



**USAID**  
FROM THE AMERICAN PEOPLE

# **LEVELS AND SPREAD OF HIV SEROPREVALENCE AND ASSOCIATED FACTORS: EVIDENCE FROM NATIONAL HOUSEHOLD SURVEYS**

## **DHS COMPARATIVE REPORTS 22**



**FEBRUARY 2009**

This publication was produced for review by the United States Agency for International Development (USAID). It was prepared by Vinod Mishra, Rathavuth Hong, and Yuan Gu of Macro International Inc., and Amy Medley and Bryant Robey of Johns Hopkins University.

MEASURE DHS assists countries worldwide in the collection and use of data to monitor and evaluate population, health, and nutrition programs. Additional information about the MEASURE DHS project can be obtained by contacting Macro International Inc., Demographic and Health Research Division, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705 (telephone: 301-572-0200; fax: 301-572-0999; e-mail: [reports@macrointernational.com](mailto:reports@macrointernational.com); internet: [www.measuredhs.com](http://www.measuredhs.com)).

The main objectives of the MEASURE DHS project are:

- to provide decisionmakers in survey countries with information useful for informed policy choices;
- to expand the international population and health database;
- to advance survey methodology; and
- to develop in participating countries the skills and resources necessary to conduct high-quality demographic and health surveys.

DHS Comparative Reports No. 22

# **Levels and Spread of HIV Seroprevalence and Associated Factors: Evidence from National Household Surveys**

Vinod Mishra<sup>1</sup>  
Amy Medley<sup>2</sup>  
Rathavuth Hong<sup>1</sup>  
Yuan Gu<sup>1</sup>  
Bryant Robey<sup>2</sup>

Macro International Inc.  
Calverton, Maryland, USA

February 2009

*Corresponding author:* Vinod Mishra, Demographic and Health Research Division, Macro International Inc., 11785 Beltsville Drive, Suite 300, Calverton, MD 20705; Phone: 301-572-0220; Fax: 301-572-0999; Email: vinod.mishra@macrointernational.com.

<sup>1</sup> Macro International Inc.

<sup>2</sup> Johns Hopkins University

Editor: Bryant Robey  
Document Production: Yuan Gu

This study was carried out with support provided by the United States Agency for International Development (USAID) through the MEASURE DHS project (#GPO-C-00-03-00002-00). The views expressed are those of the authors and do not necessarily reflect the views of USAID or the United States Government.

Recommended citation:

Mishra, Vinod, Amy Medley, Rathavuth Hong, Yuan Gu, and Bryant Robey. 2009. *Levels and Spread of HIV Seroprevalence and Associated Factors: Evidence from National Household Surveys*. DHS Comparative Reports No. 22. Calverton, Maryland, USA: Macro International Inc.

# Contents

Tables	v
Figures	vii
Preface	ix
Executive Summary	xi
1 Introduction	1
1.1 Purpose	1
1.2 Brief History and Epidemiology of the HIV Epidemic	1
1.3 Impact of HIV/AIDS	3
1.4 Organization of the Report	4
2 HIV Testing in Surveys	5
2.1 Objectives of the DHS Surveys	5
2.2 Sample Size and Design	5
2.3 Questionnaires	5
2.4 Biomarkers	6
2.5 Voucher System for Voluntary Counseling and Testing	6
2.6 Confidentiality Procedures	6
2.7 Sample Size Needs	7
3 Data and Methods	9
3.1 Data	9
3.2 Indicators Included in the Analysis	9
3.3 Data Limitations	13
3.4 Response Rates	14
4 HIV Prevalence by Demographic Characteristics	17
4.1 Key Findings	17
4.2 Introduction	17
4.3 HIV Prevalence by Age and Sex	17
4.4 HIV Prevalence by Place of Residence	32
4.5 HIV Prevalence by Years Lived in Current Place of Residence	34
4.6 HIV Prevalence by Number of Times Away From Home in the Last 12 Months	37
4.7 HIV Prevalence by Pregnancy Status and Birth in Last 3 Years	39
5 HIV Prevalence by Socioeconomic Characteristics	41
5.1 Key Findings	41
5.2 Introduction	41
5.3 HIV Prevalence by Marital Status	41
5.4 HIV Prevalence by Level of Education	44
5.5 HIV Prevalence by Occupation	46
5.6 HIV Prevalence by Household Wealth	49
5.7 HIV Prevalence by Media Exposure	53
6 HIV Prevalence by HIV/AIDS Knowledge, Misconceptions, and Attitudes	63
6.1 Key Findings	63
6.2 Introduction	63
6.3 HIV Prevalence by Knowledge of HIV Prevention Methods	63
6.4 HIV Prevalence by Knowledge of Mother-to-Child HIV Transmission	66

6.5	HIV Prevalence by Misconceptions Regarding HIV Infection	69
6.6	HIV Prevalence by Attitudes toward People Living with HIV (PLHIV)	71
7	HIV Prevalence by Risk Behaviors	77
7.1	Key Findings	77
7.2	Introduction	77
7.3	HIV Prevalence by Age at First Sex	77
7.4	HIV Prevalence by Number of Sex Partners	80
7.5	HIV Prevalence by Higher-risk Sex Behavior	85
7.6	HIV Prevalence by Alcohol Consumption	89
8	HIV Prevalence among Youth by Sexual Behavior	93
8.1	Key Findings	93
8.2	Introduction	93
8.3	HIV Prevalence among Youth by Sex and Urban/Rural Residence	93
8.4	HIV Prevalence among Youth by Age at First Sexual Intercourse	96
8.5	HIV Prevalence among Youth by Primary Abstinence	100
8.6	HIV Prevalence by Secondary Abstinence	100
9	HIV Prevalence by Protective Behaviors	103
9.1	Key Findings	103
9.2	Introduction	103
9.3	HIV Prevalence by Male Condom Use	103
9.4	HIV Prevalence by Male Circumcision	109
10	HIV Prevalence by Medical Injection Use, Prevalence of Other STIs, and Prior HIV Testing Experience	113
10.1	Key Findings	113
10.2	Introduction	113
10.3	HIV Prevalence by Medical Injection Use	113
10.4	HIV Prevalence by STIs or STI Symptoms	116
10.5	HIV Prevalence by Prior HIV Testing Experience	122
11	HIV Prevalence by Women's Status	125
11.1	Key Findings	125
11.2	Introduction	125
11.3	HIV Prevalence by Women's Age Gap with Partner	125
11.4	HIV Prevalence by Women's Ability to Negotiate Safer Sex	127
11.5	HIV Prevalence by Women's Participation in Household Decision-Making	131
12	Summary and Conclusions	135
12.1	Summary	135
12.2	Key Findings	135
12.3	Program and Policy Implications	136
	References	137

## Tables

Table 3.1	Response rates for household selection, individual interview and for HIV testing by sex, DHS and AIS surveys with HIV testing	14
Table 4.1	HIV prevalence among women and men age 15-49, by agegroup	18
Table 4.2	HIV prevalence among women and men age 15-49, by urban/rural residence	32
Table 4.3	HIV prevalence among women and men aged 15-49, by number of years live in current residence	35
Table 4.4	HIV prevalence among men age 15-49, by number of times away from home in last 12 months and away from home more than one month	37
Table 4.5	HIV prevalence among women age 15-49, by pregnancy status, birth in last 3 years with antenatal care visit	39
Table 5.1	HIV prevalence among women and men age 15-49, by marital status	42
Table 5.2	HIV prevalence among women and men age 15-49, by education level	44
Table 5.3	HIV prevalence among women and men age 15-49, by occupation	47
Table 5.4	HIV prevalence among women and men age 15-49, by household wealth status	49
Table 5.5	HIV prevalence among women and men age 15-49, by frequency of listening to radio	53
Table 5.6	HIV prevalence among women and men age 15-49, by frequency watching television	56
Table 5.7	HIV prevalence among women and men age 15-49, by frequency of reading newspaper and magazine	58
Table 5.8	HIV prevalence among women and men age 15-49, by number of media sources exposed to at least once per week	61
Table 6.1	HIV prevalence among women and men age 15-49, by knowledge of AIDS prevention methods	64
Table 6.2	HIV prevalence among women and men age 15-49, by knowledge of mother-to-child-transmission (MTCT) of HIV	67
Table 6.3	HIV prevalence among women and men age 15-49, by misconceptions about HIV infection	69
Table 6.4	HIV prevalence among women and men age 15-49, by attitude toward people living with HIV (PLHIV)	72
Table 7.1	HIV prevalence among women and men age 15-49, by age at fist sexual intercourse	78
Table 7.2	HIV prevalence among women and men age 15-49, by number of sexual partners in past 12 months (only among those who ever had sex) and by number of lifetime sexual partners	81
Table 7.3	HIV prevalence among women and men age 15-49, by higher risk sexual behavior among those who had sex in past 12 months before the survey	86
Table 7.4	HIV prevalence among women and men age 15-49, by alcohol consumption in last 3 months, and by alcohol consumption before last sex (among those who had sex in last 12months)	90
Table 8.1	HIV prevalence among women and men age 15-24, by urban/rural residence	93
Table 8.2	HIV prevalence among women and men age 15-24, by age at first sexual intercourse	96
Table 8.3	HIV prevalence among women and men age 15-24, by primary abstinence (never had sex) and secondary abstinence (ever had sex, but not in last 12m)	100
Table 9.1	HIV prevalence among women and men age 15-49, by ever use of condom (among those who ever had sex) and consistent use of condom in last 12 months (among those who had sex in last 12 months)	104

Table 9.2	HIV prevalence among women and men age 15-49, by condom use at last sex (among those who had sex in last 12 months) and condom use at last higher risk sex (among those who had higher risk sex)	107
Table 9.3	HIV prevalence among men age 15-49, by male circumcision	109
Table 10.1	HIV prevalence by receipt of medical injections	114
Table 10.2	HIV prevalence among women and men age 15-49 who ever had sex, by having STI or STI symptom in the last 12 months	117
Table 10.3	HIV prevalence among women and men age 15-49, by previous HIV testing experience, and whether received result of most recent HIV test (among those previously tested)	123
Table 11.1	Observed HIV prevalence among women age 15-19, by age-gap with the most recent sex partner in last 12 months (among those who had sex in past 12 months)	126
Table 11.2	HIV prevalence among women and men age 15-49 who agreed that wife is justified for asking husband to use condom and refusing sex with husband if he has an STI	128
Table 11.3	HIV prevalence among women age 15-49, by their participation in household decision-making	128



## Figures

Figure 3.1	Response rates for HIV testing, men and women in 22 DHS and AIS surveys	16
Figure 4.1a	HIV prevalence among tested men and women 15-49 by age group, India 2005/06	21
Figure 4.1b	HIV prevalence among tested men and women 15-49 by age group, Hai Phong Province, Vietnam 2005	21
Figure 4.1c	HIV prevalence among tested men and women 15-49 by age group, Cambodia 2005	22
Figure 4.1d	HIV prevalence among tested men and women 15-49 by age group, Senegal 2005	22
Figure 4.1e	HIV prevalence among tested men and women 15-49 by age group, Niger 2005	23
Figure 4.1f	HIV prevalence among tested men and women 15-49 by age group, Dominican Republic 2002	23
Figure 4.1g	HIV prevalence among tested men and women 15-49 by age group, Ethiopia 2005	24
Figure 4.1h	HIV prevalence among tested men and women 15-49 by age group, Guinea 2005	24
Figure 4.1i	HIV prevalence among tested men and women 15-49 by age group, Mali 2001	25
Figure 4.1j	HIV prevalence among tested men and women 15-49 by age group, Burkina Faso 2003	25
Figure 4.1k	HIV prevalence among tested men and women 15-49 by age group, Ghana 2003	26
Figure 4.1l	HIV prevalence among tested men and women 15-49 by age group, Haiti 2005	26
Figure 4.1m	HIV prevalence among tested men and women 15-49 by age group, Rwanda 2005	27
Figure 4.1n	HIV prevalence among tested men and women 15-49 by age group, Côte d'Ivoire 2005	27
Figure 4.1o	HIV prevalence among tested men and women 15-49 by age group, Cameroon 2004	28
Figure 4.1p	HIV prevalence among tested men and women 15-49 by age group, Uganda 2004/05	28
Figure 4.1q	HIV prevalence among tested men and women 15-49 by age group, Kenya 2003	29
Figure 4.1r	HIV prevalence among tested men and women 15-49 by age group, Tanzania 2003/04	29
Figure 4.1s	HIV prevalence among tested men and women 15-49 by age group, Malawi 2004	30
Figure 4.1t	HIV prevalence among tested men and women 15-49 by age group, Zambia 2001/02	30
Figure 4.1u	HIV prevalence among tested men and women 15-49 by age group, Zimbabwe 2005	31
Figure 4.1v	HIV prevalence among tested men and women 15-49 by age group, Lesotho 2004/05	31
Figure 5.1	HIV prevalence among tested men 15-49 by wealth status	52
Figure 5.2	HIV prevalence among tested women 15-49 by wealth status	52
Figure 7.1	HIV prevalence among tested men 15-49 by number of lifetime sexual partners	84
Figure 7.2	HIV prevalence among tested women 15-49 by number of lifetime sexual partners	84
Figure 7.3	HIV prevalence among tested men 15-49 by sex with a non-spousal partner in last 12 months	88
Figure 7.4	HIV prevalence among tested women 15-49 by sex with a non-spousal partner in last 12 months	88
Figure 8.1	HIV prevalence among tested men 20-24 who had first sexual intercourse before age 18	99
Figure 8.2	HIV prevalence among tested women 20-24 who had first sexual intercourse before age 18	99
Figure 9.1	HIV prevalence among tested men 15-49 by male circumcision	111
Figure 10.1	HIV prevalence among tested men 15-49 by receipt of 3+ medical injections	115
Figure 10.2	HIV prevalence among tested women 15-49 by receipt of 3+ medical injections	115

