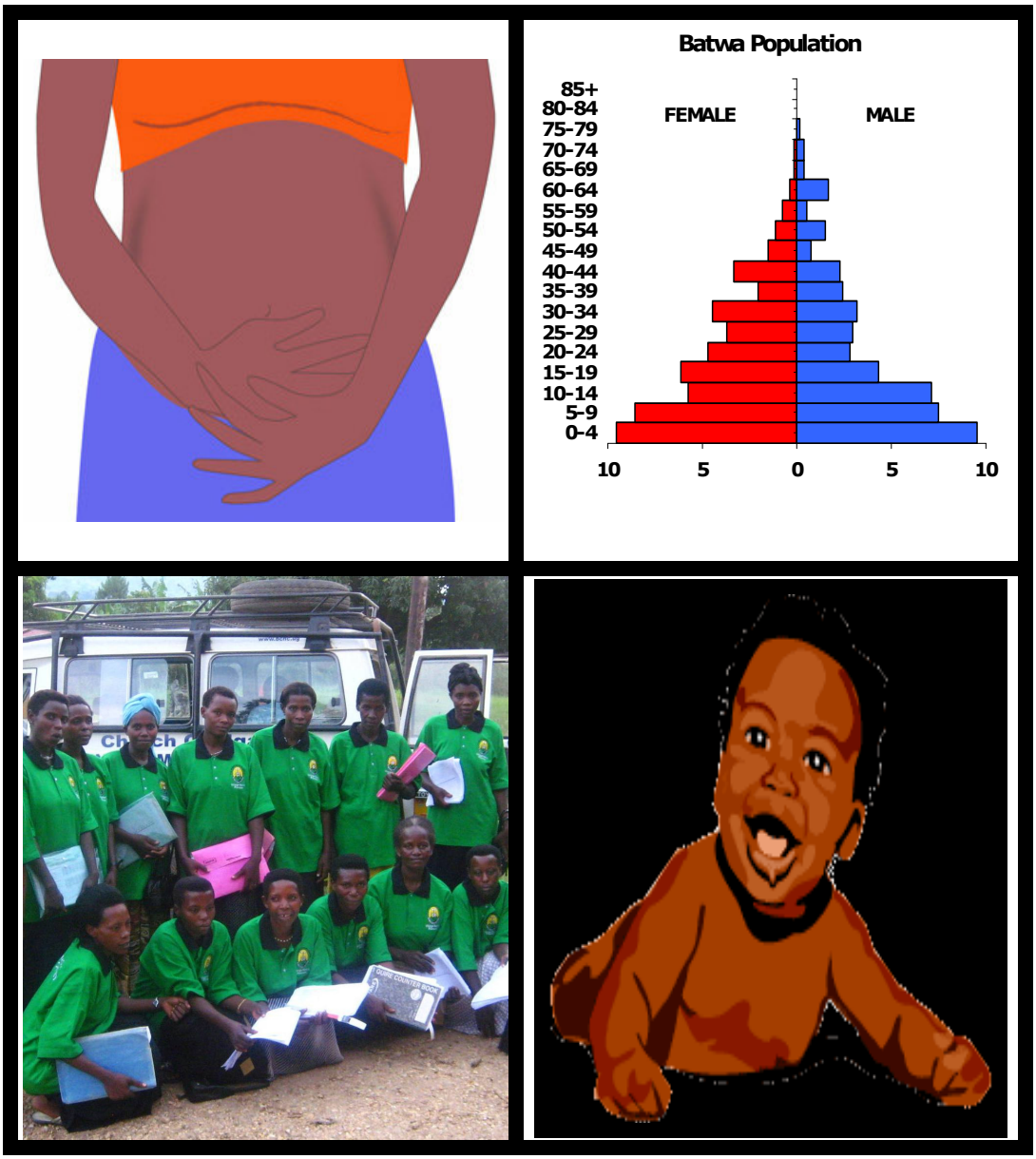
Bwindi Community Hospital

Kayonza and Mpungu sub-counties Household Survey 2009



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About the Bwindi Community Hospital Household Survey 2009

Bwindi Community Hospital (BCH) Household Survey was conducted in June-July 2009 for a second year running. The survey was conducted by the Hospital's Community Health Team and a group of 218 volunteer Village Health Promoters (VHP's) who are members of the community acting as a link between the Community Health Team and the villages.

The survey was first carried out in 2008, in Kayonza sub-county covering 19.5% of households in order to obtain baseline data. In 2009 VHP's conducted the Household Survey on all households in two sub-counties in Kanungu District– Kayonza and Mpungu.

This report presents findings from Community Household Survey 2009.

BCH aims to collect household survey data annually to describe health at the local level because we are convinced that health improvement interventions are best implemented at the community level. If we do not understand the health of local communities and what issues impact on their health then it is difficult to develop effective interventions to improve health and the quality of life for local people.

The main aim of the survey is to collect household and demographic data from the households within the area serviced by BCH:

- to provide BCH with annual data about the health of local communities
- to look at health inequalities between different populations
- to examine differences between population sub-groups (children below 5, women in reproductive age etc)
- to monitor targets in the hospital's health strategy

A huge project like this could not have happened without the hard work, dedication and support of many people who helped make this project a success for the second time. BCH would like to thank people living in both surveyed sub-counties who allowed us (through VHP's) into their houses and answered many survey questions.

Acknowledgment and thanks goes to the following individuals who were of invaluable assistance in many ways:

Rev Sam Bigaruka and the Community Health Team, Bwindi Community Hospital
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Village Health Promoters, Local Council leaders and members of the community.
Patrick Spearman – project funding

We at the hospital believe that this report gives us insights about steps that should be taken to further improve the health services we are providing in the area and guideline for a more thoughtful planning of the activities in different programme areas in the hospital.

Map showing the area served by Bwindi Community Hospital and Bwindi Impenetrable National Park

Figure 1

Methods

Nine parishes were selected for the survey, as shown on the map (Figure 1), these are *Mukono, Karangara, Bujengwe, Kyeshero* and *Ntungamo* in Kayonza sub-county and *Buremba, Ngaara, Mpungu* and *Muramba* in Mpungu sub-county. These are the communities that make up the catchment area for the Hospital, although increasingly services are being delivered in Kanyantorogo sub-county as well.

In June 2009 BCH opened its satellite clinic (Health Centre II level) in Byumba village in Bujengwe parish to provide health high quality outpatient and community services the local community including Batwa settlement.

Questionnaires were designed by a BCH team taking into consideration the previous questionnaire, learning from the previous survey and other key issues identified during the process.

VHP's conducted the survey using the questionnaires through interviews at each household during June-July 2009. Completion of the questionnaire and interviews took place in the local language, Rukiga.

Verification

A verification exercise took place in August 2009. Twenty randomly-selected households from each of the nine parishes (180 households in total) were re-visited by members of the Community Health team. They carried out the survey without reference to the previously collected results. A scoring system was developed within the Hospital, and a data clerk compared the results collected by the Village Health Promoter with the results collected by the Community Health team. If there was more than 90% concordance then the data was considered accurate. All questionnaires had greater than 90% concordance.

Prior to this verification exercise, during the collection of reports, it was apparent that two village health promoters had misunderstood a large number of questions. They underwent re-training and were asked to repeat the survey in their villages.

Village Health Promoters were paid a sum of UGX 15,000 each for carrying out this work. The total cost of the survey was met by a donation from a supporter of the Hospital.

Results

Population

The survey gathered data from 41,629 individuals in 8,576 households in Kayonza and Mpungu sub-counties with the following distribution; 30,926 individuals in 6,267 households in Kayonza sub-county and 10,703 individuals in 2,309 households in Mpungu sub-county.

The 2002 Uganda population and housing census reported 27,985 people living in Kayonza sub-county in 5969 households and 7,640 in Mpungu sub-county in 1651 households. The population of Kayonza sub-county has increased by 10% since 2002 and Mpungu sub-county by 40%.

Among all people surveyed the majority lived in Kayonza sub-county (74%) and only ¼ of the population live in Mpungu sub-county (Figure 2).

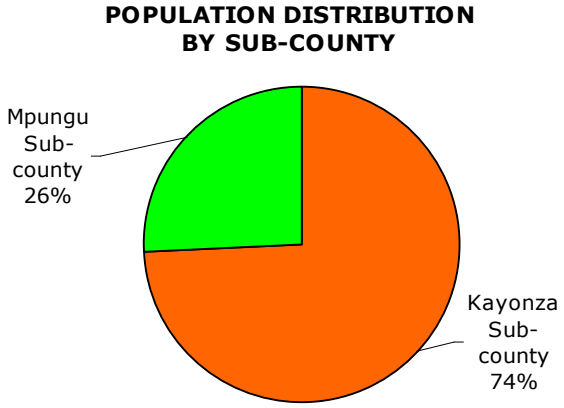

Figure 2

There are 535 Batwa people living in surveyed area and they represent 1% of the total population of Kayonza and Mpungu sub-counties with the highest number of Batwa living in parishes: Ntungamo, Bujengwe and Mukono in Kayonza sub-county. Figures 3 and 4 show percentage distribution of population by parish and table 1 provides detailed information on some of the population sub-groups.

