

Rubirizi District Community Knowledge and Practices LQAS Survey Report

Management Sciences for Health (STAR-E)

April 2011

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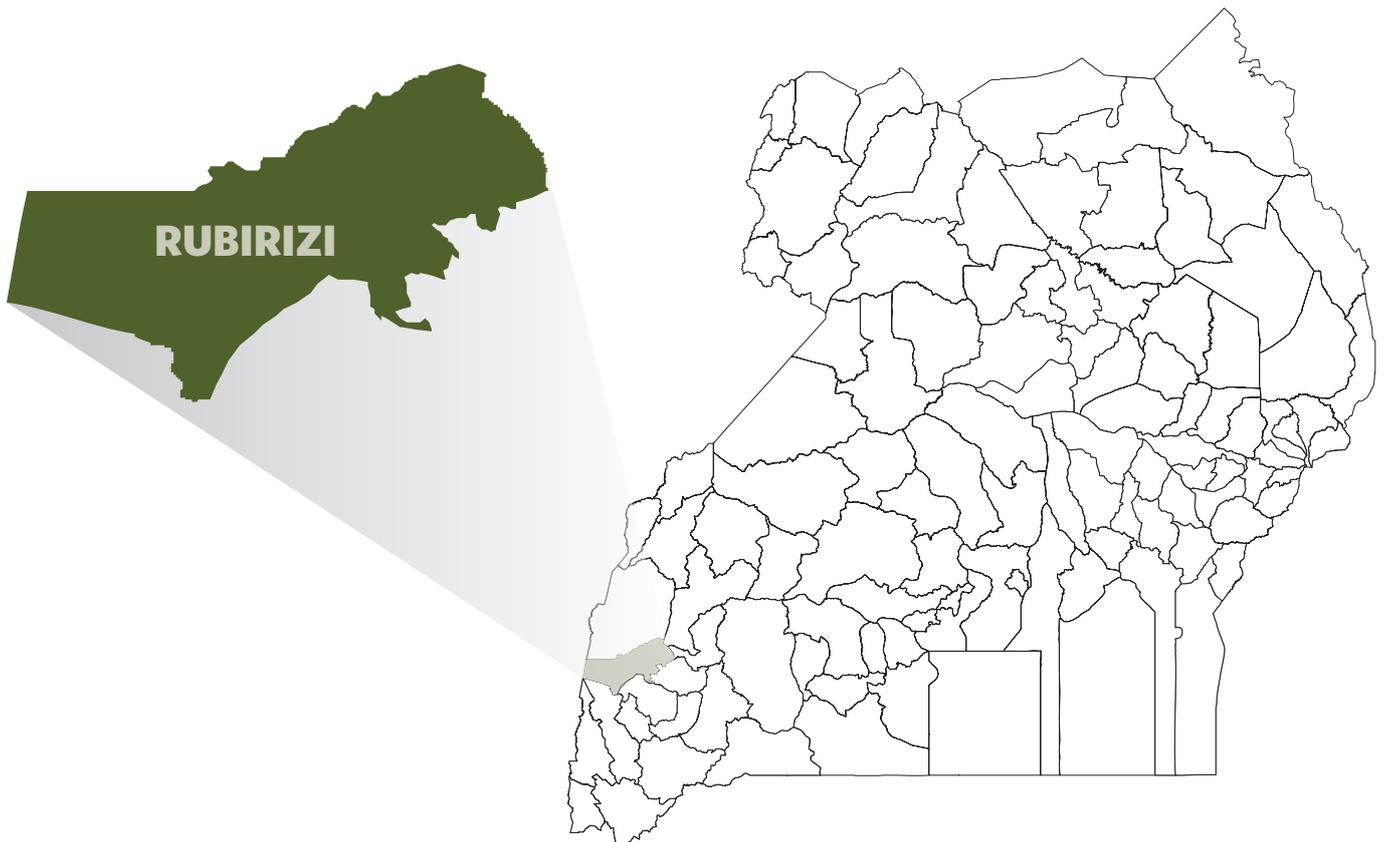
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RUBIRIZI DISTRICT

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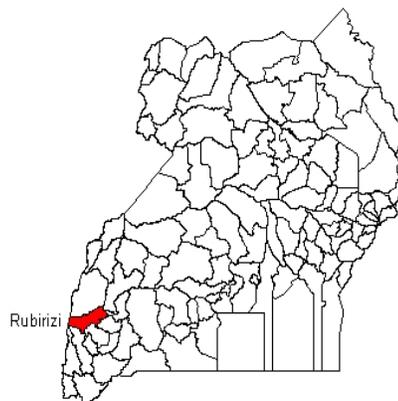


RUBIRIZI DISTRICT

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APRIL 2011

Prepared by STAR- E LQAS



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Message from the Chief Administrative Officer

While timely and up-to-date information is an essential element for District Planning and Monitoring service delivery, it is very often lacking for many reasons. The major reason for lack of information is shortage of human and financial resources to gather the necessary data as and when they are needed. I welcome the initiative taken by USAID in collaboration with the Government to support the strengthening of M & M system of Rubirizi District through training our people in the application of rapid community surveys. When the first community survey was done in Rubirizi District we were able to obtain preliminary information on key health indicators immediately after the survey which we used for District Planning in the health sector and is reflected in 5 year Development Plan. This report, giving the district definitive information on the level of delivery of social services in the counties and sub-counties in Rubirizi District will guide us in directing the district resources towards improving the services in those poor performing areas in the district. We look forward to the next round of surveys and we commit ourselves to supporting them.



F.K. RWABUHORO
CHIEF ADMINISTRATIVE OFFICER
RUBIRIZI DISTRICT.

Contents

Acknowledgements.....	i
Message from the Chief Administrative Officer.....	i
Tables.....	iii
Figures.....	iv
Abbreviations.....	v
1. Introduction.....	1
2. Background to the survey.....	1
3. Selection of Interview Villages.....	1
4. Selection of Households and Respondents.....	1
5. Data Collection.....	2
6. Findings.....	2
6.1. HIV counseling and Testing (HCT).....	3
6.2. PMTCT knowledge and practices.....	8
6.3. HIV/AIDS knowledge and sexual behavior.....	10
6.4. Sexually Transmitted Infections (STI) knowledge.....	14
6.5. Knowledge on Tuberculosis.....	16
6.6. Knowledge and practices of Malaria prevention and treatment among mothers of children (0-11 months).....	18
6.7. Reproductive Health and Family planning.....	20
6.8. Child survival.....	21
6.9. Sanitation.....	22
7. Conclusion.....	22
Appendix 1: List of indicators.....	23
Tally of assessed indicators.....	26
Appendix 2: LQAS Decision Rule table.....	27

Tables

Table 1: Number of indicators below threshold by service and supervision areas (counts are pooled for target groups)	2
Table 2: Individuals who know where they can be tested for HIV	4
Table 3: Individuals who know two or more benefits of HCT	4
Table 4: Individuals who have ever been counseled and tested for HIV	5
Table 5: Individuals who have ever been counseled, tested and received their HIV test results	5
Table 6: Individuals who were counseled and tested for HIV in the past 12 months	6
Table 7: Individuals who were counseled and tested for HIV in the past 12 months and know their HIV results	6
Table 8: Mothers who were counseled and received an HIV test during the last pregnancy and know their results	7
Table 9: Individuals who have ever tested for HIV and received their results as a couple	7
Table 10: Individuals who were tested for HIV and received their results and disclosed to their spouse/partner	8
Table 11: Individuals who know all 3 ways when HIV transmission occurs from an infected mother to child	9
Table 12: Individuals who know at least two key actions that reduce MTCT of HIV	9
Table 13: Individuals who know where they can get information and services to reduce the risk MTCT of HIV	10
Table 14: Mothers of children (0-11 months) who were counseled for PMTCT services during last pregnancy	10
Table 15: Individuals who both correctly identify ways of preventing the sexual transmission of HIV and reject major misconceptions about HIV transmission	11
Table 16: Individuals who know at least two ways of preventing sexual transmission of HIV	11
Table 17: Individuals who have ever used a condom when having sexual intercourse	12
Table 18: Individuals who had sex with only one sexual partner in the last 12 month	12
Table 19: Individuals who have had sex with one sexual partner in last 12 months and report using a condom at last sexual intercourse	13
Table 20: Individuals who perceive low or no risk of getting HIV/AIDS infection	13
Table 21: Sexual behavior and circumcision among the youth	13
Table 22: Individuals who correctly identify at least two common symptoms of STIs in men	14
Table 23: Individuals who correctly identify at least two common symptoms of STIs in women	15
Table 24: Individuals who know three or more actions to take when she/he has a sexually transmitted infection	15
Table 25: Individuals who know a health facility where they can receive STI treatment	16
Table 26: Individuals who know that TB is a curable disease	16
Table 27: Individuals who know at least two signs and symptoms of TB	17
Table 28: Individuals who know how TB is transmitted	17
Table 29: Individuals who know the risk of not completing TB treatment	18
Table 30: Individuals who know the nearest place to receive TB treatment	18
Table 31: Details of the results for malaria treatment and practices among mothers of children (0-11 months)	19
Table 32: Details of the results for knowledge of malaria prevention among mothers of children (0-11 months)	20