Figure 10.3	HIV prevalence among tested men 15-49 who ever had sex by reported STI or STI symptoms in last 12 months	121
Figure 10.4	HIV prevalence among tested women 15-49 who ever had sex by reported STI or STI symptoms in last 12 months	121
Figure 11.1	HIV prevalence among tested women 15-19 who had sex in past 12 months by age-gap with the most recent sex partner in last 12 months	127
Figure 11.2	HIV prevalence among tested women age 15-49 by their participation in household decision-making	134

## Preface

One of the most significant contributions of the MEASURE DHS program is the creation of an internationally comparable body of data on the demographic and health characteristics of populations in developing countries. The *DHS Comparative Reports* series examines these data across countries in a comparative framework. The *DHS Analytical Studies* series focuses on specific topics. The principal objectives of both series are to provide information for policy formulation at the international level and to examine individual country results in an international context. Whereas *Comparative Reports* are primarily descriptive, *Analytical Studies* have a more analytical approach.

The *Comparative Reports* series covers a variable number of countries, depending on the availability of data sets. Where possible, data from previous DHS surveys are used to evaluate trends over time. Each report provides detailed tables and graphs organized by region. Survey-related issues such as questionnaire comparability, survey procedures, data quality, and methodological approaches are addressed as needed.

The topics covered in *Comparative Reports* are selected by MEASURE DHS staff in conjunction with the U.S. Agency for International Development. Some reports are updates of previously published reports.

It is anticipated that the availability of comparable information for a large number of developing countries will enhance the understanding of important issues in the fields of international population and health by analysts and policymakers.

Ann Way  
Project Director



## Executive Summary

This report summarizes HIV prevalence and the associations between HIV serostatus and key characteristics and behaviors of adult women and men in 22 developing countries, primarily in sub-Saharan Africa. Data come from Demographic and Health Surveys (DHS) and AIDS Indicator Surveys (AIS) conducted between 2001 and 2006. In most of these surveys, nationally representative samples of women age 15-49 and men age 15-59 were tested for HIV. Inclusion of HIV testing in DHS and AIS surveys provides direct data on the distribution of HIV infection among the general population and subgroups and allows individual HIV test results to be linked with information on characteristics of the respondents.

Policymakers and program managers need accurate estimates of the size and scope of a country's HIV epidemic and the distribution of HIV infection within a population in order to identify geographical areas with elevated HIV infection rates and higher-risk and vulnerable populations. Moreover, understanding the biological, socioeconomic, and behavioral factors associated with HIV infection offers insight into appropriate interventions for prevention, care and support, and treatment programs.

Key findings of the study include:

*Demographic characteristics.* HIV prevalence varies considerably among the 22 countries studied, from 0.3 percent in India to 23.5 percent in Lesotho. In most countries HIV prevalence is higher among women than men, and for all but two countries prevalence is higher in urban than rural areas. Among men who were away from their home at least once in the year before the survey, the number of times the person left home but not the amount of time spent away from home during an absence is related to higher HIV prevalence.

*Socioeconomic characteristics.* HIV prevalence is related to marital status, with widowed and divorced people at greatest risk, and never-married people at lowest risk. In most countries, HIV prevalence is higher among people with more education and those with more household wealth.

*Knowledge and attitudes.* Differences in HIV prevalence are small between individuals who know or do not know the three main HIV prevention strategies—abstinence, monogamy, and condom use. In most countries, knowledge of all three methods of HIV prevention is associated with higher HIV prevalence. There is little difference in HIV prevalence among people who have correct information about the modes of HIV transmission, suggesting that knowledge about HIV is probably not strongly associated with HIV prevalence.

*Risk behaviors.* HIV prevalence increases with increasing number of lifetime sex partners, while earlier age of sexual debut is also associated with higher HIV prevalence, especially among women. In most countries, HIV prevalence is higher among respondents who report having sex with a non-marital, non-cohabitating partner in the 12 months preceding the survey. Alcohol use by either or both partners at last sex is also associated with higher HIV prevalence, especially among women.

*Youth.* In most countries studied for this report, youth who were under age 18 at their first sexual encounter have higher rates of HIV prevalence than other youth age 15-24. This finding is true for both men and women. With the exception of Lesotho, HIV prevalence is low among youth who have never had sex (primary abstinence) and also among youth who did not have sex in the 12 months preceding the survey (secondary abstinence).

*Protective behaviors.* Ever-use of condoms is associated with higher HIV prevalence, both overall and for men and women separately. Generally, the difference in HIV prevalence is small between

respondents who do, or do not, consistently use condoms. In the majority of countries, not using condoms at last sex, and/or at last sex with a higher-risk partner, is associated with higher HIV prevalence, especially among women. There appears no clear pattern of association between male circumcision and HIV prevalence—in 8 of 18 countries with data, HIV prevalence is lower among circumcised men, while in the remaining 10 countries it is higher.

*Unsafe medical injections, other STIs, and prior HIV testing experience.* In most countries studied, receiving multiple medical injections in the recent past is positively associated with being HIV-infected, for both women and men. Unsafe medical injections—those given with re-used, non-sterilized equipment—have been associated with higher HIV prevalence. Also, STIs, including herpes, syphilis, and gonorrhea, are known to increase the risk of HIV transmission. In most countries studied, having an STI in the past 12 months is associated with higher HIV prevalence, both overall and for men and women separately. In all countries studied, HIV prevalence is higher among respondents who report having been previously tested for HIV, both overall and for men and women separately.

*Women's status.* HIV prevalence is higher among both male and female respondents who agree that women can negotiate safer sex with their husband if he is infected with an STI, and prevalence also is generally higher among women who report participation in household decision making. These positive associations between measures of women's empowerment and HIV prevalence may be due to more empowered women having higher education, greater work force participation, and higher wealth status, which have been associated with higher prevalence of HIV.

Several limitations should be kept in mind in interpreting the study's findings: Because the analysis is based on self-reported behaviors, findings may be biased to the extent that respondents may misreport these behaviors. Also, because the analysis is based on cross-sectional data, the reported associations may not imply causality. Some observed relationships may be due to reverse causality. Also, HIV infection may have preceded the behaviors recorded for the 12 months preceding the survey, which may bias some of the observed associations.

Despite the limitations, studies that link HIV prevalence to characteristics of the population can provide valuable data for HIV programs and policies. They are more representative of population groups and geographic areas than antenatal clinic surveillance and include samples from urban and rural areas, men and women, and different age groups. They can help policymakers and program planners identify vulnerable areas and groups, understand risk factors, and plan responses to the HIV/AIDS epidemic.

# 1 Introduction

## 1.1 Purpose

Policymakers and program managers need accurate estimates of the size and scope of a country's HIV epidemic and the distribution of HIV infection within a population in order to identify geographical areas with elevated HIV infection rates and higher-risk and vulnerable populations. Moreover, understanding the biological, socioeconomic, and behavioral factors associated with HIV infection offers insight into appropriate interventions for prevention, care and support, and treatment programs.

In countries with generalized epidemics, national estimates of HIV prevalence and trends in the adult population generally are derived indirectly from HIV surveillance among pregnant women attending selected antenatal clinics (UNAIDS/WHO, 2005). While the rate of HIV infection in pregnant women can sometimes be a reasonable proxy measure for HIV prevalence in the combined male and female adult population, this method has some limitations. Antenatal surveillance data do not include direct information about HIV prevalence in men, and assumptions about the male infection rate made from the data on pregnant women may or may not be accurate. Also, the system does not capture information on HIV prevalence among non-pregnant women, or among pregnant women who do not seek antenatal care. Clinic-based surveillance programs also tend to under-represent remote rural populations, who may have a different HIV risk profile than urban women. Moreover, pregnant women may be at more risk for HIV infection than women who are less sexually active or women who use condoms. Prevalence data from antenatal clinics are also somewhat limited because they do not include information on socioeconomic characteristics and risk behaviors, a drawback that limits the data's ability to assess factors important for targeting HIV prevention activities.

Inclusion of HIV testing as part of national Demographic and Health Surveys (DHS) and AIDS Indicator Surveys (AIS) provides direct data on the distribution of HIV infection among the general adult population, remote rural populations, men, and younger non-pregnant women. In addition, the survey protocol allows individual HIV test results to be linked with information collected in the survey on demographic, socioeconomic, and behavioral characteristics of the respondents (Mishra et al., 2006).

This report summarizes HIV seroprevalence levels and the associations between HIV serostatus and several key characteristics and behaviors of adult women and men in 22 developing countries, using data from nationally representative DHS and AIS Surveys conducted between 2001 and 2006. The countries included are, by region:

- ***Sub-Saharan Africa:*** Burkina Faso, Cameroon, Côte d'Ivoire, Ethiopia, Ghana, Guinea, Kenya, Lesotho, Malawi, Mali, Niger, Rwanda, Senegal, Tanzania, Uganda, Zambia, Zimbabwe;
- ***Latin America and Caribbean:*** the Dominican Republic, Haiti;
- ***Asia:*** Cambodia, India, Vietnam (the Hai Phong province).

## 1.2 Brief History and Epidemiology of the HIV Epidemic

In 1981 a new disease known as the Acquired Immune Deficiency Syndrome (AIDS) was identified in the United States among men who have sex with men (MSM). Two years later, in 1983, the etiological agent for this new disease was identified as the human immunodeficiency virus (HIV) (UNAIDS/WHO, 2003). Over the course of the next 25 years, the number of people infected with HIV exploded globally. By the end of 2007, an estimated 33 million people worldwide were living with HIV.

During that year an estimated 2.7 million people were newly infected with HIV and 2 million people lost their lives to AIDS (UNAIDS, 2008). The sheer number of individuals infected with HIV and affected by the epidemic marks it as a true global pandemic.

Within countries, HIV epidemics can be divided into three main types based on HIV prevalence both in at-risk sub-populations and in the general population (UNAIDS/WHO, 2003). These types are generalized, concentrated, and low epidemics. In countries with a low HIV epidemic, HIV prevalence is mainly confined to individuals with higher-risk behavior, such as commercial sex workers, injection drug users (IDUs), and men who have sex with men, although the risk networks in these countries are fairly diffuse (e.g., low levels of needle/syringe sharing among IDUs). In these countries HIV prevalence does not consistently exceed 5 percent in any defined sub-population.

In concentrated epidemics, the virus is rapidly spreading among defined sub-populations due to an active network of risk (e.g., high levels of needle/syringe sharing among IDUs). However, the prevalence in the general adult population remains low (less than 1 percent).

In generalized HIV epidemics, the HIV virus has spread to the general population and is passed mainly through sexual networks, independent of higher-risk behavior in the sub-populations. Countries are considered to have a generalized HIV epidemic when HIV prevalence in the general population is over 1 percent.

