# Uganda Atlas of HIV/AIDS Indicators 2004-05





### **Uganda Atlas of HIV/AIDS Indicators**

#### Based on the 2004-05 Uganda HIV/AIDS Sero-Behavioural Survey

Ministry of Health Kampala, Uganda

Macro International Inc. Calverton, Maryland, USA

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This atlas presents thematic maps showing key HIV/AIDS-related indicators based on the 2004-05 Uganda HIV/AIDS Sero-Behavioural Survey (UHSBS). The atlas was prepared by Vinod Mishra, with support from Rathavuth Hong, Megan Meline, Abebe Gedamu, and Yuan Gu of Macro International Inc., and Alex Opio, Joshua Musinguzi, and Wilford Kirungi of the Uganda Ministry of Health. The development of this report was supported by the United States Agency for International Development (USAID) and the President's Emergency Plan for AIDS Relief (PEPFAR) through the MEASURE DHS project (#GPO-C-00-03-00002-00) at Macro International Inc. in Calverton, Maryland, USA. A draft of this atlas was presented to important HIV/AIDS programme managers, policymakers, and key stakeholders at a national dissemination seminar in Kampala on August 15, 2007.

Additional information about this atlas may be obtained from the Ministry of Health, P.O. Box 7272, Kampala, Uganda (Telephone: 256.414.340.874 or 256.414.259.669; Fax: 256.414.348.278; E-mail: opioalex@infocom.co.ug) or from MEASURE DHS, Macro International Inc., 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, USA. (Telephone: 301.572.0200; Fax: 301.572.0999; E-mail: reports@macrointernational.com; Internet: www.measuredhs.com).

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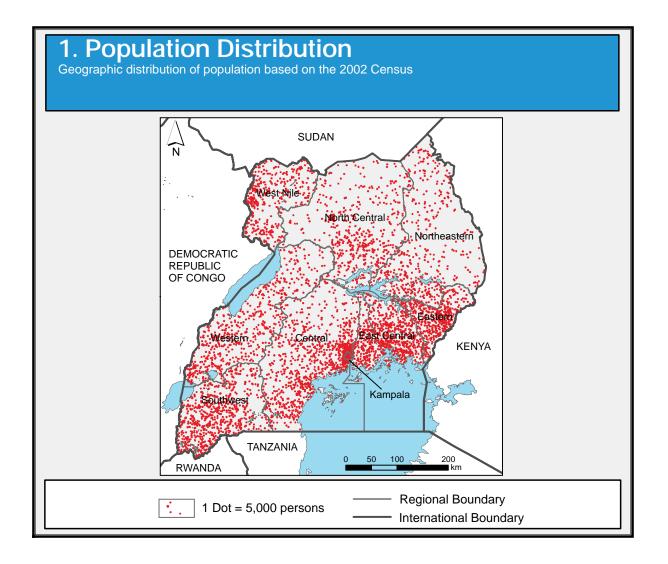
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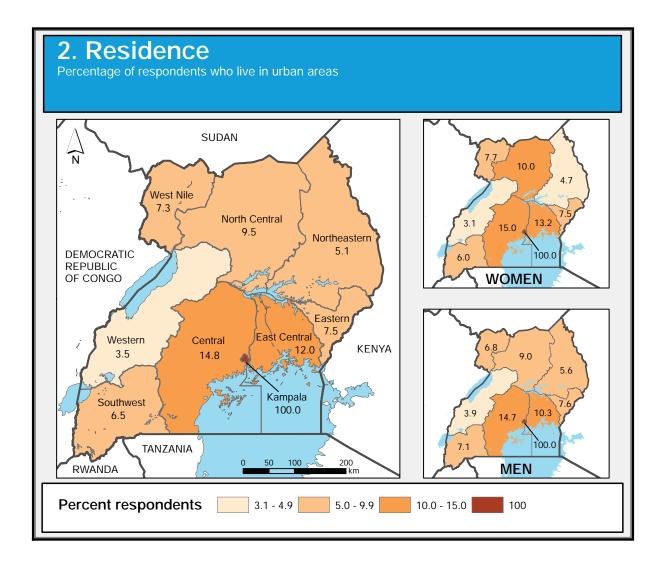
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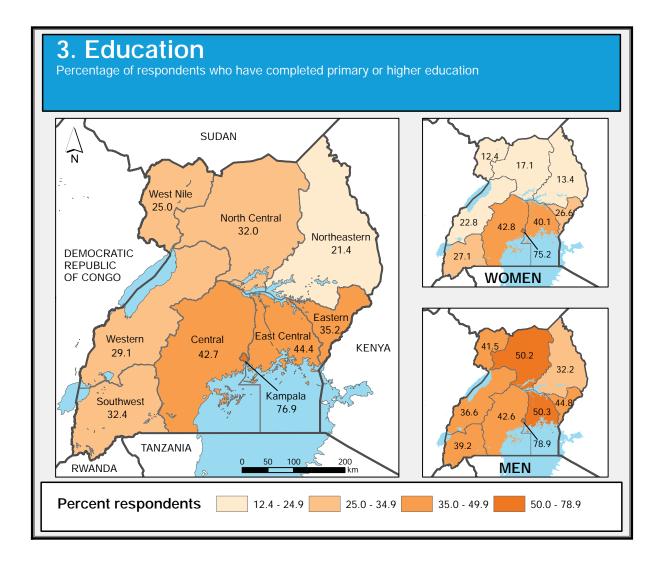
## Background



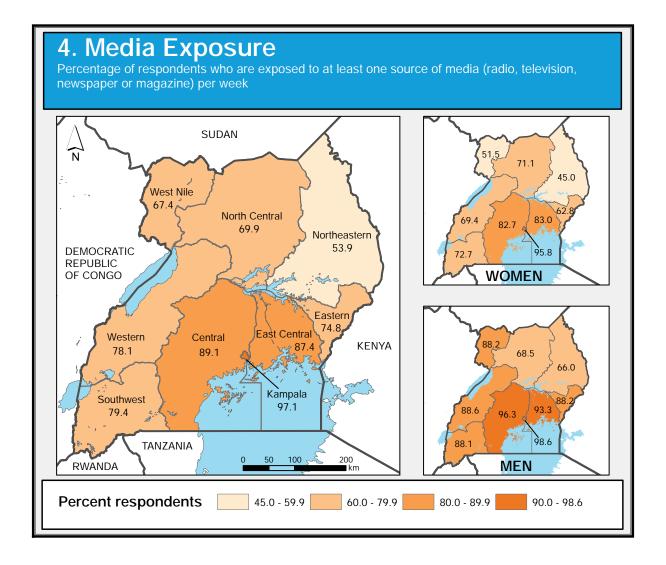
This map shows the distribution of people throughout the country, with each red dot representing 5,000 persons. On the basis of the 2002 Census, the Uganda population for 2007 is projected to be 28 million. The population is particularly concentrated in the capital city, Kampala, and the nearby East Central and Eastern regions. There are also concentrations of population in the Southwest region, near the Rwandan border, and in the West Nile region, near the border with the Democratic Republic of Congo. However, large areas of the country are sparsely populated, particularly in the North Central and Northeastern regions.



Most Ugandans live in rural areas. According to the 2004-05 Uganda HIV/AIDS Sero-Behavioural Survey (UHSBS), only 15 percent of the population age 15-59 live in urban areas; the proportion in Kampala, is 100 percent. About 15 percent of respondents in Central and 12 percent in East Central reported living in urban areas. In the six other regions, less than 10 percent live in urban areas. The least urbanized areas are Western, Northeastern, and Southwest.

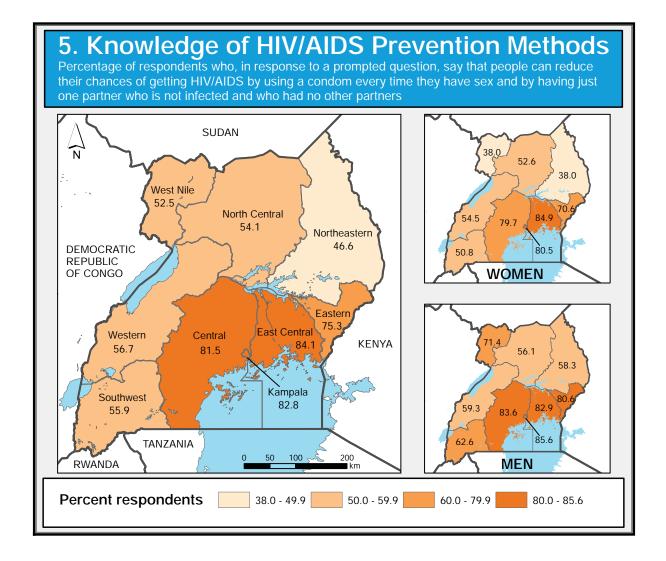


Overall, less than 40 percent of respondents have completed primary or higher education. Kampala has the highest percentage of educated persons (77 percent), followed by East Central (44 percent), and Central (43 percent). The regions with the lowest percentage of educated persons are Northeastern (21 percent) and West Nile (25 percent). Men are more likely than women to be educated (45 and 31 percent, respectively). The differences in educational attainment between men and women are particularly large in North Central, West Nile, and Northeastern regions.