Table 33: Details of the results for reproductive health and family planning knowledge and practices among women.....	20
Table 34: Children who are fully vaccinated.....	21
Table 35: Children with any of fever, diarrhea or pneumonia seeking care from health workers within 24 hours of illness.....	21
Table 36: Individuals who wash their hands with soap after visiting the toilet.....	22

Figures

Figure 1: Percent of indicators below threshold out of the total indicators for the service area.....	3
Figure 2: Number of indicators below thresholds for HCT.....	4
Figure 3: Number of flagged SAs for PMTCT.....	8
Figure 4: Number of flagged SAs for HIV/AIDS knowledge and sexual behaviour.....	11
Figure 5: Number of flagged SAs for STI knowledge.....	14
Figure 6: Number of flagged SAs for TB knowledge.....	16
Figure 7: Knowledge and practices of Malaria prevention and treatment among mothers of children (0-11 months).....	19

Abbreviations

AIDS	Acquired Immuno-Deficiency Syndrome
ANC	Antenatal care
CI	Confidence interval
DHS	Demographic Health Survey
threshold	Decision rule
EGPAF	Elizabeth Glazer Pediatric AIDS Foundation
HCT	HIV counseling and testing
HIV	Human Immunodeficiency Virus
ITN	Insecticide treated nets
LC	Local Council
LQAS	Lot quality assurance sampling
MSH	Management Sciences for Health
MTCT	Mother to child transmission (of HIV)
NA	Not applicable
PMTCT	Prevention of mother to child transmission (of HIV)
SA	Supervision area
STAR-E	Strengthening TB and AIDS Response (project) in the Eastern Region
STAR-SW	Strengthening TB and AIDS Response (project) in the South Western Region
STI	Sexually transmitted infections
UBOS	Uganda Bureau of Statistics
USAID	US Agency for International Development

1. Introduction

Rubirizi district in South Western Uganda is bordered by the Democratic Republic of the Congo to the west, Ibanda District to the east, Kasese District to the north, Kamwenge District to the northeast, Buhweju District to the southeast, Bushenyi District to the south and Rukungiri District to the southwest. Rubirizi District was carved out of Bushenyi District in July 2010. Prior to then, the district was known as Bunyaruguru County. The district is made up of eleven sub counties of Magambo, Rubirizi Town Council, Rutoto, Ryeru, Katunguru, Kichwamba, Kirugu, Katanda, Katerera Town Council, Katerero and Kyabakara. The altitude of the district is 1367 Meters (4,488 ft) above sea level.

The 2002 national census estimated the population of Rubirizi district at 101,800. The current population is not known.

2. Background to the survey

Rubirizi district carried out a community-based LQAS survey to assess the level of delivery of services for HIV/AIDS, TB, child health, reproductive health and malaria. The survey was conducted in November 2010 by the USAID funded STAR-SW project and technical support from the STAR-E project. The indicators assessed were selected in consultation with district managers as well as national programme managers. The survey targeted orphans (5-17 years), the youth (15-24 years), women (15-49 years), men (15-54 years), mothers of babies under one year of age and mothers with babies between 12 and 23 months. The survey did not target pregnant women. Appendix 1 presents the list of indicators assessed by the survey.

Questionnaires were developed for each target group in consultation with various stakeholders at national and district levels to ensure conformity with national surveys such as the Demographic and Health Survey (DHS) and international survey requirements. Key terms and phrases in the questionnaires were translated into Rukiga and Runyankole language to allow uniform translation to, and understanding of, the local language phrases during face-to-face interviews in the communities.

This report presents district results based on “cleaned” data sets on those indicators that could not be reliably reported on using the hand tabulation process. Preliminary results were available to the district within a week of the end of the data collection exercise. Those results were obtained through hand tabulation by the district workers who had collected the data.

3. Selection of Interview Villages

The UBOS 2009 list of villages with corresponding number of households was used as a sampling frame. The district was partitioned by the district managers into seven supervision areas (SAs) with STAR-E LQAS’ guidance. The SAs were non-overlapping and had a programmatic link to supervisory roles in the district.

A random sample of 19 villages was selected from each SA using probability proportional to size (PPS) sampling technique. The randomly selected villages were verified by the district to confirm their existence and correcting the misspellings of village names.

4. Selection of Households and Respondents

A starting household for conducting the interview was randomly selected using, as far as possible, up-to-date LC1 household registers. In situations where it was not possible to establish such a list of households, community maps were used to partition the village into small sections with evenly distributed known household sizes, one of which would be randomly selected and a household list developed for the selected village section. This list would form a sampling frame from which a starting household would be identified at random.

A randomly selected starting household was used to minimize sampling errors. Movement from household to household followed specific instructions. Households were judged as nearest to each other by the distance *walked* from door to door.

Eligible respondents for the six target groups in a household were listed and one randomly selected. If the selected respondent qualified for more than one category, he/she was randomly assigned to one target group for interview. *Only one interview was conducted in any household.* Identification of other eligible respondents would continue in the households nearest to the front door of the previous interview until all the six categories of respondents were interviewed in each sampled village.

5. Data Collection

The data collection exercise was carried out in one week in November 2010 immediately after a week's training in the LQAS methodology and data collection tools. Each SA had a team of two data collectors and one supervisor. Community leaders supported data collectors in locating the villages and households. Data were collected from 19 respondents for each target population in each supervision area. One hundred and thirty three respondents were interviewed from each target group for the entire district. Apart from the orphans aged 5-12 years where caregivers were interviewed, the rest of the questionnaires were administered directly to the respondents.

6. Findings

Rubirizi district comprised of four supervision areas of: Kichwamba and Kirugu; Ryeru, Magambo, Rutooto & Rubirizi; Katerera, Kyabakara, Katanda & Katerera TC; and Katunguru. Since Rubirizi district had not set any targets for the assessed indicators, decisions on the level of delivery of services in the SAs were based on district average coverage for each indicator. The table in Appendix 2 was, therefore, used to determine the values for classifying the supervision areas as performing below or above the district average coverage for each indicator. These values are referred to as the Decision Rule (thresholds)

The threshold is based on the sample size (in this case 19 for each target group in each SA), the district average for the indicator estimate (20%, 30%, etc.) and a precision of the indicator estimate of 92%. Each district indicator average is given with a 95% confidence interval (CI).

LQAS survey enables identification of SA that may be below the benchmark (in this case the district average) which are “red flagged” for special attention. Katerera, Kyabakara, Katanda & Katerera TC was the most flagged supervision area while Kichwamba and Kirugu and Katunguru were flagged for only one indicator as shown in Table 1.