Sub-Saharan Africa remains the region hardest hit by the HIV epidemic. Globally, two-thirds of people infected with HIV live in sub-Saharan Africa, and this region accounts for three-quarters of all AIDS deaths (UNAIDS, 2008). Currently, 22 million people in this region are estimated to be HIV-infected, the majority of whom (60 percent) are women. Although epidemics in most countries in this region are generalized, national adult HIV prevalence varies considerably, from just 1 percent in Senegal to 26 percent in Swaziland (UNAIDS, 2008).

Southern Africa has been especially hard hit: seven southern African countries (Botswana, Lesotho, Namibia, South Africa, Swaziland, Zambia, and Zimbabwe) have national adult HIV rates at or above 15 percent. Most of the HIV epidemics in southern African countries appear to be stabilizing and in some cases HIV rates are decreasing. Data from antenatal clinics in Zimbabwe, Botswana, Malawi, Zambia, and South Africa suggest a decline in adult HIV prevalence. Unfortunately, in Lesotho and parts of Mozambique antenatal data suggest an increase in HIV prevalence. In East Africa, most countries have stable or decreasing HIV prevalence. Kenya and Tanzania have witnessed a decrease in HIV prevalence, while in Burundi, Eritrea, Ethiopia, Rwanda, and Uganda the HIV epidemics appear to have stabilized. West Africa consistently has had lower national HIV prevalence compared with other regions of Africa, with most rates between 1 percent and 5 percent. National HIV prevalence has declined in Cote d'Ivoire and remained stable in Benin, Burkina Faso, Mali, and Nigeria.

In Asia, national HIV prevalence varies considerably by country. An estimated 5.0 million people in the region are estimated to be HIV-infected. HIV prevalence in Cambodia, Myanmar, and Thailand has recently declined. However, Indonesia, Pakistan, Bangladesh, China, and Vietnam have all seen increases in HIV prevalence. The epidemic in Vietnam is particularly concerning as the number of people living with HIV in that country more than doubled between 2000 and 2005. Despite the recent reduction in the estimate of India's national HIV prevalence, a large number of people remain affected by the HIV epidemic due to the sheer population size of the country. An estimated 1.8 million to 3.2 million people in the country are currently living with HIV, making India one of the hardest hit countries in terms of numbers of people affected, despite its relatively low national HIV prevalence (0.30 percent).



In Latin America and the Caribbean, an estimated 1.9 million people are living with HIV. The HIV epidemic is largest in Brazil, where around 640,000 people over the age of 15 are living with the virus. However, aggressive prevention and treatment programs by the Brazilian government have reduced HIV prevalence among higher-risk groups, such as injection drug users (IDUs), and simultaneously reduced the number of deaths due to AIDS. The Bahamas has the largest HIV epidemic in the Caribbean, with adult HIV prevalence at 2.2 percent. Unprotected sex among men who have sex with men and among commercial sex workers and their clients are the two main modes of HIV transmission in Latin America and the Caribbean.

### **1.3 Impact of HIV/AIDS**

The HIV epidemic has had a devastating impact according to a number of key demographic indicators. The International Monetary Fund (2004) estimates that in many of the hardest hit countries life expectancy at age 15 has dropped between six and eight years due to HIV/AIDS. The epidemic has also reversed gains made in child survival; infant and child mortality rates are an estimated one-third to two-thirds higher due to HIV/AIDS (DeCock et al., 2000). A study in Tanzania found that 8.3 percent of infant mortality could be directly attributed to HIV/AIDS, either due to vertical transmission of HIV from mother to child or through increased risk of child mortality following a maternal death (Ng'weshemi et al., 2003).

The number of children orphaned by the HIV/AIDS epidemic continues to expand. By the year 2010, it is estimated that as many as 40 million children in developing countries will have lost one or both parents to HIV/AIDS (Lyons, 2000). AIDS orphans are likely to have a higher risk of HIV infection, further perpetuating the HIV epidemic (UNDP, 2001).

HIV/AIDS importantly affects children's life and the families of children's caregivers. AIDS orphans are less likely to attend school (Case et al., 2004; Mishra and Bignami-Van Assche, 2008). Children of HIV-infected parents are less likely to receive treatment or care when sick (Mishra et al., 2007a), as well as suffer from the trauma of sickness and eventual death of a parent and associated hardships. The burden of caring for a sick parent often falls on children; many are forced to drop out of school and take on adult roles (Case et al., 2004; UNICEF and UNAIDS, 2006). Parental HIV-related illness and death often lead to decreased household resources due to treatment costs and job loss (Hunter, 2003), which may affect health care and the nutritional status of children. Death of even one parent could result in changes in living arrangements, displacement, and lack of availability of resources for schooling, health care, and food for children. For youth, parental sickness or loss may also translate in risky behaviors, sexual exploitation or abuse, as well as being associated with the burden to seek employment to support an ailing parent or younger siblings. Orphaned youth are more likely to work and less likely to practice sexual abstinence than non-orphaned youth (Mishra and Bignami-Van Assche, 2008).

The HIV epidemic has placed severe pressure on the health sectors of many countries. The estimated costs of treating an HIV-infected patient, not including the costs of antiretroviral treatment, is US\$30 per capita (UNDP, 2001), three times the US\$10 per capita that many countries in sub-Saharan Africa spent on total health care in 2005 (WHO, 2006). The huge amount of money spent on HIV/AIDS programs leaves few resources left for other crucial public health programs, such as malaria control, childhood vaccination, and safe motherhood initiatives (Hunter, 2003).

In addition, the HIV epidemic interacts with other endemic diseases, magnifying the burden on health systems. For example, in most countries with generalized HIV epidemics the incidence of tuberculosis has increased rapidly in recent years (WHO, 2007). Thirty percent of all incident tuberculosis cases are co-infected with HIV, with the result that tuberculosis becomes much harder to control (WHO, 2007). In many parts of sub-Saharan Africa malaria is highly endemic (WHO/UNICEF, 2005), and there

is evidence of an interaction between malaria and HIV. Malaria has been associated with higher HIV viral loads and lower CD4 counts (Mermin et al., 2006). Co-infection with HIV and malaria during pregnancy has been linked to increased rates of anemia and to an increased risk of adverse birth outcomes (ter Kuile et al., 2004). HIV-infected women with placental malaria have increased viral loads, research shows, but the effect on mother-to-child transmission of HIV remains unclear (ter Kuile et al., 2004). In many countries sexually transmitted infections (STIs), such as syphilis and herpes, are prevalent among both men and women (Schulz, 2004). The ulcerative nature of these infections increases the risk of HIV transmission, both horizontally and vertically (Cowan et al., 2008; Royce et al., 1997; Gray et al., 2001).

The HIV epidemic is not only a health problem but also affects every other sector. The HIV epidemic has had a huge impact on countries' ability to reach their development potential. HIV is most prevalent among individuals age 15-49, the prime working years (UNAIDS, 2008). Normally, in countries without a generalized HIV epidemic adult mortality is low compared with older or younger age groups. However, in countries with a high HIV prevalence, as in eastern and southern Africa, the percent of adult deaths as a share of all deaths is quite high. The IMF (2004) estimates that, without HIV, only 20 percent of all deaths in Uganda would be among adults age 15-49. In the face of the HIV epidemic, however, 38 percent of all deaths in Uganda are among this age group.

HIV's heavy toll on the adult population has severe implications for a country's labor sector and national productivity. Shortages of labor mean a decrease in agricultural production, which threatens the country's food security (UNDP, 2001). Furthermore, reduced productivity from frequent employee absenteeism and rapid labor turnover due to HIV-related illnesses, together with high health care costs, reduces private-sector profitability and public-sector effectiveness and makes it harder to attract investment (UNDP, 2001).

## **1.4 Organization of the Report**

Chapter 2 provides a summary of the procedures used to collect the HIV seroprevalence data in the DHS and AIS surveys. Chapter 3 describes the data, samples sizes, and response rates, defines the key indicators, and discusses limitations of the data. Chapter 4 describes HIV prevalence by basic demographic characteristics, while Chapter 5 describes HIV prevalence by broader socioeconomic factors. Chapter 6 presents HIV prevalence by selected indicators of knowledge of HIV prevention methods, knowledge of mother to child transmission, misconceptions about HIV transmission, and attitudes toward people living with HIV. Chapter 7 shows associations between selected risk behaviors and HIV serostatus. Chapter 8 focuses on youth sexual behaviors. Chapter 9 shows associations between key protective behaviors and HIV serostatus. Chapter 10 presents associations between other modes of transmission and HIV serostatus. Chapter 11 presents HIV prevalence by indicators of women's status. Finally, Chapter 12 summarizes the key results and implications of the findings.

## **2 HIV Testing in Surveys**

### **2.1 Objectives of the DHS Surveys**

The DHS program has conducted more than 200 national household surveys in more than 80 developing countries worldwide since 1984. These representative, population-based surveys are primarily health interviews with questions on maternal and child health, family planning, nutrition, knowledge and behaviors related to HIV/AIDS, and key demographic and socioeconomic factors. Increasingly these surveys include collection of biological and clinical data such as anthropometric measurements and testing for anemia and HIV. Starting in 2001, more than 2 dozen DHS surveys have included HIV testing. The goal of HIV-related surveys is to provide program managers and policymakers involved in HIV/AIDS programs with strategic information at the national and sub-national levels needed to monitor and evaluate existing programs and to effectively design new strategies for combating the HIV epidemic within their country.

### **2.2 Sample Size and Design**

The DHS selects random sample clusters from a national sampling frame, usually from the national population census. Within the selected clusters, a full listing of all households is made before the survey and a systematic random sample of households is taken. Any household members who are absent on the day of the interview are re-contacted. An individual is only considered absent from the household after three callback attempts.

### **2.3 Questionnaires**

Three questionnaires are used in the surveys, a household questionnaire, an individual woman's questionnaire, and an individual man's questionnaire. The contents of these questionnaires are based on the model DHS questionnaires developed by the MEASURE DHS program. The household questionnaire lists all the usual members and visitors in the selected households. Its main purpose is to identify women and men who are eligible for the individual interviews.

The household questionnaire collects some basic information on the characteristics of each person listed, including age, sex, education, marital status, urban/rural residence, relationship to the head of the household, and orphanhood among children under age 18 years. The household questionnaire also collects information on characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor, ownership of various durable goods, and ownership of mosquito nets. It also collects information on whether the household received specific types of care and support in the preceding 12 months for any chronically ill adults, any household members who died, and any orphans and vulnerable children. The household questionnaire also records respondents' consent to volunteer to give blood samples. The blood collection and testing procedures are described in the next section.

The individual questionnaires collect information from all eligible women and men in the sample households. In most countries women age 15-49 and men age 15-59 are eligible for participation. The individual questionnaires collect information on demographic and socioeconomic characteristics, marriage, sexual activity, knowledge and attitudes toward HIV/AIDS, and knowledge and prevalence of other STIs.

## **2.4 Biomarkers**

In most surveys discussed in this report, HIV testing was done using dried blood samples (DBS) of capillary blood from a finger prick, collected on special filter paper. The only exceptions are the 2002 Dominican Republic DHS, in which oral mucosal transudate was used, and the 2001-2002 Zambia DHS and the 2004-2005 Uganda AIS, in which venous blood was used for testing. The DBS method is preferred because it is considered less invasive than a venous blood sample and is easier to store and transport.

For each participant, three to five preprinted circles on the blood-spot collection card are filled with blood drops. Samples collected on filter paper are allowed to dry overnight in a drying box with desiccant and a humidity indicator card, after which the field worker packs each sample in a low gas-permeable zipper-locked plastic bag with desiccant and a humidity indicator card. All individually-packed samples from a cluster are then packed in a larger zipper-locked plastic bag with desiccants and the necessary tracking information. Appropriately packed DBS samples are stored in an insulated box and transported to a central laboratory for HIV testing (Macro International, 2007a, 2007b).

A central laboratory is identified in each country to process the DBS samples for HIV testing. The testing at this laboratory follows a standard algorithm designed to maximize the sensitivity and specificity of HIV test results. The algorithm uses two different HIV antibody enzyme-linked immunosorbent assays (ELISA), based on different antigens. All discordant samples that are positive in the first test and negative in the second test are retested using both ELISAs. Discordant samples from this second round of testing are classified as “indeterminate” and these samples are subjected to a Western blot confirmatory test, the result of which is considered final.