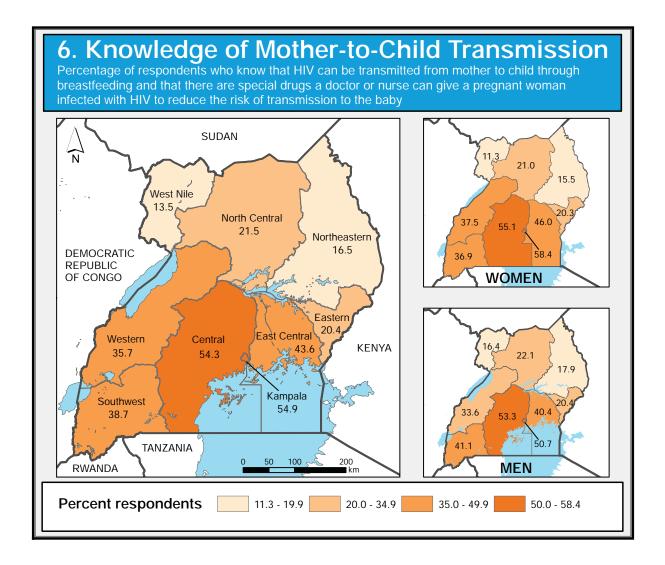


Generally, exposure to mass media is high, with 79 percent of all respondents reporting listening to the radio, watching television, or reading a newspaper or magazine at least once a week. In all regions except North Central, more men than women reported media exposure. Men in Kampala (99 percent), Central (96 percent), and East Central (93 percent) have the most exposure to media. By contrast, only 45 percent of women in the Northeastern region are regularly exposed to mass media.

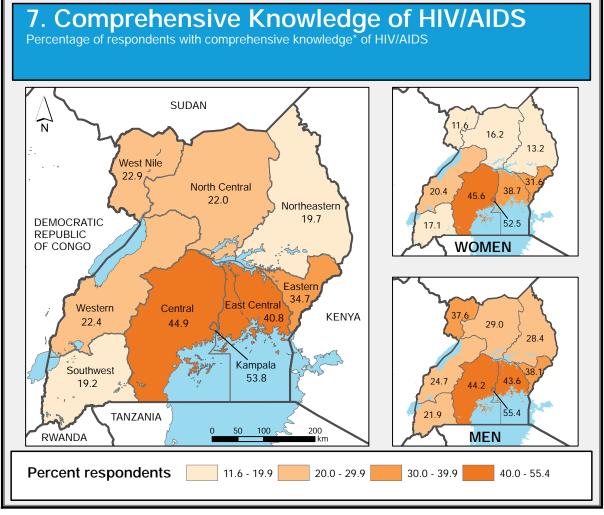
### **Knowledge of HIV/AIDS**



When asked about ways to reduce their chances of getting HIV/AIDS, 67 percent of respondents reported knowing that consistent condom use and having one faithful, uninfected partner are key prevention methods. More than 80 percent of respondents in the Central, Kampala, and East Central regions know of these methods, compared with only 47 percent in the Northeastern region. More men (72 percent) than women (63 percent) know about these HIV/AIDS prevention methods. Men in Kampala (86 percent) and women in the East Central region (85 percent) were most likely to know these prevention methods. By contrast, men in the North Central region (56 percent) and women in the Northeastern and West Nile regions (38 percent) were least likely to have knowledge of HIV/AIDS prevention methods.



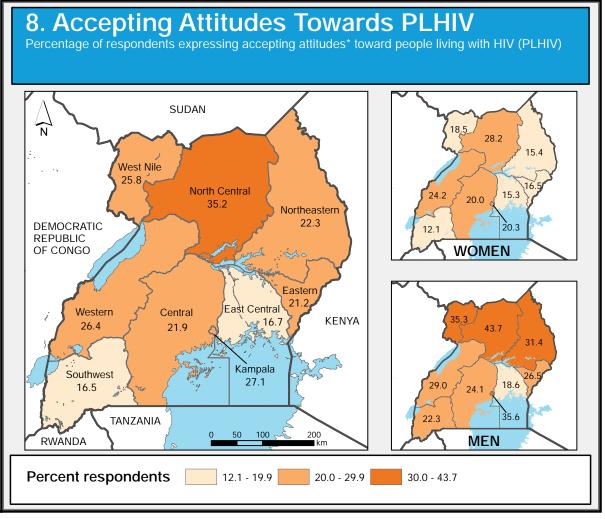
HIV can be transmitted from mother to child during pregnancy, delivery, and breastfeeding. Only about one-third of respondents know that HIV can be transmitted from mother to child through breastfeeding and that special drugs can be given to HIV-positive pregnant women to reduce the risk of transmission to the baby. Overall, knowledge of mother-to-child transmission (MTCT) is lowest in the Northeastern and West Nile regions, and it is highest in Kampala and Central regions. Knowledge is about the same between men and women, but in Kampala, Central, East Central, and Western regions more women than men know about MTCT.



\*Percentage who say that people can reduce the risk of getting HIV by using a condom every time they have sex and by having sex with just one partner who is not infected and who has no other partners, who say that people cannot get HIV from mosquito bites or from sharing food with a person who has AIDS, and who say that a healthy-looking person can have HIV.

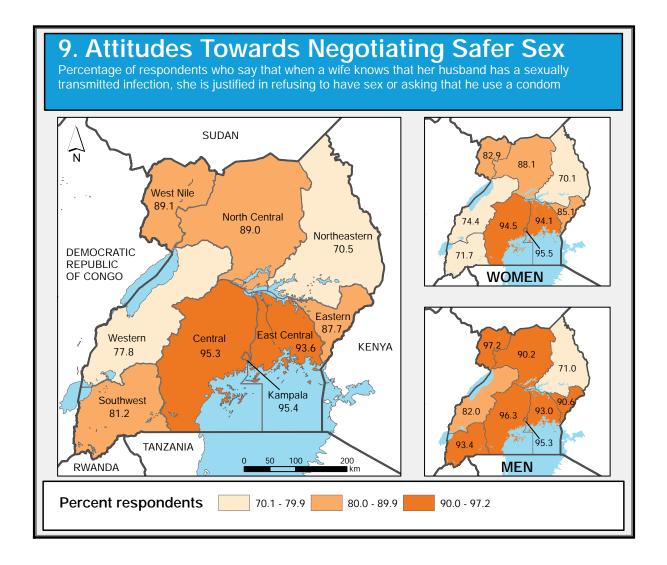
Despite the maturity of the epidemic in Uganda, many respondents still have misconceptions about HIV/AIDS. Only about one-third of Ugandans (32 percent) have comprehensive knowledge of HIV transmission and ways to prevent it. Knowledge varies greatly by region and sex. About 54 percent of respondents in Kampala have comprehensive knowledge, but less than 20 percent of those in the Southwest and Northeastern regions. Overall, more men (36 percent) than women (28 percent) have comprehensive knowledge of HIV/AIDS, but the differences are larger in some regions. For example, in the West Nile region 38 percent of men but only 12 percent of women have comprehensive knowledge, and in the Northeastern region, 28 percent of men and 13 percent of women have such knowledge.

### Attitudes and Perceptions about HIV/AIDS

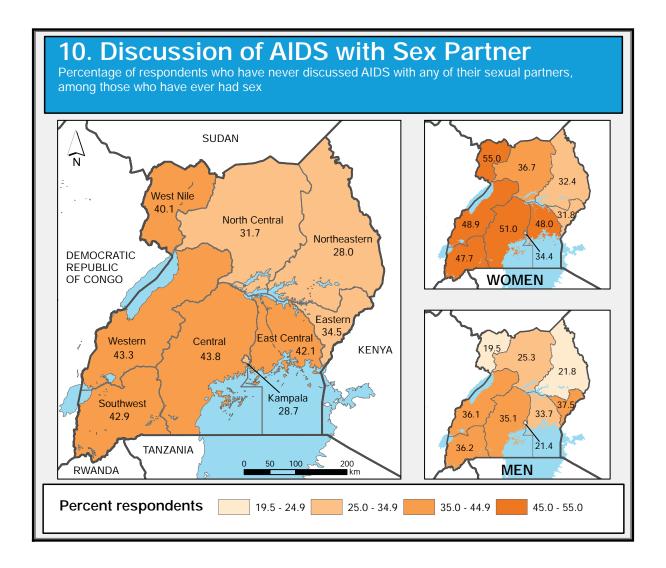


\*Percentage who say they would be willing to care for a relative sick with AIDS in their own households and would be willing to buy sugar, fresh vegetables, or other food from a market vendor who had the AIDS virus, who think that a female teacher who has the AIDS virus but is not sick should be allowed to continue teaching, and who say that if a member of their family got infected with the virus that causes AIDS, they would not necessarily want it to remain secret.