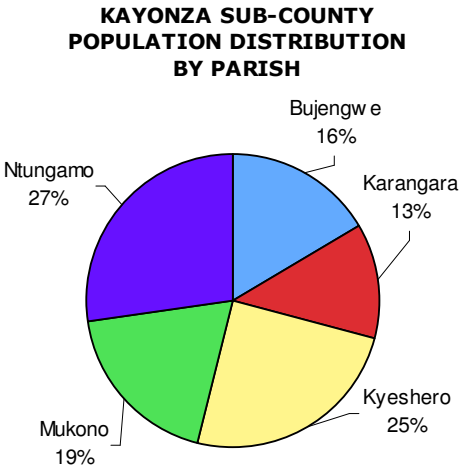

Figure 3

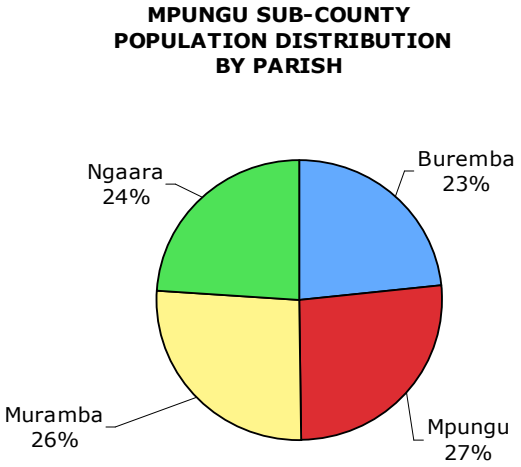

Figure 4

	Total population	Children under 1	Children under 5	Women age 15-49	Number of households	Average household size
Sub-county						
Kayonza	30,926	1,055	5,858	6,882	6,272	4.9
Parish						
Bujengwe	5,099	180	1,084	1,123	1,067	4.8
Karangara	3,879	159	733	820	736	5.3
Kyeshero	7,672	275	1,393	1,644	1,479	5.2
Mukono	5,900	207	1,138	1,335	1,222	4.8
Ntungamo	8,376	234	1,510	1,960	1,768	4.7
Sub-county						
Mpungu	10,703	267	2,163	2,317	2,304	4.5
Parish						
Buremba	2,491	67	517	527	513	4.9
Mpungu	2,838	82	583	632	624	4.5
Muramba	2,811	67	536	608	597	4.7
Ngaara	2,563	51	527	550	570	4.5
TOTAL						
TOTAL	**41,629**	**1,322**	**8,021**	**9,199**	**8,576**	**4.9**

Table 1

The surveyed population, like the whole Ugandan population is youthful, with more then half of the population under 15 years of age. Figures 5 and 6 show a population pyramid which is a pictorial representation of the age distribution for both surveyed sub-counties. It is broad based, which is typical for populations with high fertility rates. The sharply receding bars in the age range 20-44 years are a reflection of high mortality.

Figure 4 shows the pyramid for non-Batwa population and figure 5 shows the pyramid for Batwa population.

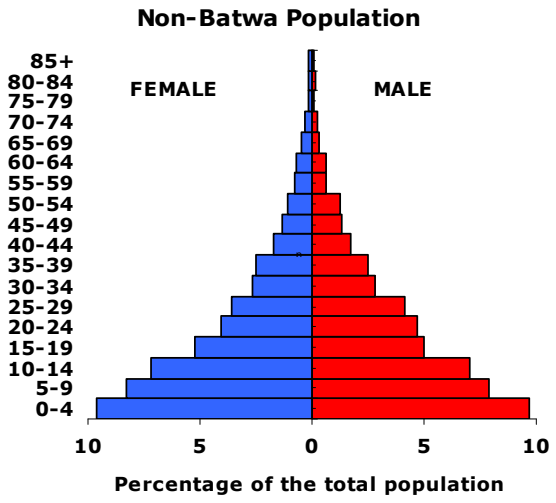

Figure 5

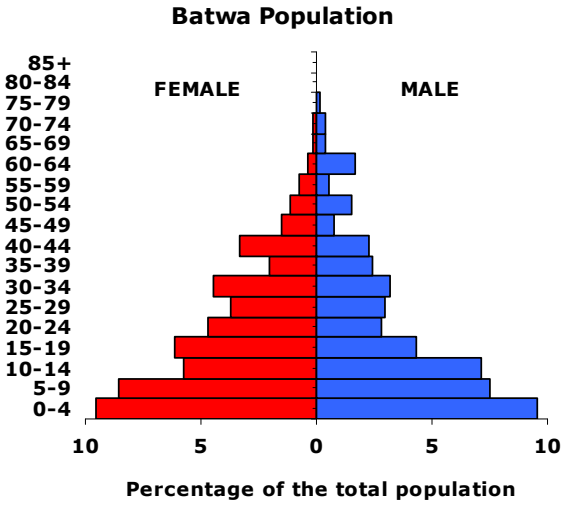

Figure 6

The median age was 15 years for Kayonza sub-county and 14 years for Mpungu sub-county. The mean age was 19.5 for Kayonza and 19.2 for Mpungu.There were no major variations in the median age by parish (Figure 7).

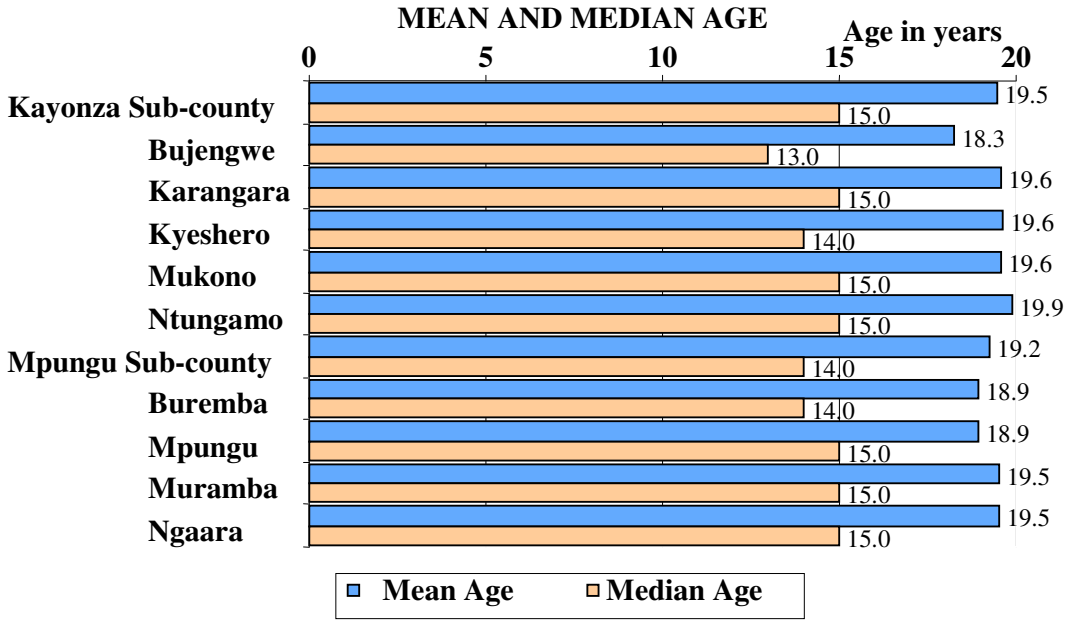

Figure 7

Malaria prevention

The survey found that less than half of the surveyed population slept under insecticide-treated nets (ITN's) on the night preceding the survey with only 28% and 30% population of Ngaara and Muramba sleeping under ITN's (Figure 8).

The percentage of Batwa sleeping under mosquito net is even lower especially in parishes in Mpungu sub-county – Buremba (13%) and Muramba (17%).

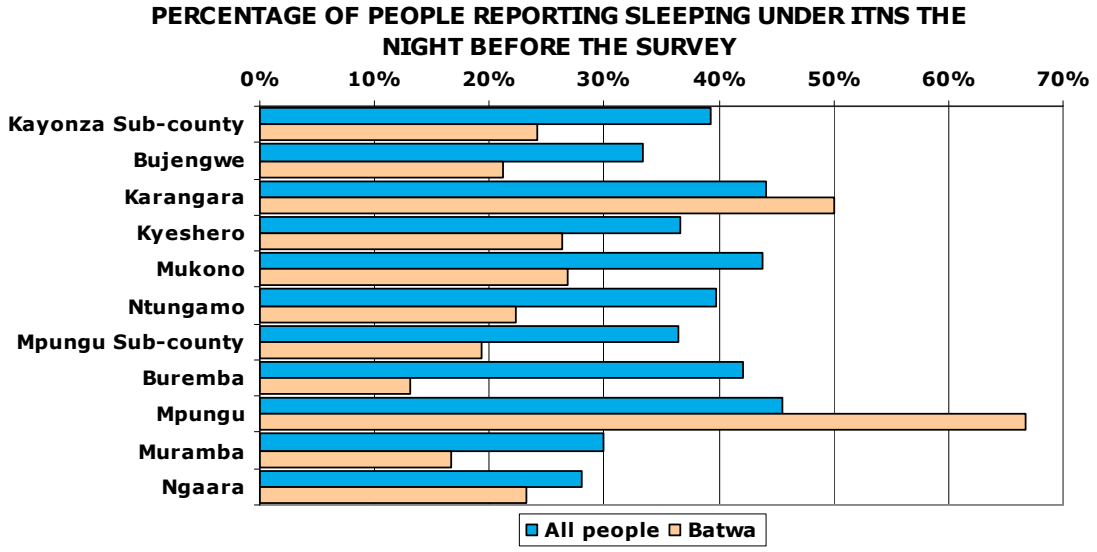

Figure 8

Figure 9 shows the percentage of children under five and pregnant women who slept under a mosquito net on the night preceding the survey. These two groups are at highest risk of death from malaria. On average, the survey showed that less than half of all children below 5 sleep under nets with rates as low as 30% in Muramba and 26% in Ngaara.

The percentage of children below five years sleeping under mosquito net in Uganda is 21.5%

About 6 in 10 pregnant women in Kayonza sub-county and about half of all pregnant women in Mpungu sub-county sleep under mosquito nets.

