.
- ▶ Intensifying demand generation activities for HIV&AIDS and TB prevention, care and treatment services.

Over the last four years, the LQAS methodology has been used by STAR-EC to establish progress of different national, district and program level indicators at the community level. Additionally, follow up health facility assessments have been conducted on all the registered health facilities that were found functional in the nine East Central Ugandan districts during the aforementioned years. None of the districts had a supervision area (SA) with more than 19 known or registered health facilities. Therefore, all existing health facilities in each district (both government and private) participated in this assessment except for less than five cases where some health facility in-charges of mostly private settings refused to be interviewed. Manually tabulated results were immediately analyzed in the aftermath of data collection then shared with all the nine district team members, leaders and decision makers so as to promote evidence based planning and decision making.

With co-support from both STAR-EC and the SDS program, both 2012 follow-up surveys (Health Facility and Household LQAS surveys)

were conducted during June to early July. These surveys primarily assessed the availability, accessibility, effectiveness and efficiency of services related to HIV&AIDS and TB indicators. Other non-HIV&AIDS related indicators included reproductive and adolescent reproductive health; water and sanitation indicators; and other health facility based service indicators. These were assessed at both household and health facility level (respectively) with the participation of district local governments and CSO personnel. Findings from these surveys have been instrumental to STAR-EC as well as the central, LG and other development partners in the assessment of program progress, identification of underperforming areas that each respective district should endeavour to address during their next LG annual planning and budgeting process. Further, the continued dissemination of these results will help in building a consensus on the value of LQAS with district and national leaders thus enhancing the feasibility of institutionalizing LQAS as a routine monitoring and evaluation approach for district and nationwide interventions.

2.0 Methodology

2.1 Questionnaire Preparation

For consistence and comparability of the survey results, minor additions and revisions were made during the preparation of the questionnaires. Therefore, most of the questions within the tools developed during the baseline and subsequent survey years were maintained and these tools contained standard questions that were based on most of the USAID/PEPFAR new generation indicators, World Health Organization (WHO), the Ugandan Ministry of Health (MoH), Uganda AIDS Commission (UAC) as well as the STAR-EC program level indicators and intervention areas. Consideration was also given to specific district LG indicators of interest. Special attention was also given to making sure that the considered indicators were useful for comparison with routinely collected service data. Survey questions were structured according to the standard questions used nationally and internationally to measure the chosen indicators. Soon after, questionnaires were pre-tested and revised accordingly. However, it should be noted that the 2011 survey questionnaires incorporated some new indicators on maternal and child health that included immunization and malaria management for under 5 year olds and pregnant women. Other indicators and special groups assessed included Orphans and Vulnerable Children (OVC)¹. These indicators were added to this survey to help collect data for other implementing partners and stakeholders in the country that are charged with such interventions.

As opposed to four sets of questionnaires that were being examined in the first two survey years, namely: (1) biological mothers with children less than two years of age; (2) young people aged 15-24 years; (3) men aged 15 to 54 years; and (4) women aged 15 to 49 years, two more sets or target groups were introduced during the last 2 survey years: These included (1) biological mothers with children aged 12-23 months (this meant that the previous category of biological mothers with children 0-24 months was subdivided into two groups – that is 0-11 months and

¹ Data on OVC was collected with STAR-EC's support, however, analysis and reporting of this data was conducted by the STAR-EC LQAS project.

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12-23 months) and (2) OVC. In order to cater for immunization indicators, the split between biological mothers of children under 2 years was instituted during the 2011 and 2012 surveys so as to have assessments based on the 0-11 months and 12-23 months age groups. Therefore in total there were six household based questionnaires for different age categories during this survey.

Most questions were common across different groups in order to ensure comparability and increase the sample size. Each individual questionnaire contained questions about household characteristics (including the exact location) and questions in the following "modules": socio-demographic characteristics, water and sanitation (except for the youth group), HIV&AIDS and family planning. Other modules, however, were specific to some groups and did not feature in some target group questionnaires. For example, questions on ANC and PMTCT testing were only included in the questionnaires for mothers with children under two years of age. By arranging some questionnaires in this kind of format (whereby all respondents from the six² target groups were asked the same questions), the sample size derived from all these shared modules was increased to 475 per district instead of 95, thereby increasing the degree of precision in measuring the related indicators. Overall, the random sample size for all the six target groups examined in this survey was 5,130 individuals. However, the concentration of results for this report will dwell on 4,275 individuals excluding the 855 individuals examined under the OVC group category whose questionnaire was limited to OVC type of questions. Additionally, each age specific category questionnaire had question modules that explored specific interests related to a given age category. For example, PMTCT service utilization was only restricted to biological mothers of children under 2 years and in no other age category questionnaire.

The health facility questionnaires assessed service interventions on HTC, PMTCT, ART, diagnosis and treatment of Sexually Transmitted Infections (STIs) and Tuberculosis (TB), Laboratory Services, ANC, Basic/Comprehensive Emergency Obstetric Care Services, Adolescent Youth Friendly Services, Health Management Information Systems (HMIS) records and Commodity Management (Drug Stores).

Prior to the training of district LG and CSO personnel, extensive pre-testing of survey questions took place at the village and health facility levels. Edits and various adjustments were made to improve these data collection tools before the final printing of questionnaires could commence.

2.2 Training/re-training

Training/re-training of the two groups lasted five days each. The first group trained from 4th- 8th June 2012 and this group included participants from Iganga, Kamuli, Kaliro, Mayuge and Namutumba while the second group trained from 11th-15th June, 2012 and included participants from Buyende, Bugiri, Luuka and Namayingo districts. Participants consisted of persons from the District Departments of Health and Community Development and from the CSOs partnering with STAR-EC in their respective districts of work. Majority of the participants had taken part in the previous STAR-EC LQAS activities apart from a few that had been brought on board to replace those

that could not make it. The overall number of trainees was eighty nine.

The training covered the following topics: introduction to surveys and LQAS methodology, field preparation, sampling and selection of households, selection of respondents, pre-testing, interviewing techniques and logistics of data collection. The training was participatory with practical sessions where the interviewers demonstrated knowledge on household selection within a mini, mock village. During the session on interviewing techniques, tips were provided to the interviewers on how to contact the household in a village, explain the purpose of the study, gain cooperation, enumerate household members, select the respondent, ask questions in the required manner, put the respondent at ease, and accurately record the respondent's answers and any other required information. Role-play and mock interview training techniques were employed where applicable.

During the training, a day was dedicated to training interviewers on the questionnaires that were eventually used to collect data. A total of six categories of questionnaires were reviewed and these included; one on the biological mother of child 0-11months, biological mother 12-23 months, females 15-49 years, males 15-54 years, young people 15-24 years, the OVC questionnaire as well as the health facility questionnaire. During the training workshop, questions were translated into Lusoga (the local language). A pretest of these questionnaires was henceforth conducted and its results reviewed overnight by survey supervisors. The following day it was discussed together with field interviewer teams. Lastly, as a means to establish the knowledge and recall levels of training participants, prior and end training evaluation exercises were conducted as part of the workshop.

2.3 A Brief Background to the LQAS Methodology

The LQAS methodology was developed in the USA in the 1920s and widely used in the manufacturing industry for quality control of the goods produced on a production line. This methodology involves taking a small random sample of a manufactured batch (lot) and testing the sampled items for quality. If the number of defective items in the sample exceeds a pre-determined criteria (decision rule) then the lot is rejected. The decision rule is based on the desired production standards and a statistically determined sample size. This methodology was borrowed by the public health sector. It uses a small sample of 19 respondents that provides an acceptable level of error for making management decisions (samples larger than 19 have practically the same statistical precision as 19 - they do not result in better information, and they cost more³). Details of the history and statistics behind the method have been discussed in various literatures⁴.

³ Valadez J. et al (2003) Assessing Community health programs, Using LQAS for baseline and monitoring

⁴ Lemeshow S, Taber S. Lot quality assurance sampling: single and double-sampling plans. World Health Statistics Quarterly 44, 115-132

² two out of the six questionnaires (the 12-23 months and OVC tools) did not carry modules on HIV indicators

LQAS is a lower cost, less time consuming sampling method that can be adapted to the service sector by using supervision areas (SAs) instead of production lots to identify poorly performing areas that do not reach an established benchmark. It can also provide an accurate measure of coverage or service system quality at a more aggregate level (e.g. program area). In this survey, existing lower level administrative structures (sub-counties) were used as SAs and each district as a program area or lot. A minimum of five supervision areas per district was required to obtain an acceptable 95% confidence level in the LQAS survey. SAs were derived in respect to population size and geographical locations/neighborliness of different sub-counties. Weighting in respect to population size was used while deriving SAs for districts with more than 5 sub-counties. The higher the population of a given sub-county, the more likely it stood a chance of being selected as a standalone SA while at the same time if two or more sub-counties within the same district were geographically neighboring each other and had a lower combined population when compared to one sub-county in the same district, they would then form a given SA. The overall district coverage for the survey indicators was then used as a benchmark against which SA performance was assessed as either below or above the desired performance and poorly performing areas identified as a priority for improved or enhanced interventions.

Household Survey General Information

4,275 respondents aged 15-54 years were interviewed from 4,275 households within 855 villages 31.5 % (1,345) were males aged 15-54 years and 68.5% (2,930) were females aged 15-49 years 47.2% (2,017) were young people 15-24 years

An additional 855 respondents were interviewed as part of the OVC questionnaire. This number is excluded from all those mentioned above.

As earlier mentioned, there was no need to apply the LQAS survey methodology in selecting health facilities for the health facility survey. Neither of the districts in the EC region had a number of registered health facilities that exceeded 19 units per SA or 95 health units per district. Subsequently, in every district, all the registered government and private health facilities and those which were found functional at the time of the survey were assessed. However, though negligible, a few health facilities (especially private ones) objected to participating in this assessment. It is believed that most of them feared that interviewers were interested in checking on their operation licenses while others probably thought of this as a policing activity. At the same time some facilities (especially private ones) that had been assessed in earlier surveys were found to be drug shops and unqualified for the kind of health facility interviews that were conducted during this year's survey. This therefore reduced the total number of health facilities from 328 that were interviewed during the 2011 interview to the current 301 in 2012.

2.4 Village and Household Sampling

Sampling of villages during the 2011 survey was conducted in relation to the SAs that had already been formulated and defined during the baseline. As already elucidated in the previous section, SA boundaries were formulated in respect to population size and the geographical location of different sub-counties within each district. Sampling was executed with each district considered as an independent 'Supervision Unit' and divided into 5 SAs.

A two-stage sampling plan, first randomly selected 19 villages per SA by use of proportionate to size sampling. Sampling proportionate to size is a sampling technique for use with surveys or mini-surveys in which the probability of selecting a sampling unit (e.g. village, camp) is proportional to the size of its population. It is most useful when the sampling units vary considerably in size because it ensures that those in larger sites have the same probability of getting into the sample as those in smaller sites and vice versa.

The second step is to randomly select a household within the village. This step involved using the village local council household listings or register that is periodically updated when in- or out-migration and movement within the village takes place. This is the most up-to-date household list, and in cases where one was not available, the interviewer compiled a list together with the village leader(s) based on a village map. Interview locations for the household survey were therefore selected using the updated household listings obtained from local authorities.

Each of the nine East Central districts in the region was divided into five SAs as follows:

Table 2: District Supervision Areas and LQAS in the East Central Region, 2010 - 2012

No.	Districts	Supervision Areas (sub-counties)
1	Bugiri	Bugiri TC, Iwemba & Nabukalu (Bukooli B); Bulesa & Buluguyi (Bukooli C); Bulidha & Budhaya (Bukooli A); Buwunga & Kapyanga (Bukooli D) and Muterere & Nankoma (Bukooli E)
2	Buyende	Bugaya, Buyende, Kagulu, Kidera, and Nkondo sub-counties
3	Iganga	Buyanga & Namalemba (Bugweri A); Ibulanku & Makuuutu (Bugweri B); Iganga TC & Nakigo (Kigulu C); Nabitende, Nambale & Nawandala (Kigulu A) and Namungalwe, Bulamagi & Nakalama (Kigulu B)
4	Kaliro	Bumanya, Gadumire, Namwiwa, Nawaikoke and Namugongo sub-counties

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No.	Districts	Supervision Areas (sub-counties)
5	Kamuli	Balawoli & Namasagali (Bugabula A); Bugulumbya, Nawanyago, Wankole (Buzaaya A); Bulopa, Kitayunjwa, Namwenda (Bugabula C); Kisozi, Mbulamuti (Buzaaya B) and Nabwigulu, Butansi, Kamuli TC (Bugabula B)
6	Luuka	Bukanga/Waibuga, Bukooma, Bulongo/Nawampiti, Ikumbya and Irongo sub-counties
7	Mayuge	Baitambogwe, Wairasa, Imanyiro (Bunya A); Bukatube, Mayuge TC, Mpungwe (Bunya B); Buwaaya, Bukabooli, Kigandalo (Bunya C); Kityerera, Busakira (Bunya D) and Malongo, Malongo Islands (Bunya E)
8	Namayingo	Banda, Buswale, Buyinja, Mutumba and Sigulu sub-counties
9	Namutumba	Bulange & Ivukula; Kibaale & Nsinze; Magada and Namutumba sub-counties

Source: STAR-EC LQAS Household Surveys, 2010 -2012

2.5 Quality Assurance and Control

Quality assurance was taken to be an integral component of the entire survey process and included appropriate preparation and orientation of research assistants to ensure that they were sufficiently trained and familiar with the survey processes and the different questionnaires; provision of adequate support supervision by a team of supervisors⁵ at every stage of the survey with an emphasis on quality data collection; and regular and prompt feedback and reporting to each responsible survey line manager or consultant in each district by the data collectors.

At each survey stage, instant field problem solving as well as the production and constant field editing was exercised by the participants themselves in each district. Fully edited questionnaires would then be given to each respective district LQAS focal person and ultimately their supervisors (district survey consultants) would give the final take. Further, cleaning of collected data still took place at both data entry and analysis levels. Lastly, during the dissemination exercise, the data especially the health facility data was cleaned by the district participants themselves.

2.6 Ethical Considerations

2.6.1 Informed Consent

In this survey, every respondent had the right to refuse the interview or to refuse to answer specific survey questions. In this survey, the interviewers respected this right and verbally administered informed consent before conducting the interview. However, such cases were almost inexistent and very negligible. Most of the intended and randomly selected respondents accepted to be interviewed the very first time they had been approached by an interviewer.

⁵ The team of supervisors included a total of 10 personnel (one provided the overall technical oversight and support supervision) as well as nine district specific consultants who extended technical assistance to district participants during the execution of this methodology in each district.



An interview at the showers of Lake Victoria (Sigulu Islands)



An interview of a biological mother of a child 0-11 months

2.6.2 Privacy

It is important for each respondent's interview to be conducted in a manner that is comfortable for them and in which they are able to speak openly and honestly. Therefore, all interviews were conducted in the respondent's home and in a private area. During the interview, no other adult man, woman or older child was present or able to hear the interview. Babies and other younger children in some instances were allowed to be present during the interview. If the respondent indicated that she or he was uncomfortable holding the interview at home, the interview was done at another location of the interviewee's preference.

2.7 Data Sources and Analysis

The data sources of the health facility survey were the health facilities themselves (found within each specific district). Households were the lowest units from which respondents to the household based LQAS survey were obtained.