Few Ugandans express accepting attitudes towards people living with HIV (PLHIV). When asked four questions about whether they would interact with a PLHIV, only 23 percent of respondents expressed accepting attitudes on all four questions. The lowest rates of accepting attitudes were found in the East Central and Southwest regions, where only 17 percent of adults reported accepting attitudes towards PLHIV. Men were more likely than women to have accepting attitudes. Overall, people in the North Central region are more likely to have accepting attitudes towards PLHIV than those in other regions, with 44 percent of men and 28 percent of women reporting accepting attitudes. Only 19 percent of men in the East Central region and 12 percent of women in the Southwest region reported accepting attitudes towards PLHIV.

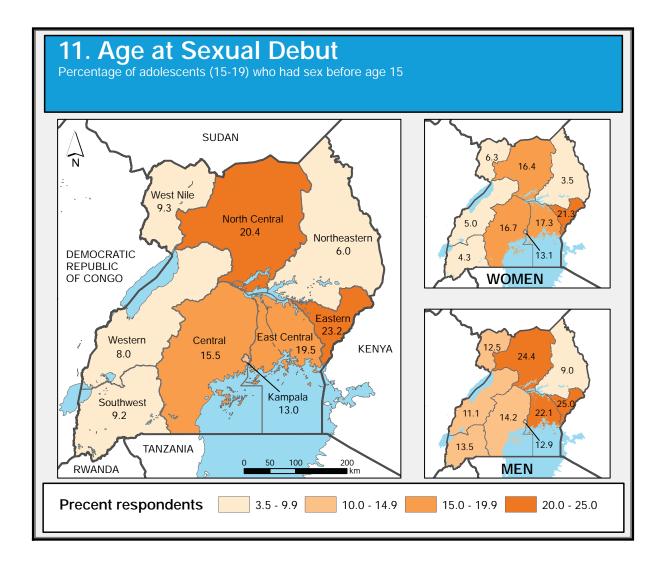


Most respondents (87 percent) believe that when a husband has a sexually transmitted infection (STI), his wife is justified in refusing to have sex with him or insisting he use a condom. The proportion of respondents who believe that a wife can negotiate safer sex ranges from 71 percent in the Northeastern region to 95 percent in Kampala and Central regions. Interestingly, more men (91 percent) than women (85 percent) believe that a wife can negotiate safer sex if she knows that her husband has an STI. In several regions, the gap between men and women is significant, suggesting the need for greater spousal communication. For example, in the Southwest region 94 percent of men believe that wives can negotiate safer sex, but only 72 percent of women do.

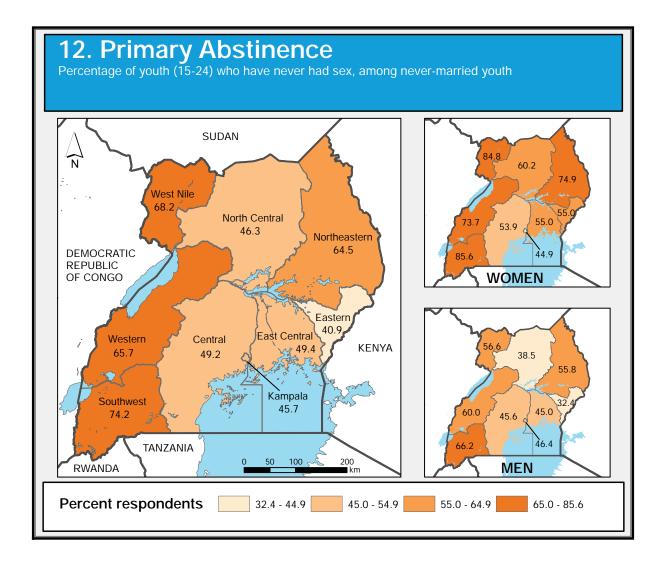


Nearly two in five respondents reported that they had never discussed AIDS with any of their sexual partners. Those in the Northeastern region and Kampala were most likely to have talked about AIDS, whereas those in the Central region were least likely. Overall, a much smaller proportion of men than women reported never having discussed AIDS with their partners. The gap is particularly large in the West Nile region, where a 35 percentage point difference separates men (20 percent) and women (55 percent). Other regions with large gaps include Central, East Central, and Western.

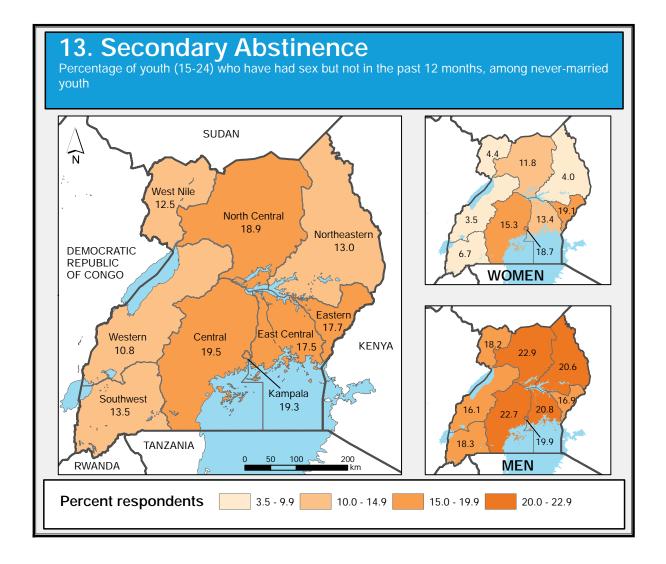
### Risk Taking and Protective Behaviour



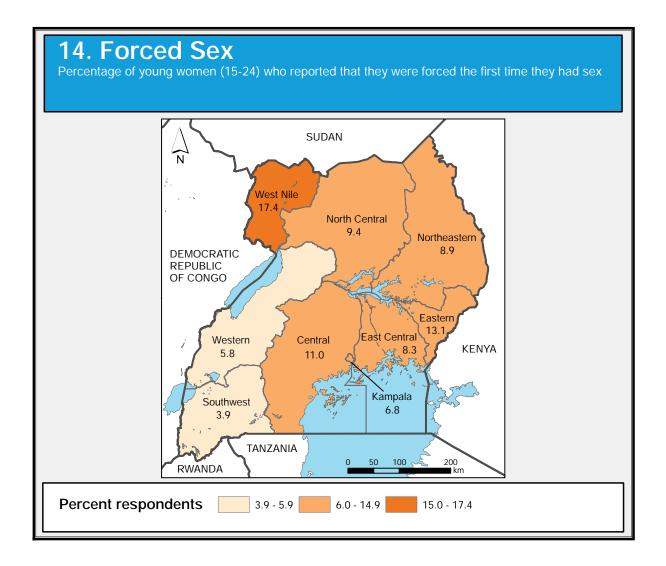
Sexual debut at a young age puts a person at greater risk of contracting STIs, including HIV. Fourteen percent of adolescents age 15 to 19 have had sex before the age of 15. Those in the Eastern region (23 percent) are most likely to have their sexual debut before age 15. By contrast, far fewer adolescents in the neighbouring Northeastern region (6 percent) reported sexual debut before age 15. In all regions, more male than female adolescents started having sex before age 15.



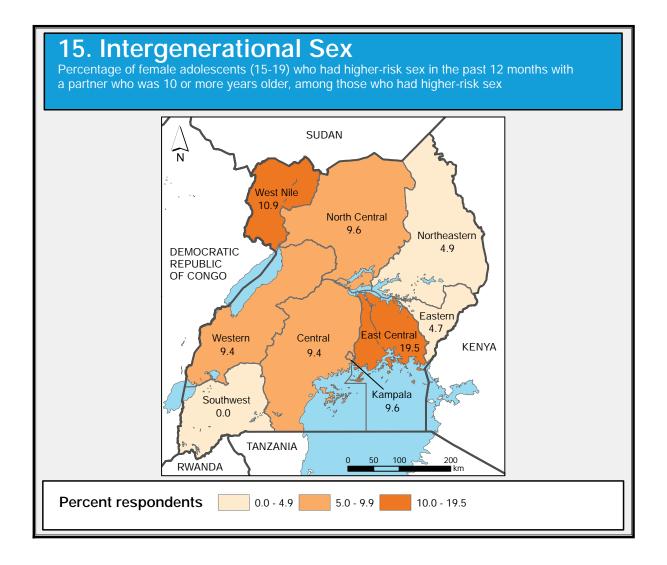
Among never-married youth age 15 to 24, more than half reported that they have never had sex (56 percent). Youth in the Southwest, West Nile, and Western regions are most likely to abstain. Overall, young women are more likely than young men to abstain, with 64 percent reporting that they had never had sex. Young men in Eastern (32 percent) and North Central (39 percent) are least likely to abstain.