During the sample processing, the laboratory adheres to an approved quality assurance and quality control plan with both internal and external components. For internal quality assurance these steps are repeated for 5 to 10 percent of randomly selected samples that tested negative on the first test (Macro International, 2007a, 2007b). For external quality assessment a subset of DBS samples (usually 5 percent) is submitted to an outside reference laboratory for retesting.

## **2.5 Voucher System for Voluntary Counseling and Testing**

Participants are not given the results of their HIV test as part of the DHS. However, all survey participants are given country-specific information brochures on HIV/AIDS in their local language. Each respondent eligible for HIV testing, regardless of whether the respondent agrees to be tested for HIV as part of the survey, is also given information on the nearest facility providing voluntary counseling and testing and is encouraged to use these services. If local HIV testing services are not free, eligible participants are given a voucher that entitles them to go to the closest HIV testing facility for free HIV counseling and testing. In countries with limited HIV testing facilities, efforts are made to increase access to HIV testing services.

## **2.6 Confidentiality Procedures**

To protect the confidentiality of the participants, the data are made anonymous by scrambling the cluster and household numbers associated with each participant in such a way as to make it impossible to associate an individual data record with a particular place and household. HIV test results are linked to data from the questionnaires using barcodes only after the identity codes have been scrambled and the files containing the original identity codes have been destroyed. Because the test results cannot be linked to a respondent's identity, there is no possibility of inadvertent disclosure. Any paper records that might compromise the confidentiality of the respondents, such as the pages of the questionnaires containing

barcodes, are also destroyed. All HIV testing procedures are reviewed by the ethical review boards of Macro International Inc. (a United States–based company that provides technical assistance to DHS surveys around the world), the host country, and any other implementing partners.

## **2.7 Sample Size Needs**

To obtain reliable national HIV estimates disaggregated by sex and urban/rural residence, a representative sample of at least 3,000 households is required. If, on average, there is one eligible man and one eligible woman in each sample household, and if 10 percent of the eligible men and women do not participate in the survey, a final sample of roughly 5,400 tested adults is needed. For a population with an estimated HIV prevalence of 5 percent, such a sample would provide a 95 percent confidence interval of from 4.3 percent to 5.7 percent at the national level. Larger sample sizes are required if HIV prevalence is lower or if further disaggregation of HIV estimates is desired.



## 3 Data and Methods

### 3.1 Data

This report analyzes data from 22 DHS and AIS surveys that included HIV testing and were conducted between 2001 and 2006. In the first three DHS surveys—Mali, the Dominican Republic, and Zambia—only age, sex, urban/rural residence, and geographic region of residence for the tested individuals were recorded on the blood samples. In these surveys, HIV test results cannot be linked to the information in the household and individual questionnaires. In the 19 surveys with linked HIV serostatus data—of which 15 are DHS surveys (Burkina Faso, Cambodia, Cameroon, Ethiopia, Ghana, Guinea, Haiti, India, Kenya, Lesotho, Malawi, Niger, Rwanda, Senegal, and Zimbabwe) and 4 are AIS surveys (Côte d’Ivoire, Tanzania, Uganda, and Vietnam)—HIV test results can be linked anonymously to all the respondents’ information collected in the questionnaires, after scrambling the household and cluster identification codes. In Vietnam HIV testing was limited to the Hai Phong province.

In most surveys, nationally representative samples of women age 15-49 and men age 15-59 were tested for HIV. The exceptions are Uganda, where women age 15-59 were tested; Tanzania, Côte d’Ivoire, and Cambodia, where men age 15-49 were tested; and India, Kenya, Malawi, and Zimbabwe, where men age 15-54 were tested. The 2004-2005 Uganda survey also tested HIV status among children under age 5. In the 22 countries included in this analysis, the numbers eligible for HIV testing ranged from 820 men (age 15-49) and 971 women (age 15-49) in the Hai Phong province of Vietnam to 64,175 men (age 15-54) and 62,182 women (age 15-49) in India. The analysis in this report is limited to women and men age 15-49.

Details about the sampling design and data collection procedures used in each survey are available in the individual country reports (Cayemittes et al., 2007; CBS [Kenya], MOH [Kenya], and ORC Macro, 2004; CESDEM [Dominican Republic] and ORC Macro, 2003; CPS/MS [Mali], DNSI [Mali], and ORC Macro, 2002; CSA [Ethiopia] and ORC Macro, 2006; CSO [Zambia], CBH [Zambia], and ORC Macro, 2003; CSO [Zimbabwe] and Macro International 2007; DNS [Guinée] and ORC Macro, 2006; GSO [Vietnam], NIHE [Vietnam], and ORC Macro, 2006; GSS [Ghana], NMIMR [Ghana], and ORC Macro, 2004; IIPS [India] and Macro International, 2007; INS [Cameroun] and ORC Macro, 2004; INS [Côte d’Ivoire] and Macro International 2006; INS [Niger] and Macro International, 2007; INSD [Burkina Faso], and ORC Macro, 2004; INSR [Rwanda] and ORC Macro, 2006; MOHSW [Lesotho], BOS [Lesotho] and ORC Macro, 2005; Ndiaye et al., 2006; NIPH [Cambodia], NIS [Cambodia], and ORC Macro, 2006; NSO [Malawi] and ORC Macro, 2005; TACAIDS [Tanzania], NBS [Tanzania], and ORC Macro, 2005; UBOS [Uganda] and Macro International, 2007)

### 3.2 Indicators Included in the Analysis

#### *Demographic Characteristics*

1. Age in years (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49)
2. Sex (male, female)
3. Residence (urban, rural)
4. Number of years living in the current place of residence (<3 years, 3–9 years, 10+ years)
5. Away from home for one month or longer (no, yes) (men only)

6. Number of times slept away from home in the last 12 months (0, 1–2, 3–4, 5+ times) (men only)
7. Pregnancy status of woman at the time of the survey (not pregnant, pregnant)
8. Woman gave birth in the past three years and received antenatal care for the last birth (ANC) (no birth, last birth without ANC, last birth with ANC)

***Socioeconomic Characteristics***

1. Marital status (never in union, currently in a monogamous union, currently in a polygynous union, widowed, divorced/separated)
2. Education (no education, primary incomplete, primary complete, secondary or higher)
3. Occupation (not working, professional/white-collar, agriculture, manual/domestic labor)
4. Household wealth status, measured using a household assets score divided into quintiles (lowest, lower, middle, higher, highest) (Rutstein and Johnson, 2004)
5. Media exposure:
  6. Frequency of listening to the radio (not at all, less than once per week, at least once per week)
  7. Frequency of watching television (not at all, less than once per week, at least once per week)
  8. Frequency of reading a newspaper or magazine (not at all, less than once per week, at least once per week)
  9. Number of media sources exposed to at least once per week (none, any one, any two, all three)

***HIV Prevention Knowledge, Misconceptions, and Attitudes toward PLHIV***

*Knowledge:*

1. Knowledge of abstinence (A): Knowing that HIV infection can be prevented by abstaining from sex (no, yes)
2. Knowledge of being faithful (B): Knowing that HIV infection can be prevented by limiting sex to one faithful partner (no, yes).
3. Knowledge of condom use (C): Knowing that HIV infection can be prevented by always using condom when having sex (no, yes)
4. Knowledge of ABC prevention methods: Knowing that HIV infection can be prevented by abstaining from sex, limiting sex to one faithful partner, AND by always using condom when having sex (no, yes)
5. Knowledge of mother-to-child transmission (MTCT): Knowing that HIV infection can be transmitted from mother to child through breastfeeding (no, yes)



6. Knowledge of preventing MTCT: Knowing that there is a special drug that could prevent HIV transmission from mother to child (no, yes)

*Misconceptions:*

7. Knowing that a healthy-looking person can have HIV (no, yes)
8. Knowing that HIV cannot be transmitted by mosquitoes (yes/can, no/cannot)

*Accepting attitudes toward people living with HIV (PLHIV):*

9. Would not want the HIV-positive status of a family member to remain secret (no, yes)
10. Willingness to care for a family member who has AIDS (no, yes)
11. Would allow an HIV-infected female teacher to continue teaching (no, yes) (some countries do not specify sex of the teacher)
12. Would buy vegetables from a vendor that has AIDS (no, yes)
13. Accepting attitudes score: Having accepting attitude toward PLHIV on the above four items (none, any one, any two, any three, all four)

***HIV Risk Factors***

1. Age at first sexual intercourse (never had sex, <15, 15-17, 18-19, 20+)
2. Number of lifetime sex partners (0, 1, 2, 3+)
3. Number of sex partners in last 12 months, among those who ever had sex (0, 1, 2+)
4. Higher-risk sex—had sex with non-marital, non-cohabiting partner—in the last 12 months, among those who had sex in the past 12 months (no, yes)
5. Transactional sex: Paid for sex (for men) or received gift/money/favor in exchange for sex (for women) in last 12 months, among those who had sex in the past 12 months (no, yes)
6. Alcohol use in last 3 months (no, yes)
7. Alcohol used at last sex in the last 12 months, among those who had sex in the past 12 months (neither partner used, either partner used, both partners used)

***Sexual Behavior of Youth***

1. Had first sex before age 15, among youth age 15-19 (no, yes)
2. Had first sex before age 18, among youth age 20-24 (no, yes)
3. Primary abstinence: Never had sex, among youth age 15-24 (no, yes)
4. Secondary abstinence: Did not have sex in last 12 months, among youth age 15-24 who ever had sex (no, yes)

### ***HIV Protective Factors***

1. Ever used condom, among those who ever had sex (no, yes)
2. Used condom at last sex in last 12 months, among those who had sex in the past 12 months (no, yes)
3. Used condom consistently: Used condom at last sex with all sexual partners (up to three) in last 12 months, among those who had sex in the past 12 months (no, yes)
4. Used condom at last higher-risk sex in last 12 months, among those who had higher-risk sex in the past 12 months (no, yes)
5. Male circumcision (no, yes)

### ***Other Modes of HIV Transmission***

1. Number of medical injections in the recent past (0, 1, 2, 3, 4+). The reference period varies across countries (3 months, 6 months, or 12 months)

#### *STI or STI symptoms:*

2. Suffered from an STI in last 12 months, among those who ever had sex (no, yes)
3. Had an abnormal discharge in last 12 months, among those who ever had sex (no, yes)
4. Had a genital sore or ulcer in last 12 months, among those who ever had sex (no, yes)
5. Any STI or STI symptom: Suffered from an STI, had an abnormal discharge, or had a genital sore or ulcer in the last 12 months, among those who ever had sex (no, yes)

### ***Women's Status***

1. Age gap with partner: Women who had their most recent sex in last 12 months with a partner 10 or more years older, among women who had sex in the past 12 months

#### *Negotiate safer sex:*

2. Agrees that a wife is justified to ask husband to use condom if husband has an STI (no, yes)
3. Agrees that a wife is justified in refusing to have sex with her husband if she knows that the husband has an STI (no, yes)
4. A wife can negotiate safer sex if the response is yes to any of the above two questions (no, yes to any one, yes to both)

#### *Participation in household decision-making:*

5. Participates in decisions about own health care (no yes)
6. Participates in decisions about large household purchases (no yes)

7. Participates in decisions about household purchases for daily needs (no yes)
8. Participates in decisions about visit to family or relatives (no yes)
9. Number of above decisions that woman participates in (none, any one, any two, any three, all four)

### ***Program Coverage***

1. Previously tested for HIV (not tested, tested)
2. Received result of last test, among those who were previously tested (no, yes)

### **3.3 Data Limitations**

While the surveys provide representative data about HIV prevalence according to a range of indicators, several limitations should be noted: First, the estimates of HIV prevalence and other data presented in this report are based on a de facto household-based sample of the national population. A de facto sample assumes that usual residents (de jure household members) who did not spend the previous night in their own household are, on average, interviewed in a household they may be visiting. A de facto sample maximizes participation rates and avoids potential double counting of respondents. However, HIV seroprevalence estimates based on de facto samples may be biased to the extent that some of the de jure household members who slept away may not be visiting another household and to the extent that such people have differential HIV prevalence.