Table 1: Number of indicators below threshold by service and supervision areas (counts are pooled for target groups)

Service areas	Supervision areas				Indicators		
	Kichwamba and Kirugu	Ryeru, Magambo, Rutooto & Rubirizi	Katerera, Kyabakara, Katanda & Katerera TC	Katunguru	Flagged	Total	Percent flagged
HIV counseling and Testing (HCT)	0	0	1	0	1	112	0.9
Prevention of Mother to Child Transmission of HIV (PMTCT)	1	1	2	0	4	64	6.3

Service areas	Supervision areas				Indicators		
	Kichwamba and Kirugu	Ryeru, Magambo, Rutooto & Rubirizi	Katerera, Kyabakara, Katanda & Katerera TC	Katunguru	Flagged	Total	Percent flagged
HIV Knowledge and Sexual Behavior	0	2	1	0	3	84	3.6
Sexually Transmitted Infections (STI)	0	1	5	0	6	80	7.5
Tuberculosis	0	0	0	1	1	60	1.7
Malaria Prevention and Treatment	0	0	1	0	1	32	3.1
Reproductive Health and Family planning	0	0	0	0	0	16	0
Child Health	0	0	1	0	1	8	12.5
Sanitation	0	0	0	0	0	20	0
Total number of red flags	1	4	11	1	17	476	3.6

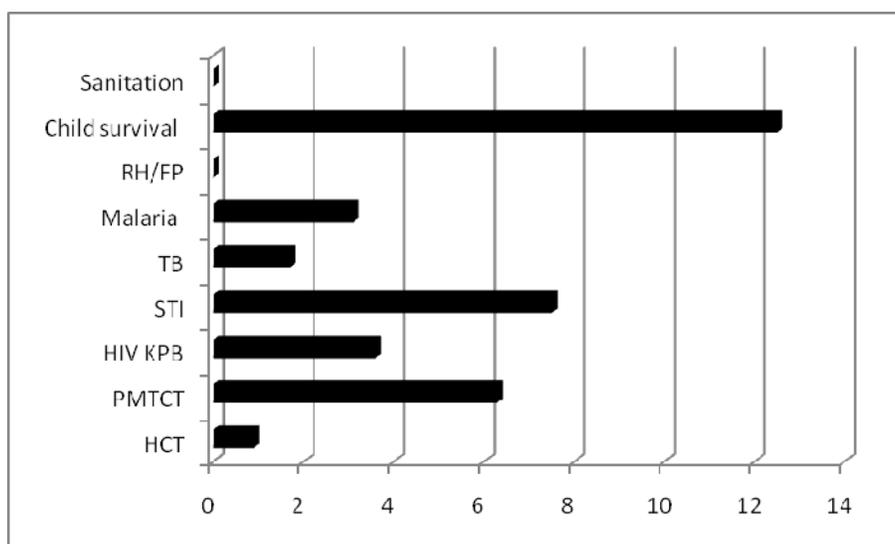


Figure 1: Percent of indicators below threshold out of the total indicators for the service area

In the following results tables, supervision areas with indicators below thresholds are marked by an asterisk (*). Indicators with a district survey target population average below 20% are marked as “not applicable” (NA).

6.1. HIV counseling and Testing (HCT)

Tables 2 – 10 give the results of knowledge and practices in HIV Counseling and Testing in the district and Figure 2 shows that Katerera was the only supervision area to be flagged on any indicator on HCT.

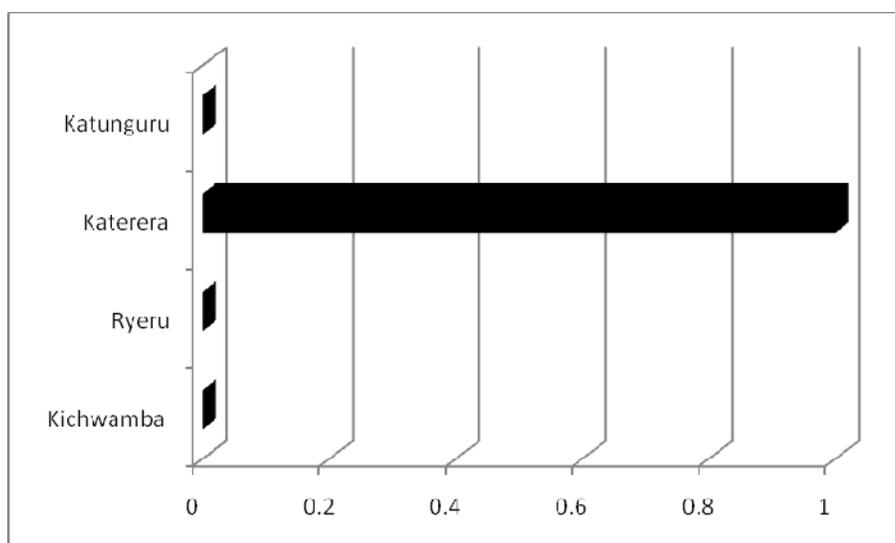


Figure 2: Number of indicators below thresholds for HCT

Table 2: Individuals who know where they can be tested for HIV

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	18	18	21	22	19
Ryeru, Magambo, Rutooto & Rubirizi	22	24	21	22	19
Katerera, Kyabakara, Katanda & Katerera TC	18	21	22	22	19
Katunguru	21	19	23	19	22
Average coverage (95% CI)	82.3 (74.5-90.1)	85.4 (78.2-92.6)	90.6 (84.7-96.6)	88.5 (82.1-95.0)	82.3 (74.5-90.1)
threshold	14	15	16	15	14
Number of SAs below threshold	0	0	0	0	0

Knowledge of where HIV counseling and testing services can be accessed was high among all the survey population in all SAs. The population in Ruburizi district is very knowledgeable about HCT services in the district (Table 2).

Table 3: Individuals who know two or more benefits of HCT

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	14	19	18	20	21

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12- 23 months)
Ryeru, Magambo, Rutooto & Rubirizi	15	16	19	18	12
Katerera, Kyabakara, Katanda & Katerera TC	16	22	22	22	22
Katunguru	21	21	22	18	17
Average coverage (95% CI)	68.7 (59.3-78.2)	81.3 (73.3-89.2)	84.4 (77.0-91.8)	81.3 (73.3-89.2)	75.0 (66.2-83.8)
threshold	11	14	14	14	12
Number of SAs below threshold	0	0	0	0	0

There was very little variation on levels of knowledge of HCT benefits among the supervision areas. Knowledge of HCT benefits was relatively high in this district. All supervision areas performed above the district average thresholds

Table 4: Individuals who have ever been counseled and tested for HIV

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	12	17	21
Ryeru, Magambo, Rutooto & Rubirizi	10	19	19
Katerera, Kyabakara, Katanda & Katerera TC	7*	17	21
Katunguru	20	19	23
Average coverage (95% CI)	51.0 (40.8-61.2)	75.0 (66.2-83.8)	87.5 (80.8-94.2)
threshold	8	12	15
Number of SAs below threshold	1	0	0

Individuals who have ever been counseled and tested for HIV are above the district average threshold for men (15-54 yrs) and women (15-49 yrs). Katerera, Kyabakara, Katanda & Katerera TC supervision area is below the district average threshold for youth, as shown in Table 4.

Table 5: Individuals who have ever been counseled, tested and received their HIV test results

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	10	16	20
Ryeru, Magambo,	10	19	19

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Rutooto & Rubirizi			
Katerera, Kyabakara, Katanda & Katerera TC	7	17	19
Katunguru	17	19	23
Average coverage (95% CI)	45.8 (35.7-56.0)	74.0 (65.0-82.9)	84.4 (77.0-91.8)
threshold	7	12	14
Number of SAs below threshold	0	0	0

No SA was red flagged for the indicator of counseling, HIV testing and receiving the test results as shown in Table 5 although the youth are below 50% coverage on this indicator.

Table 6: Individuals who were counseled and tested for HIV in the past 12 months

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	6	7	12
Ryeru, Magambo, Rutooto & Rubirizi	4	10	14
Katerera, Kyabakara, Katanda & Katerera TC	4	9	12
Katunguru	9	10	20
Average coverage (95% CI)	23.9 (15.3-32.6)	37.5 (27.6-47.4)	60.4 (50.4-70.4)
Threshold	2	5	10
Number of SAs below threshold	0	0	0

Although no category was below the district average for this indicator, the average coverage among the young and men were very low for history of HIV counseling and testing (Table 6).

Table 7: Individuals who were counseled and tested for HIV in the past 12 months and know their HIV results

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	5	7	12
Ryeru, Magambo, Rutooto & Rubirizi	3	6	12
Katerera, Kyabakara, Katanda & Katerera TC	6	8	10

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Katunguru	8	10	17
Average coverage (95% CI)	22.9 (14.4-31.5)	32.2 (22.8-41.8)	53.1 (43.0-63.3)
Threshold	2	4	8
Number of SAs below threshold	0	0	0

The results in Table 7 show that no SA was flagged for the indicators on completion of the HIV counseling, testing and informing the clients of their results. The overall district coverage results are, however, low among the youth and men.