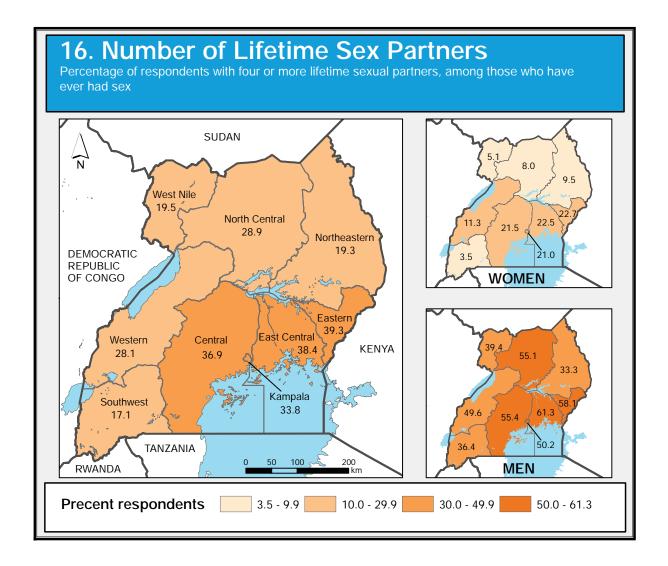
Overall, 16 percent of youth age 15 to 24 have had sex, but not in the past year. More sexually experienced young men (20 percent) than young women (11 percent) have not had sex recently. More than 20 percent of sexually experienced young men in the Northeastern, East Central, Central, and North Central regions have not had sex in the past year, whereas among sexually experienced young women in the Western, Northeastern, West Nile, and South West regions this proportion is less than 7 percent.



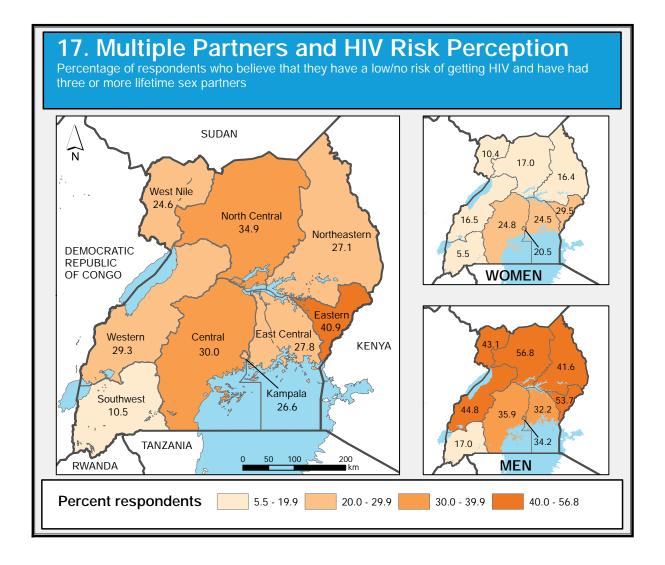
Nine percent of young women reported that they were forced the first time they had sex. Women in the West Nile (17 percent), Eastern (13 percent), and Central (11 percent) regions were most likely to report forced first sex. Women in the Southwest and Western regions were least likely.



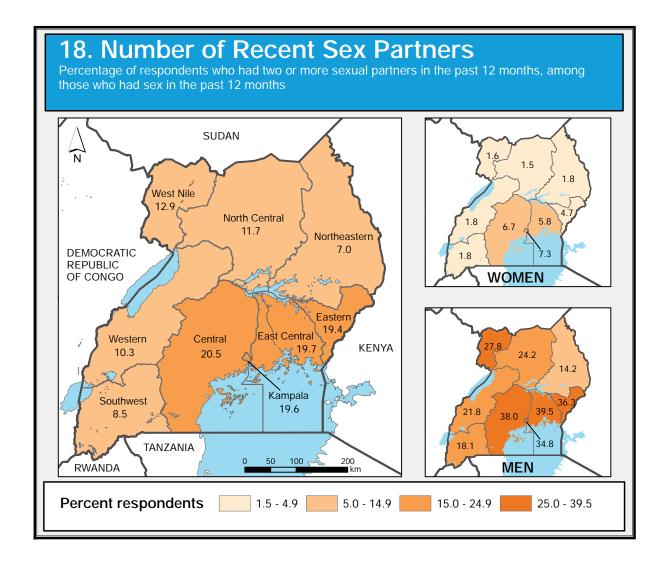
Of the female adolescents age 15 to 19 who had sex with a non-marital, noncohabiting partner (higher-risk sex) in the past year, 11 percent had sex with a man 10 or more years older than themselves. Nearly 20 percent of female adolescents in the East Central region and 11 percent in West Nile said they had higher-risk sex with a partner who was 10 or more years older. This proportion was negligible in the Southwest region.



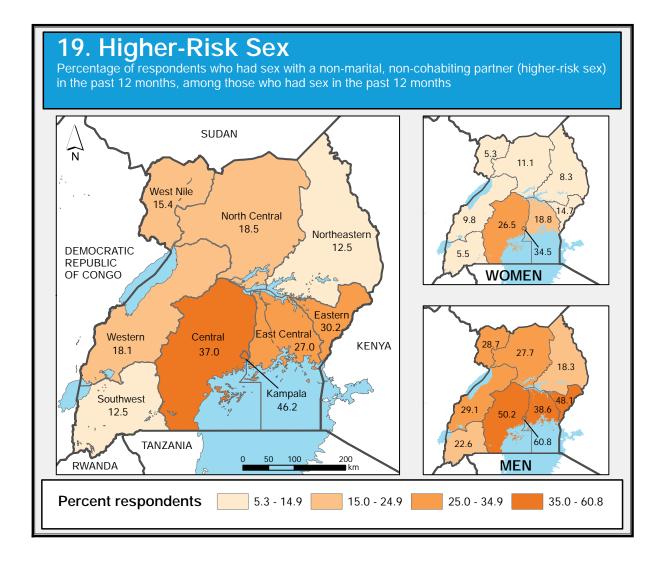
Having many sexual partners increases a person's risk of contracting STIs, including HIV. Overall, 30 percent of respondents have had four or more sexual partners; however, there is a substantial difference between men and women. Fifty percent of men reported having four or more lifetime sex partners, compared with only 14 percent of women. In five regions, more than 50 percent of men have had four or more sex partners. For example, 61 percent of men in the East Central region and 58 percent in the Eastern region reported having four or more lifetime sex partners. By contrast, only 4 percent of women in the Southwest region and 5 percent in West Nile reported having four or more sexual partners.



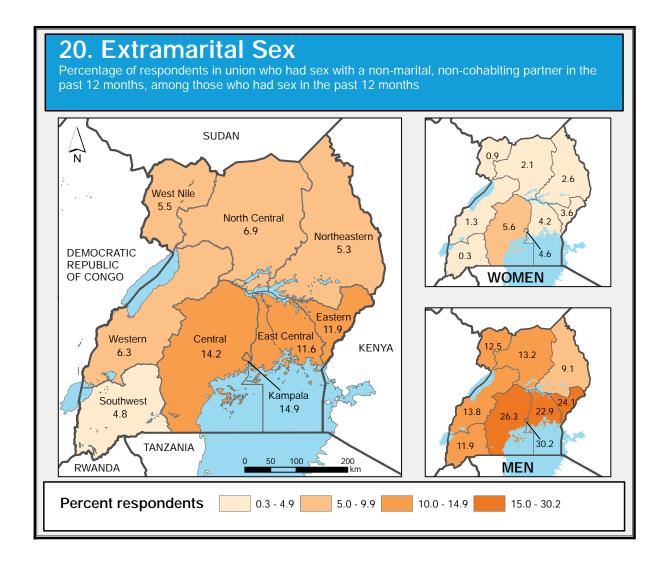
Research has found a strong relationship between the number of lifetime sex partners and a person's risk of HIV infection. Despite having three or more lifetime sex partners, 28 percent of respondents believe they have no risk or low risk of getting HIV. Substantially more men than women have this perception: 39 percent of men and 19 percent of women who have had three or more lifetime sex partners believe that they have no risk or low risk of getting HIV. In five regions (Western, West Nile, North Central, Northeastern, and Eastern), the proportion for men is over 40 percent, with the North Central (57 percent) and Eastern (54 percent) regions having the highest proportions. By contrast, in these five regions, less than 20 percent of women believe they have no risk or low risk, despite having had three or more lifetime partners.



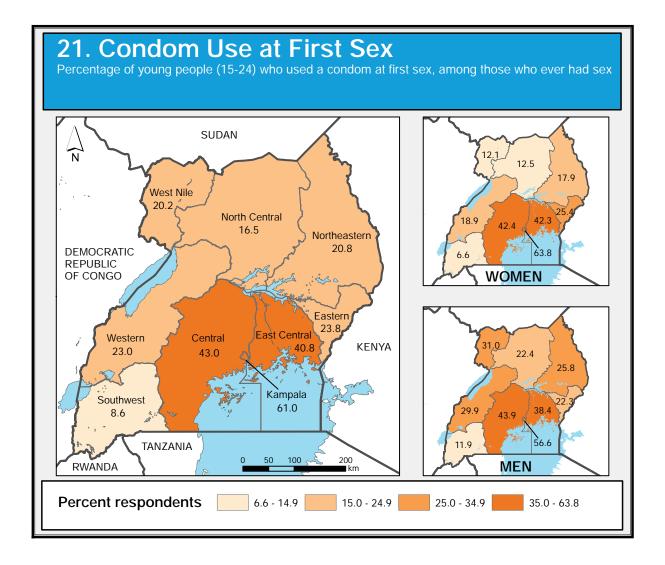
Of the respondents who had sex in the past 12 months, 15 percent had two or more sexual partners. The majority of these respondents are men (29 percent) rather than women (4 percent). In five regions, less than 2 percent of women had two or more sexual partners in the past 12 months. By contrast, 40 percent of men in the East Central region, 38 percent in the Central region, 36 percent in the Eastern region, and 35 percent in Kampala reported two or more sexual partners.