Data analysis focused on assessing coverage levels for the different program indicators and comparisons between districts. To a large extent, proportions were computed to determine the status of each indicator and statistical tests (z-test, chi-square and fisher's exact)

were applied to assess whether the resultant changes were significant at the 5% level. Desegregation by district, respondent's age and sex, and other key variables were done to some extent in order to understand the possible factors behind the variations. Data was entered using the Epi Data software and STATA statistical software was used to compute proportions and significance levels.

Table 3: Number of Health Facilities Assessed (by Year)

District	Survey year							
	Baseline (2009)		2010		2011		2012	
	No.	%	No.	%	No.	%	No.	%
Bugiri	55	18.8	40	12.5	40	12.2	43	14.3
Buyende	*		19	6.0	20	6.1	18	6.0
Iganga	91	31.2	69	21.6	63	19.2	59	19.6
Kamuli	59	20.2	18	5.6	17	5.2	19	6.3
Kaliro	17	5.8	51	16.0	51	15.5	43	14.3
Luuka	*		20	6.3	28	8.5	25	8.3
Mayuge	37	12.7	43	13.5	47	14.3	40	13.3
Namayingo	*		26	8.2	24	7.3	24	8.0
Namutumba	33	11.3	33	10.3	38	11.6	30	10.0
TOTALS	292	100.0	319	100.0	328	100.0	301	100.0

Some health facilities that had been assessed in the previous years were either found to be non-functional or were private drug stores not worthy re-assessing as health facilities thus the decrease in the number of health facilities in some districts

*Districts were still part of their mother districts during survey year (Buyende was part of Kamuli, Luuka part of Iganga and Namayingo part of Bugiri)

Source: STAR-EC Health Facility Assessments, 2009 – 2012

3.0 Results

Table 4: Demographic Characteristics of Survey Population, 2011 and 2012 Surveys

Year of Survey		2011		2012	
Characteristic	Category	n= 4,275	Percentage	n=4,275	Percentage
Sex	Male	1,253	29.3	1,345	31.5
	Female	3,022	70.7	2,930	68.5
Age Group (years)	15-24	1,986	46.5	2,017	47.2
	25-34	1,287	30.1	1,294	30.3
	35-44	723	16.9	671	15.7
	45-54	279	6.5	293	6.9
Education Status (highest level of education attained)	No school education	454	10.6	423	9.9
	Primary 1-4	636	14.9	546	12.8
	Primary 5-7	1,848	43.2	1,876	43.9
	Secondary	1,187	27.8	1,259	29.5
	Tertiary	120	2.8	144	3.4
	missing responses	30	0.7	27	0.6

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Year of Survey		2011		2012	
Characteristic	Category	n= 4,275	Percentage	n=4,275	Percentage
Marital Status	Single, no partner	617	14.4	691	16.7
	Single, regular partner	169	4.0	206	4.8
	Single, non-regular partner	95	2.2	94	2.2
	Married/Cohabiting	3,234	75.7	3,128	73.2
	Divorced/Separated	141	3.3	135	3.2
	Others/missing responses	29	0.7	21	0.5
District of Residence	Bugiri	475	11.1	475	11.1
	Buyende	475	11.1	475	11.1
	Iganga	475	11.1	475	11.1
	Kaliro	475	11.1	475	11.1
	Kamuli	475	11.1	475	11.1
	Luuka	475	11.1	475	11.1
	Mayuge	475	11.1	475	11.1
	Namayingo	475	11.1	475	11.1
	Namutumba	475	11.1	475	11.1

Source: STAR-EC LQAS Household survey, 2011 - 2012

There were significant differences in the sample size adopted for the 2009 baseline (n = 2,280), the 2010 follow-up survey (n = 3,420) as well as the 2011 and 2012 surveys (n=4,275 each). This is mainly attributed to an increase in the number of districts and target groups for this survey over the years. Additionally, there were significant changes by sex and age when comparing the different years (p<0.001). Results taken from all the four survey years show that respondents were predominately female (about seven in every ten) while the mean and median age were 27.5 and 25 years (ranges 15 - 54) respectively for the 2012 survey results. Additionally, the population did not have very high levels of education with only 32.9% having any secondary or higher schooling (a slight increment from the 2011 and the majority of people interviewed (75.7%) were married or cohabiting.

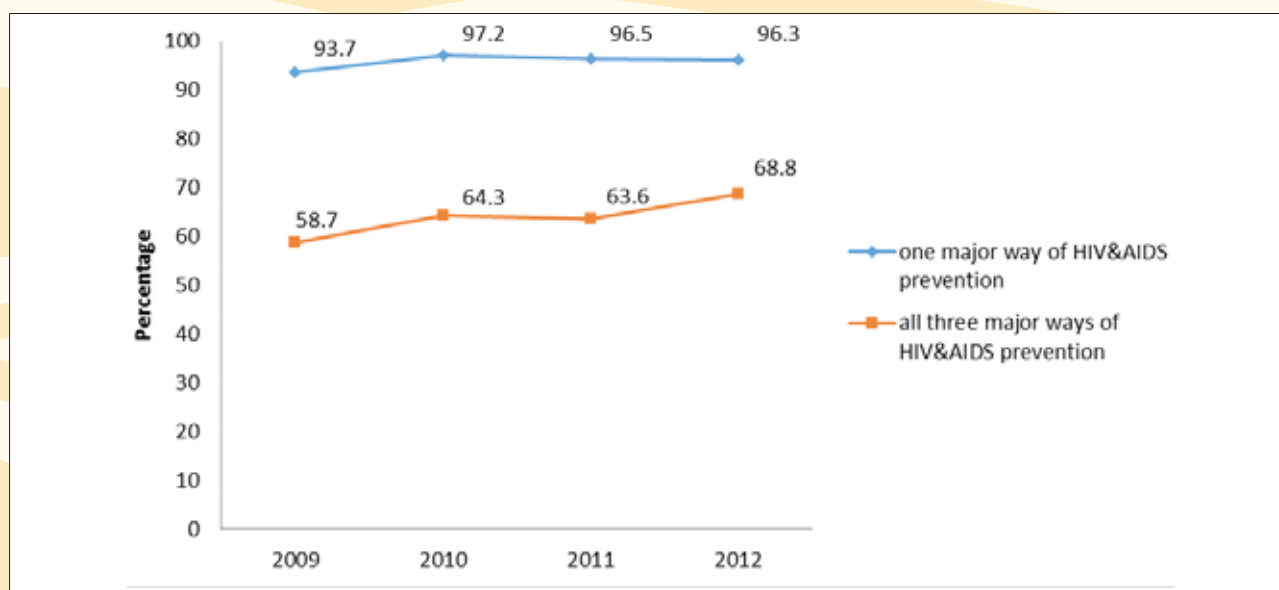
HIV&AIDS Related Indicators

Key HIV&AIDS indicators assessed during this and previous survey years included those from the following interventions: a) Behavioral Prevention; b) HIV Testing and Counseling (HTC); c) Prevention of Mother-to-Child Transmission (PMTCT); d) Anti-Retroviral Therapy (ART); e) Care and support services for People Living with HIV&AIDS; and f) HIV/TB collaborative services.

Behavioral Prevention (Abstinence, Being Faithful and Condom use - ABC)

Abstaining from sexual activity, being faithful to one sexual partner, and using condoms during sexual intercourse are three behaviors that can prevent or reduce the likelihood of sexual transmission of the HIV virus. These behaviors constitute the "ABC approach." Key questions related to this aspect of knowledge of HIV transmission were assessed during the survey as well as questions concerning HIV-related misconceptions. When asked about ways to reduce the risk of HIV transmission, results showed an increment from 58.7% (n=2,280) reported in the 2009 baseline to 68.8% (n= 3,420) of respondents that reported knowing that all three ways (abstaining from sex, consistent condom use and having one faithful, uninfected partner) are key prevention methods. At the same time, there has been an increment from 93.7% (n=2,280) to 96.3% (n=3420) reported during the 2009 baseline and 2012 surveys (respectively) in the proportion of respondents who were able to mention at least one major HIV prevention method comprising any of the three aforementioned prevention ways .A trend analysis for both indicators is illustrated in figures 1-3 below.

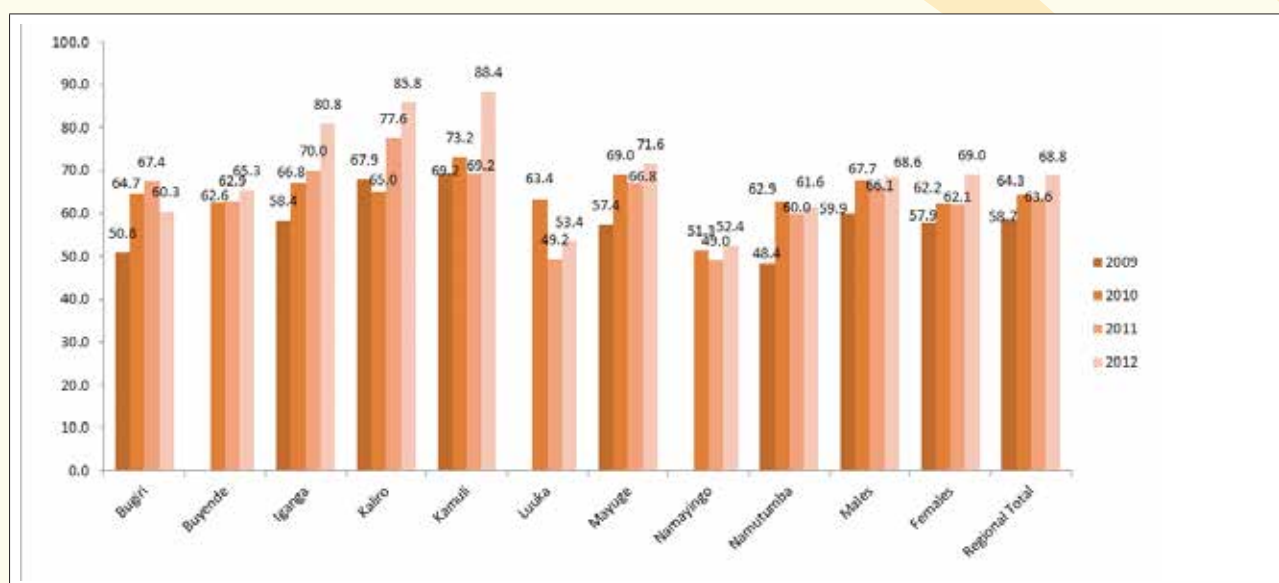
Figure 1: Trend in the Proportion of Respondents that Mentioned One or All Major Ways of HIV&AIDS Prevention (ABC) by Year of Survey



Source: STAR-EC LQAS household surveys, 2009- 2012

Similar to findings over the previous years, the 2012 survey showed that there were significant differences across districts (Pearson chi² (8) =260.2, p<0.001) while at the same time there were no significant differences (Pearson chi² (1) =0.0, p=0.834) related to gender comparisons on the proportion of respondents that mentioned all the three HIV prevention approaches. The proportions of males (68.6%, n=1,345) and females (69.0%, n=2,075) that knew about these HIV&AIDS prevention methods was almost akin. Kamuli (85.8%), Kaliro (84.4%) and Iganga (83.4%) districts reported the highest findings among males while on the contrary Bugiri District males registered a lowest figure of 58.3% - something that may call for follow up in the form of action research. Figure 2 below shows differences related to awareness of the three major prevention ways by district.

Figure 2: Percentage of Adults Who Can Mention All Three Major Ways of HIV&AIDS Prevention by District* by Year



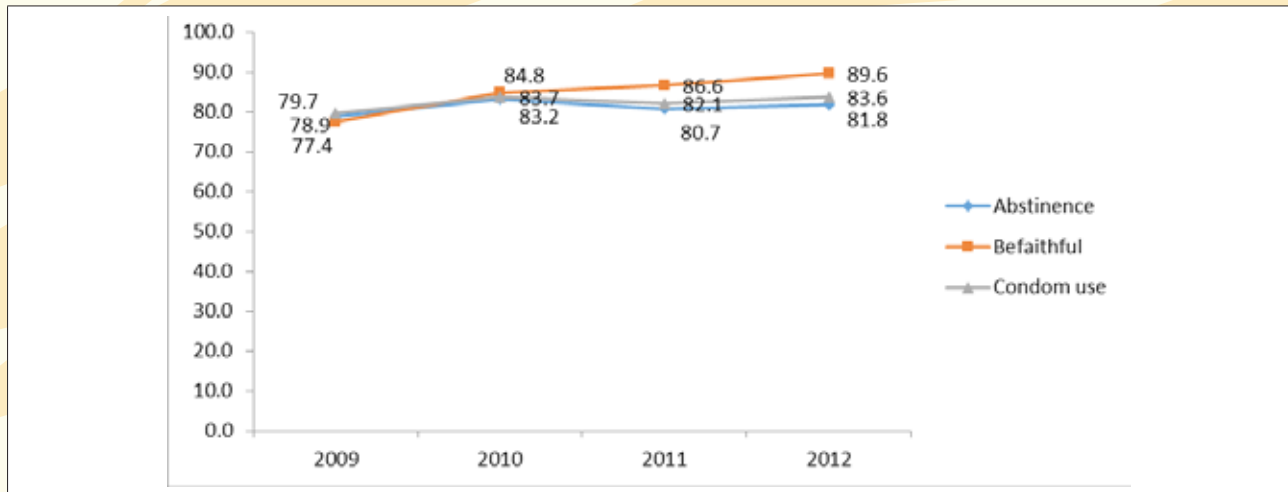
Source: STAR-EC LQAS household surveys, 2009-2012

*Buyende, Luuka and Namayingo districts were not yet in existence by 2009, therefore no results during the same year

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Figure 3 below shows further evidence of the trends related to respondents' knowledge and awareness of one prevention method. Being faithful maintained an upward trend since baseline when compared to abstinence and consistency condom use.