Second, because the DHS and AIS are household surveys, they exclude non-household population groups, such as those living on the street or in institutions (e.g., prisons, boarding schools, military barracks, refugee camps, and brothels). To the extent that these non-household populations have higher HIV prevalence than the household population, the estimates of HIV prevalence in this report are likely to be underestimated. Given that the proportion of such non-household populations in the total population tends to be small, however, any effect of excluding institutional and homeless populations on the national estimates obtained from a household-based sample is likely to be small, except possibly in low-prevalence countries (Mishra et al., 2008a).

Third, the analysis is based on self-reported behaviors, and findings may be biased to the extent that men and women may misreport these behaviors. There are known biases in reporting sexual behaviors. For example, young men tend to overreport some sexual behaviors (Smith, 1992) and underreport others (Smith, 1992; Mensch et al., 2003), while young women tend to underreport sexual experiences (Buvé et al., 2001).

Fourth, the analysis is based on cross-sectional data, so the reported associations may not imply causality. Fifth, for many HIV-positive adults their infection may have preceded their behaviors recorded for the 12 months preceding the survey, which may have also biased some of the observed associations.

Fifth, some of the observed relationships may be due to reverse causality, or due to confounding. Reverse causality could result if either HIV infection or an associated illness results in changes in certain characteristics or behaviors. Confounding could result if an observed association between HIV serostatus and a certain factor is due to another factor that is correlated both with HIV serostatus and with the first factor.

Sixth, not all data are available for all 22 countries studied, and in some instances the survey questions asked are not consistent across countries. Thus for some variables, comparisons may not be easy to make. Finally, some of the estimates presented in this report are based on small numbers of cases in survey samples, and should be interpreted with caution.

### 3.4 Response Rates

Table 3.1 shows response rates for the household interview, individual interview, and HIV testing for the 22 countries included in this study. Response rates for the individual interview and HIV testing are presented separately for eligible men and women respondents. Household response rates were very high, ranging from 95 percent in Zimbabwe to nearly 100 percent in the Hai Phong province of Vietnam. Individual response rates were also very high, especially for women. For all countries, women's participation in the individual interviews was higher than men's and ranged from 100 percent in the Hai Phong province of Vietnam to 90 percent in Côte d'Ivoire. The main reason for non-response among both eligible men and women was the unavailability of individuals at home, despite repeated visits to the household. The lower response rate for men reflects the more frequent and longer absence of men from their households. Nonetheless, the response rate among men was over 80 percent for all countries, from 100 percent in the Hai Phong province of Vietnam to 81 percent in the Dominican Republic.

**Table 3.1. Response rates for household selection, individual interview and for HIV testing by sex, DHS and AIS surveys with HIV testing**

Country sex (age)	Household response rate	Individual response rate	Number eligible for HIV testing	HIV response rate
<b>Burkina Faso 2003</b>	99.4			
Male (15-59)		90.5	3,984	85.8
Female (15-49)		96.7	4,575	92.3
<b>Cambodia 2005</b>	98.0			
Male (15-49)		93.1	7,229	90.3
Female (15-49)		97.2	8,638	95.1
<b>Cameroon 2004</b>	97.6			
Male (15-59)		93.0	5,676	89.8
Female (15-49)		94.5	5,703	92.1
<b>Côte d'Ivoire 2005</b>	95.5			
Male (15-49)		87.5	5,148	78.7
Female (15-49)		89.8	5,772	75.8
<b>Dominican Republic 2002</b>	97.9			
Male (15-59)		80.5	14,456	80.9
Female (15-49)		92.8	12,514	89.0
<b>Ethiopia 2005</b>	98.5			
Male (15-59)		89.0	6,778	75.4
Female (15-49)		95.6	7,142	83.2
<b>Ghana 2003</b>	98.7			
Male (15-59)		93.8	5,345	79.9
Female (15-49)		95.7	5,949	89.3
<b>Guinea 2005</b>	99.2			
Male (15-59)		94.2	2,848	87.8
Female (15-49)		97.4	4,189	92.5

(Cont'd)

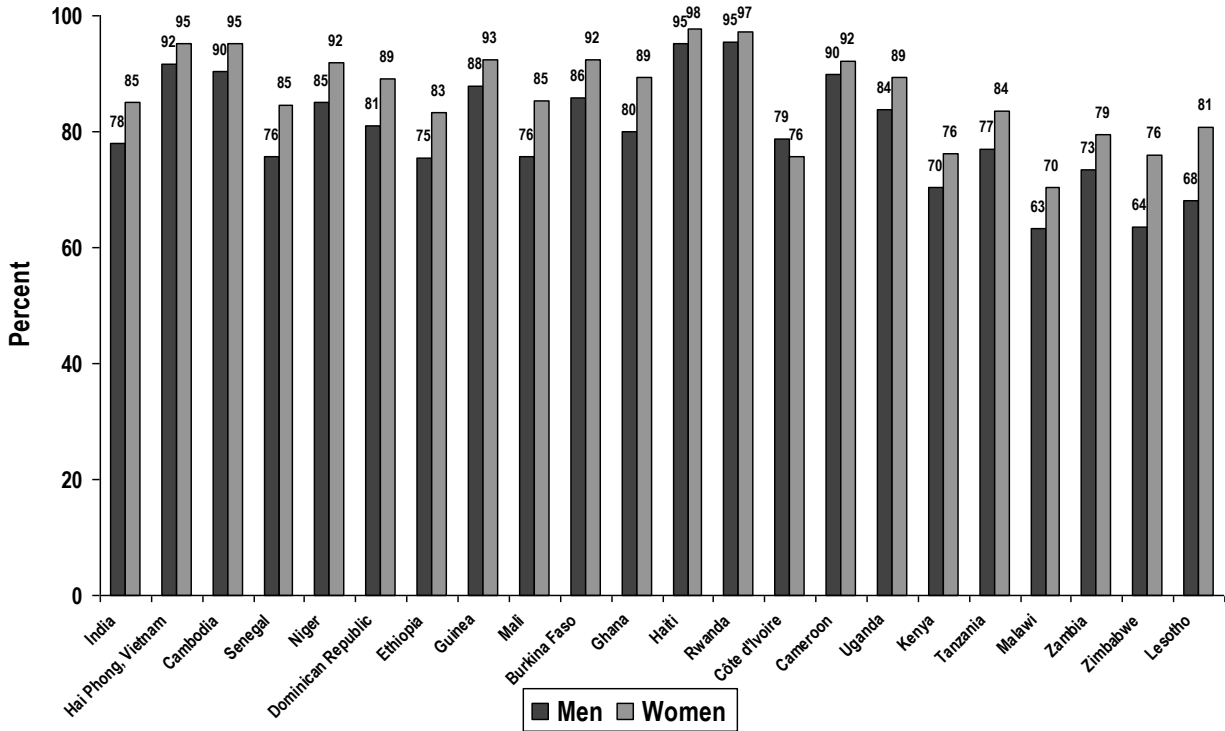
Table 3.1 – cont'd

Country sex (age)	Household response rate	Individual response rate	Number eligible for HIV testing	HIV response rate
<b>Haiti 2005</b>	99.6			
Male (15-59)		97.4	4,505	95.1
Female (15-49)		98.7	5,368	97.8
<b>India 2005/06</b>	97.7			
Male (15-54)		87.1	64,175	78.1
Female (15-49)		94.5	62,182	85.0
<b>Kenya 2003</b>	96.3			
Male (15-54)		85.5	4,183	70.3
Female (15-49)		94.0	4,303	76.3
<b>Lesotho 2004/05</b>	95.2			
Male (15-59)		84.6	3,305	68.0
Female (15-49)		94.2	3,758	80.7
<b>Malawi 2004</b>	97.8			
Male (15-54)		85.9	3,797	63.3
Female (15-49)		95.7	12,229	70.4
<b>Mali 2001</b>	97.9			
Male (15-59)		83.8	4,062	75.6
Female (15-49)		94.8	4,556	85.2
<b>Niger 2006</b>	97.5			
Male (15-59)		92.3	3,379	85.1
Female (15-49)		95.6	4,899	92.0
<b>Rwanda 2005</b>	99.6			
Male (15-59)		97.1	4,547	95.4
Female (15-49)		98.2	5,837	97.3
<b>Senegal 2005</b>	98.2			
Male (15-59)		85.9	3,963	75.6
Female (15-49)		94.6	5,350	84.5
<b>Tanzania 2003/04</b>	98.5			
Male (15-49)		91.3	6,196	77.0
Female (15-49)		95.9	7,154	83.5
<b>Uganda 2004/05</b>	96.8			
Male (15-59)		89.2	9,905	83.8
Female (15-59)		94.5	11,454	89.3
<b>Hai Phong, Vietnam 2005</b>	99.9			
Male (15-49)		100.0	820	91.7
Female (15-49)		100.0	971	95.1
<b>Zambia 2001/02</b>	98.2			
Male (15-59)		88.7	2,418	73.3
Female (15-49)		96.7	2,689	79.4
<b>Zimbabwe 2005</b>	95.0			
Male (15-54)		82.1	8,342	63.6
Female (15-49)		90.2	9,870	75.9

Table 3.1 and Figure 3.1 also show a wide variation in the percent of respondents who agreed to an HIV test. In most countries, women were more likely than men to agree to an HIV test, except in Côte d'Ivoire, where men were more likely to agree. Some countries had high response rates for HIV testing among both sexes—Rwanda (95 percent among men and 97 percent among women), Cambodia (men 90 percent, women 95 percent), and the Hai Phong province of Vietnam (men 92 percent, women 95 percent). However, several countries in sub-Saharan Africa had relatively low levels of agreement to HIV

testing among both men and women. These countries included Côte d'Ivoire (men 79 percent, women 76 percent), Kenya (men 70 percent, women 76 percent), Malawi (men 63 percent, women 70 percent), and Zambia (men 73 percent, women 79 percent).

**Figure 3.1. Response rates for HIV testing, men and women in 22 DHS and AIS surveys**



Finally, some countries had a wide disparity between the percent of men who accepted HIV testing and the percent of women who accepted testing. The difference in HIV testing rates among men and women was at least 10 percent in: Lesotho (men 68 percent, women 81 percent), Mali (men 76 percent, women 85 percent), and Zimbabwe (men 64 percent, women 76 percent). In Ghana the differences was 9 percent—men 80 percent, women 89 percent.

## 4 HIV Prevalence by Demographic Characteristics

### 4.1 Key Findings

- ❖ HIV prevalence varies considerably by country, from 0.3 percent in Vietnam to 23.5 percent in Lesotho. In three other countries HIV prevalence is above 10 percent: Malawi (11.8 percent), Zambia (15.6 percent), and Zimbabwe (18.1 percent).
- ❖ For the majority of countries, HIV prevalence is higher among women than men. The exceptions are Burkina Faso, the Dominican Republic, India, Niger, and Vietnam, where HIV prevalence is higher among men than women; and Cambodia, where HIV prevalence is the same for men and women.
- ❖ For all but two countries (Senegal and the Dominican Republic), HIV prevalence is higher in urban areas than in rural areas.
- ❖ For all countries but India, HIV prevalence is higher among individuals who lived in their current residence for less than 10 years compared with those who lived in their same residence for 10 years or more.
- ❖ For men who report being away from their home at least once in the past 12 months, the number of times the individual left home, but not the amount of time spent away from home during an absence, is related to higher levels of HIV prevalence.
- ❖ HIV prevalence is higher among women who are not currently pregnant and among women who did not give birth in the past three years.

### 4.2 Introduction

This chapter presents information on HIV prevalence by selected demographic characteristics for the 22 countries included in the study. These characteristics include age, sex, place of residence, and years lived at current residence. In addition, data are presented regarding HIV prevalence among male household members age 15-49 by whether they were away from home in the past 12 months. Two measures are used to examine male migration patterns. These include: (1) whether men were away from home for at least one month during the past 12 months, and (2) how many times men reported being away from home for any length of time in the past 12 months. Also, HIV prevalence among women is assessed by current fertility (currently pregnant) and past fertility (pregnant in the past three years). For women who reported being pregnant in the past three years, HIV prevalence is measured by whether women reported attending or not attending antenatal care during the last pregnancy.