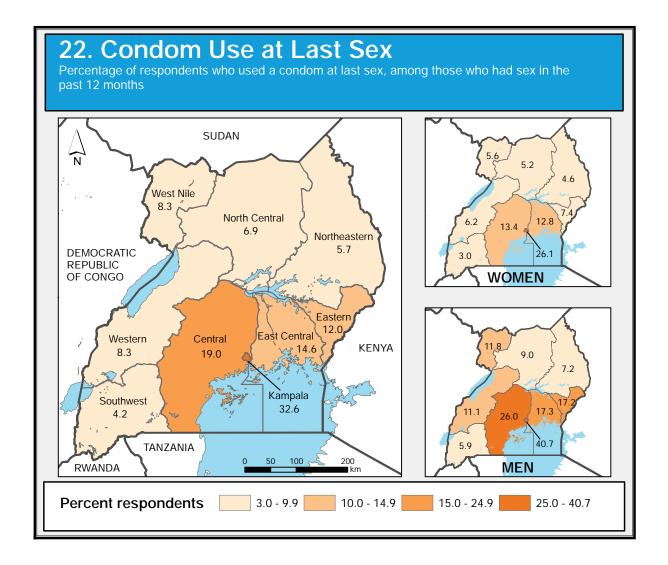
About one in four sexually active respondents reported having higher-risk sex (sex with a non-marital, non-cohabiting partner) in the past year. These included more than twice as many men (37 percent) as women (15 percent). There were large regional variations in the proportion of respondents reporting higher-risk sex, with those in Kampala being most likely (46 percent) and those in the Northeastern and Southwestern regions being least likely (13 percent) to have higher-risk sex. In all regions, men are much more likely to have higher-risk sex than women.



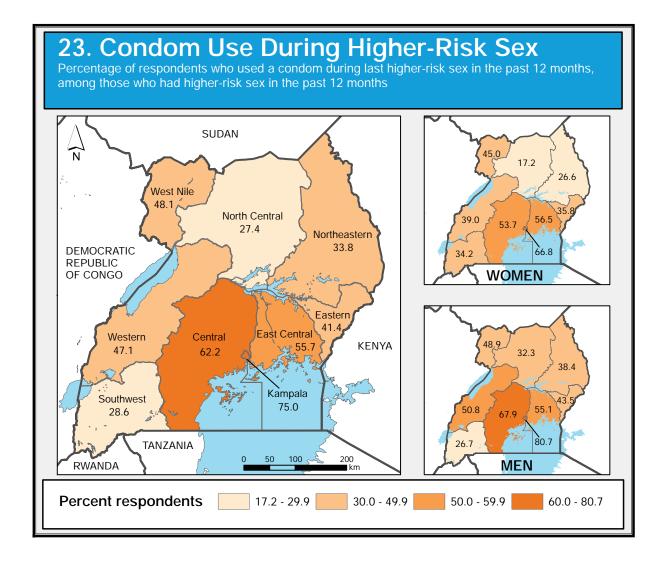
Men in Uganda are more likely to report having extramarital sex than women. Eighteen percent of men and 3 percent of women who were in union at the time of the survey reported having sex with a non-marital, non-cohabitating partner in the past 12 months. Men in Kampala, Central, Eastern, and East Central regions were most likely to have extramarital sex. In all regions, the gap between men and women was wide. For example, in the Central region 26 percent of men compared with 6 percent of women, and in the Southwest region 12 percent of men and less than half of 1 percent of women reported having extramarital sex.



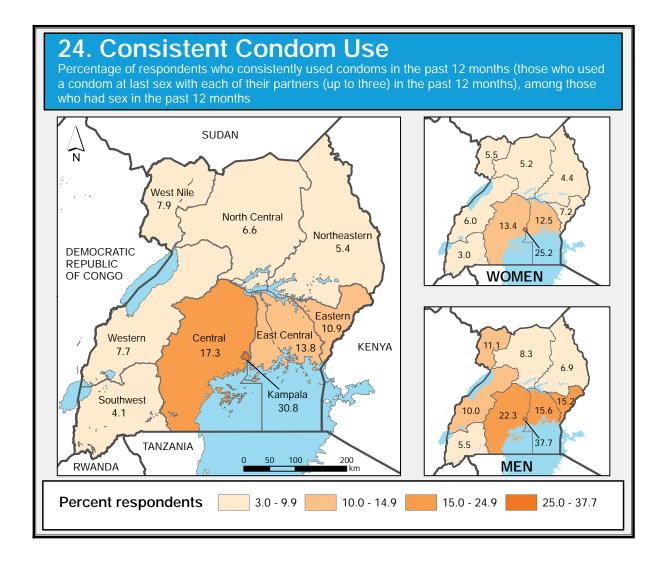
Among young people (age 15-24) who ever had sex, about one-third (31 percent) said they used a condom the first time they had sex. Youth in Kampala were most likely to use condoms, with 64 percent of young women and 57 percent of young men reporting condom use at first sex. Youth in Southwest were the least likely to use condoms, with only 12 percent of young men and 7 percent of young women using them at first sex. In three regions (Kampala, East Central, and Eastern), more young women than young men used condoms the first time they had sex.



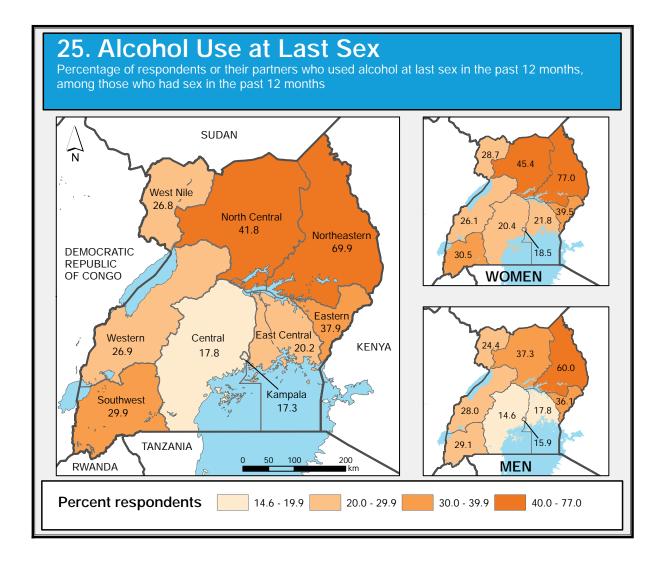
Condoms use is low in Uganda. Among sexually active respondents, only 12 percent used a condom the last time they had sex. In general, more men (16 percent) than women (9 percent) reported using a condom at last sex. However, the range of use was wide. For example, only 6 percent of men in the Southwest region used a condom versus 41 percent in Kampala. Women in Kampala (26 percent), Central region (13 percent), and East Central region (13 percent) were most likely to have used a condom at last sex. Less than 8 percent of women in the other six provinces reported using a condom at last sex, and only 3 percent in the Southwest region.



Of those respondents who had higher-risk sex in the past year, 52 percent reported using a condom. Slightly more men (54 percent) than women (48 percent) reported using a condom with their higher-risk partner. Respondents in Kampala were most likely to use condoms with higher-risk partners, with 81 percent of men and 67 percent of women doing so. Men in the Southwest region (27 percent) and women in the North Central region (17 percent) were least likely to have used condoms with higher risk partners.

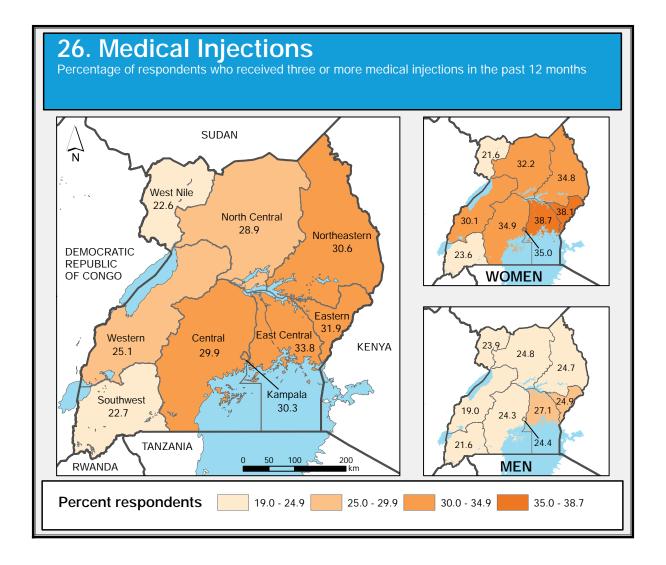


Among sexually active respondents, 11 percent used condoms at last sex with all of their partners over the past year. Men and women in Kampala were most likely to use condoms consistently (38 and 25 percent, respectively). In all nine regions, men reported using condoms more than women did, which could be related to the challenges some women face when trying to negotiate condom use. Men and women in the Central and East Central regions were more likely to report regular condom use. In six regions for women and in three regions for men, 8 percent or less reported consistent condom use.