The percentage of pregnant women sleeping under mosquito nets in Uganda is 24.4%

The use of mosquito nets by pregnant women and children below 5 is higher than the national average.

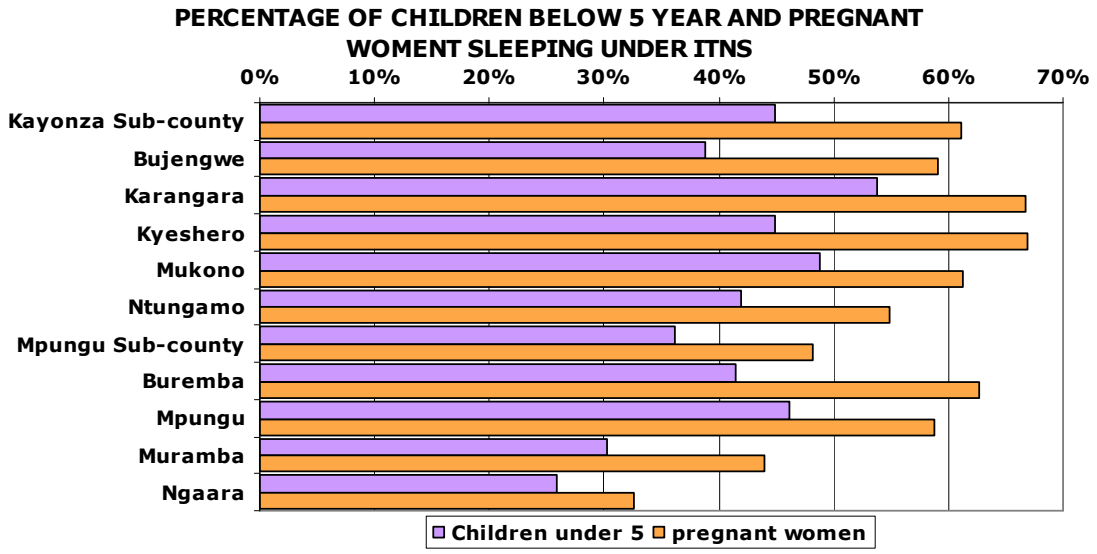

Figure 9

The highest percentage of people not sleeping under mosquito net was recorded among young people above 5 and below 15 years of age (Figure 10).

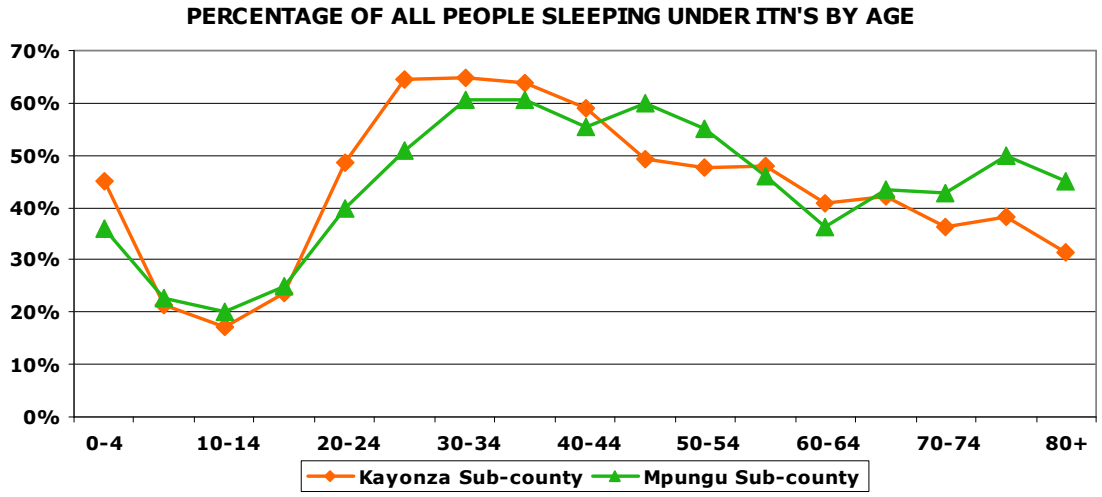

Figure 10

Figure 11 shows that 35% of households in Kayonza sub-county and 48% in Mpungu sub-county did not have any mosquito net with Ngaara parish leading the way with almost 60% of households surveyed without any mosquito net.

The percentage of households with at least one mosquito net in Uganda is 34%. In Kayonza sub-county it is 43% and in Mpungu it is 34%.

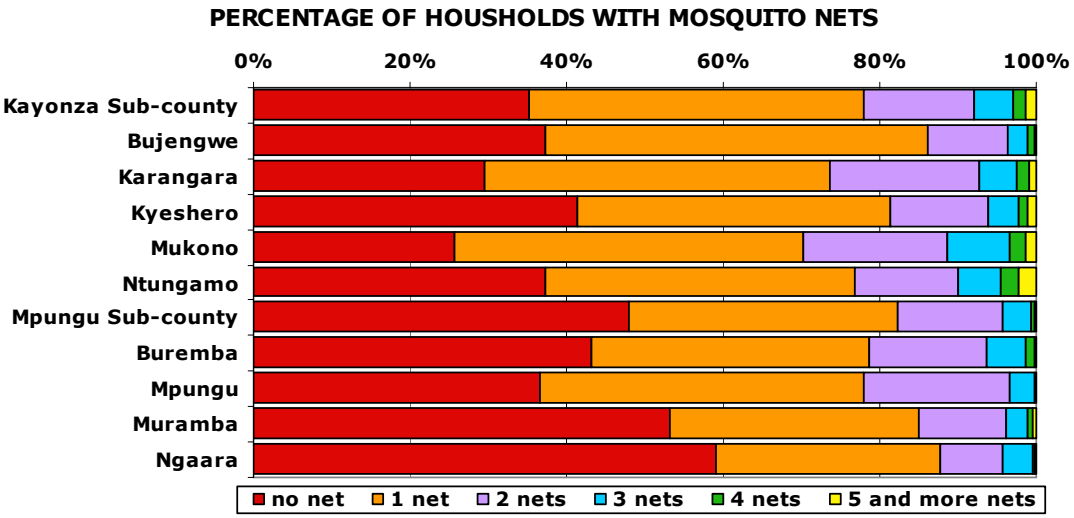
PERCENTAGE OF HOUSHOLDS WITH MOSQUITO NETS
0%
20%
40%
60%
80%
100%
Kayonza Sub-county
Bujengwe
Karangara
Kyeshero
Mukono
Ntungamo
Mpungu Sub-county
Buremba
Mpungu
Muramba
Ngaara
no net
1 net
2 nets
3 nets
4 nets
5 and more nets

Figure 11

Child health

Immunisation

Immunisation of children against vaccine-preventable diseases is crucial to reducing infant and child mortality.

The survey measured DPT3 (diphtheria, whooping cough (pertussis) & tetanus) and measles vaccination completion rates for all children aged 1-5 years. Children should complete DPT3 before the age of 4 months, and measles before the age of 1 year

Figures 12 and 13 show that across all parishes, more than 90% of children <5 have received the DPT3 vaccine and more than 80% have been vaccinated against measles, with the exception of Muramba parish where 12% have not been given DPT3 and 32% of children have not been vaccinated against measles.

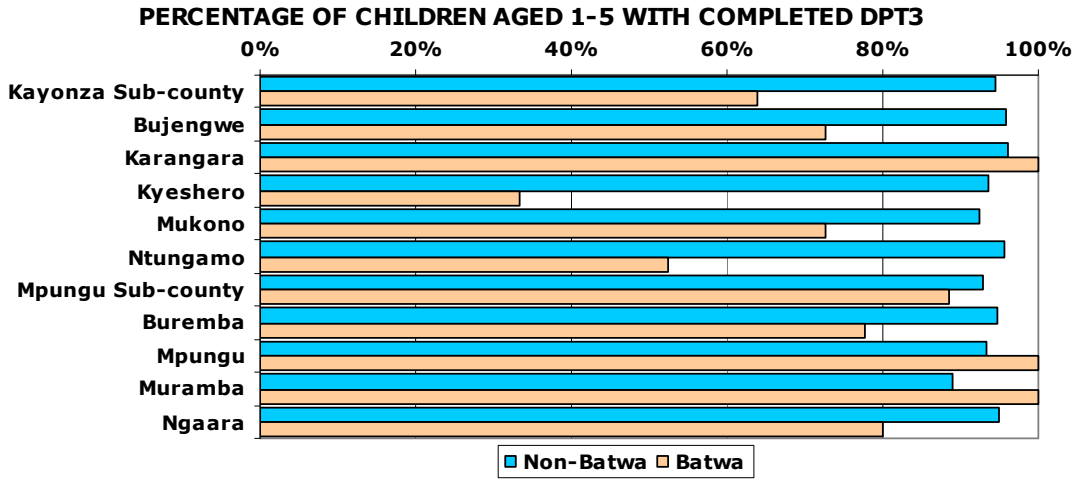

Figure 12

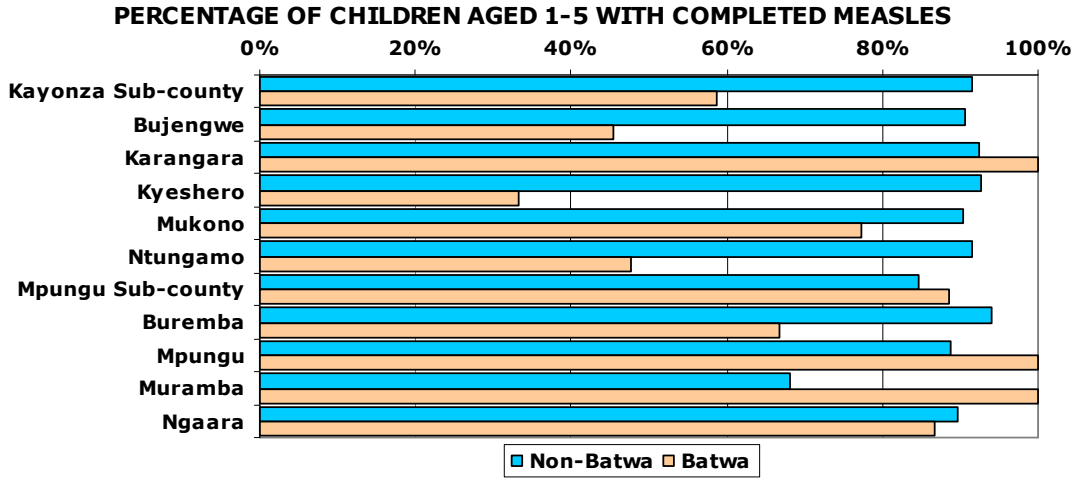

Figure 13

Immunisation rates in the Batwa are lower than in other ethnic groups.