### 4.3 HIV Prevalence by Age and Sex

HIV prevalence varies considerably by country (Table 4.1). Four countries within sub-Saharan Africa report HIV prevalence above 10 percent for the general population: Lesotho (23.5 percent), Malawi (11.8 percent), Zambia (15.6 percent), and Zimbabwe (18.1 percent); while three countries in Asia report HIV prevalence below 1 percent of the general population: Cambodia (0.6 percent), India (0.3 percent), and the Hai Phong province of Vietnam (0.5 percent).

**Table 4.1. HIV prevalence among women and men age 15-49, by age group**

Country/sex	Age group							Total	Number
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
<b>Burkina Faso 2003</b>	<b>0.8</b>	<b>1.3</b>	<b>2.6</b>	<b>3.0</b>	<b>3.4</b>	<b>1.3</b>	<b>1.4</b>	<b>1.8</b>	<b>7,151</b>
Male	0.7	0.6	2.8	3.8	3.0	2.1	2.1	1.9	3,065
Female	0.9	1.8	2.5	2.4	3.6	0.7	0.9	1.8	4,086
Number	1,819	1,248	1,050	880	884	669	601	7,151	7,151
<b>Cambodia 2005</b>	<b>0.0</b>	<b>0.4</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>0.5</b>	<b>1.1</b>	<b>0.6</b>	<b>14,703</b>
Male	0.1	0.2	0.6	1.2	1.3	0.7	1.3	0.6	6,656
Female	0.0	0.6	1.3	0.8	0.7	0.3	1.0	0.6	8,047
Number	3,298	2,699	1,763	1,821	1,924	1,804	1,395	14,703	14,703
<b>Cameroon 2004</b>	<b>1.4</b>	<b>5.2</b>	<b>7.8</b>	<b>8.9</b>	<b>7.9</b>	<b>5.9</b>	<b>4.6</b>	<b>5.4</b>	<b>9,746</b>
Male	0.6	2.5	5.1	8.1	8.6	5.6	3.9	4.1	4,619
Female	2.1	7.5	10.3	9.7	7.3	6.1	5.3	6.6	5,128
Number	2,477	1,990	1,630	1,260	952	776	662	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>0.3</b>	<b>2.5</b>	<b>5.4</b>	<b>10.4</b>	<b>6.7</b>	<b>7.8</b>	<b>7.3</b>	<b>4.7</b>	<b>8,436</b>
Male	0.3	0.3	3.1	5.6	5.0	7.0	4.7	2.9	4,023
Female	0.4	4.5	7.5	14.9	8.4	8.6	10.2	6.4	4,413
Number	1,872	1,878	1,533	1,079	860	649	565	8,436	8,436
<b>Dominican Republic 2002</b>	<b>0.3</b>	<b>0.9</b>	<b>1.2</b>	<b>2.0</b>	<b>0.9</b>	<b>0.9</b>	<b>1.6</b>	<b>1.0</b>	<b>21,437</b>
Male	0.3	0.6	1.2	2.7	1.2	1.1	1.7	1.1	10,706
Female	0.4	1.1	1.1	1.2	0.6	0.8	1.6	0.9	10,731
Number	4,482	3,922	3,362	2,959	2,725	2,244	1,744	21,437	21,437
<b>Ethiopia 2005</b>	<b>0.4</b>	<b>1.1</b>	<b>1.6</b>	<b>1.7</b>	<b>3.2</b>	<b>3.0</b>	<b>0.5</b>	<b>1.4</b>	<b>10,540</b>
Male	0.1	0.4	0.7	1.9	1.8	2.8	0.0	0.9	4,804
Female	0.7	1.7	2.1	1.5	4.4	3.1	0.9	1.9	5,736
Number	2,572	1,954	1,645	1,398	1,231	925	815	10,540	10,540
<b>Ghana 2003</b>	<b>0.3</b>	<b>1.2</b>	<b>2.3</b>	<b>3.6</b>	<b>4.0</b>	<b>3.5</b>	<b>2.2</b>	<b>2.2</b>	<b>9,142</b>
Male	0.2	0.0	1.0	2.8	3.1	4.1	1.9	1.5	4,045
Female	0.5	2.0	3.4	4.2	4.7	3.0	2.5	2.7	5,097
Number	2,070	1,528	1,516	1,253	1,082	855	837	9,142	9,142
<b>Guinea 2005</b>	<b>0.7</b>	<b>1.2</b>	<b>1.6</b>	<b>2.1</b>	<b>1.6</b>	<b>2.0</b>	<b>2.1</b>	<b>1.5</b>	<b>6,319</b>
Male	0.5	0.7	1.2	0.7	0.9	2.8	0.6	0.9	2,577
Female	0.9	1.6	1.8	3.0	2.1	1.4	3.3	1.9	3,742
Number	1,431	1,008	882	822	904	654	616	6,319	6,319
<b>Haiti 2005</b>	<b>0.5</b>	<b>1.7</b>	<b>3.3</b>	<b>3.3</b>	<b>2.9</b>	<b>3.7</b>	<b>2.4</b>	<b>2.2</b>	<b>9,551</b>
Male	0.1	1.1	3.1	2.4	3.7	4.4	3.3	2.0	4,321
Female	0.9	2.3	3.5	4.1	2.2	3.1	1.6	2.3	5,230
Number	2,518	1,871	1,455	1,086	974	816	830	9,551	9,551

(Cont'd)



Table 4.1 – cont'd

Country/sex	Age group							Total	Number
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
<b>India 2005/06</b>	<b>0.0</b>	<b>0.2</b>	<b>0.4</b>	<b>0.5</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.0	0.2	0.4	0.6	0.5	0.4	0.5	0.4	46,506
Female	0.1	0.2	0.3	0.5	0.2	0.2	0.2	0.2	53,332
Number	19,366	17,398	16,074	14,394	13,016	10,884	8,707	99,838	99,838
<b>Kenya 2003</b>	<b>1.6</b>	<b>6.0</b>	<b>10.4</b>	<b>9.4</b>	<b>10.1</b>	<b>9.1</b>	<b>4.4</b>	<b>6.7</b>	<b>6,001</b>
Male	0.4	2.4	7.3	6.6	8.4	8.8	5.2	4.6	2,851
Female	3.0	9.0	12.9	11.7	11.8	9.5	3.9	8.7	3,151
Number	1,456	1,224	950	806	666	535	364	6,001	6,001
<b>Lesotho 2004/05</b>	<b>5.4</b>	<b>19.3</b>	<b>33.3</b>	<b>40.7</b>	<b>41.7</b>	<b>29.6</b>	<b>20.4</b>	<b>23.5</b>	<b>5,019</b>
Male	2.3	11.5	24.5	41.2	38.7	32.3	27.9	19.2	2,001
Female	7.9	24.5	39.3	40.4	43.5	28.6	16.8	26.4	3,018
Number	1,338	1,019	744	633	500	421	364	5,019	5,019
<b>Malawi 2004</b>	<b>2.1</b>	<b>9.5</b>	<b>12.6</b>	<b>19.3</b>	<b>17.7</b>	<b>17.2</b>	<b>11.6</b>	<b>11.8</b>	<b>5,150</b>
Male	0.4	3.9	9.8	20.4	18.4	16.5	9.5	10.2	2,465
Female	3.7	13.2	15.5	18.1	17.0	17.9	13.3	13.3	2,686
Number	967	1,103	986	779	520	477	319	5,150	5,150
<b>Mali 2001</b>	<b>0.8</b>	<b>1.1</b>	<b>2.3</b>	<b>3.5</b>	<b>2.1</b>	<b>1.5</b>	<b>1.7</b>	<b>1.8</b>	<b>6,438</b>
Male	0.3	0.3	0.7	3.8	1.2	1.8	2.6	1.3	2,595
Female	1.1	1.6	3.2	3.3	2.8	1.2	1.0	2.1	3,834
Number	1,369	1,176	995	916	805	675	501	6,438	6,438
<b>Niger 2005</b>	<b>0.0</b>	<b>0.9</b>	<b>0.5</b>	<b>1.2</b>	<b>1.9</b>	<b>0.6</b>	<b>0.6</b>	<b>0.7</b>	<b>7,262</b>
Male	0.0	0.6	0.1	1.2	2.6	0.6	1.1	0.8	2,856
Female	0.0	1.0	0.7	1.1	1.4	0.5	0.1	0.7	4,406
Number	1,389	1,286	1,258	1,038	905	764	621	7,262	7,262
<b>Rwanda 2005</b>	<b>0.5</b>	<b>1.6</b>	<b>2.7</b>	<b>5.1</b>	<b>4.9</b>	<b>7.1</b>	<b>4.3</b>	<b>3.0</b>	<b>9,988</b>
Male	0.3	0.5	2.0	3.8	2.5	8.0	4.7	2.3	4,348
Female	0.7	2.5	3.3	5.9	6.9	6.5	4.0	3.6	5,641
Number	2,408	2,067	1,451	1,297	972	951	841	9,988	9,988
<b>Senegal 2005</b>	<b>0.1</b>	<b>0.5</b>	<b>0.9</b>	<b>1.0</b>	<b>0.7</b>	<b>1.6</b>	<b>1.3</b>	<b>0.7</b>	<b>7,412</b>
Male	0.0	0.2	0.0	1.2	0.8	1.7	0.6	0.5	3,183
Female	0.2	0.8	1.5	0.9	0.6	1.5	1.8	0.9	4,229
Number	1,966	1,405	1,190	935	722	657	537	7,412	7,412
<b>Tanzania 2003/04</b>	<b>2.1</b>	<b>5.2</b>	<b>8.3</b>	<b>10.9</b>	<b>10.7</b>	<b>10.9</b>	<b>6.3</b>	<b>7.0</b>	<b>10,747</b>
Male	2.1	4.2	6.9	8.6	9.8	12.3	6.7	6.3	4,994
Female	2.1	6.0	9.4	12.9	11.6	9.8	5.8	7.7	5,753
Number	2,416	2,056	1,949	1,499	1,233	872	722	10,747	10,747

(Cont'd)

Table 4.1 – cont'd

Country/sex	Age group							Total	Number
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
<b>Uganda 2004/05</b>	<b>1.5</b>	<b>4.8</b>	<b>7.6</b>	<b>10.3</b>	<b>9.7</b>	<b>8.9</b>	<b>7.6</b>	<b>6.4</b>	<b>16,827</b>
Male	0.3	2.4	5.9	8.1	9.3	9.3	6.9	5.1	7,477
Female	2.6	6.3	8.7	12.2	10.0	8.4	8.3	7.5	9,350
Number	3,973	2,972	2,792	2,503	1,885	1,562	1,141	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.0</b>	<b>0.8</b>	<b>1.1</b>	<b>1.6</b>	<b>0.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.5</b>	<b>1,675</b>
Male	0.0	1.8	1.2	2.5	1.8	0.0	0.0	0.9	754
Female	0.0	0.0	1.1	0.9	0.0	0.0	0.0	0.2	921
Number	324	253	175	186	229	253	256	1,675	1,675
<b>Zambia 2001/02</b>	<b>4.6</b>	<b>11.4</b>	<b>20.4</b>	<b>25.1</b>	<b>22.5</b>	<b>18.9</b>	<b>16.5</b>	<b>15.6</b>	<b>3,806</b>
Male	1.9	4.4	15.0	20.5	22.4	20.6	20.3	12.9	1,734
Female	6.6	16.3	25.1	29.4	22.6	17.3	13.6	17.8	2,072
Number	863	752	681	534	436	307	232	3,806	3,806
<b>Zimbabwe 2005</b>	<b>4.6</b>	<b>11.6</b>	<b>21.8</b>	<b>32.9</b>	<b>33.4</b>	<b>28.9</b>	<b>21.4</b>	<b>18.1</b>	<b>12,796</b>
Male	3.1	5.8	13.0	29.5	32.1	33.0	26.1	14.5	5,848
Female	6.2	16.3	28.8	35.5	34.5	25.7	18.0	21.1	6,947
Number	3,374	2,765	2,057	1,672	1,201	934	793	12,796	12,796

Note: In this table and in several subsequent tables, an HIV prevalence estimate of 0.0 for certain categories indicates that there are no HIV-positive cases in the survey sample for that group of respondents.

For the majority of countries, HIV prevalence is higher among women than among men. The exceptions are Burkina Faso (men 1.9 percent, women 1.8 percent), the Dominican Republic (men 1.1 percent, women 0.9 percent), India (men 0.4 percent, women 0.2 percent), Niger (men 0.8 percent, women 0.7 percent) and the Hai Phong province of Vietnam (men 0.9 percent, women 0.2 percent). In Cambodia HIV prevalence is the same for men and women, at 0.6 percent.