Table 8: Mothers who were counseled and received an HIV test during the last pregnancy and know their results

Supervision Areas	Mothers of children (0- 11 months)
Kichwamba and Kirugu	22
Ryeru, Magambo, Rutotoo & Rubirizi	22
Katerera, Kyabakara, Katanda & Katerera TC	22
Katunguru	23
Average coverage (95% CI)	92.7 (87.4-98.0)
threshold	16
Number of SAs below threshold	0

The survey showed that almost all expecting mothers in Rubirizi district are counseled and tested for HIV and know their test results as shown in Table 8.

Table 9: Individuals who have ever tested for HIV and received their results as a couple

Supervision Areas	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	2	10
Ryeru, Magambo, Rutotoo & Rubirizi	3	7
Katerera, Kyabakara, Katanda & Katerera TC	7	8
Katunguru	9	11
Average coverage (95% CI)	21.9 (13.5-30.3)	37.5 (27.6-47.4)
threshold	2	5
Number of SAs below threshold	0	0

The very good delivery of HCT services to pregnant women is not extended to their partners as seen by the low coverage in the district (Table 9). This may also be an indication of low male involvement in reproductive health

Table 10: Individuals who were tested for HIV and received their results and disclosed to their spouse/partner

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	6	17	17
Ryeru, Magambo, Rutooto & Rubirizi	7	20	19
Katerera, Kyabakara, Katanda & Katerera TC	5	16	17
Katunguru	19	19	23
Average coverage (95% CI)	38.5 (28.6-48.5)	75.0 (66.2-83.8)	79.2 (70.9-87.4)
threshold	5	12	13
Number of SAs below threshold	0	0	0

Over 75% of the men and women who tested for HIV and received their results disclosed the results to their sexual partners. Although the results show that the youth hardly disclose to their partners, no category or SA was red flagged (Table 10).

Conclusion on HIV counseling and Testing (HCT)

Katerera, Kyabakara, Katanda & Katerera TC SA performed poorly in the district in terms of HCT knowledge and practices among the youth. Focus should be placed in improving performance among the youth of Katerera, Kyabakara, Katanda & Katerera TC. SA

6.2. PMTCT knowledge and practices

Tables 11 – 14 give the details of the results for PMTCT knowledge and practices in Rubirizi district. Figure 3 shows that three of the four SAs had below district average thresholds for PMTCT across target groups.

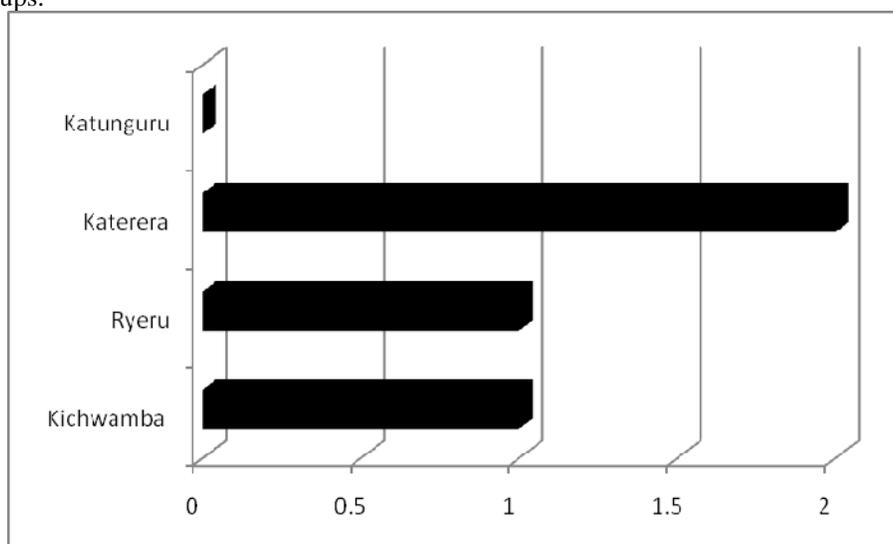


Figure 3: Number of flagged SAs for PMTCT

Table 11: Individuals who know all 3 ways when HIV transmission occurs from an infected mother to child

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0- 11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	1	6	1*	1	0
Ryeru, Magambo, Rutooto & Rubirizi	11	9	17	9	6
Katerera, Kyabakara, Katanda & Katerera TC	1	2	0*	0*	0
Katunguru	6	3	4	5	4
Average coverage (95% CI)	19.8 (11.7-27.9)	20.8 (12.6-29.1)	22.9 (14.4-31.5)	15.6 (8.2-23.0)	10.4 (4.2-16.6)
threshold	1	2	3	1	NA
Number of SAs below threshold	0	0	2	1	NA

There were low levels of knowledge of all three ways when HIV transmission occurs from an infected mother to child in all target populations with mothers of children 12-23 months being the lowest as shown in Table 11. Women (15-49 yrs) in Katerera, Kyabakara, Katanda & Katerera and Kichwamba and Kirugu SAs were below the district average threshold as were mothers of children (0-11 months) in Katerera, Kyabakara, Katanda & Katerera. SA District averages for this indicator are low across all target populations. The population in the district needs education on how HIV transmission occurs from an infected mother to child.

Table 12: Individuals who know at least two key actions that reduce MTCT of HIV

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12- 23 months)
Kichwamba and Kirugu	12	15	17	20	16
Ryeru, Magambo, Rutooto & Rubirizi	11	13	18	14	8*
Katerera, Kyabakara, Katanda & Katerera TC	12	16	17	19	15
Katunguru	21	17	21	19	20
Average coverage (95% CI)	58.3 (48.3-68.4)	63.5 (53.7-73.3)	76.0 (67.3-84.7)	75.0 (66.2-83.8)	61.5 (51.5-71.3)
threshold	9	10	13	12	10
Number of SAs below threshold	0	0	0	0	1

Knowledge of how HIV transmission from mother to child can be reduced is, on average, high in Rubirizi district among all target groups (Table 12). Mothers of children 12-23 months in Ryeru, Magambo, Rutooto & Rubirizi SA need education on how vertical transmission of HIV can be reduced.

Table 13: Individuals who know where they can get information and services to reduce the risk MTCT of HIV

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	15	15	20	22	20
Ryeru, Magambo, Rutooto & Rubirizi	16	17	20	23	21
Katerera, Kyabakara, Katanda & Katerera TC	16	22	18	23	20
Katunguru	17	18	18	23	23
Average coverage (95% CI)	66.7 (57.1-76.3)	75.0 (66.2-83.8)	79.2 (70.9-87.4)	94.8 (90.3-99.3)	87.5 (80.8-94.2)
threshold	11	12	13	16	15
Number of SAs below threshold	0	0	0	0	0

The results in Table 13 show that the people in Rubirizi district know where information on reduction MTCT of HIV can be obtained.

Table 14: Mothers of children (0-11 months) who were counseled for PMTCT services during last pregnancy

Supervision Areas	Mothers of children (0-11 months)
Kichwamba and Kirugu	20
Ryeru, Magambo, Rutooto & Rubirizi	22
Katerera, Kyabakara, Katanda & Katerera TC	19
Katunguru	17
Average coverage (95% CI)	81.3 (73.3-89.2)
threshold	14
Number of SAs below threshold	0

Conclusion of PMTCT knowledge and practices

Knowledge of the three ways in which HIV transmission occurs from an infected mother to child is extremely low in Rubirizi across all survey target groups and in all supervision areas. Ryeru, Magambo, Rutooto and Rubirizi SA had below district average threshold on knowledge of how HIV transmission from mother to child can be reduced among mothers with young babies (12-23months). Table 14 shows that although not all recently pregnant women were counseled on how to prevent HIV vertical transmission, nearly 85% were counseled.

6.3. HIV/AIDS knowledge and sexual behavior

Tables 16 - 22 show details of the results for HIV/AIDS knowledge and sexual behavior. Figure 4 shows that apart from Katunguru and Kichwamba and Kirugu, the other two SAs had a red flag on this service area for at least one target group.