Malnutrition

VHP's used the Mid-Upper Arm Circumference (MUAC) measurement as a screening tool for malnutrition to estimate the prevalence of malnutrition in each parish. MUAC of a child remains almost constant between the ages of one and five, only varying when there is wasting of muscle mass.

A reported 'green' measurement is almost certainly not malnourished, with 'yellow' being at risk of malnutrition and 'red' at high risk. VHP's measured the MUAC of each child present in the household at the time of the survey.

Figure 14 shows a high percentage of children at risk (yellow) or high risk (red) of malnutrition, in parishes: Muramba (20%), Bujengwe (10%) and Kyeshero (9%).

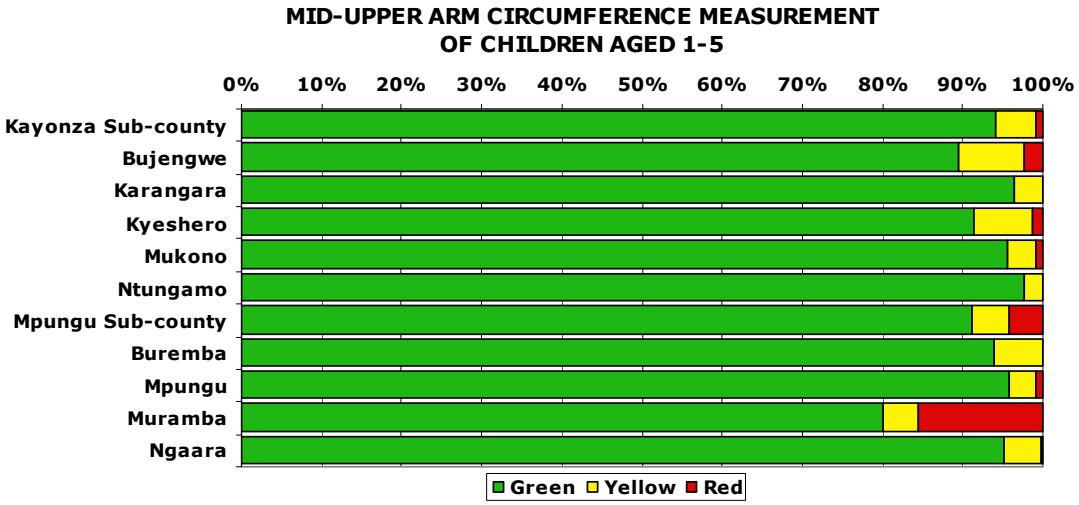

Figure 14

Women's health

Women of age 15-49 (considered childbearing age) represented 22% of the population of Kayonza and Mpungu sub-counties.

Among the women who responded to both questions "How many children have you produced? and "How many of these children are still alive?" the average number of children produced per woman was 3.8 in Kayonza sub-county and 3.5 in Mpungu sub-county with an average of 3.1 still alive at the time of questionnaire in Kayonza sub-county and 2.9 in Mpungu sub-county. Figures 15 and 16 show the correlation between number of children produced by age range of woman and the number of children still alive in both sub-counties.

From the survey 2009 the crude birth rate (CBR) was estimated to be 34 children per 1000 population in Kayonza sub-county and 25 children per 1000 population in Mpungu sub-county.

The crude birth rate for Uganda in 2006 was 45 children per 1000 population.

NUMBER OF CHILDREN PRODUCED AND THE NUMBER STILL ALIVE BY AGE RANGE OF WOMEN IN REPRODUCTIVE AGE

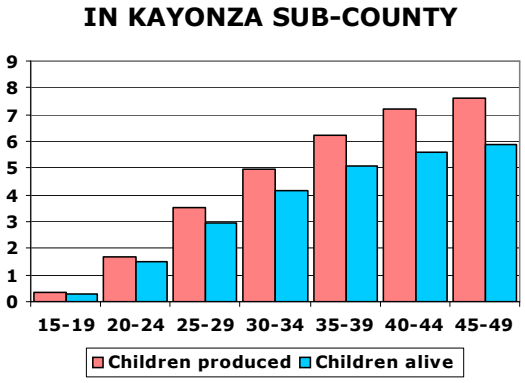

Figure 15

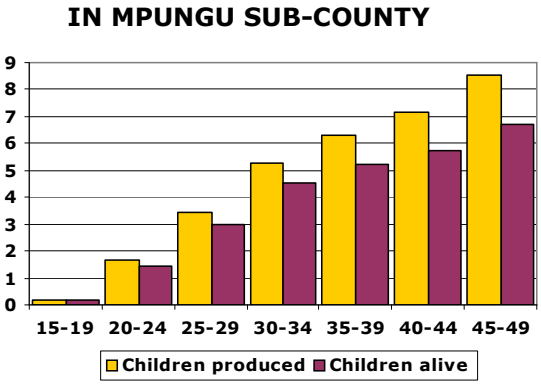

Figure 16

Family Planning

Figure 17 shows the percentage of women in reproductive age on family planning. Only 30% of women in Kayonza sub-county and 21% in Mpungu sub-county were on family planning.

The type of family planning used was not recorded in the survey. From Hospital data, the most commonly used contraceptive is an injectable progestogen (depo provera) and oral combined contraceptive pills and implants. **The contraceptive prevalence rate CPR (the percentage of women between 15-49 years who are practicing, or whose sexual partners are practicing, any form of contraception) for Uganda is 24%.**

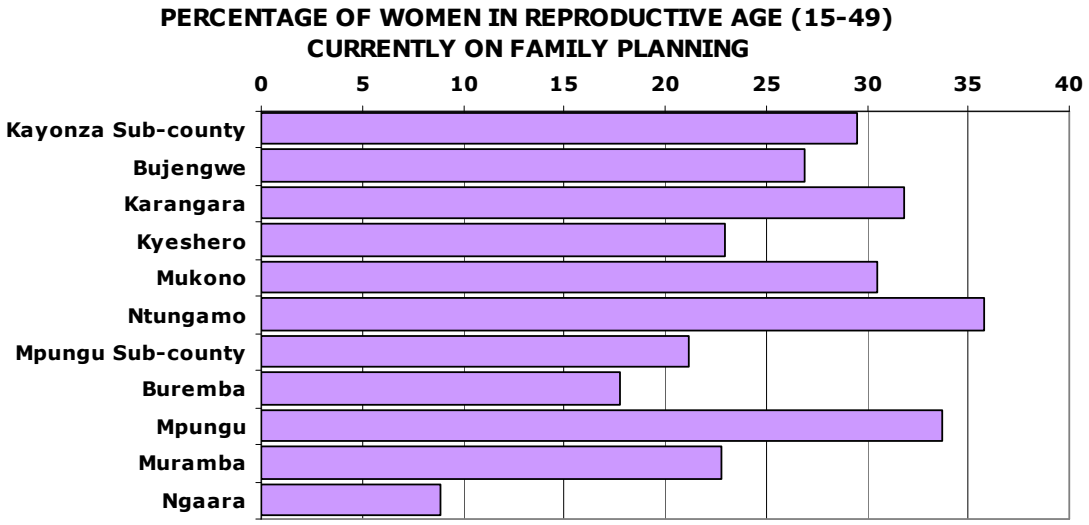

Figure 17

Very few women of childbearing age without any children are on family planning in both sub-counties and young women in both sub-counties are the group least likely to be using contraception (Figures 18).

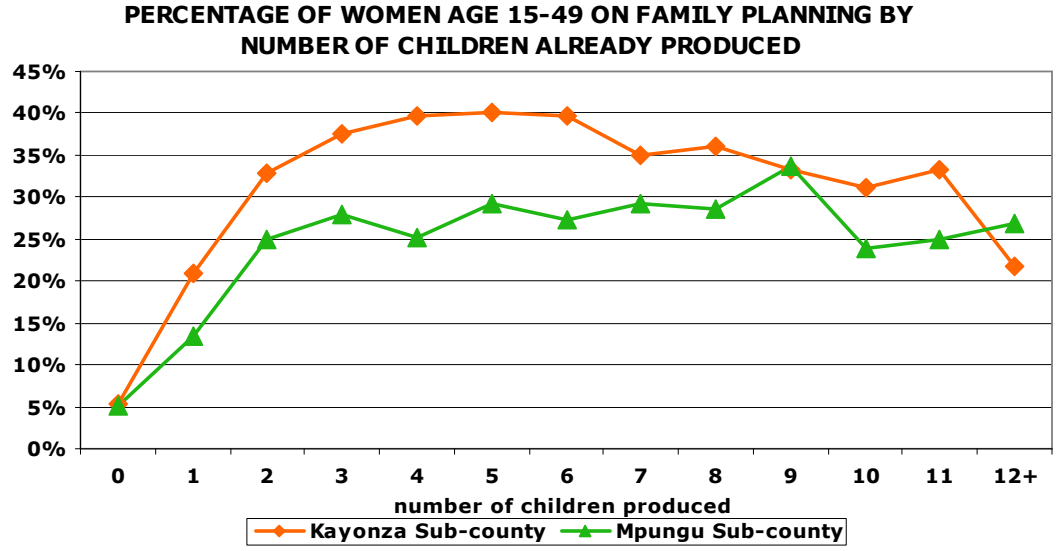

Figure 18

The percentage of women on family planning generally rises with age, from 5% among women age 15-19 to a peak of 40% in Kayonza sub-county and 30% in Mpungu sub-county at age 35-39 and then declines to 20% in both sub-counties at age 45-49 (Figure 19).