Figure 3: Knowledge and Awareness of At Least One HIV Prevention Method by Year

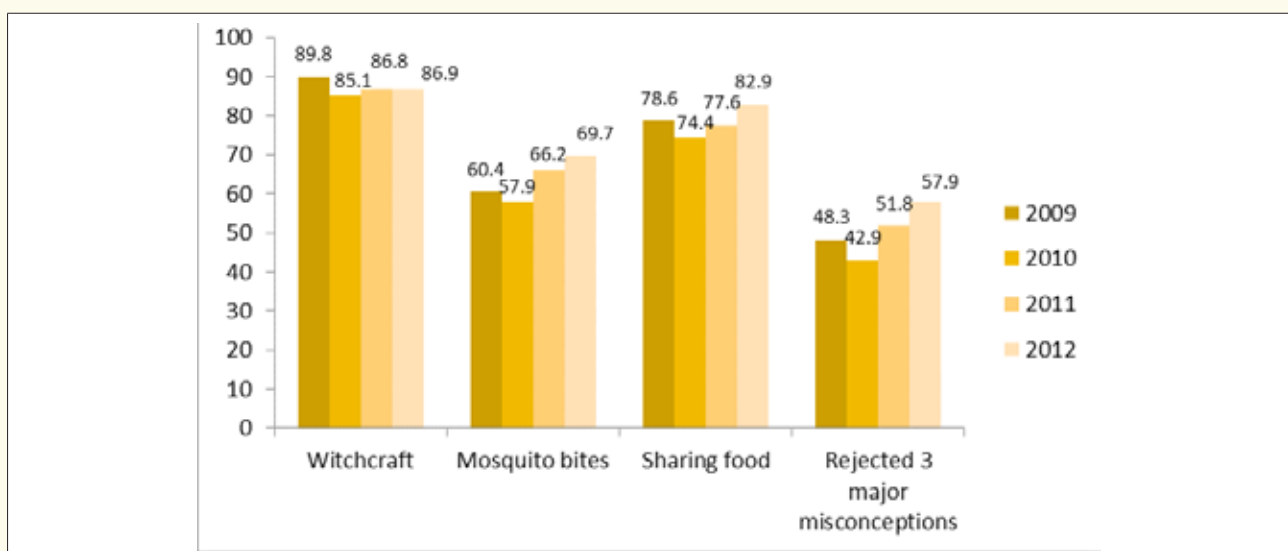


Source: STAR-EC LQAS Household Surveys, 2009-2012

HIV Transmission Misconceptions

A sizeable part of the population still believes in certain misconceptions about the transmission of HIV. Most common among them include transmission through mosquito bites, witchcraft, sharing food, utensils and toilets with an infected person as well as touching an infected person. Among these, an analysis was conducted concentrating on the three major misconceptions that include transmission of HIV through mosquito bites, witchcraft and sharing of food with an infected person. Overall, as illustrated in Figure 4, there has been an increase from 48.3% (n= 2,280) reported at baseline in 2009 to 57.9% (n=3,420) in 2012 among individuals who were able to reject the three major aforementioned HIV transmission misconceptions. For the fourth year running, most of the respondents were able to reject transmission through witchcraft while fewer respondents (when compared to those who rejected witchcraft) rejected transmission through mosquito bites – something that still calls for improved, well packaged and tailor made information, education and communication interventions to alleviate this undesirable situation. Unlike findings during the previous survey year (females; 53.2%, n=2,173 and males; 49.3%, n=1,247), knowledge on rejection of HIV transmission misconceptions was significantly (Pearson chi2 (1) = 13.6, p < 0.001) more common among males (61.8%, n=1,345) when compared to females (55.4%, n=2,075).

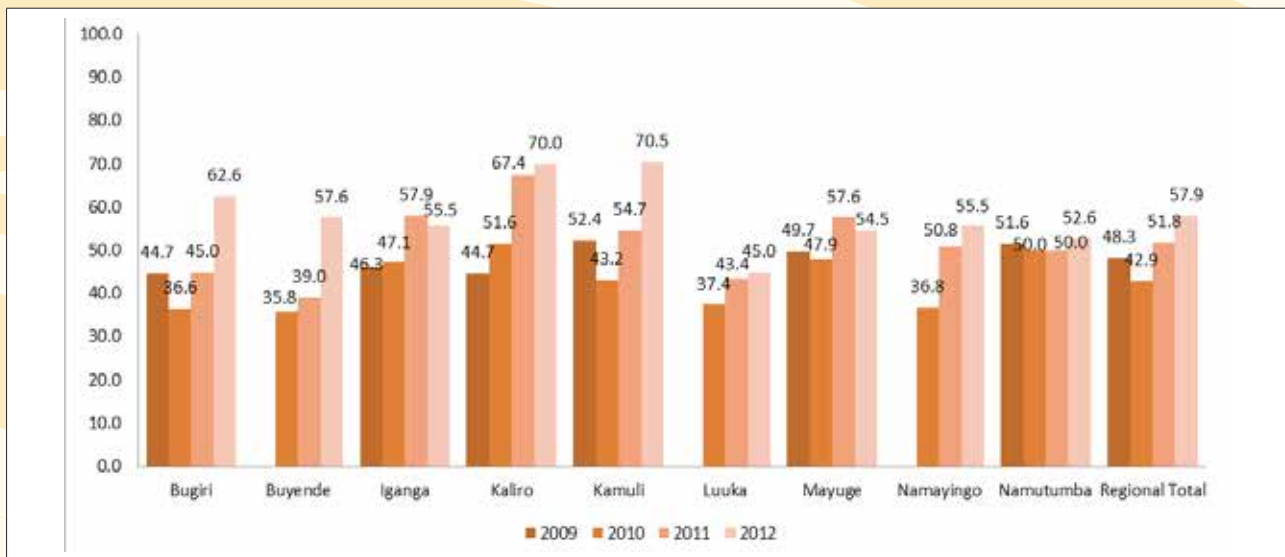
Figure 4: HIV Transmission Misconceptions by Year



Source: STAR-EC LQAS household surveys, 2009-2012

Figure 5 illustrates the significant variations ($p < 0.001$) in knowledge of HIV transmission misconceptions by districts with Kamuli (70.5%) having the highest while at the same time Kaliro District (70.0%) has maintained high findings throughout the previous survey years. Unlike the previous year where Buyende District had the lowest findings, this year showed the lowest results derived from Luuka District at 45.0%.

Figure 5: Percentage of Adults that Rejected HIV Transmission Misconceptions by District*



Source: STAR-EC LQAS Household Surveys, 2009-2012

*Buyende, Luuka and Namayingo districts were not yet in existence by 2009, therefore no results during the same year

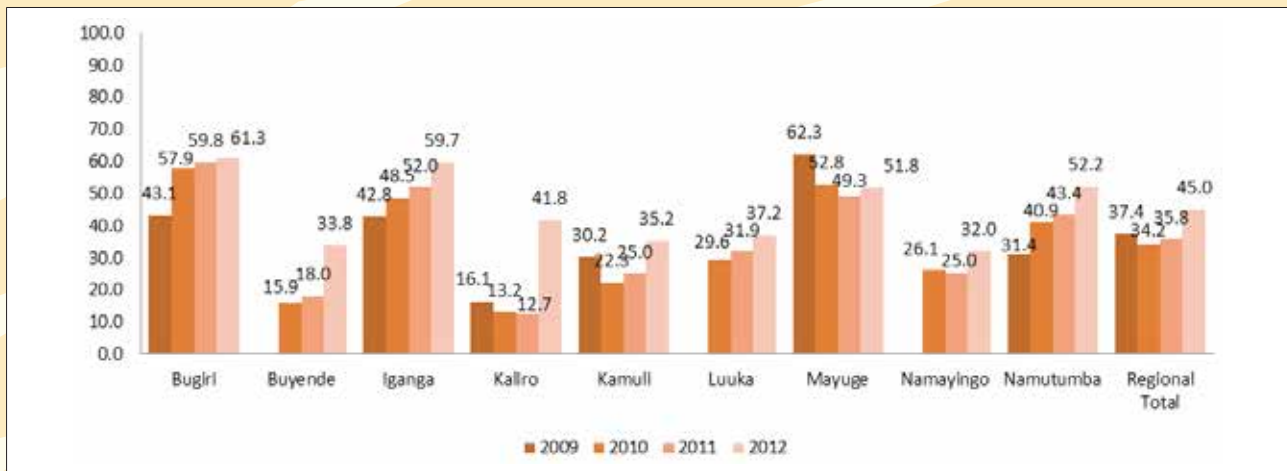
Bio-Medical Prevention

Safe Male Circumcision (SMC) is one of the novel HIV prevention methods that have been proven to minimize HIV transmission risks. Clinical trial results conducted in three different countries did show an effectiveness of 60% in South Africa, 53% in Rakai-Uganda and 57% effectiveness in Kisumu-Kenya. In March 2007, WHO/UNAIDS recommended SMC as an integral part of HIV prevention strategies following clinical trial results that had been obtained in South Africa, Uganda, and Kenya. Globally, 30% of men are circumcised and this practice is primarily done for cultural and religious reasons and occasionally for medical reasons. Over 40 observational studies have shown a protective effect of SMC against HIV acquisition and countries with high male circumcision prevalence tend to have low HIV prevalence. The MoH in Uganda has also worked out a policy in support of SMC. During PY2 (Oct 2009 – Sept 2010), STAR-EC initiated SMC services in seven health facilities within East Central Uganda. By the end of PY4, the program was supporting 19 static sites and 40 outreaches per week (conducted by a total of 16 sites) in extending SMC services to different targeted males.

Figure 6 shows the increasing trend for most districts in the proportion of men that have ever been circumcised since 2009. Unlike some of the previous years' survey results, all districts reported an increase in the proportions of males who had ever been circumcised. The highest increment was reported from Kaliro District from 12.7% reported in 2011 to 41.8% in 2012. For the last three years, the highest proportion was registered in Bugiri (61.3%) while the lowest for the year 2012 was found in Namayingo District (31.4%) – something that calls for increased action. Namayingo District is one of the districts in the region with the highest number of MARPs in the region.

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Figure 6: Proportion of Males 15-54 years Who Have Ever Been Circumcised by District and Year*



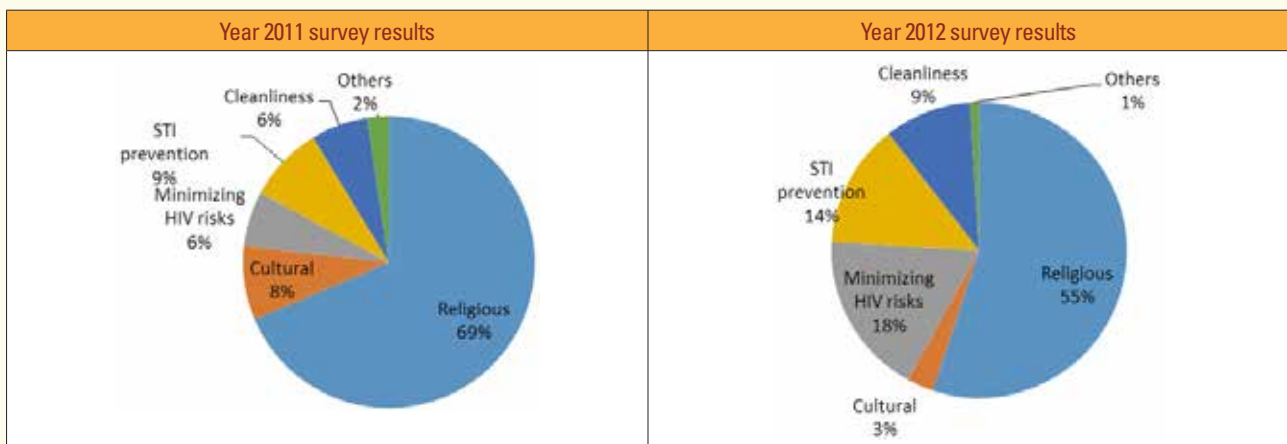
Source: STAR-EC LQAS 2009-2012 Household Surveys

*Buyende, Luuka and Namayingo districts were not yet in existence by 2009, therefore no results during the same year

Unlike results from the previous years, the 2012 results (45.0%, n=1,325) show a significant increment in results by year (Pearson chi2 (3) = 38.2, p <0.001) on the proportion of adult males who have ever been circumcised over the last four years since the 2009 baseline (37.4%, n=872). These findings are mostly attributed to the safe male circumcision interventions that have been intensified by STAR-EC in the region. Interestingly, an overall analysis of the 2012 LQAS household survey findings seems to agree with the actual amount of inputs and outcomes on SMC that STAR-EC was able to achieve in the region. Table 5 in this document illustrates these findings.

Figure 7 illustrates the respondent's reasons for circumcision. Of the men between 15-54 years who have ever been circumcised, the majority (58%, n = 581), reported having been circumcised for both religious and cultural reasons, a decline from the previous two year's findings of 80.0% and 76.8% for 2009 and 2010 respectively. Additionally, findings show that the more the years pass by the more men are getting circumcised for HIV and STI prevention reasons.

Figure 7: Respondent's Reasons for Circumcision



Source: STAR-EC LQAS 20011-2012 Household Surveys

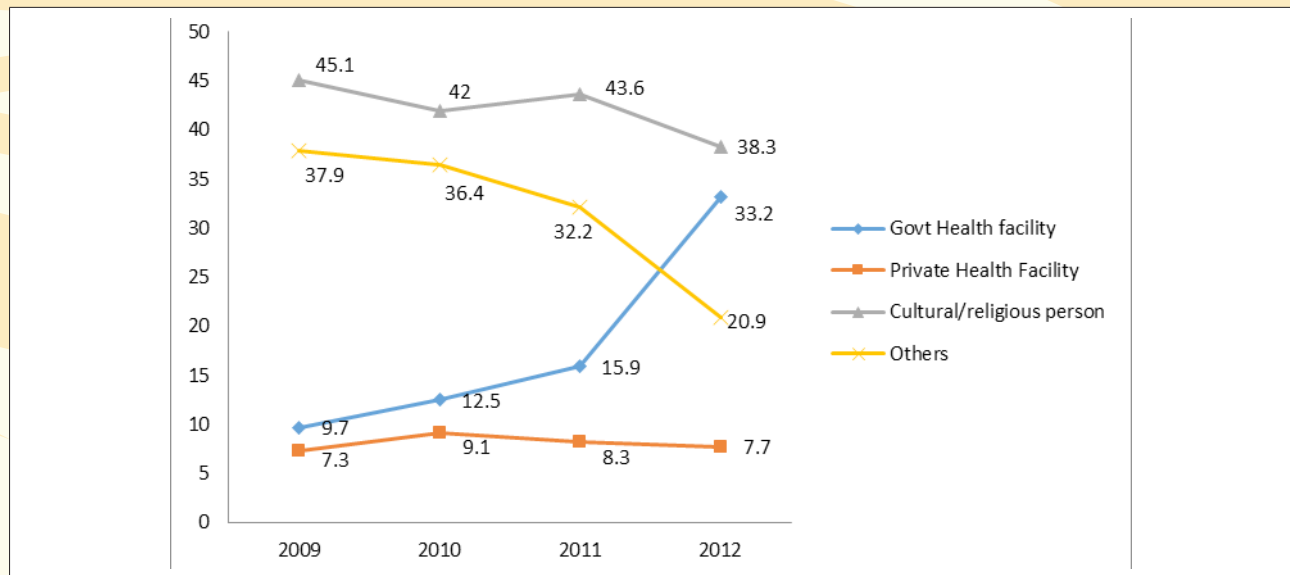
Overall, results show that every year (Pearson chi2 (9) = 112.6, p <0.001), more proportions of men are reporting getting circumcised from a government health facility while on the other hand there is a decline in the proportions of men having gotten circumcised from a private health facility, religious/cultural setting or any other place other than the aforementioned. Again, during the 2012 survey, four in every ten (40.9%) of the men reported that they were circumcised from a health facility setting (both government and private) and this was way higher than what was reported during the 2009 baseline (17.0%) –something that reflects desirable findings. However, there is still the need to promote quality circumcision through supporting more health facilities with SMC services and trained SMC service providers. It should also be noted that the STAR-EC program

is mainly supporting government health facilities with the provision of SMC services.

Places where circumcisions took place

The survey investigated the places where men had their circumcisions from. These questions applied to all men who had been circumcised irrespective of their last circumcision time period. Both Figures 8 and 9 illustrate findings in the last four years prior to the survey. Figure 8 below represents the proportion of males who reported the nature of a place from which they were circumcised and also includes all men irrespective of whether they were circumcised at birth while Figure 9 illustrates circumcisions within the last year prior to the survey.