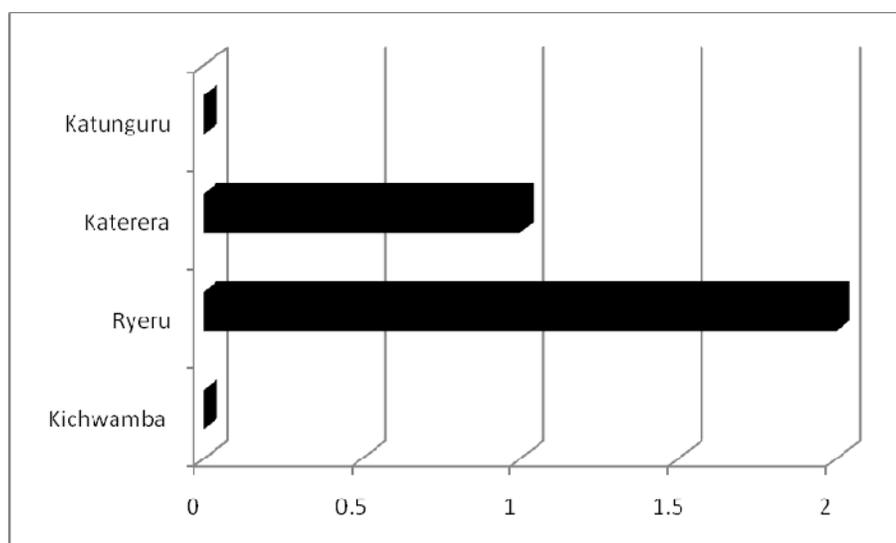


Figure 4: Number of flagged SAs for HIV/AIDS knowledge and sexual behaviour

Table 15: Individuals who both correctly identify ways of preventing the sexual transmission of HIV and reject major misconceptions about HIV transmission

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	1*	2*	4	4	6
Ryeru, Magambo, Rutooto & Rubirizi	12	12	8	10	9
Katerera, Kyabakara, Katanda & Katerera TC	6	7	7	6	7
Katunguru	5	5	5	6	5
Average coverage (95% CI)	25.0 (16.2-33.8)	27.1 (18.0-36.1)	25.0 (16.2-33.8)	27.1 (18.0-36.1)	28.1 (19.0-37.3)
threshold	2	3	2	3	3
Number of SAs below threshold	1	1	0	0	0

Table 15 shows that the population in Rubirizi district demonstrated very poor knowledge of ways of preventing the sexual transmission of HIV and the majority do not reject major misconceptions about HIV transmission. The situation is prominent in Kichwamba and Kirugu SA among the youth and men.

Table 16: Individuals who know at least two ways of preventing sexual transmission of HIV

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	15	18	22	19	18

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0- 11 months)	Mothers of children (12-23 months)
Ryeru, Magambo, Rutooto & Rubirizi	17	19	16	21	14
Katerera, Kyabakara, Katanda & Katerera TC	15	15	12	14	14
Katunguru	19	17	12	16	14
Average coverage (95% CI)	68.7 (59.3-78.2)	71.9 (62.7-81.0)	64.6 (54.8-74.3)	72.9 (63.9-82.0)	62.5 (52.6-72.4)
threshold	11	12	10	12	10
Number of SAs below threshold	0	0	0	0	0

The survey shows that over 60% of the people in all target groups know at least two ways of preventing sexual transmission of HIV and none of the SAs was below the district average in any of the target populations.

Table 17: Individuals who have ever used a condom when having sexual intercourse

Supervision Areas	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)
Kichwamba and Kirugu	10	7	3
Ryeru, Magambo, Rutooto & Rubirizi	7	8	4
Katerera, Kyabakara, Katanda & Katerera TC	8	1*	2
Katunguru	12	17	5
Average coverage (95% CI)	41.1 (30.7-51.5)	39.2 (28.6-49.9)	14.6 (7.4-21.8)
Threshold	6	5	NA
Number of SAs below threshold	0	1	NA

Condom use is extremely low in Rubirizi district as shown in Table 17. Authorities need to identify reasons for the low condom use since this is a core HIV prevention strategy.

Table 18: Individuals who had sex with only one sexual partner in the last 12 month

Supervision Areas	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	12	18
Ryeru, Magambo, Rutooto & Rubirizi	13	15
Katerera, Kyabakara, Katanda & Katerera TC	2*	10*
Katunguru	13	18
Average coverage (95% CI)	52.6 (40.8-64.2)	80.3 (69.5-88.4)
Threshold	8	14
Number of SAs below threshold	1	1

Tables 18 show indicators of sexual activity among men and women in Rubirizi district. Katerera SA had below district average threshold of people who had sex with only one partner in the previous 12 months.

Table 19: Individuals who have had sex with one sexual partner in last 12 months and report using a condom at last sexual intercourse

Supervision Areas	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	4	1
Ryeru, Magambo, Rutooto & Rubirizi	3	1
Katerera, Kyabakara, Katanda & Katerera TC	5	0
Katunguru	5	1
Average coverage (95% CI)	21.3	4.3
Threshold		NA
Number of SAs below threshold	0	NA

Table 20: Individuals who perceive low or no risk of getting HIV/AIDS infection

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	9	7	3
Ryeru, Magambo, Rutooto & Rubirizi	6	2	0
Katerera, Kyabakara, Katanda & Katerera TC	7	2	0
Katunguru	6	3	4
Average coverage (95% CI)	29.2 (19.9-38.4)	14.6 (7.4-21.8)	7.3 (1.0-12.6)
threshold	3	NA	NA
Number of SAs below threshold	0	NA	NA

All SA have low perception of risk for HIV infection.

Table 21: Sexual behavior and circumcision among the youth

Supervision Areas	Youth (15-24 yrs) who		
	initiated intercourse before 15yrs	know at least three correct steps on how to use a condom	are circumcised
Kichwamba and Kirugu	3	5	2
Ryeru, Magambo, Rutooto & Rubirizi	1	7	5
Katerera, Kyabakara, Katanda & Katerera TC	1	6	4
Katunguru	0	18	2
Average coverage (95% CI)	5.2 (0.7-9.7)	37.5 (27.6-47.4)	13.5 (6.6-20.5)
Threshold	NA	5	NA

Number of SAs below threshold	NA	0	NA
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The district authorities need to reinforce proper condom use and circumcision strategies among all population groups because all the SA are performing poorly (Table 21).

6.4. Sexually Transmitted Infections (STI) knowledge

Tables 22 – 25 show results of knowledge of sexually transmitted infections (STI). Figure 5 shows that only two SAs: Katunguru and Kichwamba and Kirugu did not have any study group underperforming for knowledge of sexually transmitted infections.

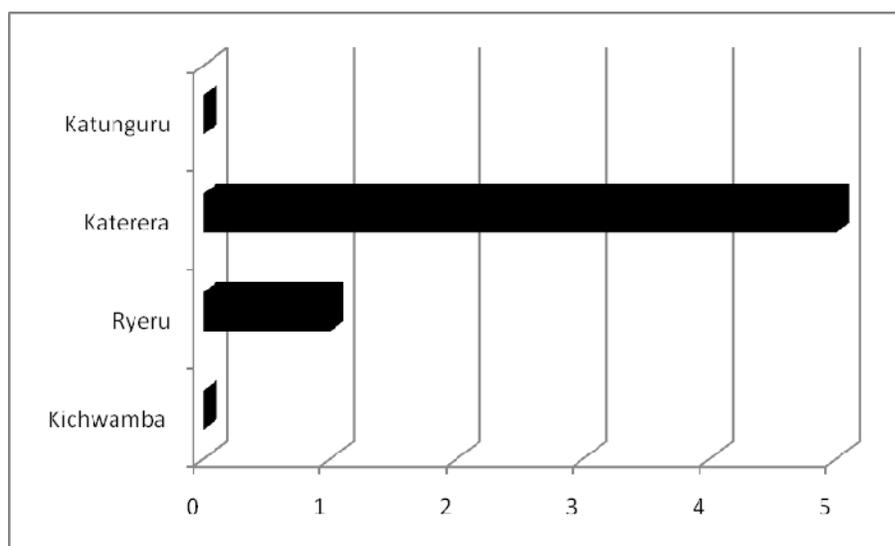


Figure 5: Number of flagged SAs for STI knowledge

Table 22: Individuals who correctly identify at least two common symptoms of STIs in men

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	15	18	6	10	11
Ryeru, Magambo, Rutooto & Rubirizi	16	19	11	8	8
Katerera, Kyabakara, Katanda & Katerera TC	13	16	6	12	13
Katunguru	21	22	14	11	14
Average coverage (95% CI)	67.7 (58.2-77.2)	78.1 (69.7-86.5)	38.5 (28.6-48.5)	42.7 (32.6-52.8)	47.9 (37.7-58.1)
Threshold	11	13	5	6	7
Number of SAs below threshold	0	0	0	0	0

Table 22 shows that there is no supervision area performing below the district average thresholds. The population in Rubirizi is knowledgeable about at least the two common symptoms of STI in men.