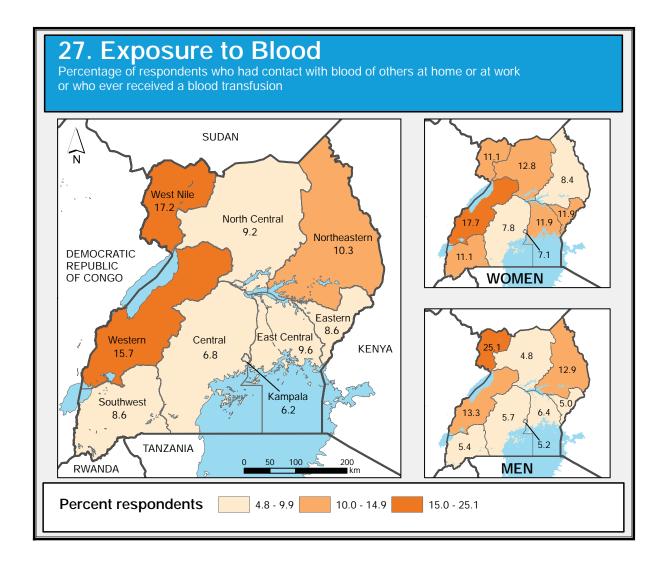


Overall, 30 percent of sexually active respondents reported that alcohol was consumed (by either or both partners) at last sex. More women (32 percent) than men (28 percent) reported alcohol use at last sex. The alcohol use was most common in the Northeastern region where 77 percent of women and 60 percent of men reported alcohol use at last sex. By contrast, only 17 percent of respondents in Kampala and only 18 percent in the Central region said they or their partner drank alcohol the last time they had sex.

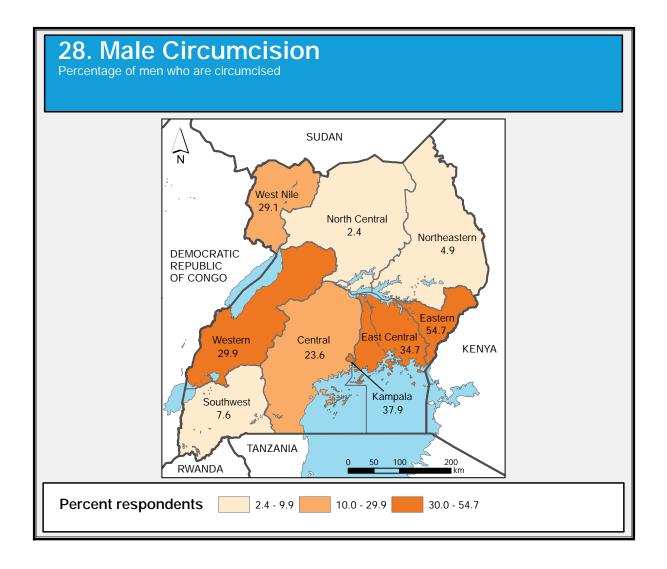
## Other Modes of Transmission



Unsafe injections can be a risk factor for HIV and other infections. In Uganda, 29 percent of respondents received three or more medical injections over the past year. Those in the East Central region were most likely to have received three or more injections (34 percent), followed by the Eastern (32 percent), Northeastern (31 percent), and Kampala (30 percent) regions. Overall, more women than men received three or more injections (32 percent compared with 24 percent). Women in the East Central (39 percent) and Eastern (38 percent) regions were most likely to have received three or more injections in the past year.

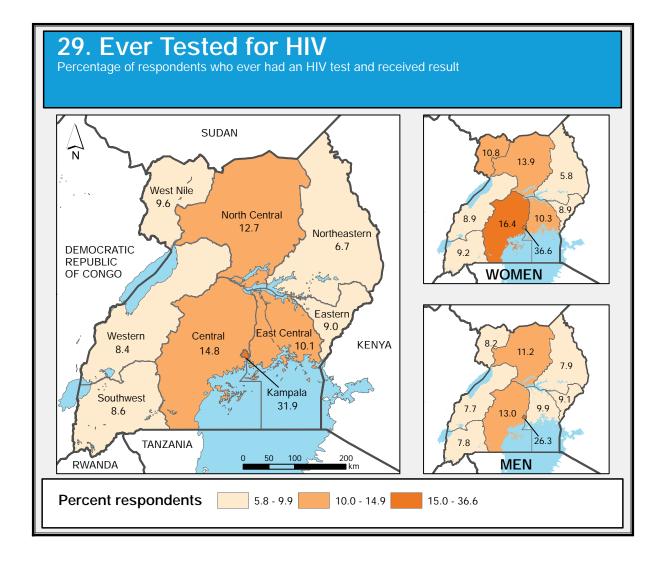


Contact with blood is a potential risk factor for contracting HIV. Respondents were asked if they had contact the blood of other persons at home or at work, or if they had ever received a blood transfusion. Ten percent of respondents said they had had contact with blood. Those in Kampala were least likely to have had contact with the blood of others, with only 5 percent of men and 7 percent of women reporting so. Men in the West Nile region (25 percent) and women in the Western region (18 percent) were most likely to have had contact with the blood of other persons.

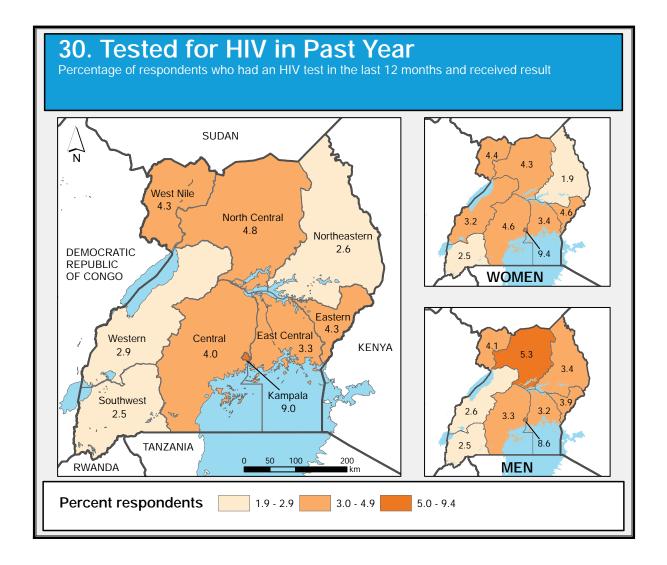


Research suggests that male circumcision may have a protective effect against contracting HIV. One-fourth of Ugandan males are circumcised, but the practice varies greatly by region. About 55 percent of men in the Eastern region are circumcised compared with only 2 percent in the North Central region. Prevalence of male circumcision is also low in the Southwest (8 percent) and Northeastern (5 percent) regions. By contrast, one-third or more males are circumcised in the East Central (35 percent) and Kampala (38 percent) regions.

## Programme Coverage

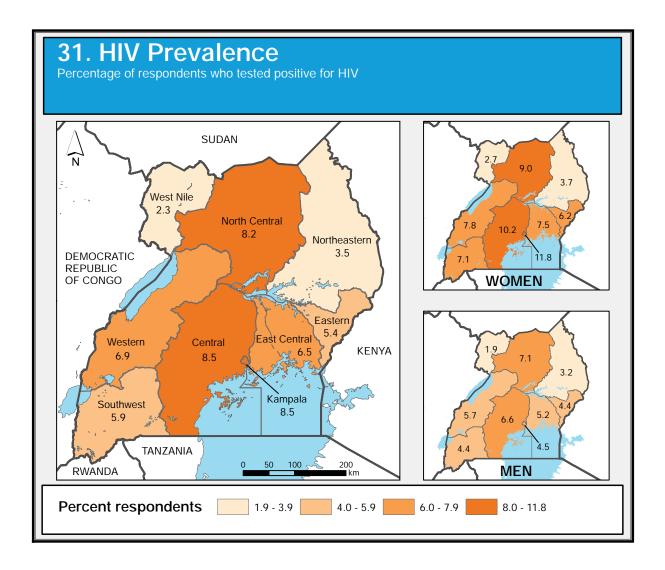


Few Ugandans know their HIV status. Only 12 percent of respondents had ever been tested for HIV and received their results; and for some, their status may have changed since they were last tested. Overall, women are slightly more likely than men to hsve been tested for HIV. Respondents in Kampala are most likely to have been tested, with 37 percent of women and 26 percent of men reporting they were tested for HIV. There is a substantial gap in testing coverage between Kampala and the other regions, due in part to greater access to voluntary counselling and testing (VCT) services in Kampala. Respondents in the Northeastern region were least likely to have been tested (7 percent).