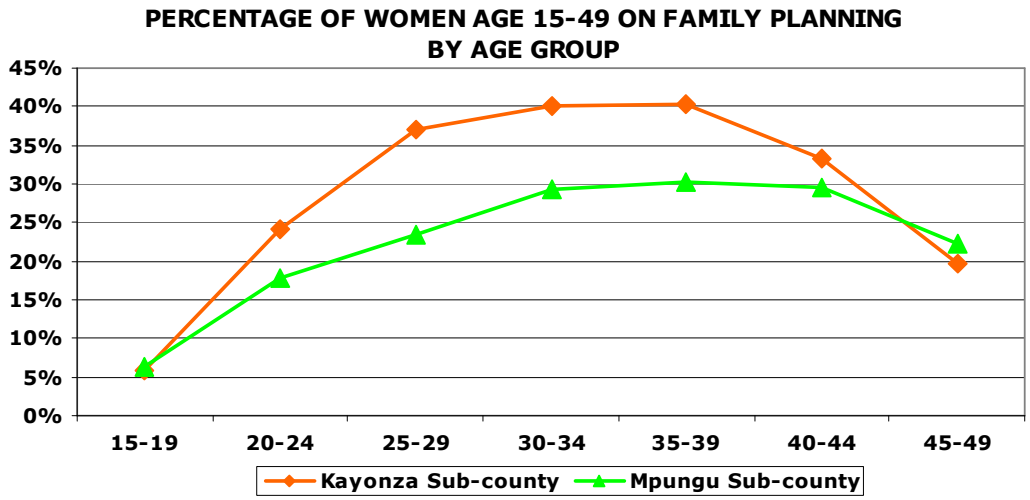

Figure 19

Figure 20 shows where women on family planning obtain their contraceptives. 6 out of 10 women in Kayonza sub-county and 8 out of 10 in Mpungu sub-county obtain their contraceptives from a health unit. The Hospital has been training community-based providers of family planning services, so we expect this to change in the future.

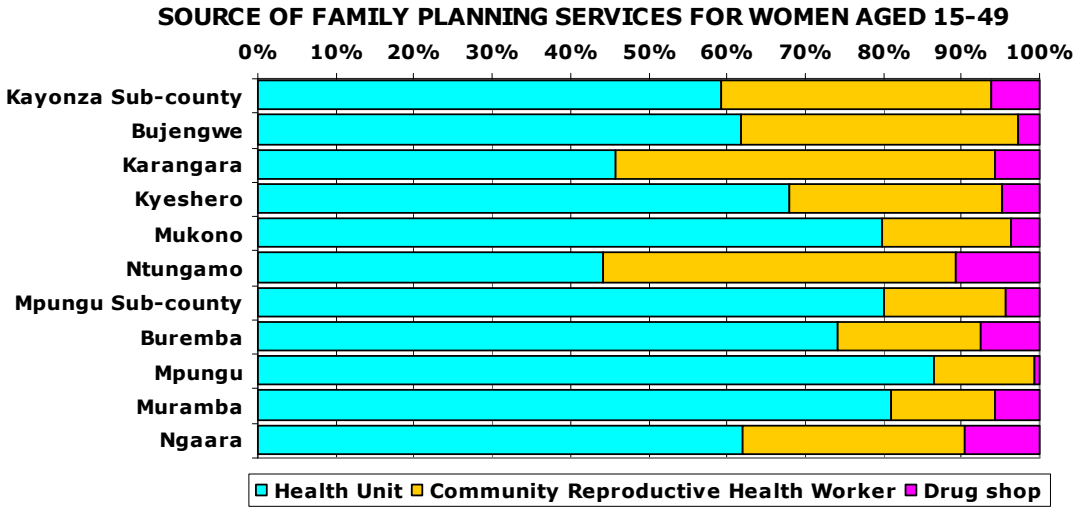

Figure 20

Delivery

Figure 21 shows the percent distribution of births by place of childbirth. Overall more than half of the population of Kayonza sub-county was born in health units. In contrast, only 20% of the population surveyed in Mpungu was born in health units.

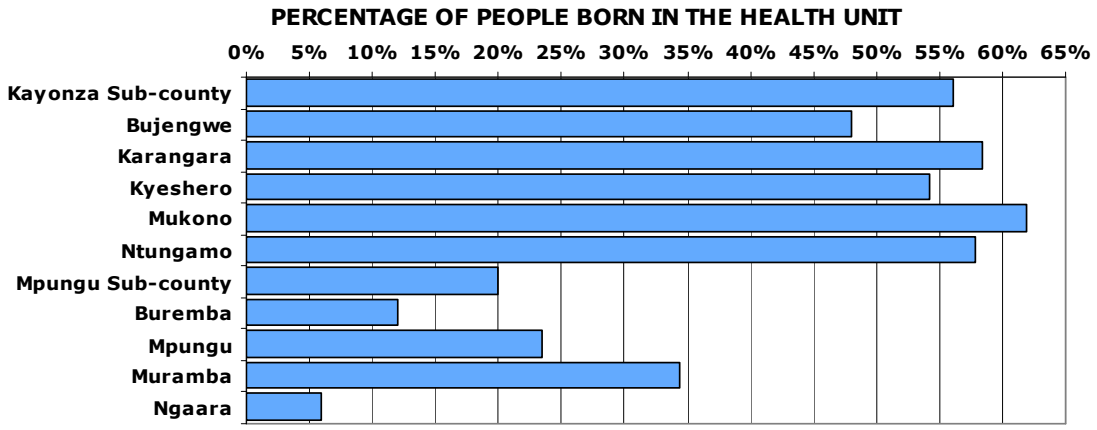

Figure 21

Figure 22 shows that, in the last 20 years up to 2007, more births occurred at home than in health units in both sub-counties. From 2007 more births take place at the health units. However, in Mpungu sub-county still 80% of births take place at home.

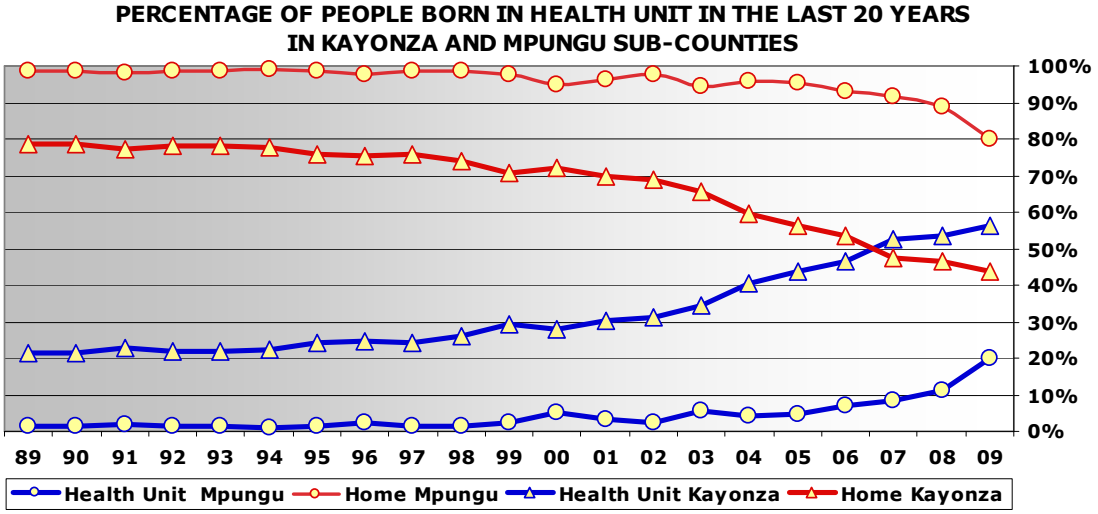

Figure 22

HIV and TB

People's knowledge of their HIV status is important for behaviour change and critical to care, treatment and support services for infected individuals. The survey indicates that less than 50% of all people age 15 and above reported as never having tested for HIV. Only 36% of men in Kayonza sub-county and 30% in Mpungu sub-county have ever been tested for HIV (Figure 23). There is probably some bias in these results, as people who have tested may not be willing to disclose this to an interviewer.