Table 23: Individuals who correctly identify at least two common symptoms of STIs in women

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	10	13	19	15	16
Ryeru, Magambo, Rutooto & Rubirizi	10	12	21	14	18
Katerera, Kyabakara, Katanda & Katerera TC	6	11	16	16	14
Katunguru	15	13	18	19	22
Average coverage (95% CI)	42.7 (32.6-52.8)	51.0 (40.8-61.2)	77.1 (68.5-85.6)	66.7 (57.1-76.3)	72.9 (63.9-82.0)
Threshold	6	8	13	11	12
Number of SAs below threshold	0	0	0	0	0

All SAs performed above the district average on this indicator as shown in Table 22

Table 24: Individuals who know three or more actions to take when she/he has a sexually transmitted infection

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12-23 months)
Kichwamba and Kirugu	11	20	15	13	17
Ryeru, Magambo, Rutooto & Rubirizi	18	13	21	16	7*
Katerera, Kyabakara, Katanda & Katerera TC	5*	6*	1*	4*	4*
Katunguru	24	19	20	22	21
Average coverage (95% CI)	60.4 (50.5-70.4)	60.4 (50.5-70.4)	59.4 (49.4-69.4)	57.3 (47.2-67.4)	51.0 (40.8-61.2)
Threshold	10	10	9	9	8
Number of SAs below threshold	1	1	1	1	2

The LQAS community survey in Rubirizi highlighted the need for more education on sexually transmitted infections. People do not know the common symptoms; consequently do not know what to do if they have a sexually transmitted infection. Katerera, Kyabakara, Katanda & Katerera TC performed poorest in identifying corrective actions on the individuals when they had an STI across all survey categories followed by Ryeru, Magambo, Rutooto & Rubirizi among mothers of children 12-23 months.

Table 25: Individuals who know a health facility where they can receive STI treatment

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0- 11 months)	Mothers of children (12- 23 months)
Kichwamba and Kirugu	18	20	20	22	20
Ryeru, Magambo, Rutooto & Rubirizi	19	22	21	22	16
Katerera, Kyabakara, Katanda & Katerera TC	19	24	19	20	21
Katunguru	23	24	22	24	23
Average coverage (95% CI)	82.3 (74.5-90.1)	93.7 (88.8-98.7)	87.2 (80.4-94.1)	91.7 (86.0-97.3)	83.3 (75.7-90.9)
Threshold	14	16	15	16	14
Number of SAs below threshold	0	0	0	0	0

Table 25 shows that the population in all the SAs in Rubirizi district is very knowledgeable of where they can receive STI treatment.

6.5. Knowledge on Tuberculosis

Figure 6 shows that there are TB-related issues that need to be addressed in Katunguru supervision area. Tables 26 -30 provide details of population groups that need action for specific indicators.

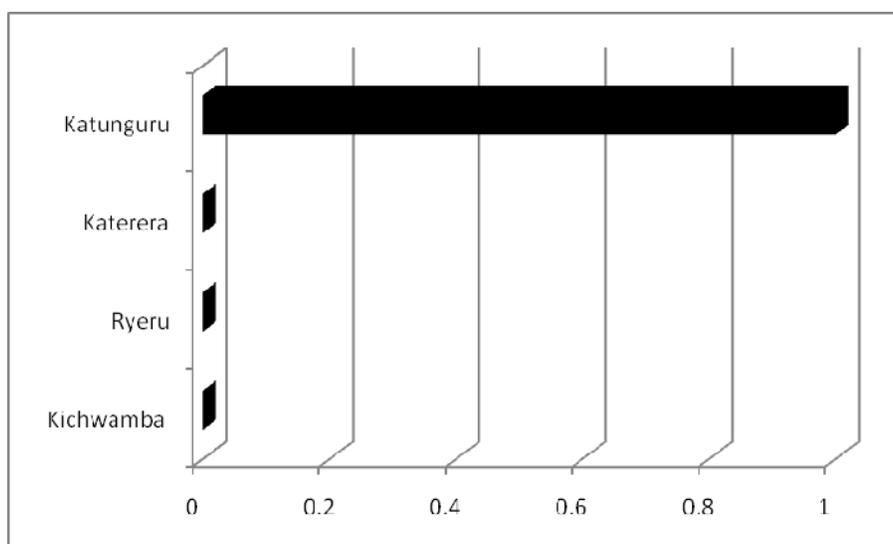


Figure 6: Number of flagged SAs for TB knowledge

Table 26: Individuals who know that TB is a curable disease

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	17	21	21

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Ryeru, Magambo, Rutooto & Rubirizi	19	24	22
Katerera, Kyabakara, Katanda & Katerera TC	22	22	23
Katunguru	15	20	20
Average coverage (95% CI)	76.0 (67.3-84.7)	90.6 (84.7-96.6)	89.6 (83.4-95.8)
Threshold	13	16	15
Number of SAs below threshold	0	0	0

There is high knowledge that TB is a curable disease among the population in all supervision areas and among survey population in Rubirizi district as shown in Table 26.

Table 27: Individuals who know at least two signs and symptoms of TB

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	17	19	18
Ryeru, Magambo, Rutooto & Rubirizi	16	16	13
Katerera, Kyabakara, Katanda & Katerera TC	19	22	18
Katunguru	21	20	13
Average coverage (95% CI)	76.0 (67.3-84.7)	80.2 (72.1-88.3)	64.6 (54.8-74.3)
Threshold	13	14	10
Number of SAs below threshold	0	0	0

Table 27 shows that the population in all the supervision areas, for all the target groups, has a good knowledge of at least two signs and symptoms of TB and all supervision areas performed above the district average.

Table 28: Individuals who know how TB is transmitted

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	20	20	22
Ryeru, Magambo, Rutooto & Rubirizi	19	18	19
Katerera, Kyabakara, Katanda & Katerera TC	21	23	19
Katunguru	17	23	11*
Average coverage (95% CI)	80.2 (72.1-88.3)	87.5 (80.8-94.2)	73.9 (65.0-82.9)
Threshold	14	15	12
Number of SAs below threshold	0	0	1

Katunguru SA was below district average threshold among the women with regard to mode of TB transmission (Table 28).

Table 29: Individuals who know the risk of not completing TB treatment

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	11	19	15
Ryeru, Magambo, Rutooto & Rubirizi	13	14	14
Katerera, Kyabakara, Katanda & Katerera TC	10	11	10
Katunguru	23	23	21
Average coverage (95% CI)	59.4 (49.4-69.4)	69.8 (60.4-79.1)	62.5 (52.6-72.4)
Threshold	9	11	10
Number of SAs below threshold	0	0	0

Knowledge of the risks associated with not completing TB treatment was fair across target populations (Table 29).

Table 30: Individuals who know the nearest place to receive TB treatment

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)
Kichwamba and Kirugu	21	21	23
Ryeru, Magambo, Rutooto & Rubirizi	22	24	22
Katerera, Kyabakara, Katanda & Katerera TC	20	24	21
Katunguru	20	24	24
Average coverage (95% CI)	86.5 (79.5-93.4)	96.9 (93.3-100)	93.7 (88.1-98.7)
Threshold	15	16	16
Number of SAs below threshold	0	0	0

6.6. Knowledge and practices of Malaria prevention and treatment among mothers of children (0-11 months)

Figure 7 shows that Katerera, Kyabakara, Katanda & Katerera TC SA performed poorest in comparison with other SAs for most malaria knowledge and prevention practices indicators.