Figure 8: Places Where Men Were circumcised From by Year Since Birth



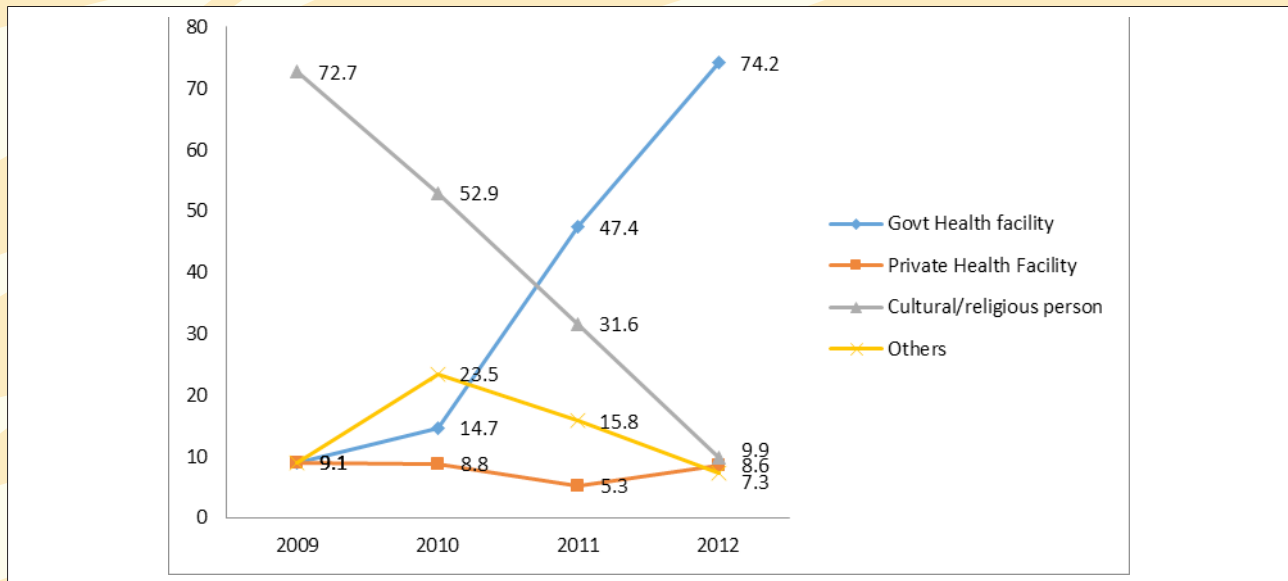
Source: STAR-EC LQAS 2009-2012 Household Surveys

Circumcision within one year prior to the survey

Figure 9 below illustrates a similar but more significant trend (Pearson $\chi^2(9) = 69.1$, $p < 0.001$) in the proportion of males getting circumcised within one year prior to the survey and the place where their circumcision took place. There was a high significant increase ($p < 0.001$) in the proportion of males from 9.1% reported during the 2009 baseline compared to 74.2% among those circumcised from a government health facility while on the contrary there were high significant declines ($p < 0.001$) reported against other circumcision sites except for the private health facility that increased from 5.3% in 2011 to 8.6% in 2012.

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Figure 9: Proportion of Men and Place Where They Were Circumcised Within the Last Year Prior to the Survey by Year

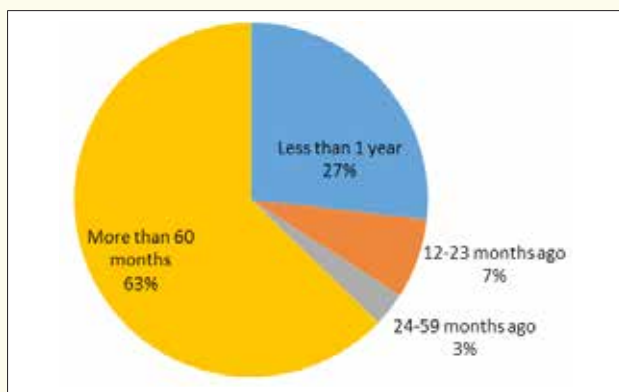


Source: STAR-EC LQAS 2009-2012 Household Surveys

Time period when circumcisions took place

All men who reported that they had ever been circumcised were asked when their circumcision took place. As has been the case with previous survey findings, most of the men reported having gotten circumcised more than 5 years prior to the survey. It should be noted that most of the men who were circumcised during the time period beyond five years are those that had their circumcisions before any SMC interventions. However, over the years, it has been noted that the proportion of men getting circumcised one year prior to the survey is on a significant increase (Pearson $\chi^2(9) = 148.7, p < 0.001$) and this has moved from 3.8% (n= 320) at baseline in 2009 to 26.8% (n=578) in 2012.

Figure 10: Time Period When Men were Circumcised as Reported in 2012



Source: STAR-EC LQAS 2012 Household Survey

The desire and demand for circumcision services has also been on a significant increase (Pearson $\chi^2(3) = 15.7, p = 0.001$) over the last four years from 66.6% (n=551) reported at baseline in 2009 to 75.9% (n=744) in 2012. As aforementioned, of those men who reported that they have never been circumcised, approximately three quarters reported that they would take up the opportunity once free circumcision services were offered at a health facility – this was slightly more than the 72.9% and 74.6% reported in 2010 and 2011 respectively. In 2012, of the 136 male respondents who reported that they would still not undergo circumcision even if they were offered a free chance at a health facility: 30.9% reported that circumcision is against their religion or faith; 47.1% that it is too painful, 1.5% mentioned having no funds to facilitate this undertaking and believe it still has some hidden costs; 2.2% mentioned the existence of poor quality services while 18.4% gave other reasons. Among districts, the highest demand for circumcision services was reported in Kaliro (89.5%), Namutumba (86.8%), Iganga (86.4%) while the lowest was reported from Namayingo (65.1%), Kamuli (68.1%) and Bugiri (69.8%). More efforts should therefore be placed on Namayingo District as it is one of the districts with the highest population of MARPs yet fewer proportions of males are circumcised.

225 health facilities were found to be offering any form of HCT services i.e. Counselling, referrals or HIV testing itself

30.2% of health facilities reported counselling HIV+ clients on TB prevention and treatment – an increment from 25.7% during baseline

30.2% of health facilities reported that they are currently carrying out HCT outreach services – an increment from 15.8% during baseline

Comparison between HMIS data and LQAS 2012 findings on circumcision

Unlike the previous survey results, this year's LQAS survey shows that there is a significant increase in the proportion of circumcised males within the target group. Interestingly, the actual absolute number of males circumcised between the last two survey years (July 2011 and June 2012) when computed and added onto the 2011 LQAS findings gives an estimated proportion that is within the same confidence interval as that of the actual 2012 LQAS survey findings. More of this information is available in Table 5 below.

Table 5: STAR-EC SMC Support Vs. the Actual LQAS Household Survey Findings

District	Estimated 2012 Population of Males	Estimated Males (15-59yrs) = 46.4% (UBOS, 2011)	% Males ever circumcised by 2011 (LQAS)	# of Males 15-59 ever circumcised (LQAS, June 2011)	# of Males (15+ years) circumcisions conducted during July 2011 - June 2012	Estimated % coverage in MC after 2011 interventions	Actual MC coverage as per 2012 LQAS Survey	p Value (Mantel-Haenszel)
Kamuli	241,500	112,056	25.0	28,014	8,904	32.9%	35.2%	0.765
Iganga	237,800	110,339	52.0	57,376	8,170	59.4%	59.7%	0.885
Mayuge	222,500	103,240	49.3	50,897	8,718	57.7%	51.8%	0.394
Bugiri	206,000	95,584	59.6	56,968	11,357	71.5%	61.3%	0.136
Namayingo	113,500	52,664	25.0	13,166	6,202	36.8%	32.1%	0.458
Buyende	130,500	60,552	18.1	10,960	4,284	25.2%	33.8%	0.163
Luuka	124,900	57,954	31.9	18,487	3,088	37.2%	37.2%	1.000
Namutumba	106,400	49,370	43.4	21,426	3,690	50.9%	52.2%	0.887
Kaliro*	105,800	49,091	12.7	6,235	2,650	18.1%	41.8%	0.001
Overall	1,488,900	690,850	35.8	247,324	57,063	44.1%	45.0%	0.887

Source: STAR-EC LQAS 20011-2012 Household Surveys and Program Routine Data

*Follow up action research will be conducted to ascertain why there were such divergent findings in Kaliro District

HIV Testing and Counseling (HTC)

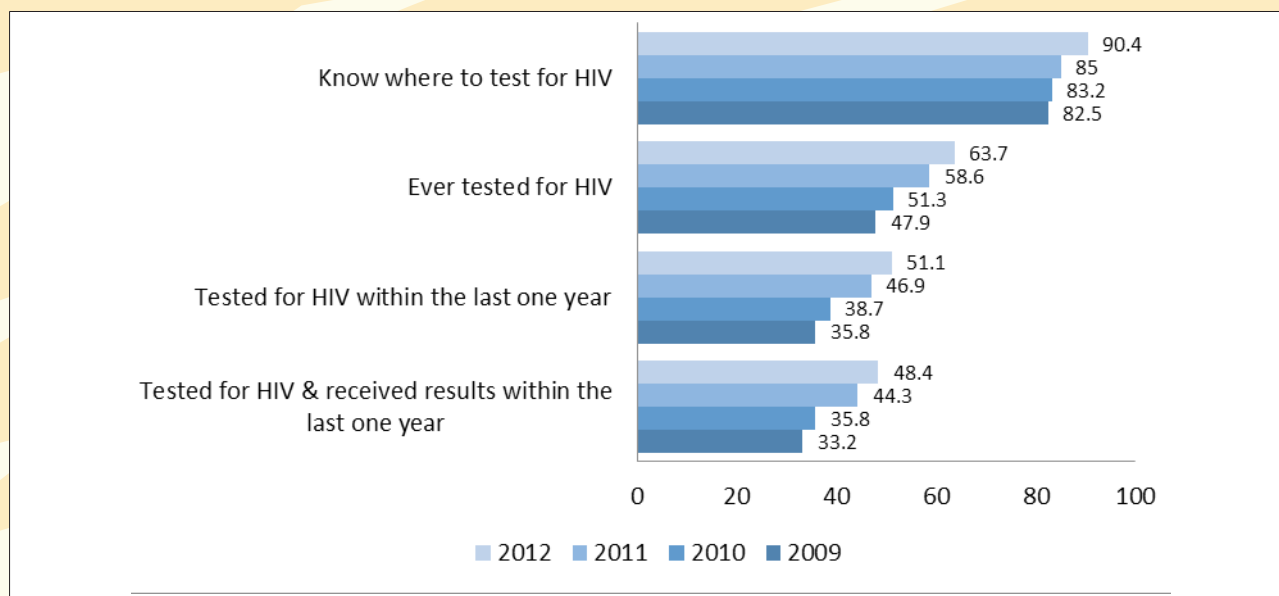
HIV testing and counseling is the entry point for other HIV services such as treatment, care and support. Interventions encourage one who is negative to stay negative by adhering to abstinence, being faithful or proper and consistent condom use. Among other things, one who is HIV positive is encouraged to live a positive life and seek proper medication. This makes HTC the first step of referral to umbrella/clinical care and support services including screening or testing for TB.

The analysis of HIV&AIDS related questions was limited to respondents of reproductive age (15-49 years for women and 15-54 years for men). Therefore, the total sample size for these specific questions was 3,420 (1,345 males and 2,075 females). The analysis also looked at the young people (15-24 years old) as a sub-population of interest, whose performance against the various survey indicators was also assessed.

Table 1 under Appendix 1 shows results on key HIV indicators by gender, district and age group. For most of the indicators and results, there were significant differences when comparing within each variable and year of survey. Overall, there were significant ($p < 0.001$) increases when comparing the 2009 baseline and 2012 survey results on the proportion of persons who have ever tested for HIV as well as those who tested within the last one year prior to the survey. Among districts, Kamuli District had the highest proportion of persons who have ever tested or tested within the last one year prior to the survey while Buyende and Mayuge reported the lowest coverage on the same indicators. Additionally, when comparing knowledge on access of testing sites, there were no significant differences between females and males for the third year running.

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Figure 11: HIV Counseling and Testing Indicator (Adults 15 -54 Years) Results by Year



Source: STAR-EC LQAS Household Surveys, 2009-2012

Knowledge of a Testing Site

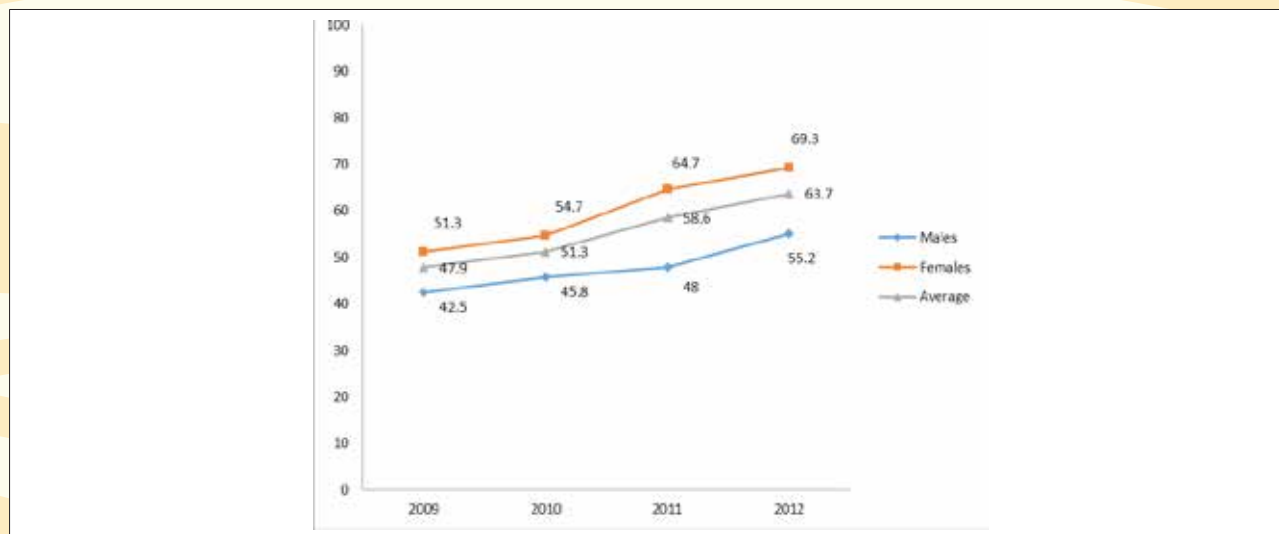
Results show a gradual and steady increase for most districts on the proportion of adults that knew where to test for HIV. There were significant differentials in coverage noted by district for all four surveys ($p < 0.001$). Unlike comparisons on the small increments that have been realized over the first three years, this year's increment was more percentage points than all the previous as illustrated in the figure above. Again, results still show Namayingo District as the least performing on this indicator at 78.1% (though an increase from 70.8% reported in 2011). Kaliro District (98.7%) was still the highest ranking district.

Overall, there was increase from (82.5%, $n=2,277$) reported during the 2009 baseline to 90.4% ($n=3,377$) among individuals who knew where they could take an HIV test. There were no differences when comparing findings on gender (Pearson $\chi^2(1) = 0.7$, $p = 0.403$).