Figures 4.1a to 4.1v show that for most countries, with the exception of Cambodia and Guinea, HIV prevalence for both women and men increases with age until it reaches a peak, after which it decreases with advancing age. For 13 of the 22 countries, the peak for HIV prevalence among women is at a younger age than among men, generally 5-10 years younger. For women in these 13 countries, HIV prevalence peaks at age 25-29 (3 countries), 30-34 (6 countries), or 35-39 (4 countries), while for men the peak is at age 30-34 (1 country), 35-39 (6 countries), and 40-44 (6 countries).

In 5 of the 22 countries—the Dominican Republic, India, Malawi, Mali, and Niger—men and women experience a peak in HIV prevalence at the same age, generally at age 30-34, except in Niger, where the peak is at age 35-39. In 3 of the 22 countries—Burkina Faso, Lesotho, and Senegal—HIV prevalence peaks five years earlier for men than for women. Finally, in one country—Guinea—there is no clear pattern.

Figure 4.1a HIV prevalence among tested men and women 15-49 by age group, India 2005/06

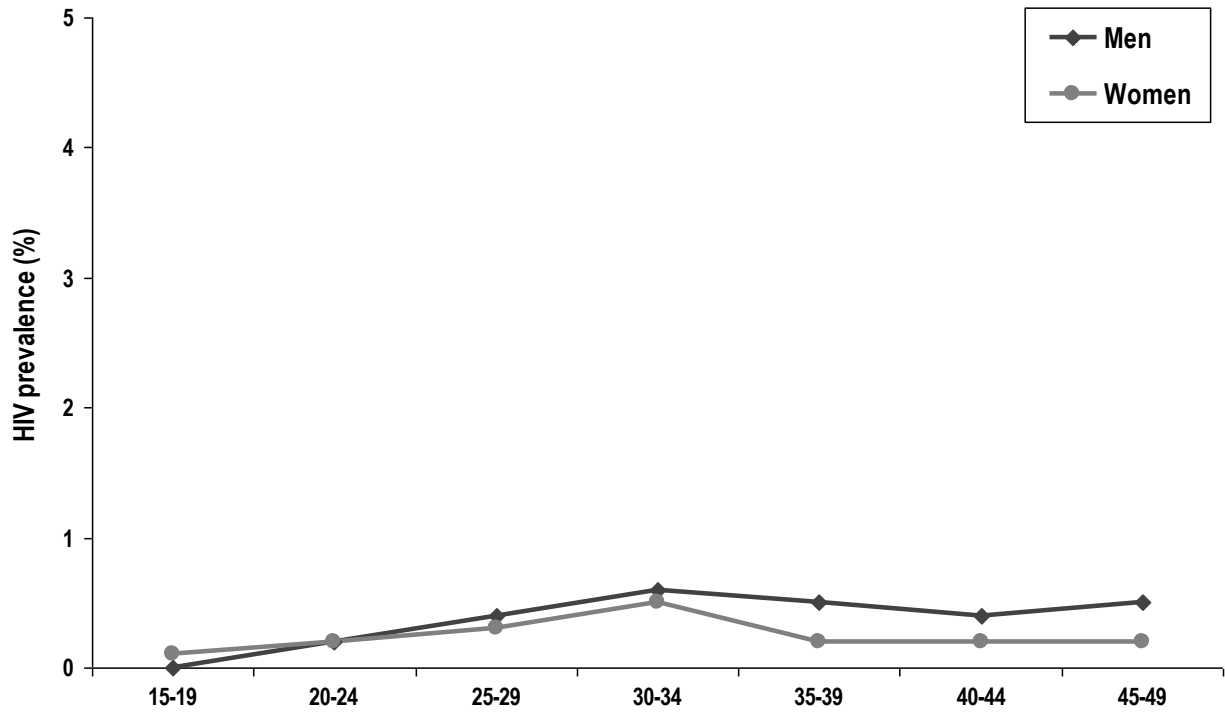


Figure 4.1b HIV prevalence among tested men and women 15-49 by age group, Hai Phong Province, Vietnam 2005

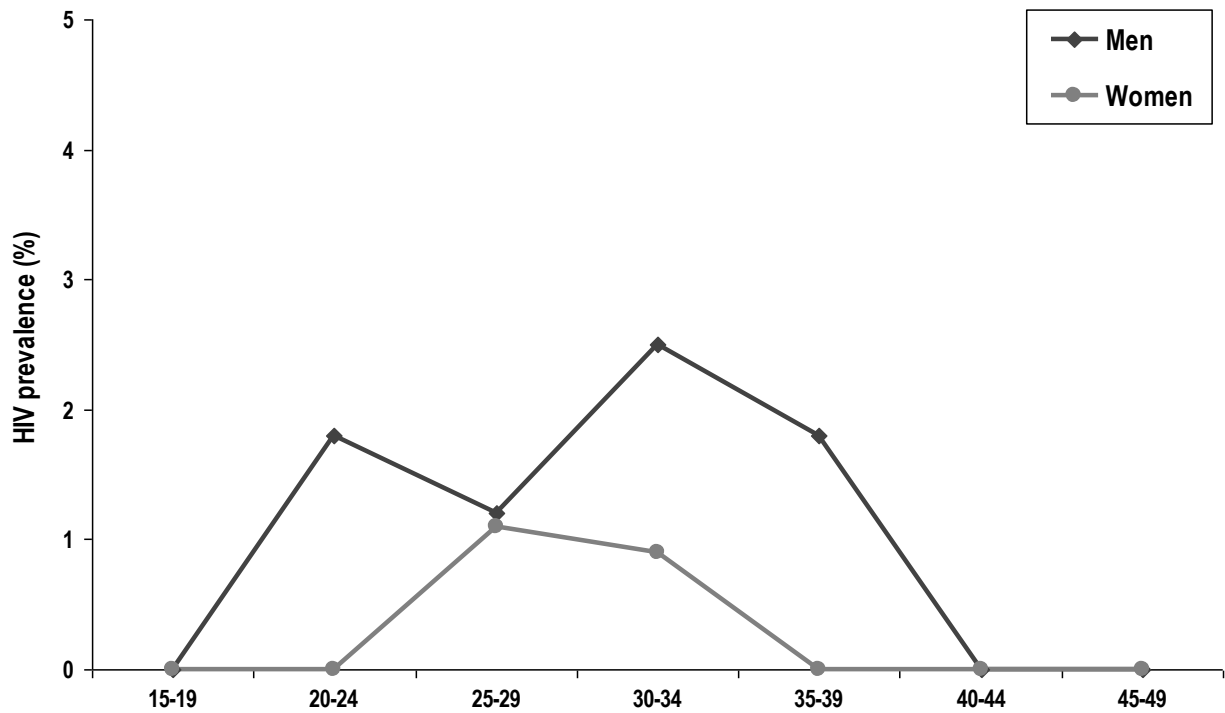


Figure 4.1c HIV prevalence among tested men and women 15-49 by age group, Cambodia 2005

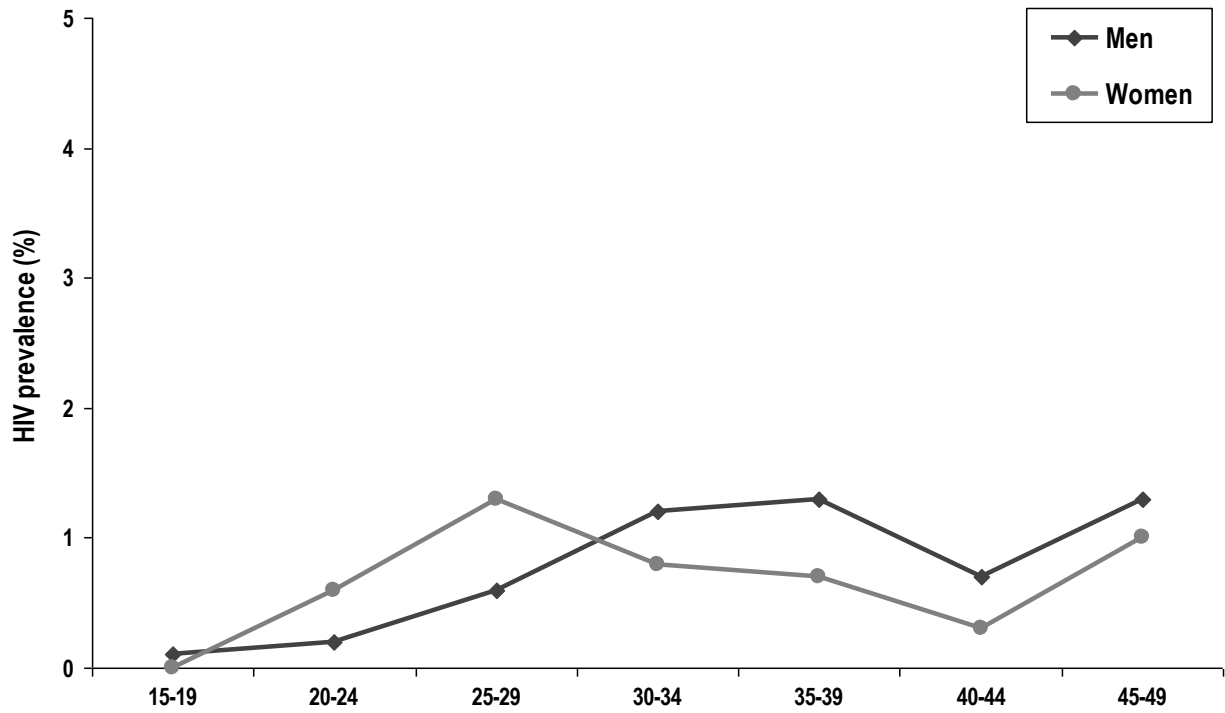


Figure 4.1d HIV prevalence among tested men and women 15-49 by age group, Senegal 2005

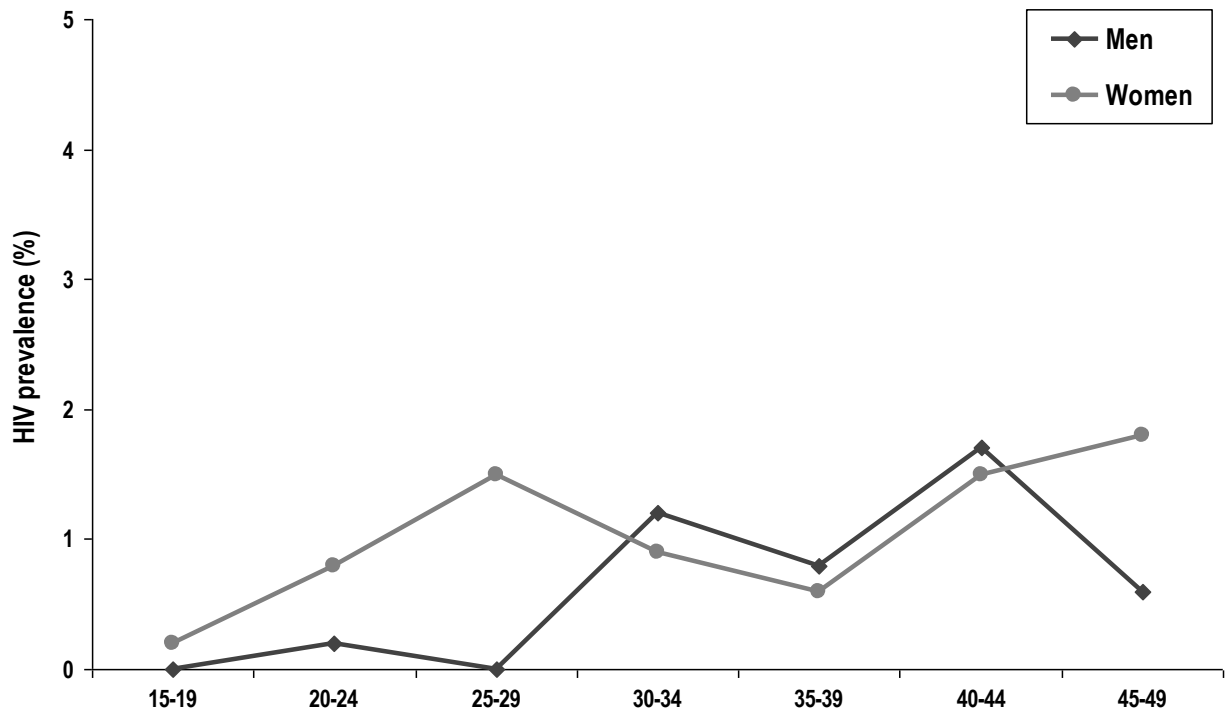


Figure 4.1e HIV prevalence among tested men and women 15-49 by age group, Niger 2005