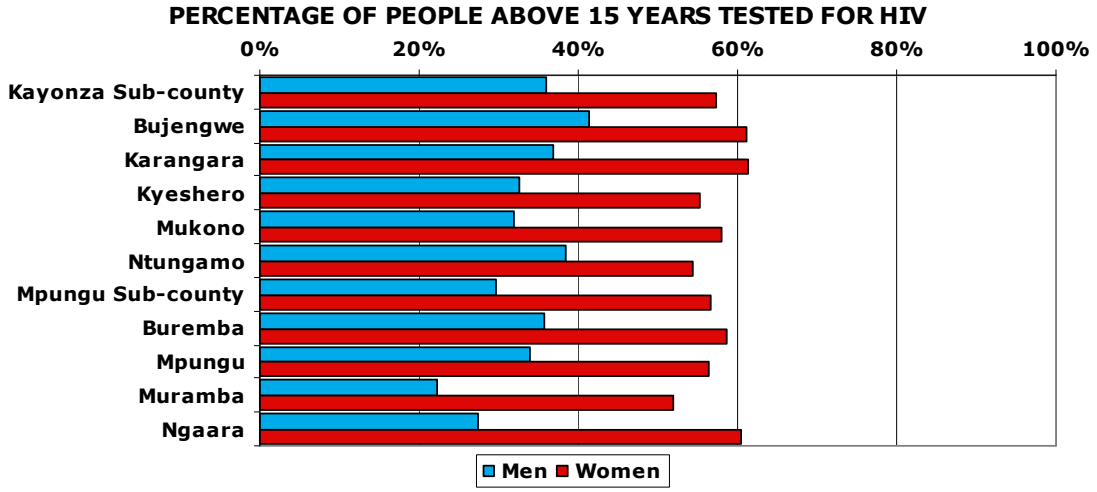

Figure 23

In the survey men and women were also asked if they know where to get tested for HIV and where to get anti-retroviral drugs (ARV's). Overall, more than half of the population above 15 knows where to get tested and where to get ARV's. However, as Figures 24 and 25 indicate this knowledge is lower among men than women.

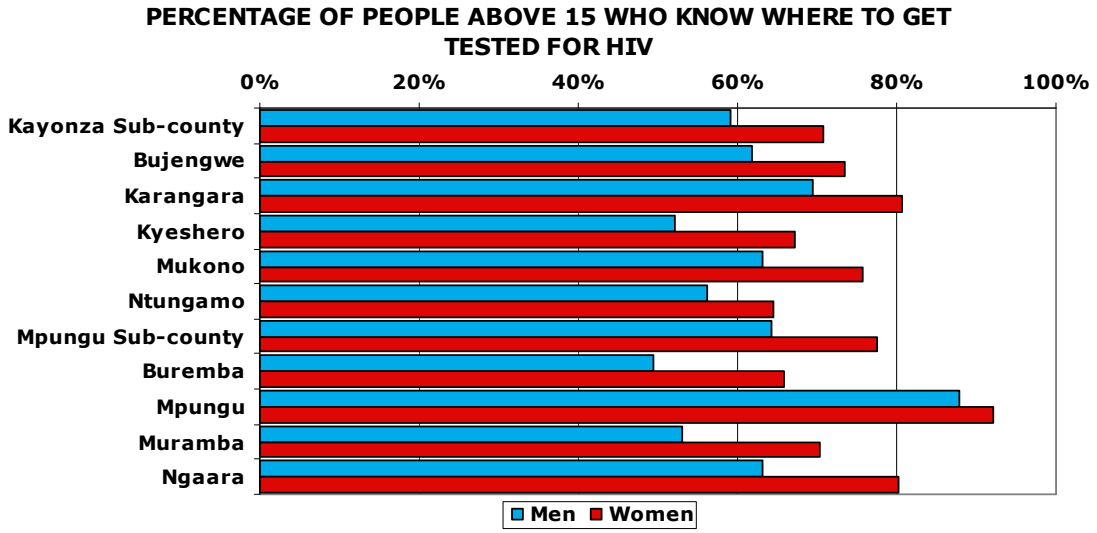

Figure 24

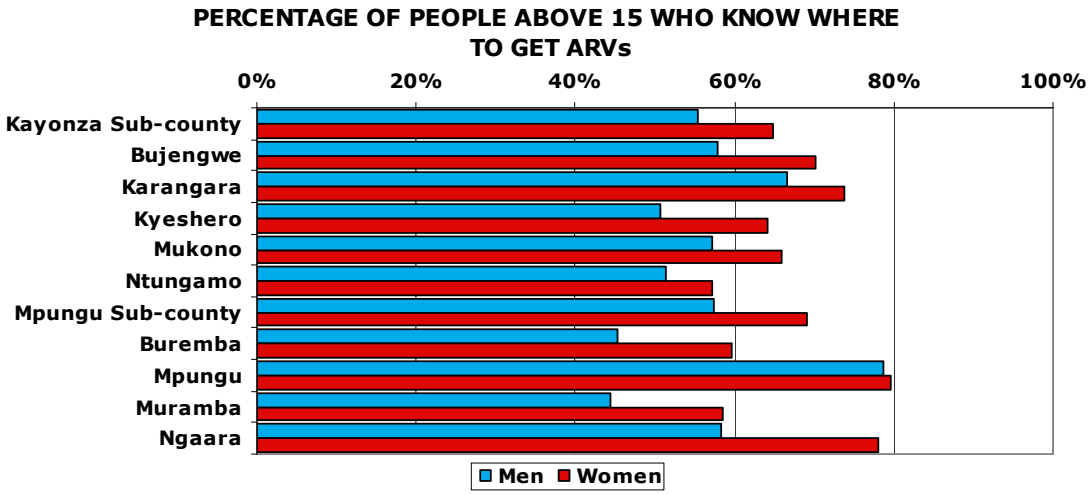

Figure 25

As Figure 26 shows HIV testing is more common among people age 20 and above. Few children have ever tested for HIV and the numbers of young people tested is also low.

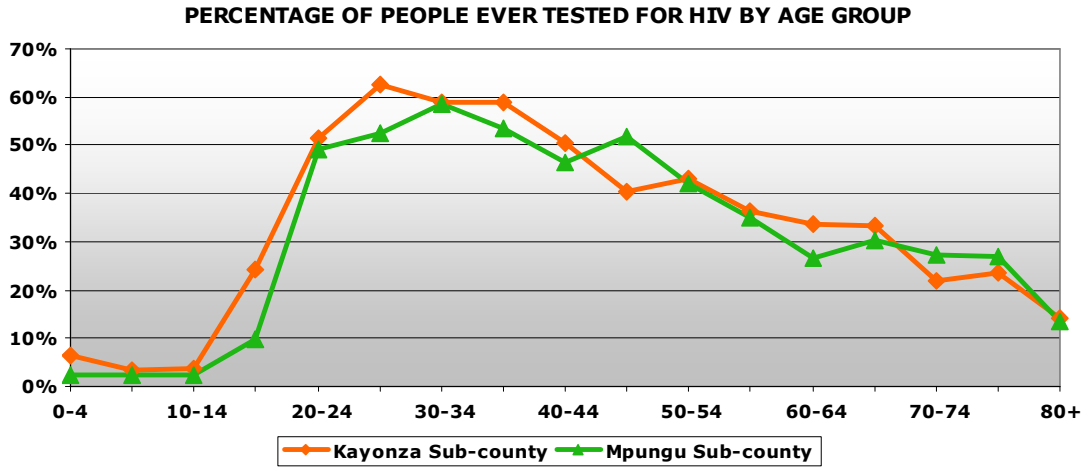

Figure 26

As an indicator of tuberculosis risk, survey respondents were asked if they (or members of their family) currently had a cough that had lasted for more than three weeks. In Kayonza sub-county 7% and in Mpungu sub-county 14% of respondents reported having a cough for more than three weeks (Figure 27).

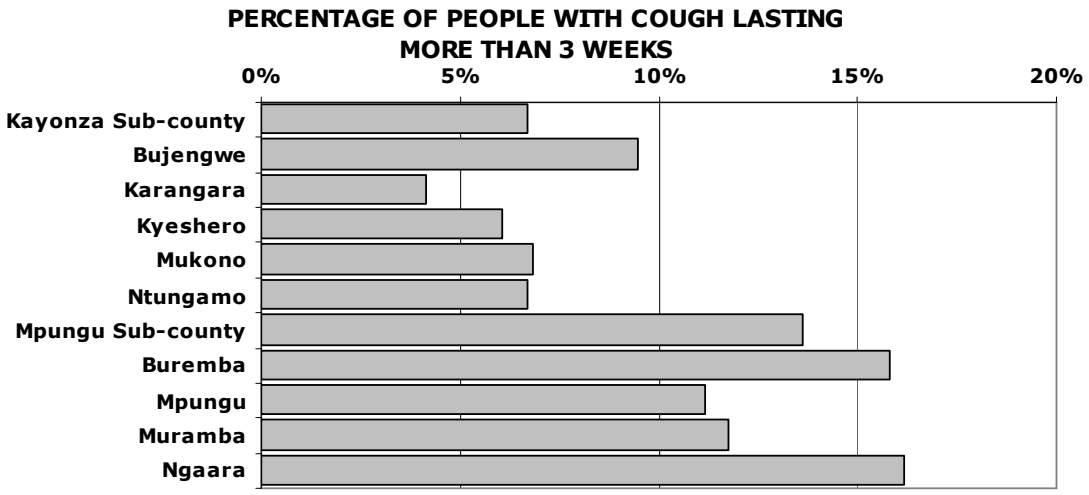

Figure 27

Figure 28 shows that 30% of people in the age range 25-49 reported having had a current cough for more than three weeks.