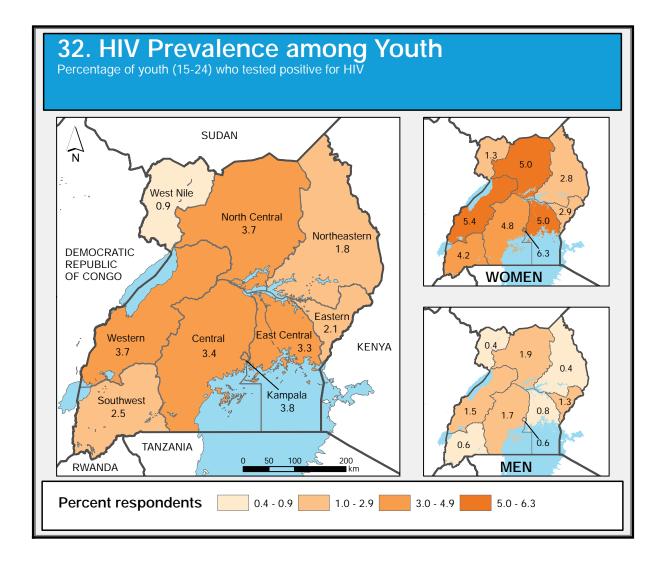


In the 12 months preceding the survey, only 4 percent of respondents were tested for HIV and received their test results. About equal proportions of men and women reported testing. Respondents in Kampala were more likely to be tested in the past year than those in other regions, however, coverge in Kampala was still only 9 percent. In other regions, testing ranged from less than 3 percent in the Southwest, Northeastern, and Western regions to 5 percent in the North Central region. Women in the Northeastern region were least likely to have been tested for HIV and received their results (2 percent).

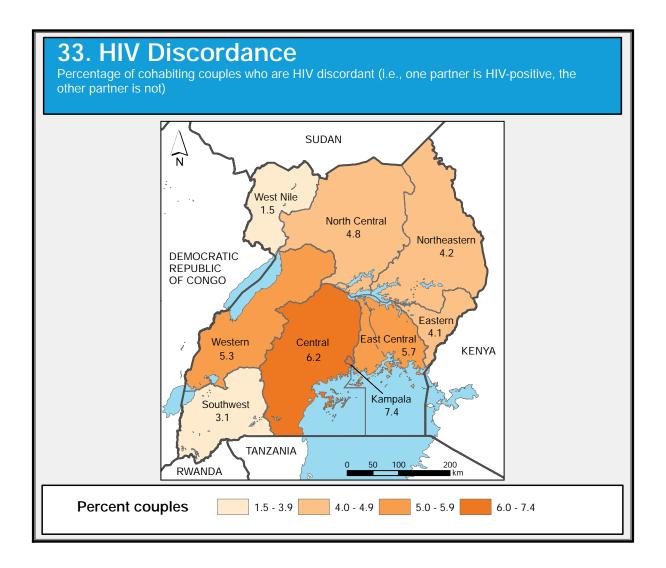
## Prevalence of HIV and Other STIs



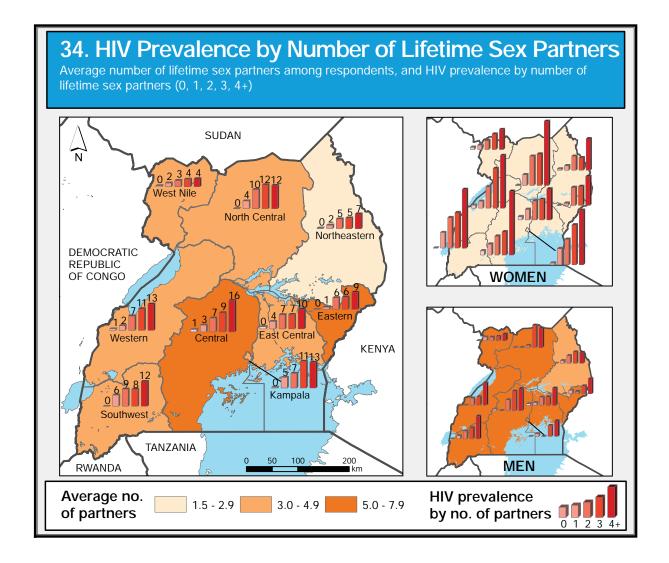
Among respondents age 15-49, 6.4 percent tested positive for HIV. HIV prevalence is highest in Kampala, Central, and North Central regions (over 8 percent), and lowest in the Northeastern and West Nile regions (below 4 percent). Overall, more women (7.5 percent) than men (5.0) have the virus, a common pattern in sub-Saharan Africa. In Kampala, 11.8 percent of women are positive compared with 4.5 percent of men. Similarly, in the Central region, 10.2 percent of women and 6.6 percent of men have the virus. Men and women in the West Nile region are least likely to be HIV positive (1.9 percent and 2.7 percent, respectively).



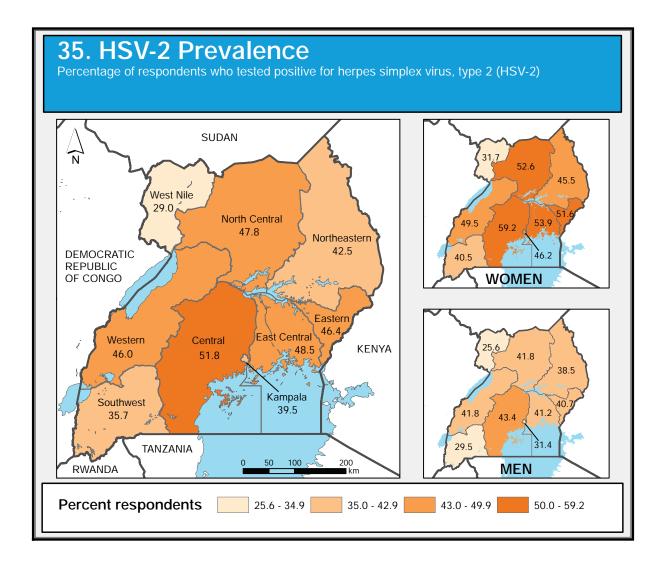
About 3 percent of youth are HIV positive, with more young women (4.3 percent) than young men (1.1 percent) having the virus. This pattern of HIV prevalence is similar to that for all respondents. The gap between young women and young men is pronounced in all regions. For example, in Kampala, 6.3 percent of young women are HIV positive compared with 0.6 percent of men.



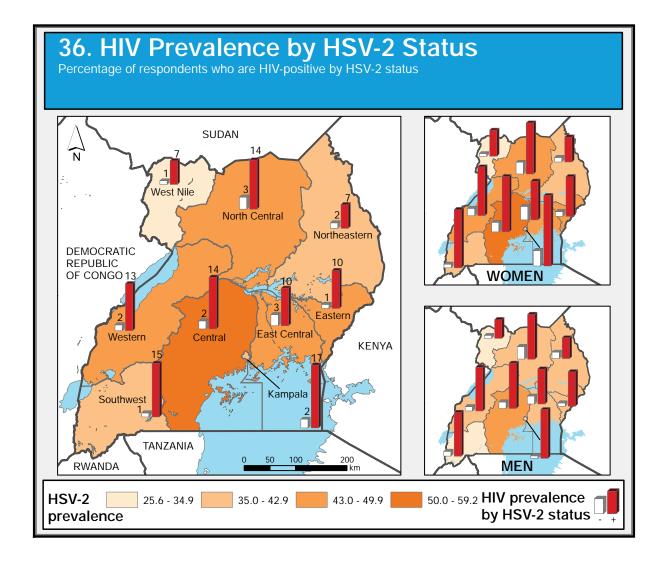
A couple is HIV discordant when one partner is HIV positive and the other is HIV negative. Among cohabiting couples in Uganda, 4.6 percent were HIV discordant. The highest rates of discordance were found in Kampala (7.4 percent) and Central (6.2 percent) regions. The lowest was in the West Nile region (1.5 percent).