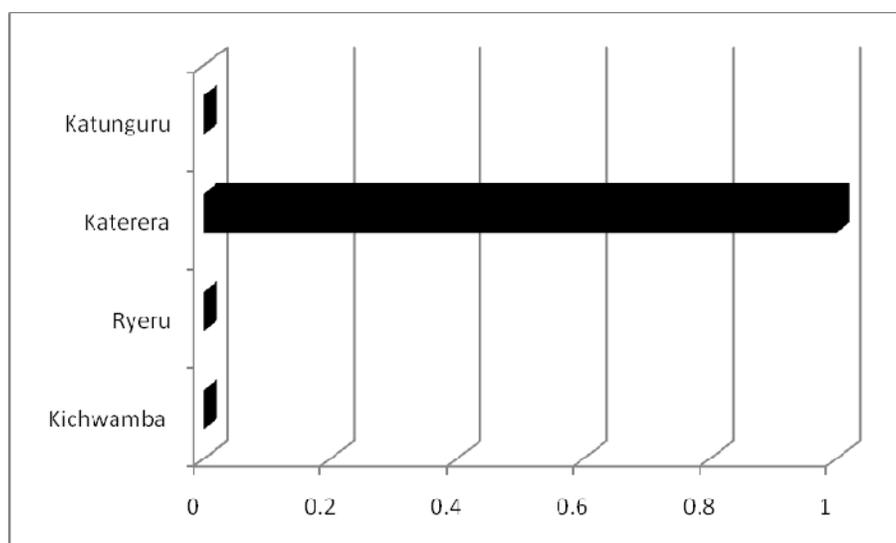


Figure 7: Knowledge and practices of Malaria prevention and treatment among mothers of children (0-11 months)

Table 31: Details of the results for malaria treatment and practices among mothers of children (0-11 months)

Supervision Areas	Malaria treatment and prevention among mothers of children 0 – 11 months			
	Children who had fever in the two weeks preceding the survey and received treatment with ACTs within 24 hours of onset of fever	Mothers who received two or more doses of IPTp during their last pregnancy in the last two years	Children who slept under a ITN the night preceding survey	Mothers who always slept under an ITN during last pregnancy
Kichwamba and Kirugu	4	10	22	12
Ryeru, Magambo, Rutooto & Rubirizi	3	13	20	13
Katerera, Kyabakara, Katanda & Katerera TC	7	15	23	20
Katunguru	4	9	22	18
Average coverage (95% CI)	18.7 (10.8-26.7)	48.9 (38.8-59.1)	90.6 (84.7-96.6)	65.6 (55.9-75.3)
Threshold	1	7	16	11
Number of SAs below threshold	0	0	0	0

Table 32: Details of the results for knowledge of malaria prevention among mothers of children (0-11 months)

Supervision Areas	Malaria treatment and prevention among mothers of children 0 – 11 months			
	Mothers who know two or more ways to prevent malaria	Mothers who know two or more signs and symptoms of malaria	Mothers who know how malaria is transmitted	Households with at least 1 ITN
Kichwamba and Kirugu	11	19	23	24
Ryeru, Magambo, Rutooto & Rubirizi	7	18	24	22
Katerera, Kyabakara, Katanda & Katerera TC	2*	18	22	22
Katunguru	9	16	24	23
Average coverage (95% CI)	30.2 (20.8-39.6)	73.9 (65.0-82.9)	96.9 (93.3-100)	94.8 (90.3-99.3)
Threshold	4	12	16	16
Number of SAs below threshold	1	0	0	0

Table 31 shows that treatment for malaria among children is very low in the district as is IPT use to the minimum recommended dosage during the previous pregnancy. Although there was generally good knowledge about how malaria is transmitted (Table 32), the knowledge among mothers who know two or more ways to prevent malaria in Katerera, Kyabakara, Katanda & Katerera TC SA was lower than the district average threshold.

6.7. Reproductive Health and Family planning

On average mothers did attend the minimum required ANC visits during their previous pregnancy (see Table 33). Deliveries however tended to have a higher chance of occurring in a health facility. In most deliveries (85%), a health worker was involved.

Table 33: Details of the results for reproductive health and family planning knowledge and practices among women

Supervision Areas	Mothers of children 0 – 11 months who			Women (15-49 yrs) who
	attended ANC at least 4 times during last pregnancy	delivered their last baby in a health facility	were assisted by a skilled health worker during last delivery	desire to use a family planning method but cannot access it
Kichwamba and Kirugu	9	17	20	1
Ryeru, Magambo, Rutooto & Rubirizi	16	20	20	3
Katerera, Kyabakara, Katanda & Katerera TC	12	20	21	2
Katunguru	14	16	19	4
Average coverage (95% CI)	53.1 (43.0-63.3)	76.0 (67.3-84.7)	83.3 (75.7-90.9)	13.5 (7.6-19.4)

Supervision Areas	Mothers of children 0 – 11 months who			Women (15-49 yrs) who
	attended ANC at least 4 times during last pregnancy	delivered their last baby in a health facility	were assisted by a skilled health worker during last delivery	desire to use a family planning method but cannot access it
Threshold	8	13	14	NA
Number of SAs below threshold	0	0	0	NA

6.8. Child survival

Table 34 and 35 show details of the results for child survival practices among the women with 12-23 months old children. Ryeru, Magambo, Rutooto & Rubirizi SA performed poorly in having children with any of fever, diarrhea or pneumonia seeking care from health workers with 24 hours of illness as shown in Table 34.

Table 34: Children who are fully vaccinated

Supervision Areas	
Kichwamba and Kirugu	12
Ryeru, Magambo, Rutooto & Rubirizi	18
Katerera, Kyabakara, Katanda & Katerera TC	14
Katunguru	15
Average coverage (95% CI)	61.5 (51.5-71.4)
Threshold	10
Number of SAs below threshold	0

Table 34 shows that an estimated 62% of all children in Rubirizi were fully vaccinated with no SA below the district average threshold.

Table 35: Children with any of fever, diarrhea or pneumonia seeking care from health workers within 24 hours of illness

Supervision Areas	
Kichwamba and Kirugu	10
Ryeru, Magambo, Rutooto & Rubirizi	12
Katerera, Kyabakara, Katanda & Katerera TC	5*
Katunguru	14
Average coverage (95% CI)	42.7 (32.6-52.8)
Threshold	6
Number of SAs below threshold	1

The children in Katerera, Kyabakara, Katanda & Katerera TC SA are below the district average threshold for this indicator.

6.9. Sanitation

Table 36 shows a high level of hand washing with soap after visiting a toilet across all population groups surveyed in Rubirizi district.

Table 36: Individuals who wash their hands with soap after visiting the toilet

Supervision Areas	Youth (15-24 yrs)	Men (15-54 yrs)	Women (15-49 yrs)	Mothers of children (0-11 months)	Mothers of children (12- 23 months)
Kichwamba and Kirugu	17	18	17	17	14
Ryeru, Magambo, Rutooto & Rubirizi	15	16	17	17	13
Katerera, Kyabakara, Katanda & Katerera TC	18	15	15	12	14
Katunguru	20	20	18	19	17
Average coverage (95% CI)	72.9 (63.9-82.0)	71.9 (62.7-81.0)	69.8 (60.4-79.1)	67.7 (58.2-77.2)	60.4 (50.5-70.4)
threshold	12	12	11	11	10
Number of SAs below threshold	0	0	0	0	0

7. Conclusion

The LQAS survey results show that performance improvement effort is most required in the Katerera, Kyabakara, Katanda & Katerera TC and Ryeru, Magambo, Rutooto & Rubirizi supervision areas. The district should investigate the reasons for pockets of poor performance in all service areas, apart from reproductive health and family planning. Lessons may be found in the delivery of services in Kichwamba and Kirugu and Katunguru SAs which had the least red flags on any indicator.