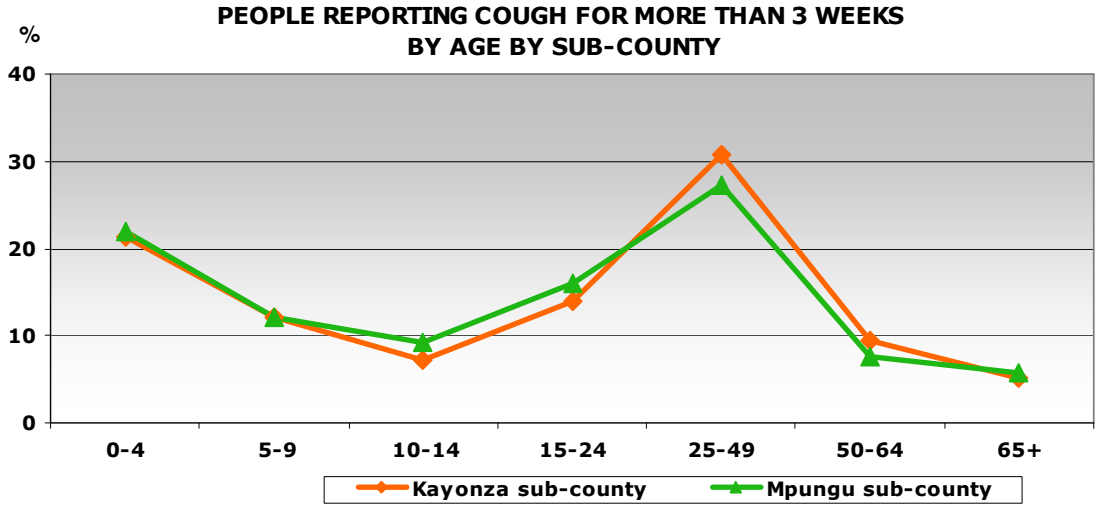

Figure 28

Disease burden

The survey collected information on deaths in the 12 months prior to the survey. A total of 1323 were reported to have taken place in the 12 months prior to the survey. The crude death rate (CDR) (the annual number of deaths per 1000 people) was 31.8.

The crude death rate in Uganda in 2007 was 14 deaths per 1000 people.

Figure 29 shows causes of death in both sub-counties with malaria being the biggest killer (37%).

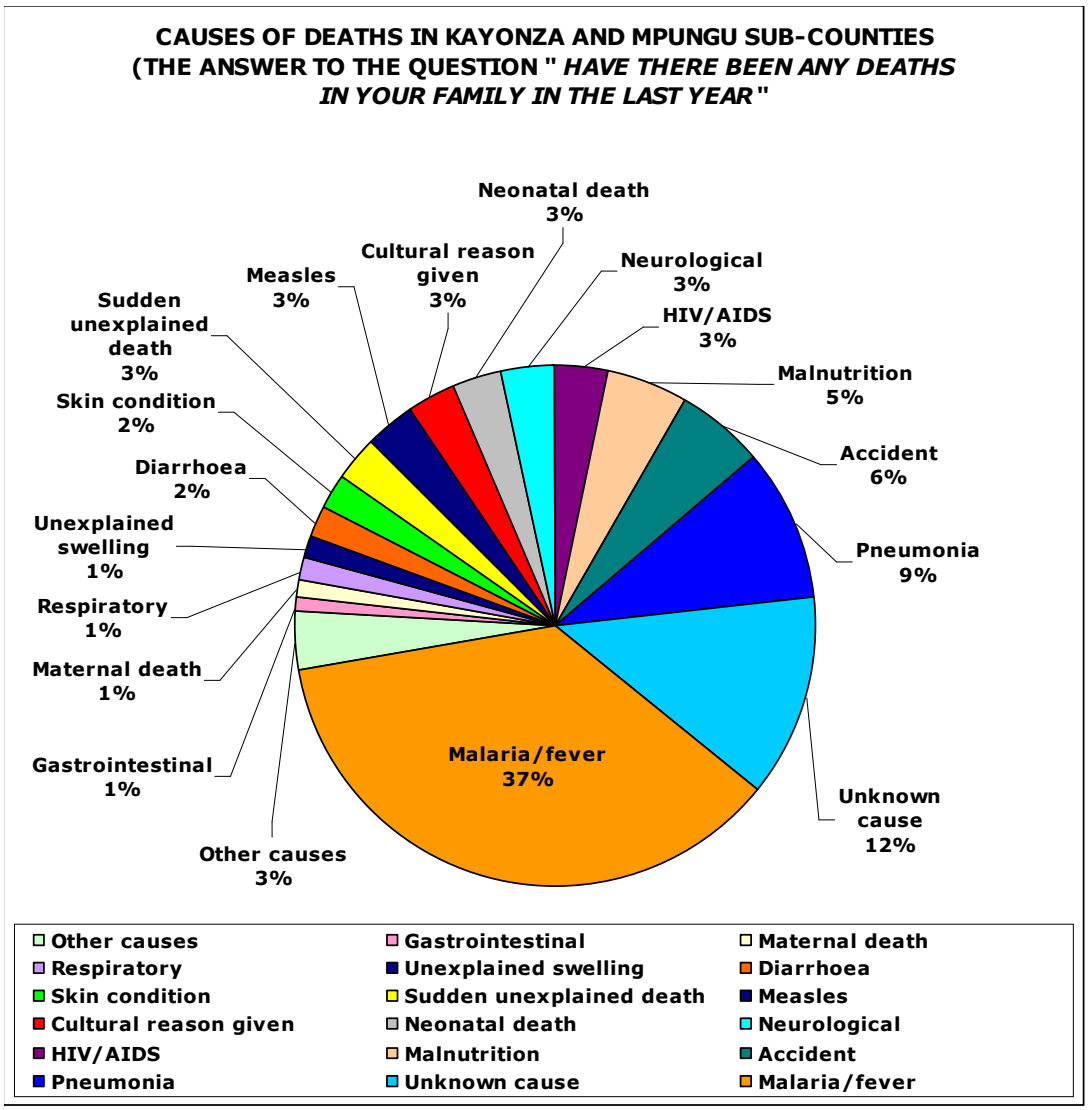

Figure 29

Water and Sanitation

Access to safe water and good sanitation are crucial to the health of a population. Use of unsafe water sources coupled with poor sanitation poses one of the greatest threats to health. As shown on Figure 30, 66% of the households in Kayonza sub-county and 64% in Mpungu sub-county had access to safe water sources. More than half of people in Bujengwe parish reported sourcing water from unsafe sources.

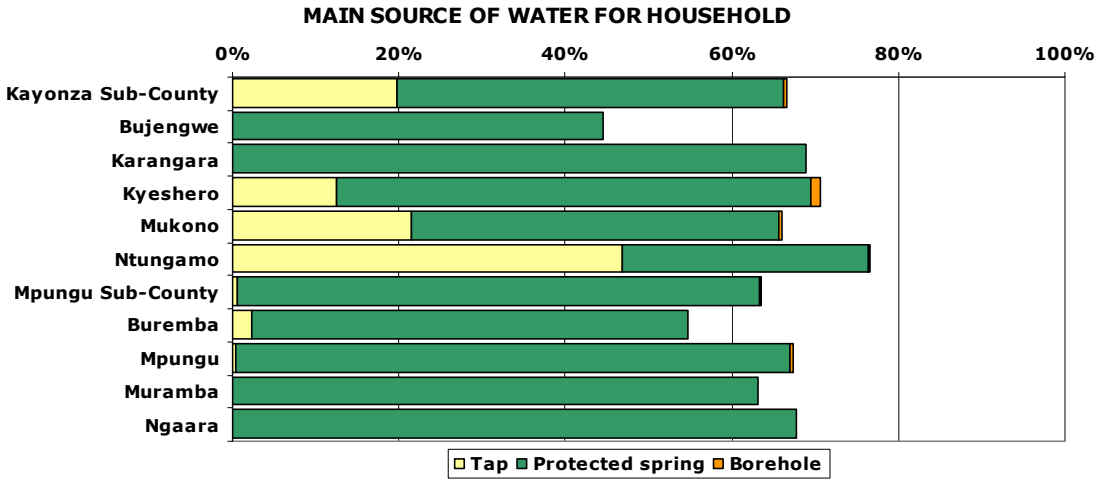

Figure 30

Figure 31 shows that 48% of the households in Kayonza sub-county and 51% in Mpungu sub-county were within 1 kilometre from the water source.

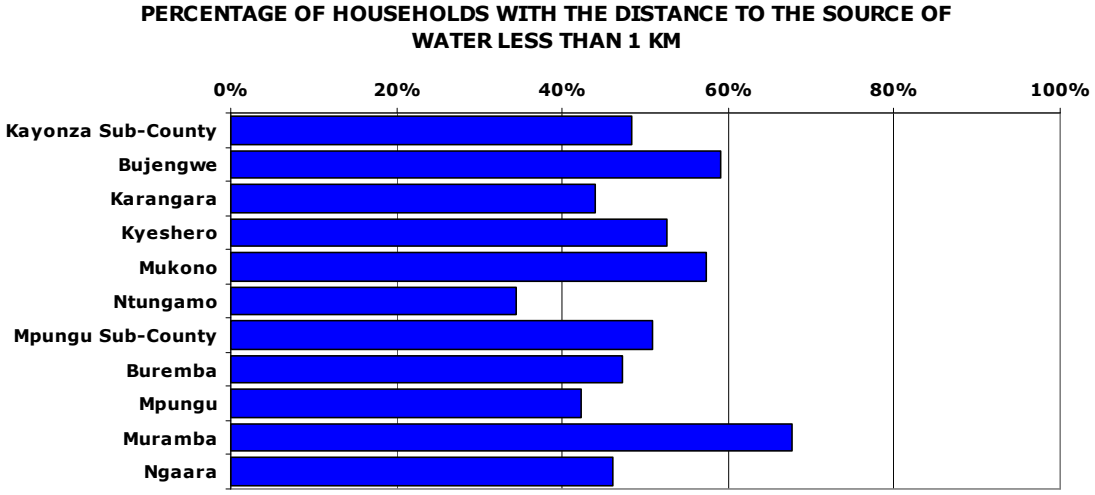

Figure 31

More than 90% of households in both sub-counties had a latrine with the highest number of covered latrine in parishes: Ntungamo, Karangara and Mpungu (Figures 32 and 33).