Ever Tested for HIV

Respondents were asked whether they have ever taken an HIV test in their entire life. Figure 12 shows a gradual increase from 47.9% ($n=2,280$) reported during the 2009 baseline to 63.7% ($n=3,420$) in 2012. Similar to findings in the previous LQAS surveys, the 2012 survey noted significant differentials in estimates by gender and district ($p < 0.001$); where, a higher proportion of females (51.3% in 2009, 54.7% in 2010, 64.7% in 2011 and 69.3%) compared to the males (42.5% in 2009, 45.8% in 2010, 48% in 2011 and 55.2% in 2012) reported having ever been tested for HIV.

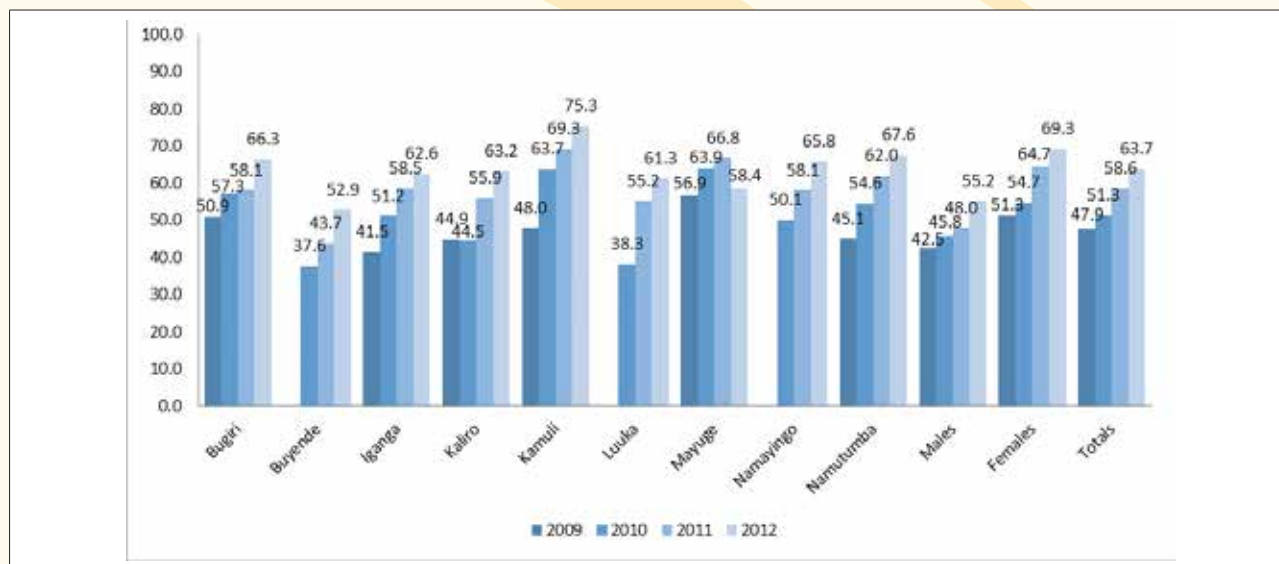
Figure 12: Percentage of Women and Men Age 15–49 Who Have Ever Been Tested for HIV (by Year)



Source: STAR-EC LQAS Household Surveys, 2009-2012

As shown in Figure 13, among districts, Kamuli (69.3%, n=378) reported the highest coverage while the least was found in Buyende (43.7%, n=378). It is also worth mentioning that significant progress ($p < 0.001$) was realized from Luuka District which had results increase from 38.3% in 2010 to 55.2% in 2011.

Figure 13: Percentage of Adults (15-54 years) that Have Ever Tested (by District and Year)*



Source: STAR-EC LQAS Household Surveys, 2009-2011

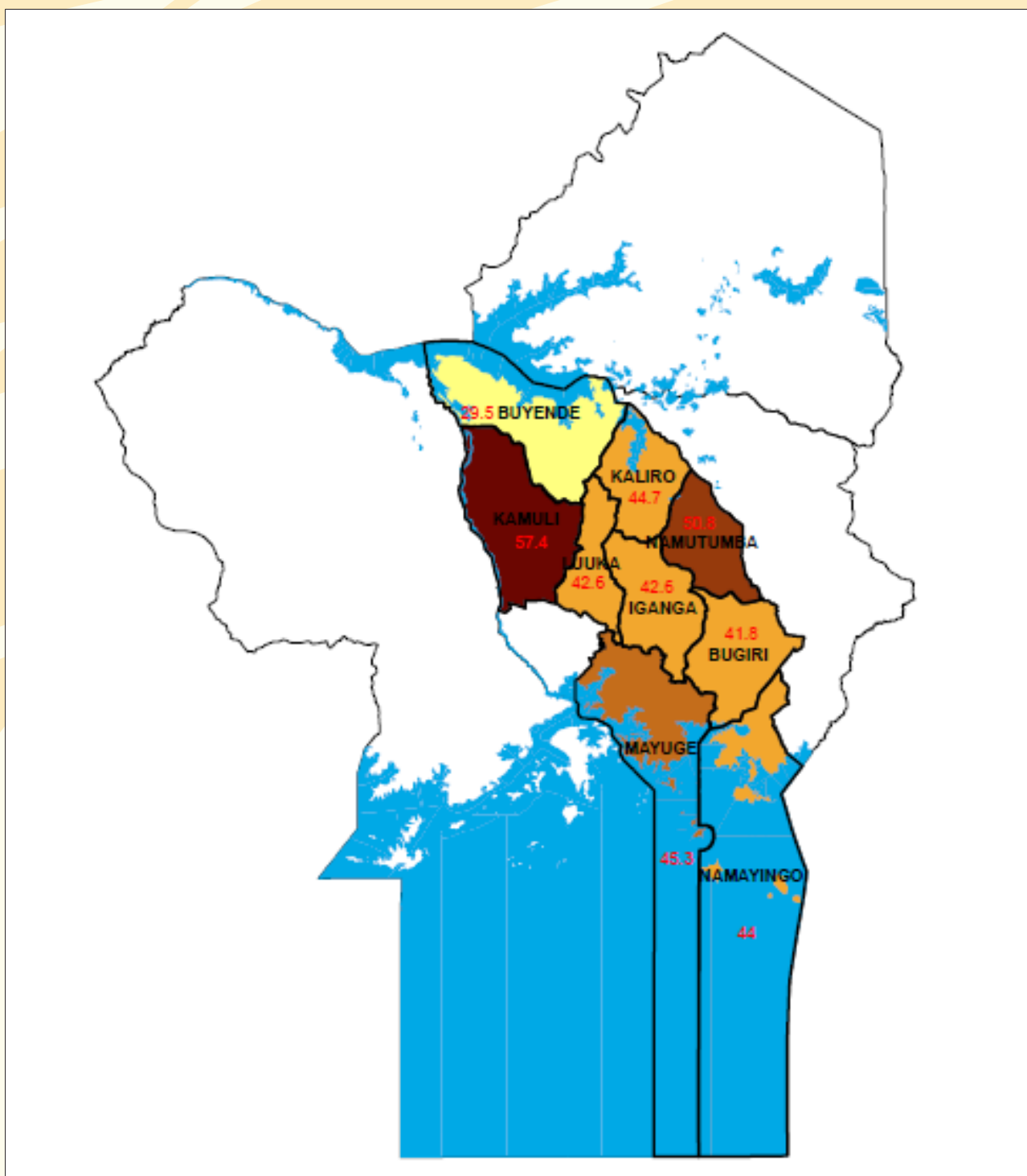
*Buyende, Luuka and Namayingo districts were not yet in existence by 2009, therefore no results during the same year

HIV Testing Within One Year Prior to the Survey

The current HTC interventions drive is to have HIV negative individuals testing at least once every year. Testing once for HIV among those that turn out to be negative may not be sufficient as one's status may change over time. Additionally, it is advisable that one tests at subsequent time periods especially if they know that they have been practicing risky sexual behavior or in cases where they doubted their partner(s)' faithfulness. Routine HTC is therefore very imperative. This survey therefore involved a series of questions on HIV testing among respondents within the last year prior to the survey.

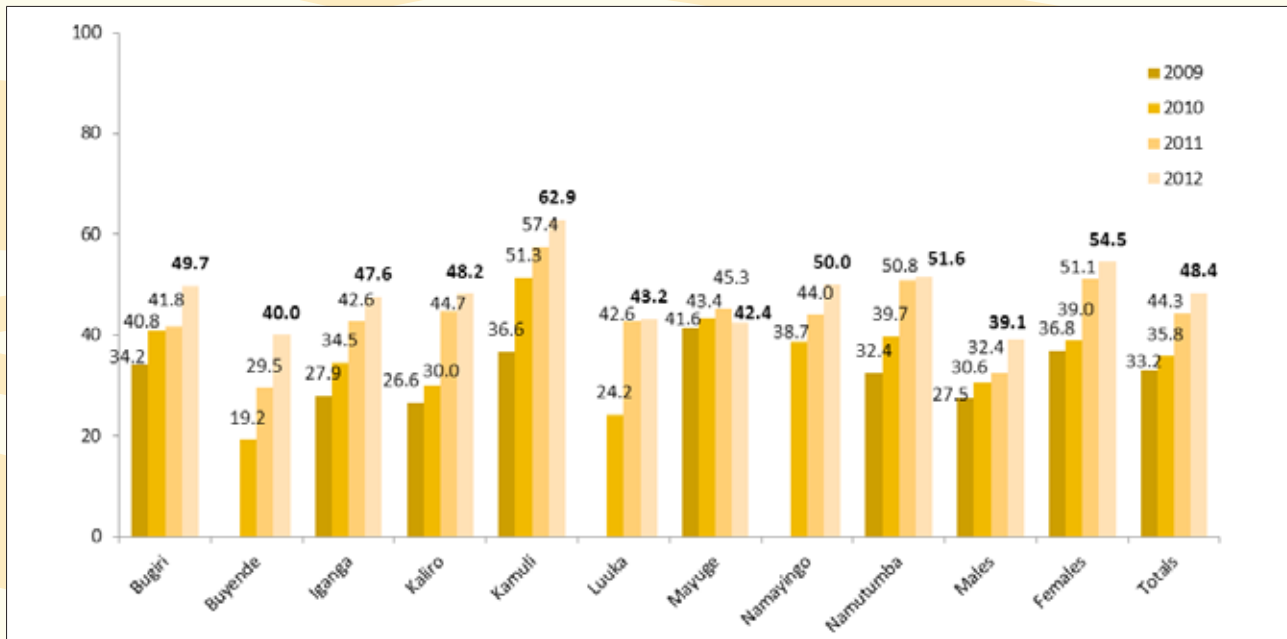
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Figure 14: Map Illustrating the Proportion of Adults (15-54 years) that Tested for HIV and Received Their Results in Last One Year Prior to the Survey in East Central Uganda in 2011



Source: STAR-EC LQAS Household Surveys, 2011

Figure 15 Percentage of individuals who tested and received their results within the last year prior to the survey



Source: STAR-EC LQAS Household Surveys, 2009-2012

Respondents were asked whether they had taken an HIV test in the last year prior to the survey. There was a steady increase in all districts in the proportion of adults (15 years and above) from 33.2% (n=2,280) during baseline to 48.4% (n=3,420) in 2012. However, the performance of Mayuge District on this indicator seems to be within the same range and actually registered a decrease (though not significant, $p > 0.05$) from the previous year's performance of 45.3% to 42.4%. Similar to the previous survey findings, estimates in 2012 (Pearson $\chi^2(2) = 90.4$, $p < 0.001$) varied significantly by gender where a higher proportion of females (36.8% in 2009, 39.0% in 2010, 51.1% in 2011 and 54.5% in 2012) than males (27.5% in 2009, 30.6% in 2010, 32.4% in 2011 and 39.1% in 2012) were noted to have taken an HIV test. Similar to the previous year's findings, there were significant differences ($p < 0.001$) among districts with Kamuli (62.9%, n=380) reporting the highest coverage while the least was in Buyende (40.0%, n=380).

Of the individuals who have ever taken an HIV test, 93.8% (n = 1,861) had taken an HIV test within one year prior to the survey. This was an increment from 75.3% reported during the 2009 baseline. There is need for improved interventions to reach more than a third (36.3%, n=3,420) of the population aged 15-54 years who have never tested for HIV in their life time. Additionally, about two thirds 68.5% (n=3,052) of those who knew where to take an HIV test had actually ever taken an HIV test. Within HIV testing and counseling programs, emphasis is placed on the importance of HIV status disclosure among HIV-infected clients, particularly to their sexual partners. Disclosure is an important public health goal for a number of different reasons. First, disclosure may motivate sexual partners to seek testing, change behavior and ultimately decrease transmission of HIV. In addition, disclosure has a number of potential benefits for the individual including increased opportunities for social support, improved access to necessary medical care including antiretroviral treatment, increased opportunities to discuss and implement HIV risk reduction with partners, and increased opportunities to plan for the future (WHO 2004 report). As part of this survey, partner disclosure was investigated for respondents who had tested within one year prior to the survey. Overall, of the respondents who tested and received their results within the last one year prior to the survey and had a partner at the time of test, 89.8% (n=1,200) reported that they disclosed results to their partners. Among males (89.1%, n=373) and females (91.2%, n=827), there were no significant differences (Pearson $\chi^2(1) = 1.5$, $p = 0.222$) while during the previous year (91.2%, n=1,098) there were significant differences (Fisher's exact = 0.022) with more men (93.9%, n=277) reporting having disclosed to their female partners unlike women (90.3%, n=821).

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Young People and HIV&AIDS

Social Demographics on Young People

Table 6: Surveyed Population Socio Demographic Characteristics: Sex, Highest Level of Education Attained and Marital Status

Year		2011		2012	
Characteristic	Category	n=1,986	Percentage	n= 2,017	Percentage
Sex	Male	582	29.3	676	33.5
	Female	1,404	70.7	1,341	66.5
Highest level of education attained	No school education	92	4.6	67	3.3
	Primary 1-4	175	8.8	150	7.4
	Primary 5-7	943	47.5	987	48.9
	Secondary	720	36.3	748	37.1
	Tertiary	46	2.3	56	2.8
	Missing/unknown	10	0.5	9	0.5
Marital Status	Single, no partner	557	28.1	629	31.2
	Single, regular partner	137	6.9	166	8.2
	Single, non-regular partner	76	3.8	78	3.9
	Married/cohabiting	1,172	59.0	949	47.1
	Divorced	18	0.9	13	0.6
	Separated	22	1.1	24	1.2
	Missing/unknown	4	0.2	9	0.5

Source: STAR-EC LQAS Household Surveys, 2011 - 2012

Young People and HTC

Overall, most of the key young people indicators did not seem to change much over the last one year, however there were significant changes when compared to the baseline. Among the young people aged 15-24 years, 88.82% (n=1,664) reported knowledge of a place where one could go for an HIV test; the coverage did show some increment when compared to the 2009 baseline (81.5%, n=1,086). No significant gender differentials were noted on this very indicator in all the four annual surveys (P> 0.05).

More young people (56.1% n=1,684) had ever taken an HIV test in 2012 when compared to 41.8% (n=1,087) in the baseline year of 2009. Similar to the findings of the previous surveys, there was evidence of significant gender and age differentials on HIV testing among young people. More females (61.7 %) than males (47.6%) reported having ever taken an HIV test (Pearson chi2 (1) =32.5, p<0.001). There were also significant differences across the districts (Pearson chi2 (8) =17.7, p=0.024).