Appendix 1: List of indicators

SN	Indicator	Status
1	HIV counseling and Testing (HCT)	
1.1	% of Individuals who know where they can be tested for HIV	Assessed
1.2	% of Individuals who know two or more benefits of HCT	Assessed
1.3	% of Individuals who have ever been counseled and tested for HIV	Assessed
1.4	% of Individuals who have ever been counseled, tested and received their HIV test results	Assessed
1.5	% of Individuals who were counseled and tested for HIV in the past 12 months	Assessed
1.6	% of Individuals who were counseled and tested for HIV in the past 12 months and know their HIV results	Assessed
1.7	% of Individuals who were counseled and received an HIV test during the last pregnancy and know their results	Assessed
1.8	% of Individuals who have ever tested for HIV and received their results as a couple	Assessed
1.9	% of Individuals who were tested for HIV and received their results as and disclosed to their spouse/partner	Assessed
2	Prevention of Mother to Child Transmission of HIV (PMTCT)	
2.1	% of Individuals who know how HIV transmission occurs from an infected mother to child	Assessed
2.2	% of Individuals who know two (2) key actions that reduce MTCT of HIV	Assessed
2.3	% of Individuals who know where they can get information and services to reduce the risk of MTCT of HIV	Assessed
2.4	% of Mothers of children (0-11 months) who were counseled for PMTCT services during last pregnancy	Assessed
3	HIV Knowledge and Behavior Change	
3.1	% of Individuals who both correctly identify ways of preventing the sexual transmission of HIV and reject major misconceptions about HIV transmission	Assessed
3.2	% of Individuals who know at least two ways of preventing sexual transmission of HIV	Assessed
3.3	% of Individuals who have ever used a condom when having sexual intercourse	Assessed
3.4	Percentage of individuals who had sex with more than one sexual partner in the last 12 months	Assessed
3.5	Percentage of individuals who have had sex with more than one sexual partner in last 12 months and report using a condom at last sexual intercourse	Assessed
3.6	Percentage of individuals who had sexual intercourse with a non marital or	Not

SN	Indicator	Status
	non cohabiting sexual partner in the last 12 months.	Assessed
3.7	Percentage of individuals who had sexual intercourse with a non marital or non cohabiting sexual partner in last 12 months and used a condom at last higher risk sex	Not Assessed
3.8	Percentage of individuals who ALWAYS used a condom when they had sexual intercourse with a non marital or non cohabiting sexual partner in the last 12 months	Not Assessed
3.9	% of Individuals who perceive low or no risk of getting HIV/AIDS infection	Assessed
3.10	Percentage of never-married Youth who have ever had sexual intercourse	Not Assessed
3.11	Percentage of Youth who have had sexual intercourse before the age of 15	Assessed
3.12	Percentage of Youth who know at least three correct steps on how to use a condom	Assessed
3.13	Percentage of Youth who report the use of a condom the first time they had sexual intercourse	Not Assessed
3.14	Percentage of males who are circumcised	Assessed
3.15	Percentage of Young Males who were circumcised at a health facility	Not Assessed
3.16	Percentage of the general population aged 15+ years who know at least three benefits of ART	Not Assessed
4	Sexually Transmitted Infections (STI)	
4.1a	% of Individuals who correctly identify at least two common symptoms of STIs in men	Assessed
4.1b	% of Individuals who correctly identify at least two common symptoms of STIs in women	Assessed
4.2	% of Individuals who know three or more actions to take when she/he has a sexually transmitted infection	Assessed
4.3	% of Individuals who know a health facility where they can receive STI treatment	Assessed
5	Tuberculosis	
5.1	Percentage of individuals who know that TB is a curable disease	Assessed
5.2	Percentage of individuals who know at least two signs and symptoms of TB	Assessed
5.3	Percentage of individuals who know how TB is transmitted	Assessed
5.4	Percentage of individuals who know the risk of not completing TB treatment.	Assessed
5.5	Percentage of individuals who know the nearest place to receive TB treatment.	Assessed
6	Malaria Prevention and Treatment	
6.1	% of Children 0-11 months who had fever in the two weeks preceding the survey and received treatment with ACTs within 24 hours of onset of fever	Assessed
6.2	% of mothers of children 0-11 months who received two or more doses of	Assessed

SN	Indicator	Status
	IPTp during their last pregnancy in the last two years	
6.3	% of Children 0-11 months who slept under a ITN the previous night	Assessed
6.4	% of mothers of children 0-11 months who always slept under an ITN during last pregnancy	Assessed
6.5	% of Individuals who know two or more ways to prevent malaria	Assessed
6.6	% of Individuals who know 2 or more signs and symptoms of malaria	Assessed
6.7	% of Individuals who know how malaria is transmitted	Assessed
6.8	% of households with at least 1 ITN	Assessed
7	Reproductive Health and Family planning	
7.1	Percentage of currently married women aged 15-49 years who are using any family planning method.	Not Assessed
7.2	Percentage of sexually active women age women 15-49 years who are using any modern method of family planning.	Not Assessed
7.3	Percentage of Individuals who attended ANC at least 4 times during last pregnancy	Assessed
7.4	Percentage of Individuals who delivered their last baby in a health facility	Assessed
7.5	Percentage of Individuals who were assisted by a skilled health worker during last delivery	Assessed
7.6	Percentage of women 15-49 years who desire to use a family planning method but cannot access it.	Assessed
8	Child survival indicators	
8.1	Percentage of children 12-23 months who are fully vaccinated	Assessed
8.2	Percentage of children under 5 years with diarrhea in the last two weeks receiving ORT	Not Assessed
8.3	Percentage of children under 5 years with any of fever, diarrhea or pneumonia seeking care from health workers within 24 hours of illness	Assessed
8.4	Percentage of individuals who wash their hands with soap after visiting the toilet	Assessed

Tally of assessed indicators

Service area	Number of assessed indicators	Total number of indicators
HIV counseling and Testing (HCT)	9	9
Prevention of Mother to Child Transmission of HIV (PMTCT)	4	4
HIV Knowledge and Sexual Behavior	9	16
Sexually Transmitted Infections (STI)	4	4
Tuberculosis	5	5
Malaria Prevention and Treatment	8	8
Reproductive Health and Family planning	4	6
Child Health	2	3
Sanitation	1	1
Total	46	56

Appendix 2: LQAS Decision Rule table

Sample Size*	LQAS Table: Decision Rules for Sample Sizes of 12-30 and Coverage Targets/Average of 10%-95%																							
	Average Coverage (Baselines) / Annual Coverage Target (Monitoring and Evaluation)																							
	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%						
12	N/A	N/A	1	1	2	2	3	4	5	5	6	7	7	8	8	9	10	11						
13	N/A	N/A	1	1	2	3	3	4	5	6	6	7	8	8	9	10	11	11						
14	N/A	N/A	1	1	2	3	4	4	5	6	7	8	8	9	10	11	11	12						
15	N/A	N/A	1	2	2	3	4	5	6	6	7	8	9	10	10	11	12	13						
16	N/A	N/A	1	2	2	3	4	5	6	7	8	9	9	10	11	12	13	14						
17	N/A	N/A	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15						
18	N/A	N/A	1	2	2	3	5	6	7	8	9	10	11	11	12	13	14	16						
19	N/A	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16						
20	N/A	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17						
21	N/A	N/A	1	2	3	4	5	6	8	9	10	11	12	13	14	16	17	18						
22	N/A	N/A	1	2	3	4	5	7	8	9	10	12	13	14	15	16	18	19						
23	N/A	N/A	1	2	3	4	6	7	8	10	11	12	13	14	16	17	18	20						
24	N/A	N/A	1	2	3	4	6	7	9	10	11	13	14	15	16	18	19	21						
25	N/A	1	2	2	4	5	6	8	9	10	12	13	14	16	17	18	20	21						
26	N/A	1	2	3	4	5	6	8	9	11	12	14	15	16	18	19	21	22						
27	N/A	1	2	3	4	5	7	8	10	11	13	14	15	17	18	20	21	23						
28	N/A	1	2	3	4	5	7	8	10	12	13	15	16	18	19	21	22	24						
29	N/A	1	2	3	4	5	7	9	10	12	13	15	17	18	20	21	23	25						
30	N/A	1	2	3	4	5	7	9	11	12	14	16	17	19	20	22	24	26						

N/A: *Not Applicable*, meaning LQAS cannot be used in this assessment because the coverage is either too low or too high to assess an SA. This table assumes the lower threshold is 30 percentage points below the upper threshold.

light-shaded cells indicate where *alpha* or *beta* errors are greater than or equal to 10%.
 dark-shaded cells indicate where *alpha* or *beta* errors are greater than 15%.

STRENGTHENING DISTRICT MONITORING & EVALUATION SYSTEMS

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