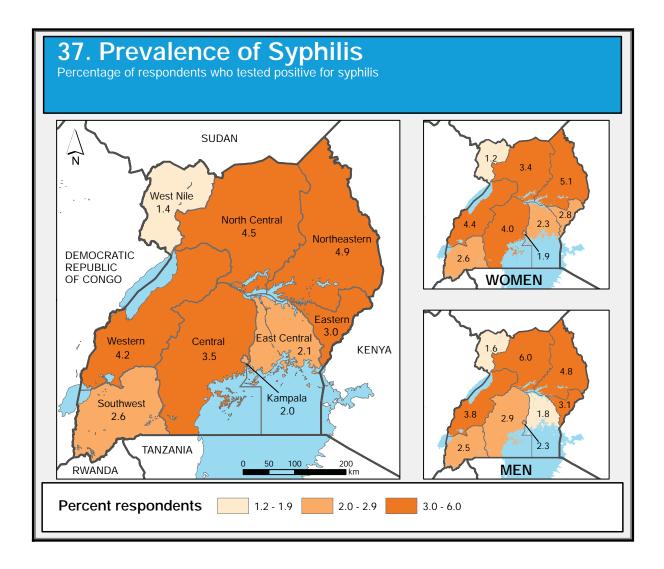
There is a strong positive correlation between the number of lifetime sexual partners and the likelihood of HIV infection. For Uganda as a whole, HIV prevalence rises from 3.3 percent among respondents with one lifetime sexual partner to 11.3 percent among those with four or more partners. This association holds regardless of region or sex.



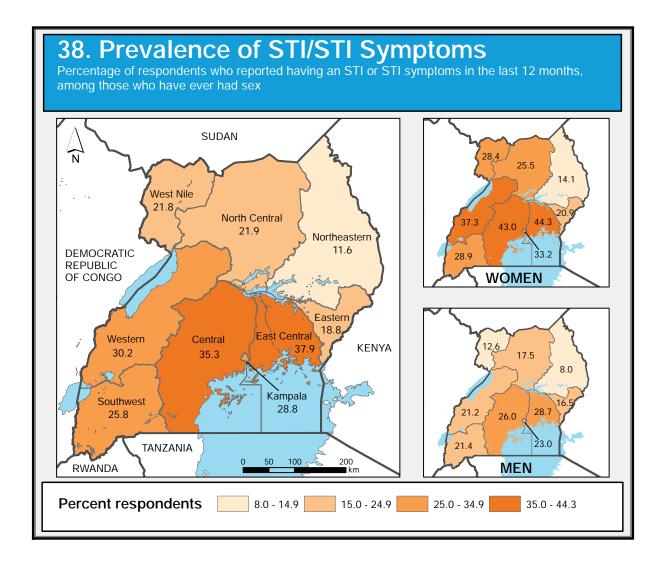
Forty-four percent of respondents tested positive for the herpes simplex virus (HSV-2). Those in the Central region were most likely to have the HSV-2 virus (52 percent), followed by those in East Central (49 percent), North Central (48 percent), Eastern (46 percent), and Western (46 percent) regions. The West Nile region has the lowest prevalence of herpes (29 percent). Overall, women are more likely to have herpes (49 percent) than men (38 percent), and this pattern is seen in all regions.



STIs, like herpes, increase risk of contracting HIV. Respondents who tested positive for HSV-2 were six times as likely to test positive for HIV (12.1 percent) as those who tested negative for HSV-2 (1.9 percent). The strong positive association between HSV-2 and HIV infection is seen across all regions, for both men and women.

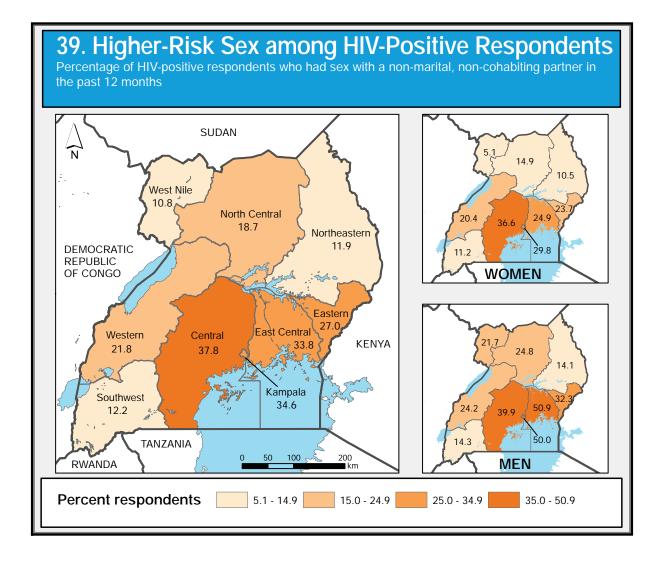


Syphilis is much less common in Uganda than herpes. Only 3.1 percent of respondents tested positive for syphilis. Prevalence was highest in the Northeastern region (4.9 percent) and lowest in the West Nile region (1.4 percent). Overall, men and women were about equally likely to have syphilis. The most marked difference was in the North Central region, where 6.0 percent of men and 3.4 percent of women had syphilis.

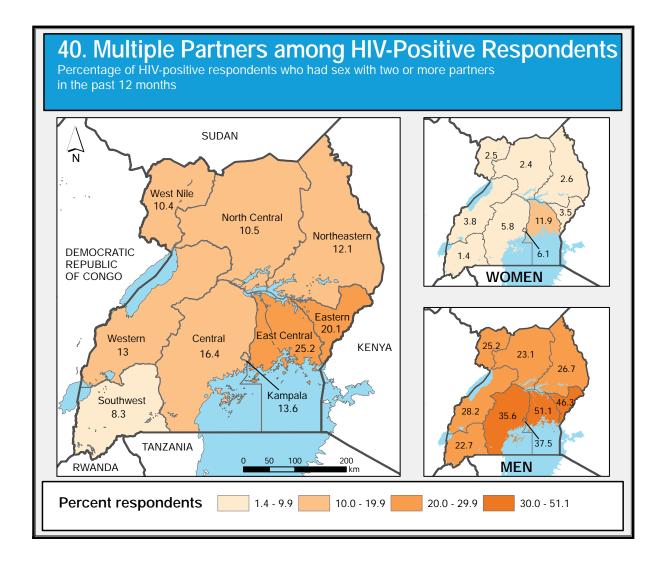


More than one-fourth (27 percent) of sexually active respondents reported having an STI or STI symptoms in the 12 months preceding the survey. The East Central region had the highest prevalence (38 percent), and the Northeastern region had the lowest prevalence (12 percent). In general, more women (33 percent) than men (21 percent) reported having an STI or STI symptoms. In the Central region, for example, 43 percent of women had an STI or STI symptoms compared with 26 percent of men.

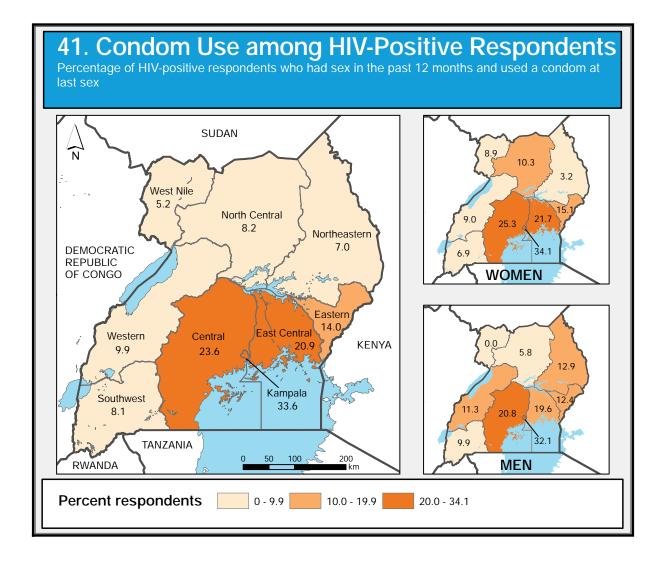
## Behaviour of HIV-Positive Respondents



Among HIV-positive respondents, 27 percent had higher-risk sex (sex with a non-marital, non-cohabiting partner) in the past year. Higher-risk sex among HIV-positive respondents is most common in Central (38 percent), Kampala (35 percent), and East Central (34 percent) regions. By contrast, only 11 percent of HIV-positive respondents in the West Nile region and 12 percent in the Northeastern and Southwest regions reported having higher-risk sex. Overall, more HIV-positive men (33 percent) than women (23 percent) reported having higher-risk sex. One in every two HIV-positive men in Kampala and East Central regions reported having higher-risk sex. By contrast, only 5 percent of HIV-positive women in the West Nile region reported having higher-risk sex.



Fifteen percent of all HIV-positive respondents had two or more sex partners in the past year. Men were far more likely to have multiple sex partners than women. Thirty-four percent of HIV-positive men compared with 5 percent of HIV-positive women reported having two or more sex partners. HIV-positive men in the East Central region were most likely to have two or more sex partners in the past year (51 percent), followed by men in the East Central region (46 percent). Twelve percent of HIV-positive women in the East Central region reported having two or more partners. In the other eight regions, less than 6 percent of women had multiple sex partners in the past year.



Most HIV-positive respondents do not use condoms. Among those who had sex in the past year, only 17 percent reported using a condom at last sex; 83 percent did not. HIV-positive respondents in Kampala were most likely to have used a condom at last sex (34 percent); however, in five of the nine regions (West Nile, Northeastern, Southwest, North Central, and Western) less than 10 percent of HIV-positive respondents did so. Men and women who are HIV positive were about equally likely to report not using condoms. None of the HIV-positive men in West Nile region reported using a condom at last sex.