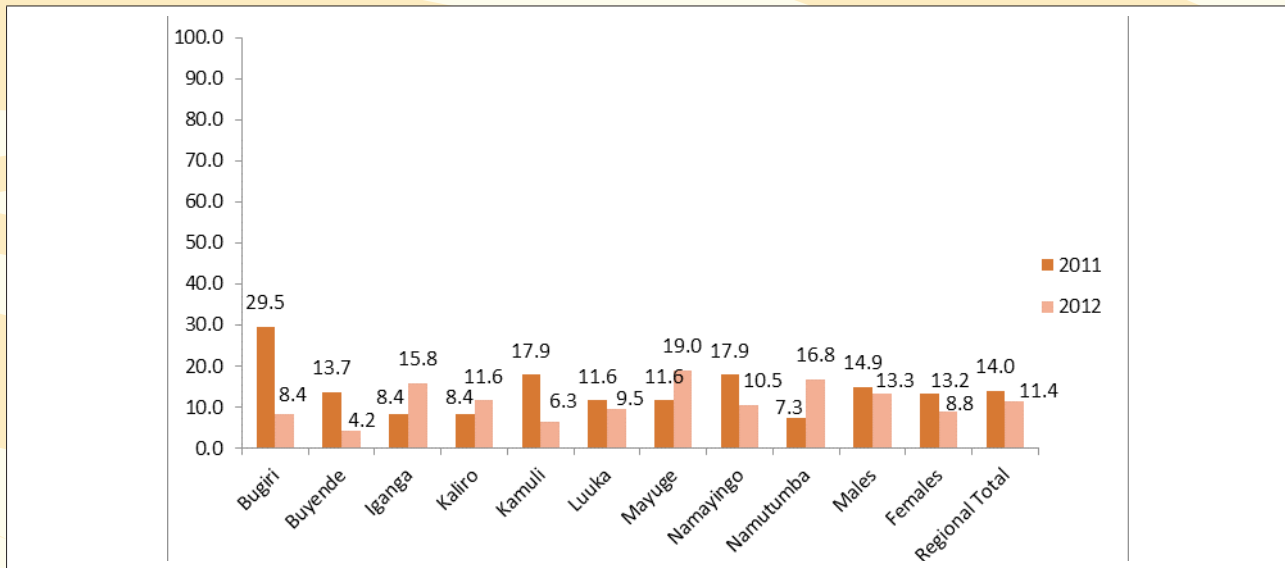
Survey findings also suggest that 43.0% (n=1,684) of young people aged 15-24 years in 2012 reported that they had taken an HIV test and received their results in the last year prior to the survey when compared to 30.9% (n=1,087) at baseline in 2009. Among districts, there were significant differences (Pearson chi2 (16) =28.2, p=0.030) in the coverage of young people who tested for HIV and received their results within one year prior to the survey. The highest proportions were noted in Kamuli (56.8%) and Namutumba (48.8%) while the lowest were reported in Mayuge (35.6%) and Namayingo (39.2%) districts.

Figure 16 shows the district differentials in percentage of youth who had had sexual intercourse by the age of 15. Overall, the average was 11.4% (n=855) and this has decreased from the 14% reported during the previous year. However, there were significant differences across districts with Mayuge (18.0%) having as the highest and Buyende having the lowest at 4.2%.

When comparing outcomes on different age groups and HIV testing, there were significant differences between three age group categories (Pearson chi2 (2) =88.1, p<0.001). Additionally, more proportions of adults aged 25-34 and those aged 35-54 years are testing each subsequent

year when compared to the young people age group. A total of 73.4% (n=894) of individuals aged 25-34 years tested in 2012 compared to 65.3%, n=878) the previous year while 68.8% (n = 842) of adults aged 36-54 years had ever tested for HIV in 2012 compared to a lower figure of (56.7%, n=873) in 2011. On the contrary, the proportions of young people aged 15-24 years (56.1% finding for each of the last two years) did not change.

Figure 16: Percentage of Youth 15-24 Years Who Have Had Sexual Intercourse Before the Age of 15 Years in 2011



Source: STAR-EC LQAS Household Surveys, 2011-2012

Young People and HIV Prevention

Overall, more proportions of young people (69.6%, n=1,684) in 2012 when compared to 63.1% (n=1,662) in 2011 mentioned the three major programmatically important ways to prevent HIV&AIDS transmission (abstinence, mutual faithfulness and proper condom use). Unlike the 2010 survey (Pearson chi²(1) = 9.2, p=0.002), there were no significant gender differences in both the 2011 and 2012 findings (p>0.05). Among districts, the highest coverage for knowledge among young people was found in Kaliro at 88.5% while the lowest was reported in Namayingo at 53.6%. Additionally, analysis shows that the majority (95.4%, n=1,684) of the young people 15- 24 years mentioned at least one major programmatically important way to prevent HIV&AIDS transmission.

Reproductive Health among adults 15-54 years

Areas assessed under reproductive health during this survey comprised mainly of aspects that were related to family planning utilization and goal oriented antenatal care. Family planning results showed that the proportion of women aged 15-49 years using any method during the baseline was 25.3% (n=2,217) but stagnated at 23.6%, (n=3,327) during both the 2010 and 2011 follow-up surveys. However, the 2012 survey shows a rise to 27.6% (n=2,930) and the analysis shows significant increases (Pearson chi²(2) = 10.6 p = 0.005) over the last 2 years.. Results also showed an increase from 26.2% (n=2,373) in 2011 to 29.2% (n=2,304) of currently married/cohabiting women 15-49 years (excluding pregnant women) were using modern family planning methods.

- 47.9% attended ANC at least 4 times
- 17.3% of pregnant women tested and received their HIV results together with their partners during ANC
- 67.4% pregnant women gave birth in a health facility in the 2 years prior to the survey
- 29.2% of all married/cohabiting women interviewed reported using modern family planning method

Women who had given birth to children two years prior to the survey were asked questions related to goal oriented ANC. Other questions entailed their last pregnancy related experiences, practices and behaviors.

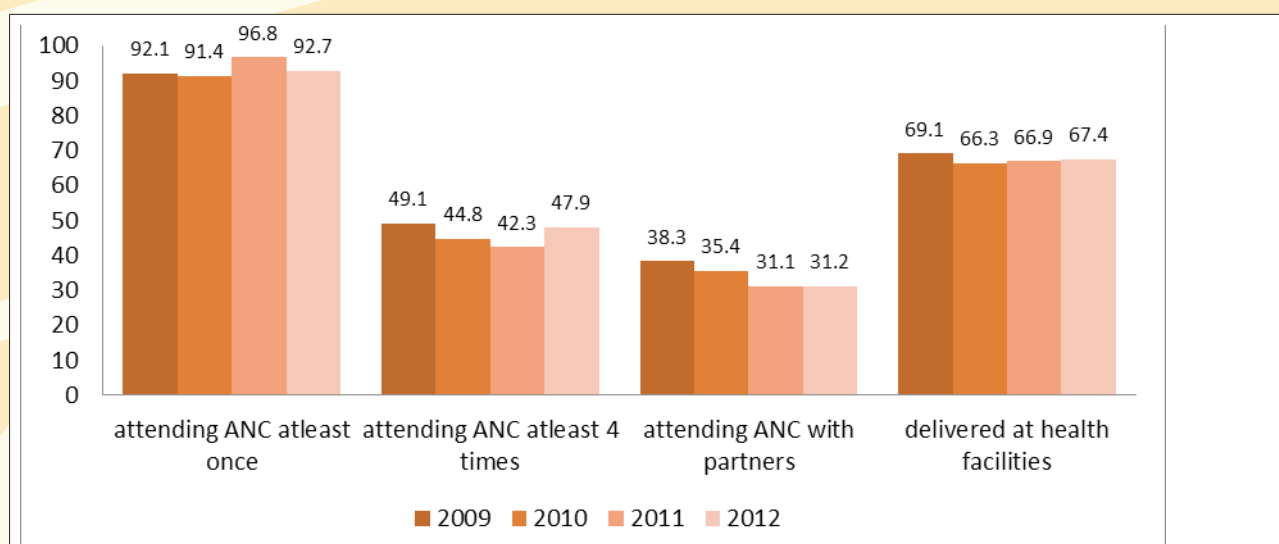
While the proportion (92.7%, n=1,710) of those who attend ANC at least once decreased from 96.8% (n=1,710) reported the previous year closer to the baseline findings of 92.1% (n=570), the proportion (47.9%, n=1,710) of those attending ANC 4 times seems to have risen from 42.3%, (n=1,710)

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in 2011. The proportion of biological mothers of children 0-23 months who reported having attended ANC with their partners, tested and received their results as couples was found to be low at 17.3% (n=1,710). The highest findings of results were found in Kamuli (25.8%) and Kaliro (24.2%) while the least were found in Mayuge (9.0%) and Namutumba (13.7%).

Since baseline there has not been significant differences ($p>0.05$) on the proportion of health facility deliveries (69.1% in 2009; 66.3%, n=855 in 2010; 66.9%, n=1,710 in 2011 and 67.4%, n=1,710 during 2012). There were significant variations across districts ($p<0.001$) – something that seems to suggest the need for a lot of attention in response to the low performing districts. Similar to the previous year's findings, Kamuli (86.8%), Iganga (83.2%) and Kaliro (76.3%) had the highest proportion of deliveries at a health facility while Bugiri (57.9%) and Namayingo (44.2%) had the lowest coverage. However, it is worth noting that although Kaliro is still among the three highest ranking districts on performance of this indicator, there was a decline in results from 84.2% that had been reported the previous year. Again, even though findings show Bugiri and Namayingo as the lowest in performance, they registered tremendous increase in proportions from 45.3% and 29.0% respectively reported during the 2011 survey. While it is possible for women to deliver from a health facility setting, it is also possible for some women to deliver from a health facility in the absence of a skilled or qualified service provider. Overall, 67.2% (n=1,710) of biological mothers of children 0-23 months reported having their deliveries assisted by qualified staff (i.e. a doctor, nurse or midwife) at the health facility. This was slightly a higher finding when compared to the 2011 findings of 65.8% (n=1,710) and was at the same time akin to the 67.4% finding on pregnant mothers who delivered from a health facility.

Figure 17: Reproductive Health Indicator Results (%)



Source: STAR-EC LQAS Household Surveys, 2009-2012

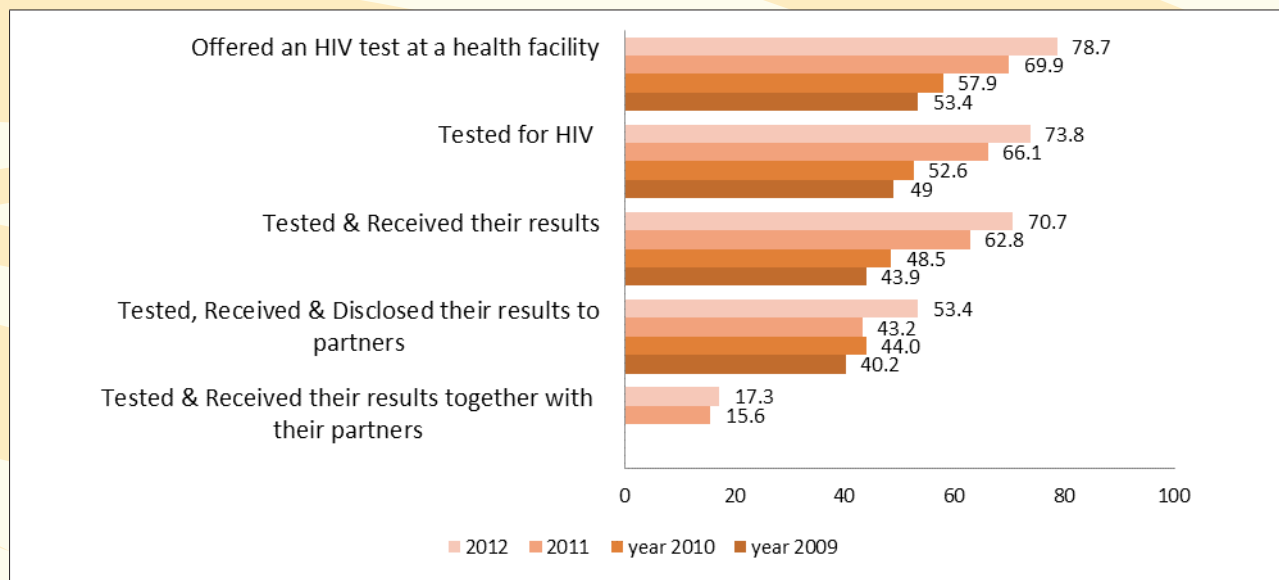
Prevention of Mother to Child Transmission of HIV (PMTCT)

89.3% of adults (15-54) years identified at least one way of MTCT		
50.3% adults were able to identify all the 3 MTCT ways		
% of respondents 15-54 years who knew that HIV can be transmitted to a baby through;		
	Males	Females
Pregnancy	59.7%	65.9%
Delivery	81.9%	83.8%
Breast feeding	69.1%	76.7%

PMTCT is an important strategy promoted by the MoH and other development partners in the fight against pregnant women infecting their unborn babies with HIV during pregnancy, delivery and after birth while breast feeding. Without treatment, many babies born to HIV positive women can become infected with HIV through the three aforesaid transmission ways. Uganda was among the first countries in sub-Saharan Africa to initiate a pilot clinical PMTCT program in the year 2000. Back then, PMTCT services were given as a routine service to consenting HIV-positive women at delivery. Educating women that PMTCT is of benefit to them and their babies is another approach that has been adopted. This is a diversion to the earlier approach where PMTCT services were a part of the birth delivery package, given as a routine offer for those who tested HIV positive during prenatal clinic visits. Currently, MoH is advocating for virtual elimination of mother to child transmission of HIV where implementing partners have to target all pregnant HIV positive women.

Information related to PMTCT practices was sought from biological mothers of children 0-11 months and those with children 12-23 months who had given birth to children two years prior to the 2011 survey. Additionally, knowledge of PMTCT was assessed from both males and females in the reproductive age groups 15-54 years and 15-49 years respectively. Figure 18 illustrates the upward trend in the key PMTCT indicators across the years.