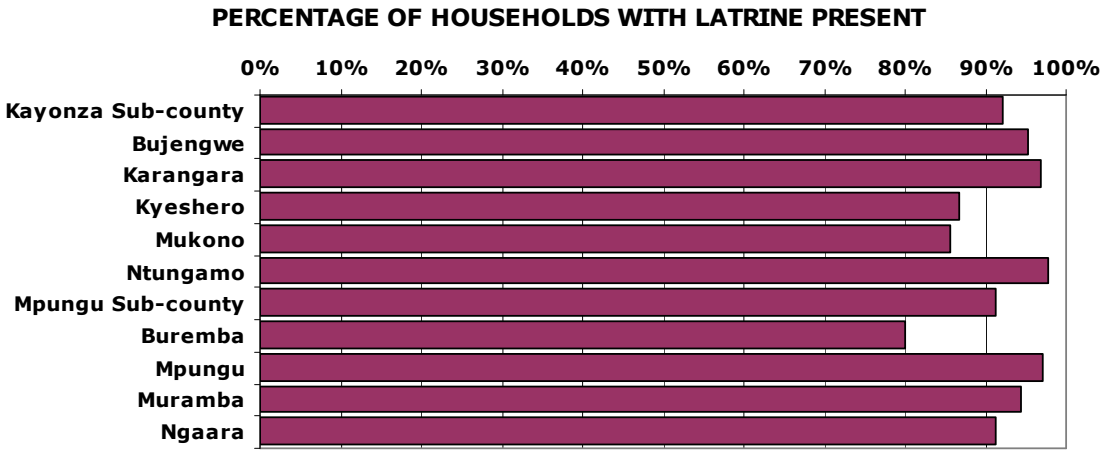

Figure 32

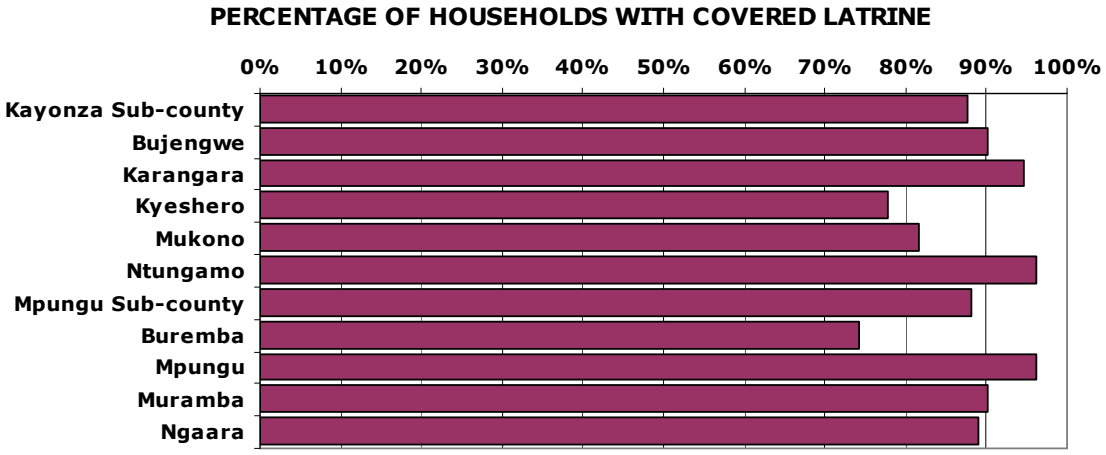

Figure 33

Discussion and Recommendations

The 2009 Household Survey was a much more comprehensive and accurate survey than the one carried out in 2008 (available for comparison at www.BwindiHospital.com). It was close to being a complete survey of every household in Kayonza and Mpungu sub-counties. Lots of attention was paid to the design of questions, and training sessions were carried out with all Village Health Promoters prior to conducting the survey

The most striking health inequalities occur between the people of Kayonza and Mpungu sub-counties, and between the Batwa and the Bakiga ethnic groups. Those who live in Mpungu and the Batwa are less likely to be protected against malaria, less likely to access a safe delivery, less likely to be using family planning and are more likely to be TB suspects or potentially have malnutrition. In response to this information the Hospital has offered to train a Batwa Village Health Promoter in every Batwa settlement, and is in negotiations with the people of Mpungu to open a satellite health clinic in that sub-county. The results of the survey appear to vindicate the Hospital's decision to open a health unit at Byumba, on the edge of a Batwa settlement and in Bujengwe parish, another area with poorer health indicators than average.

The Hospital has set ambitious targets for action based on this survey data. We want to have:

- 70% of all deliveries occurring in a health unit by July 2010
- 90% of all children screened for malnutrition every four months, and 90% of those who are found to be malnourished admitted to Hospital
- 70% of children under five sleeping under a mosquito net by July 2010, and 90% of all people to be sleeping under an ITN by July 2012
- 70% of all Batwa sleeping under a mosquito net by July 2010, and 90% by July 2012
- 75% of people know where they can get tested for HIV by July 2010, and 65% know where they can get treatment
- 52.5% of men and 60% of women have tested for HIV in the last year by July 2010
- 90% coverage of DPT3 and Measles vaccination in all Parishes by July 2010
- 90% of people identified as TB suspects are assessed by a clinician in the community each year
- A contraceptive prevalence rate of 32% by July 2010, and 40% by July 2012

In order to achieve this we have designed an ambitious Community Health plan. It utilises all of our Village Health Promoters working in partnership with a malaria nurse, family planning nurse, TB nurse, HIV counsellors and expert patients, churches, midwives performing antenatal outreaches, immunisation outreaches, training of the Batwa and the child health team testing children for malnutrition. This plan will cost money, and we are looking for help from our supporters to implement it. There is a clear workplan and all staff are in place ready to deliver results. Village Health Promoters are already given printed reports about key health indicators in their villages, and are set targets based on improving these indicators. The Community Health Team share with them knowledge, skills and resources to enable them to act. For example, each Village Health Promoter has been given the ITN coverage rate in their village, but has also been given mosquito nets at UGX 2000 that they can sell at UGX 3000 to make a small profit and to improve their village health indicators.

There is a huge disparity between the crude death rate in Uganda and the crude death rate as measured by this survey. We think that this survey may have over-estimated deaths as some

respondents put 'Kibwetere' as the cause of death. Joseph Kibwetere was the leader of a cult whose followers were burnt to death in 2000 http://en.wikipedia.org/wiki/Joseph_Kibweteere. It may be that other people misunderstood the question. The committee charged with the design and implementation of the 2010 survey will have to look at a more accurate measure of the crude death rate.

We had hoped to be able to measure neonatal, infant, child and maternal mortality rates as part of the analysis of this data. We intend for these rates to be published in subsequent editions of this 2009 survey on the Hospital website.

Planning for the 2010 survey will begin in April 2010. A committee will look at the design of the questionnaire and try to modify it to make it more in line with the Demographic and Household Survey 'Key Indicators Survey' www.measuredhs.com/aboutsurveys/kis.cfm. It will also review the methodology of the survey. We would like to also be able to survey Kanyantorogo sub-county next year.

The 2010 survey will be different from 2009. The Hospital has spent much of 2009 collecting information about every person in every household on a huge database. There is a certain amount of 'static' information that does not change (for example, gender or date of birth), but there will be information that will change from year to year. The 2010 survey will use the information on this database and ask Village Health Promoters to 'update' the data that we have. We hope to be able to have even better information to present next year.

Medical Superintendent
Bwindi Community Hospital

Appendix - copy of survey questionnaire used by Village Health Promoters

People

• Males aged 5 years and above in the household

Age in completed years
Are you a Mutwa?
Born in health unit
Slept under a mosquito net last night? (Yes/No)
Ever tested for HIV (Yes/No)
Tested for HIV in the past one year
Knows where to test for HIV
Know where to get ARV's for HIV
Do you have a cough? (Yes/No)
If Yes, how many weeks with cough

• Females aged 5 years and above in the household

Age in completed years
Are you a Mutwa?
Born in health unit
Slept under a mosquito net last night? (Yes/No)
Ever tested for HIV
Tested for HIV in the past one year
Knows where to test for HIV
Know where to get ARV's for HIV
Do you have a cough? (Yes/No)
If Yes, how many weeks with cough
No of children produced
No of children still alive
Currently using family planning? (Yes/No) incl. pills, condoms, implants, depo.
If Yes, where do you get family planning services? **1**.Health unit **2**.Drugshop **3**.Community reproductive health workers **4** others
Currently pregnant?
Currently breastfeeding?

• Children under the age of 5 in the house

Age in completed years
Are you a Mutwa?
Born in health unit
Slept under a mosquito net last night? (Yes/No)
Ever tested for HIV
Tested for HIV in the past one year
Do you have a cough? (Yes/No)
If Yes, how many weeks with cough
Completed DPT3 immunization?
Completed measles immunisation?
Mid-upper arm circumference (Green/Yellow/Red)

• **Household**

Distance to water source less than 1 km (Yes/No)
Main source of water safe (tap, protected spring, borehole) or unsafe (unprotected spring, stream, river)
Latrine (Yes/No). If Yes, then is it covered (Yes/No)
Number of mosquito nets seen hanging in the house
Have there been any deaths in the household in the last year?
Number of deaths
Cause of death and age at death

Complied February 2010