Figure 18: PMTCT Indicator Results (%)

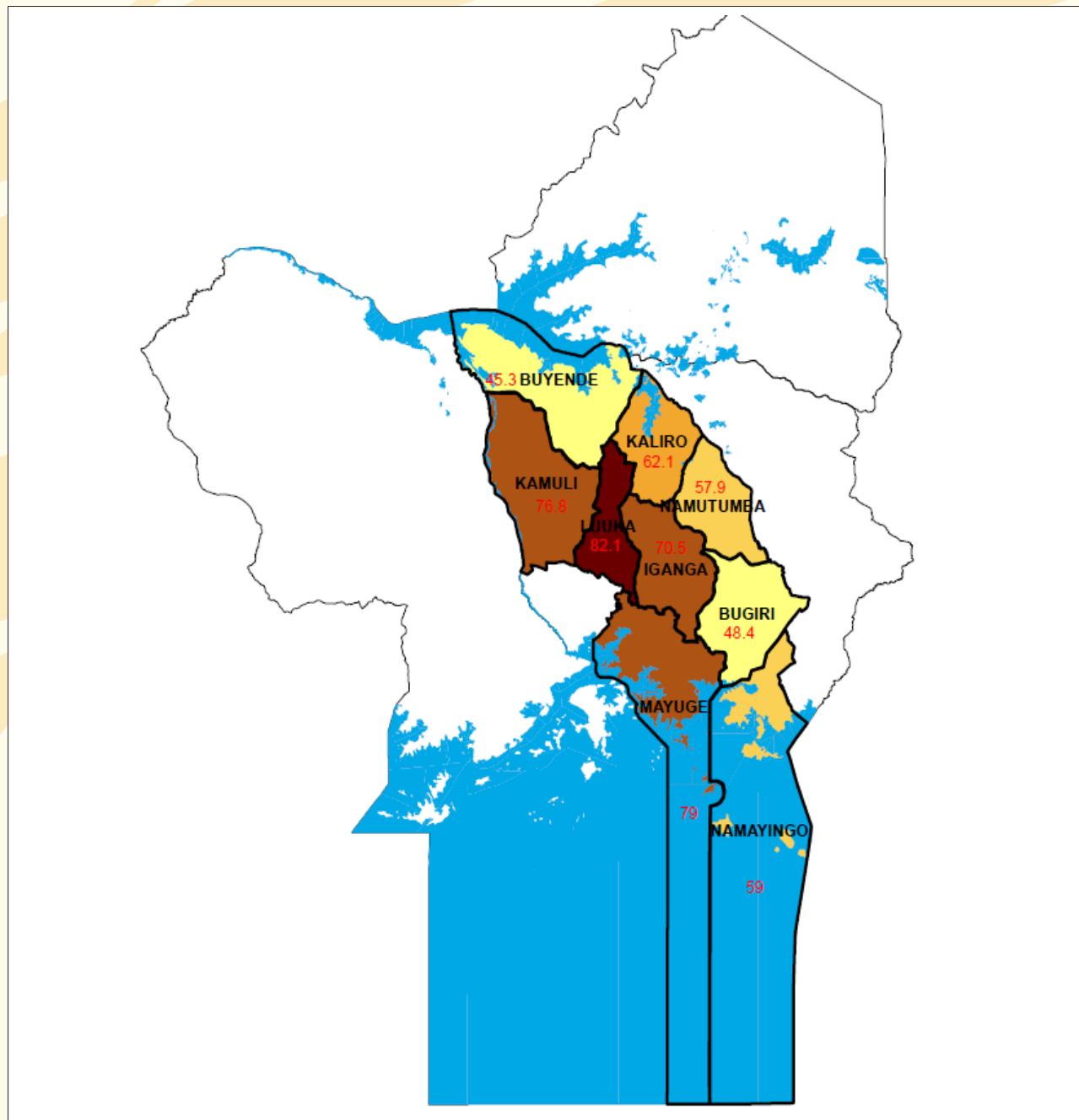


Source: STAR-EC LQAS Household Surveys, 2009-2012

Overall, PMTCT indicator results show an increment every year right from the 2009 baseline. This is clearly illustrated in the figure above. While results continue to show a declining trend in the proportion of individuals (both men and women) who were able to identify one MTCT way from 95.5% (n=570) in 2009 to 89.3% (n=1,710), there was an increasing trend from 45.2% (n=570) to 50.3% (n=1,710) for both years respectively for individuals who were able to identify all three MTCT ways.

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Figure 19: Map Showing Biological Mothers of Children (0-11 Months) Who Tested and Received Their HIV Results during Their Last Pregnancy in East Central Uganda (Overall Regional Coverage =64.6% in 2011)



Source: STAR-EC LQAS Household Surveys, 2009-2011

Anti-Retroviral Therapy (ART)

The household survey was only able to investigate some information on ART among the general population (adults 15 – 54 years) and did not include investigations among Persons Living with HIV&AIDS (PLHIV) thus no information on their practices could be obtained. The survey therefore set to find out respondents' knowledge, perceptions and thoughts on ART. Table 7 highlights a decrease in the trend of proportion of adults who believe that HIV patients should take ARV drugs across the districts. Overall, proportions increased from 36.1% (n=2,280) at baseline to 51.8% (n=3,420) in 2012.

Table 7: Percentage of Adults (15+ years) Who Believe That HIV Patients Should Take ARV Drugs

Districts	Year of Survey			
	2009	2010	2011	2012
Bugiri	45.5	38.4	30.0	52.1
Buyende	-	17.6	13.4	36.6
Iganga	32.6	50.8	42.4	61.8
Kaliro	33.7	37.9	41.8	56.1
Kamuli	41.6	30.5	36.3	61.1
Luuka	-	41.1	29.2	54.7
Mayuge	31.3	41.6	37.4	51.6
Namayingo	-	33.7	30.8	62.9
Namutumba	31.8	27.6	22.6	29.7
Regional Total	36.1	35.5	31.6	51.8

Buyende, Luuka and Namayingo districts were not yet in existence by 2009, therefore no results during the same year

Source: STAR-EC LQAS Household Surveys, 2009- 2012

Table 8: Percentage Who Know of a Place to Obtain ARV Drugs (Government and Private Health Facilities)

Districts	Year of Survey			
	2009	2010	2011	2012
Bugiri	66.8	64.1	60.6	79.8
Buyende	-	43.8	51.4	78.6
Iganga	56.0	71.9	85.1	83.8
Kaliro	55.2	59.0	80.7	85.0
Kamuli	51.9	49.9	67.1	76.8
Luuka	-	59.7	66.4	67.6
Mayuge	57.1	73.1	75.8	78.7
Namayingo	-	42.7	42.0	59.2
Namutumba	61.5	64.9	66.7	78.1
Regional Total	58.0	58.8	66.3	76.5

Buyende, Luuka and Namayingo districts were not yet in existence by 2009 therefore, no results during the same year

Source: STAR-EC LQAS household surveys, 2009- 2012

Overall, household results showed that more individuals are getting aware of where to access ARVs every year.

Care and Support

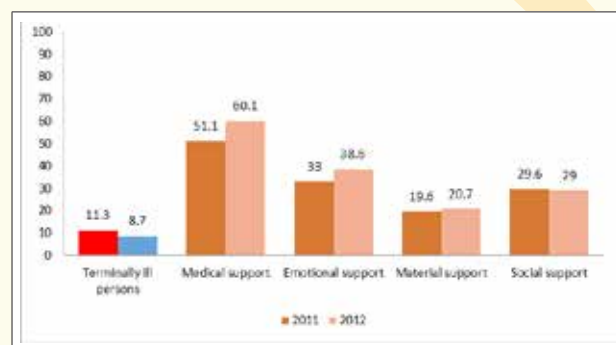
The survey asked questions on both community and clinical care with respect to the various HIV&AIDS and/or related indicators. Due to stigma related issues, it is not as possible to get an actual measure of the number/proportions of PLHIV at the household level or the actual

measure of PLHIVs in need of care and treatment support. Most people are always hesitant to mention and opt never to reveal whether they are HIV positive. Again, people are always reluctant to mention if someone in their household is HIV positive. However, survey findings did reveal a decrease from 65.6% (n=2,276) at baseline to 62.6% (n=3,404) and 53.4% (n=3,277) as well as 50.3% (n=3,216) in 2010, 2011 and 2012 respectively in the number of respondents that reported they would want to keep it a secret if a family member were found to be HIV positive. In order to minimize respondent bias, all past surveys therefore opted to adopt a proxy question that would help to measure the existence of PLHIVs and their need for care services. Thus, respondents were asked whether they had a sick and bedridden person (including the respondent) or someone who had died after being sick or bedridden for more than three months in their household.

There were significant changes (Pearson chi2 (6) = 25.8, p <0.001) in the trend and proportion of households reporting having existence of such persons over the last four years. Results at baseline in 2009 were reported at 12.7% while in 2011 they were at 11.3% (n=1,700) and in 2012 at 8.7% (n=1,696) as illustrated in Figure 20. The 2012 survey revealed significant district differentials (Pearson chi2 (16) = 35.9, p = 0.003) in coverage of terminally ill persons. Unlike during the previous year where the highest proportions among districts were noted in Namutumba (14.8%) while the lowest were found in Kaliro (4.3%), this year's survey found Namayingo District (12.7%) with the highest proportion while Buyende (4.8%) and Namutumba (5.8%) were found with the first and second lowest results on this indicator.

About two thirds (65.5%, n=141) of the affected households reported receiving home care and support for the terminally ill person(s). This was higher than last year's finding of 56.3% (n=192). Among districts, the highest findings were reported from Iganga (81.8%) while the lowest were reported from Buyende at (33.3%). The survey also established that almost all respondents' households (94.3%, n = 141) with terminally ill persons reported their willingness to care for a PLHIV in their own Figure 20 further illustrates the proportion of households with terminally ill persons and the type of support they received for the terminally ill or bedridden person.

Figure 20: Care and Support Indicator Results



Source: STAR-EC LQAS household surveys, 2011 - 2012

Tuberculosis (TB)

Every year more than 2 million people around the world die from TB, but

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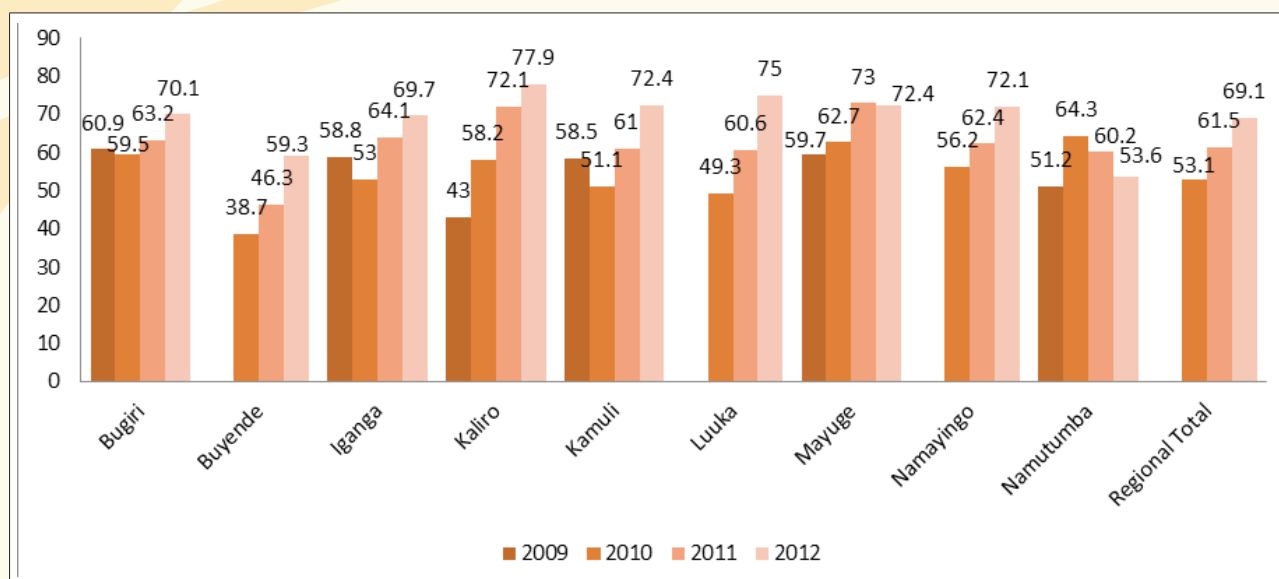
the disease's greatest impact is felt in sub-Saharan Africa. With 102,000 new cases every year, Uganda is ranked sixteenth out of the 22 countries with the highest burden of TB. A total of 45,546 new TB cases had been identified in Uganda by the end of the year (2010). Of these, 545 (1.2%) were confirmed to be HIV positive (Uganda National TB and Leprosy Program, 2010).

Directly Observed Treatment Short Course (DOTS) (the internationally recommended strategy for TB control) case detection and treatment success rates: 51% and 70%, respectively) for new sputum smear-positive (SS+) cases are still below the World Health Organization's (WHO) global targets of 70 and 85%, respectively. These low rates are mainly due to insufficient case reporting, non-adherence to TB treatment, poor access to health care services, and a limited number of skilled staff and diagnostic facilities. In addition to these challenges, Uganda has the highest default rate of any high-burden country. For the East Central Ugandan region, the high prevalence of HIV infection, at 5.8% (AIDS Indicator Survey, 2011), further exacerbates the problem of TB control.

The STAR-EC program routine TB/HIV indicators have improved across all districts. Most notable however, is the low prevalence of TB/HIV co-infection at 34% in the region when compared to the national estimate on prevalence at 50-60% TB/HIV co-infection (National TB and Leprosy Program, 2010). This improvement and others are the result of improved linkages and internal referrals between the TB and HIV care services as well as improved knowledge and dissemination of the new policy among the health care providers.

As part of the household survey, knowledge and awareness on TB within the various East Central region communities were investigated. Close to nine in every ten (88.1%, n=3,397) knew of at least one sign and symptom of TB; 86.9% (n=3,397) knew that it is possible for one to have both HIV and TB at the same time while more adults aged 15-54 years this year knew that TB is a curable disease (69.1%, n=3,364 in 2012 compared to 61.5%, n=3,367 in 2011 and 53.1% during the previous year). Additionally, there were significant findings (Pearson $\chi^2(2)=24.1, p<0.001$) as more males (74.0%) than females (66.0%) knew that TB is a curable disease and 84.2% respondents mentioned they would take TB suspects to a health unit for testing, care and treatment. Figure 21 shows the trend in the proportion of adults who knew that TB is a curable disease by district.

Figure 21: Percentage of Adults 15-54 Years Who Knew of TB is a Curable Disease by District

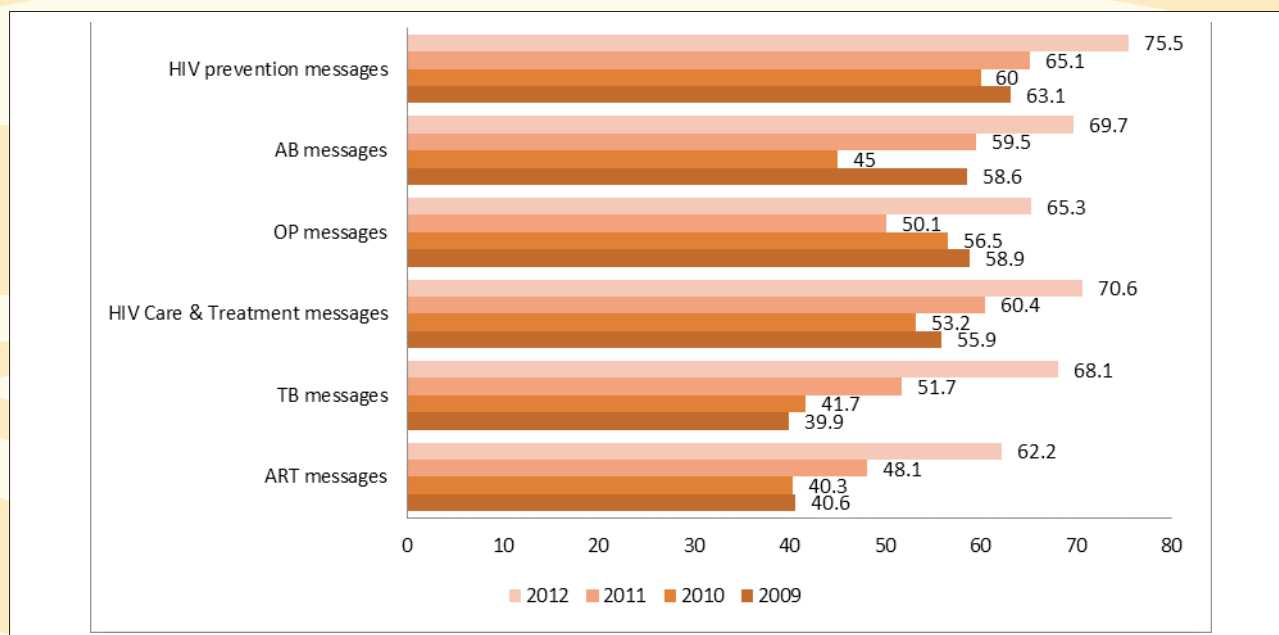


Source: STAR-EC LQAS Household Surveys, 2009- 2012

Buyende, Luuka and Namayingo districts were not yet in existence by 2009, therefore no results during the same year

BCC and IEC are also an important component in the success of both HIV and TB interventions hence respondents were asked whether they had heard or received any of these messages within three months prior to the survey. Figure 22 shows the trend in the proportion of respondents receiving health messages by type of message. There was a significant increase in the messages received in all intervention areas except OP messages. The variations across the districts for most indicators were found to be significant $p<0.001$.

Figure 22: Percentage Distribution of Respondents Receiving Health Messages



Source: STAR-EC LQAS Household Surveys, 2009- 2012

Challenges and Lessons Learned

Challenges

Every year, the implementation of this survey activity brings about many similar challenges, however each year; there are some few unique challenges that may not have necessarily been faced in other survey years. Below are some of the challenges that were unique to this year's survey while others continue to recur each survey year:

New Challenges as a Result of the 2012 Survey

There has been inflation in Uganda over the past years and this has caused most budget line items to shoot up. On the contrary, there hasn't been enough funding to increase the LQAS even when some line items such as fuel have clearly risen. Some of the data collectors therefore had to improvise or use their own money to top up on fueling bikes to the far hard to reach sampled villages while others ended up sharing one bike – something that increased on the length of time for data collection.

There was late payment of the SDS district supported participants (both for the training and data collection activities). SDS which partnered with STAR-EC in financing the exercise delayed payment for the six districts meant to receive such support. These included Bugiri, Iganga, Kaliro, Kamuli, Mayuge and Namutumba. This experience was not only a de-motivator for the data collectors but also made data collection impossible since the participants had to dig deep into their pocket to get money for boda-boda hire. As more days went by with participants

not receiving their facilitation, this activity had to be suspended until each of the districts eventually received their facilitation.

The data collection on Sigulu and Jaguzi Islands was very challenging. The data collectors had to spend many days and nights on the island since the number of data collectors was reduced to seven compared to nine or more during the previous years. The rains and lake storms also made it almost impossible to move from one island to another in search of the interview locations – something that left some data collectors unable to continue with the process. The remaining few however managed to visit all the sampled locations and thus quality data was collected.

Recurring Challenges Faced During the Present and Previous Surveys

- ▶ Whenever possible, interviewers were instructed to observe items like bed nets and toilet facilities. However, information like ante-natal attendance, HIV testing during pregnancy and malaria intermittent presumptive treatment were not systematically verified against the ANC card, except in case of contradicting answers. Similarly, the details of the treatment given to children with history of fever were not confirmed with respective medical forms, thus possibly contributing to erroneous categorization of the medicines prescribed. Recall failure among some respondents could not also be ruled out.
- ▶ Interpreting the findings of surveys always poses the challenge of attribution of the results. Due to the cross-

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sectional design of all past surveys, it is only possible to draw conclusions about associations between various factors and the resultant measures of each indicator. Any attribution of causality is not as possible. In a dynamic environment like the health sector in Uganda, it is also difficult to attribute an estimated association between a certain intervention and the related findings. More specifically, while the constellation of efforts and activities of the STAR-EC Program may well have had an impact on the direction and change in many of the indicators measured between the baseline and 2012, STAR-EC cannot claim fully responsibility for the changes observed.

- ▶ In some supervision areas, it was discovered that some of the sampled villages had their names changed and this would cost interviewers a lot of time and money in trying to trace for such villages. However, these would later be traced with the help of the local guides and the objectives of the survey were therefore not compromised.
- ▶ Most of the training participants complained of the length of time it took to find a randomly selected village as well as the time taken to randomly select the first household. The poor state of some roads in the region characterized with huge pot holes also slowed transportation and in some areas data collectors had to walk for miles on foot as there was no easy navigation of roads. The worst scenario was found in Sigulu, Jaguzi and other islands that are situated on Lake Victoria where it was also hard to access them as interviewers have to travel a long time on rough water to reach them. Additionally, there are few or no roads on these islands thus making it hard to access sampled villages on these islands. Further, there are hardly any vehicles on the islands thus interviewers had to walk for long hours on foot to reach sampled villages and households.
- ▶ In some districts, most or all the district officials who were selected by their respective different District Health Offices were very quick at conceptualizing the methodology, committed to the exercise and did show high levels of engagement and involvement. However to a limited extent, some district officials were either not very committed to the LQAS exercise or simply not competent to conduct this exercise. These were noted and their respective DHOs advised accordingly. In other cases, trainers would pay more attention to trainees who had been identified as not performing to the desired standards. Some of these individuals were later on seen to improve.

Lessons Learned

Partnerships between USAID IPs on such undertakings are not only good with promoting improved partnerships and coordination of activities but also with reducing activity costs that mainly arise out of the advantages of the economies of scale. Additionally, partnerships have helped in avoiding the duplication of the same activities within the same district and such ventures help in reducing on the fatigue that the district officials would face with undertaking the same activity by different partners thus reducing on their workload.

Increased involvement of LQAS district specific focal persons in the management of this survey activity is one way of ensuring and promoting sustainability. District involvement in the planning and execution of LQAS activities helps to promote ownership of the activity by each district. Partnerships between districts and STAR-EC have also been enhanced by all districts providing their staff in the utilization of the entire methodology thus providing some answers to making LQAS activities sustainable.

Triangulation of program routine data (where applicable) with LQAS findings is one way of supporting the process of evidence based planning and decision making.

Other lessons learned continue to recur as mentioned in previous surveys:

Involvement of both junior and senior district officers in this exercise has additional advantages when compared to the sole utilization of senior officers. The senior officers help to give stewardship to junior officers. Additionally, they get to interface with district specific gaps first hand as they are collecting this data. This was very evident especially during the collection of data from health facilities. Owing to their experiences during the survey, senior district officials thereafter get empowered to become better planners and managers based on evidence obtained from collected data. On the other hand, junior officers are more likely to be involved in the actual execution of this entire methodology. Again, they are more readily available given the fact that they have fewer district roles to play when compared to senior district officials who are at times called upon mid-way through the survey exercise to attend to some other district activities.

The 'bodaboda' (motorcycle taxi) hire mechanism is very effective in helping data collectors reach randomly sampled villages at a relatively cheaper cost. Additionally, if the participating District Local Governments could provide their motorcycles for the data collectors and they are fueled by STAR-EC during the data collection exercise, then this would help to cut costs further and in a way help in the promotion of a spirit of partnership. However, most districts report having their motorcycles occupied in other district on-going activities.

Supporting district LQAS focal persons was found to be very helpful. These personnel are continuously being groomed into the future leaders of this exercise in every district. These focal persons not only helped during the survey exercise but in the mobilization of the district authorities to discuss results and come up with action plans during LQAS dissemination.

The continuity of the LQAS exercise can only be ensured if districts and their program staff can fully be trained to understand and utilize the results that are generated by the survey in their annual planning.

Building rapport especially with the local authorities is very important and builds confidence in the local community sharing their ideas freely.

Training of district and CSO staff in the LQAS methodology has empowered them in the deeper conceptualization of community programs, how they operate, what affects them and insights on how to alleviate undesirable issues.

4.0 Conclusions and Recommendations

Overall, the performance of most indicators since the 2009 baseline survey showed improvements across most of the districts.

Much as the results show significant increases (from baseline to the current program and survey year) in the proportion of persons who have ever tested for HIV as well as those who have tested for HIV in the last one year, the proportion of individuals involved in marital, cohabiting and regular relationships testing for HIV seems to be low. The program therefore needs to increase its focus on couple counseling and testing that will help to identify concordant positives and discordant couples who can then be helped with appropriate care, treatment and prevention services. As mentioned in recommendations of other past LQAS reports, there is need for the program to exploit the opportunity of males who escort their pregnant wives to health facilities for ANC by providing them with HTC services. Home to home would be another useful strategy once increased to scale. Prioritization of areas or sub-counties deemed to have MARPs is another important approach. This would increase HTC uptake amongst the neediest areas that have the highest prevalence and will result into increased extension of care and treatment services for the infected persons. Results also suggest that there is a group of persons who have never tested for HIV and there is increased need to break into this group more rapidly than is currently the case.

While the proportion of pregnant women attending ANC at least four times during the last two years prior to the survey shows an increment, the proportion of those attending at least once seems to be on the decrease when comparing results from the last two survey years. Additionally, the proportion of pregnant women delivering from health facilities has not increased significantly over the last four years. STAR-EC does not directly support all the reproductive health (RH) and goal oriented ANC indicators and its' main emphasis is on PMTCT interventions. There is therefore a need to increase on the level of partnerships with some of the implementing partners in the region that are charged with the direct increase in the quality and quantity of RH and Goal ANC service provision. STAR-EC and STRIDES should therefore increase on the level of this partnership as the success of PMTCT outcomes largely depends on both USAID IPs working closely with local governments (especially on goal oriented ANC). Increased partnership and collaboration of the district local government and the private sector is highly recommended as a large number of private health facilities assessed were found to serve a sizeable number of clients that cannot be ignored.

Each year, more health facilities have been found to be delivering quality TB and HIV prevention, care and treatment services. Additionally, results show that more and more adults in the region have acquired more TB knowledge. This applies to TB indicators on adults who know that it is possible for a person to have TB and HIV at the same time; adults who knew that TB is a curable disease and those who knew some signs and symptoms of TB. However, a big proportion of adults could not mention the most imperative signs and symptoms of TB. This is therefore an area that needs improvement especially with the way TB messages are packaged as part of IEC interventions.

There is a need to refocus and increase on prevention interventions and to increase on their integration into other interventions and services. Upholding and scaling up the "Know your Epidemic, Know Your Response" ideology and putting it into practice are also very imperative. There should also be an increase on diversification of venues from the usual institutional settings like schools and health facilities where information on HIV transmission and prevention is routinely provided.

Additionally, there is need to scale up on the promotion of SMC in all districts if population based targets on male circumcision are to be achieved. Survey results continue to show a lot of willingness for circumcision among non-circumcised men once offered the service. As expressed under the recommendations of previous surveys, there is a need to scale up on SMC services through emphasis on the increased integration of services (SMC, HTC and other behavioral prevention services). Males who escort their pregnant women during ANC can also be extended this service or referred to such service points. As opposed to providing SMC services in health facilities alone, more outreaches should be created and services should be extended to all men irrespective of sero-status otherwise stigma will be created when some men are turned away (from this service) on discovery of a positive sero status. Targeting of secondary schools and higher institutions of learning within districts is also very important since such settings are already a mobilized community.

The SDS project needs to conduct timely preparations in the disbursement of funds to district personnel otherwise there is a risk of compromising quality standards when data collectors are faced with such challenges.

STAR-EC has already built the capacity of over 100 local government (LG) and 15 CSO personnel in the execution of LQAS surveys in the region over the last four program years. As a step towards sustainability during the rest of program life, STAR-EC needs to strengthen and consolidate the new LQAS partnership with SDS in the implementation of LQAS activities at district level. Additionally, STAR-EC should continue to support LQAS activities with more leadership roles directly played by LG personnel (particularly the district planning and HMIS departments). Data from LQAS has been useful in the development of the district management improvement plan (DMIP) and district operation plan and as such this practice should be extended to strengthening of the overall annual LG planning and budgeting process through support from the CAO's office. In order to respond to LQAS funding issues beyond STAR-EC's program life, the program should continue to encourage different district departments to conduct their own "miniature" LQAS surveys as part of their own district routine activities. DMIPs should also include plans to conduct these miniature LQAS. This can involve a set of few indicators that can be collected by each district department as opposed to large scale LQAS that definitely needs huge funding. STAR-EC should also support linkages between local governments and the Uganda Bureau of Statistics (UBOS) who are the intended national body that will hold the LQAS data base thus contributing to the national LQAS institutionalization process.

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5.0 Appendices

Appendix 1:

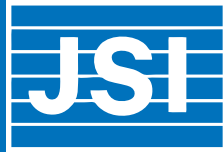
Table 1: Summary of Key HIV Counseling and Testing (HCT) Indicator Results

Year of Survey	Know where testing services are offered				Have ever tested				Tested and received HIV results in one year prior to the survey			
	2009	2010	2011	2012	2009	2010	2011	2012	2009	2010	2011	2012
Age in Years												
15-24	81.5	81.6	84.1	88.8	42	47	56.1	56.1	30.9	33	42.9	43.0
25-34	83	85.5	86.8	91.7	55.3	57.5	65.3	73.4	37.4	40.1	50.1	57.2
35-54	84	83.9	85.0	92.1	50.9	52.7	56.7	68.8	33	36.4	41.1	50.0
p value	p=0.416	p=0.034	p=0.208	p=0.010	p<0.001	p=0.002	p=0.208	p<0.001	p=0.001	p=0.003	p<0.001	p<0.001
Sex												
Males	84.9	84.4	84.1	90.9	42.5	45.8	48	55.2	27.5	30.6	32.4	39.1
Females	81	82.5	85.5	90	51.3	54.7	64.7	69.3	36.8	39	51.1	54.5
p value	p=0.019	p=0.150	p=0.271	p=0.403	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001
Districts												
Bugiri	78.9	85.6	83.3	91.3	50.9	57.3	58.1	66.3	34.2	40.8	41.8	49.7
Buyende	*	79.4	84.1	91.0	*	37.6	43.7	52.9	*	19.2	29.5	40.0
Iganga	82.6	87	91.8	94.7	41.5	51.2	58.5	62.6	27.9	34.5	42.6	47.6
Kaliro	81.3	83.2	92.9	98.7	44.9	44.5	55.9	63.2	26.6	30	44.7	48.4
Kamuli	84.5	88.3	90.4	94.5	48	63.7	69.3	75.3	36.6	51.3	57.4	62.9
Luuka	*	76.4	80.9	84.2	*	38.3	55.2	61.3	*	24.2	42.6	43.2
Mayuge	87.9	88.4	89.2	89.4	56.9	63.9	66.8	58.4	41.6	43.4	45.3	42.4
Namayingo	*	78.8	70.8	78.1	*	50.1	58.1	65.8	*	38.7	44	50.0
Namutumba	80	81.8	81.5	91.3	45.1	54.6	62	67.6	32.4	39.7	50.8	51.6
p value	p=0.015	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001
Sample Size (n)												
Totals	2,277	3,401	3,383	3,377	2,266	3,401	3,404	3,420	2,280	3,420	3,420	3,420
Totals	82.5	83.2	85.0	90.4	47.9	51.3	58.6	63.7	33.2	35.8	44.3	48.4

*District was not in existence during baseline and was only formulated in 2010 after the national re-districting exercise.

Source: STAR-EC LQAS Household Surveys, 2009-2012

Appendix 2: Household Survey Results



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