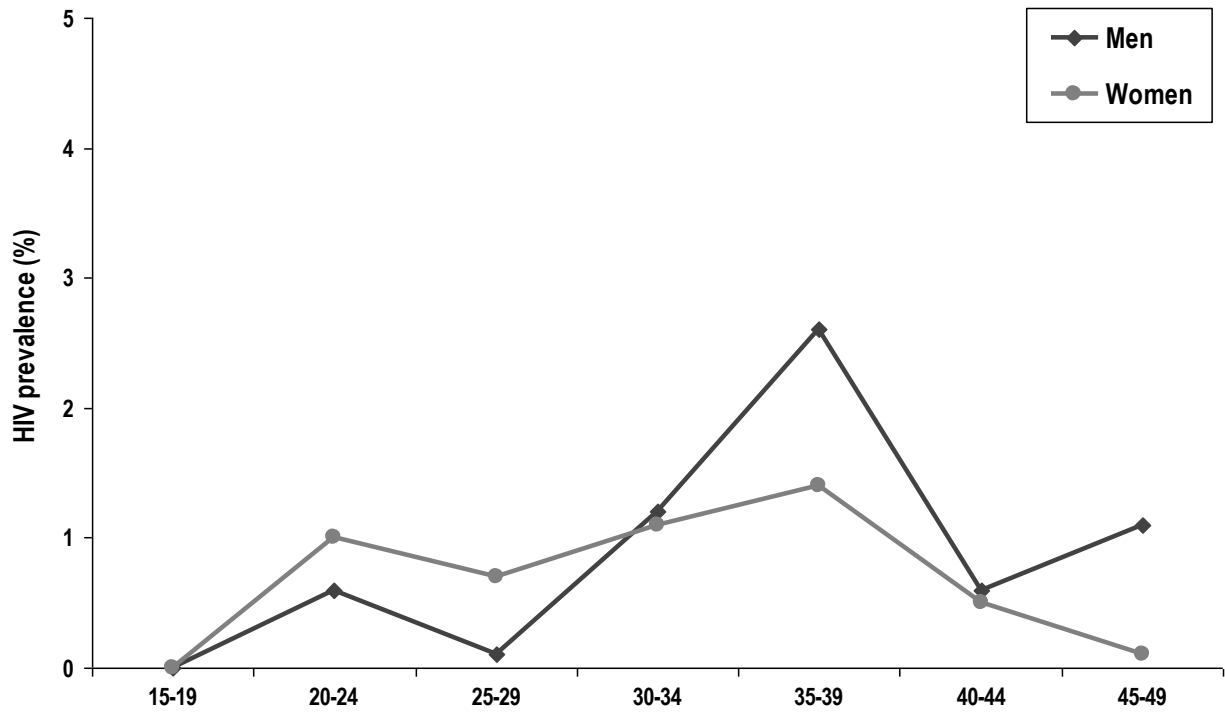


Figure 4.1f HIV prevalence among tested men and women 15-49 by age group, Dominican Republic 2002

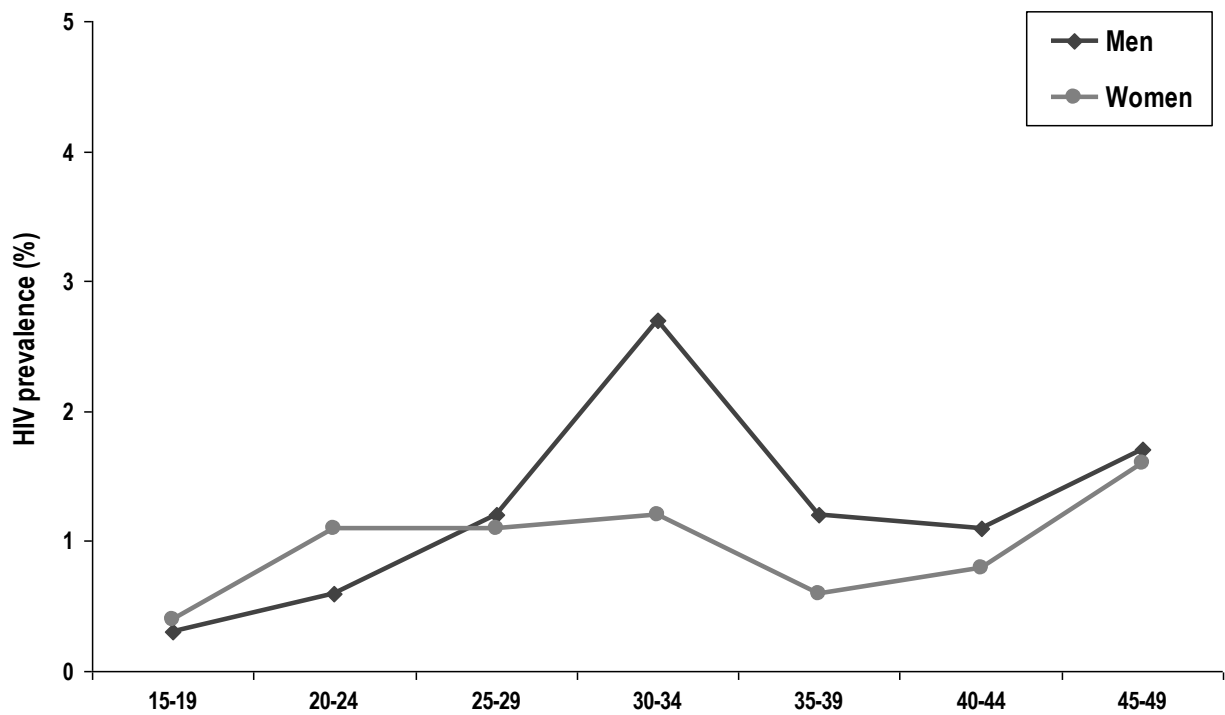


Figure 4.1g HIV prevalence among tested men and women 15-49 by age group, Ethiopia 2005

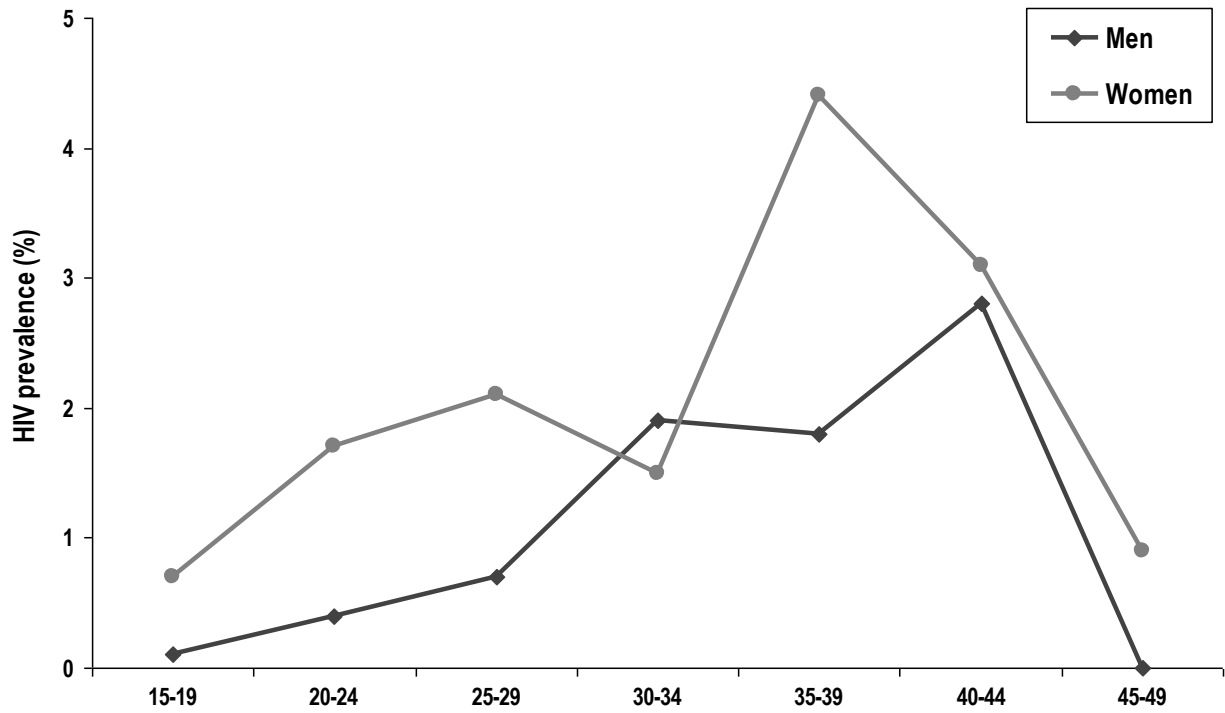


Figure 4.1h HIV prevalence among tested men and women 15-49 by age group, Guinea 2005

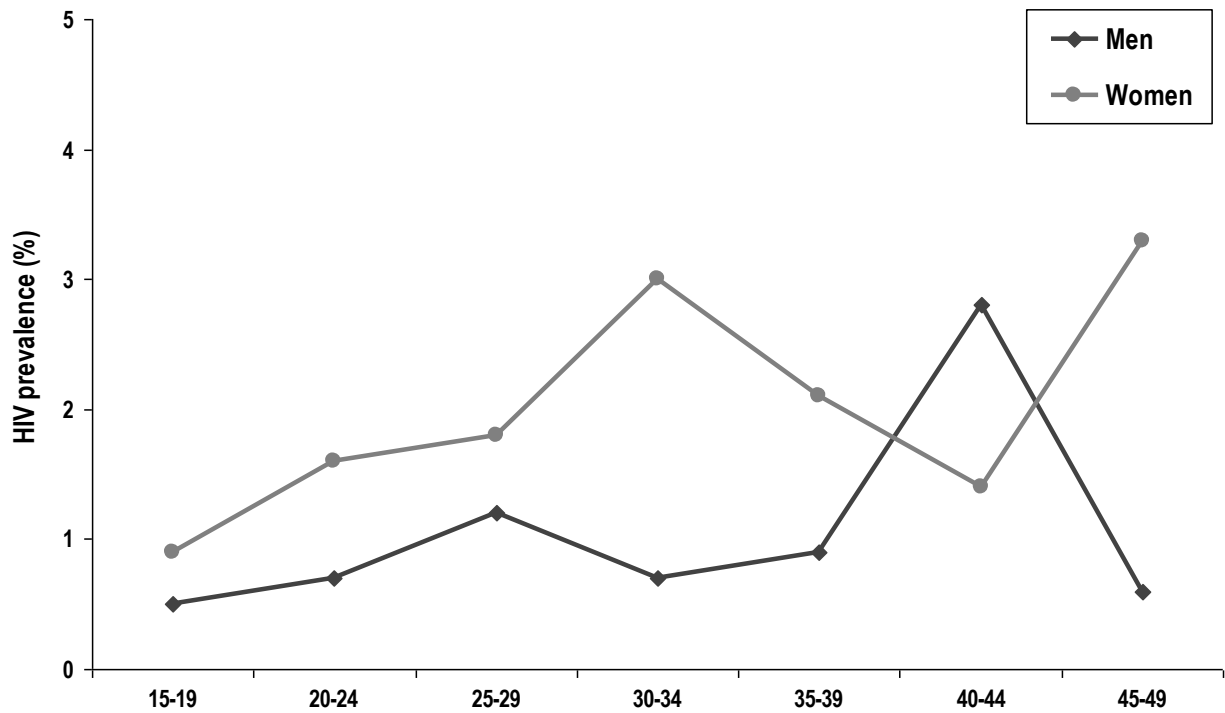


Figure 4.1i HIV prevalence among tested men and women 15-49 by age group, Mali 2001

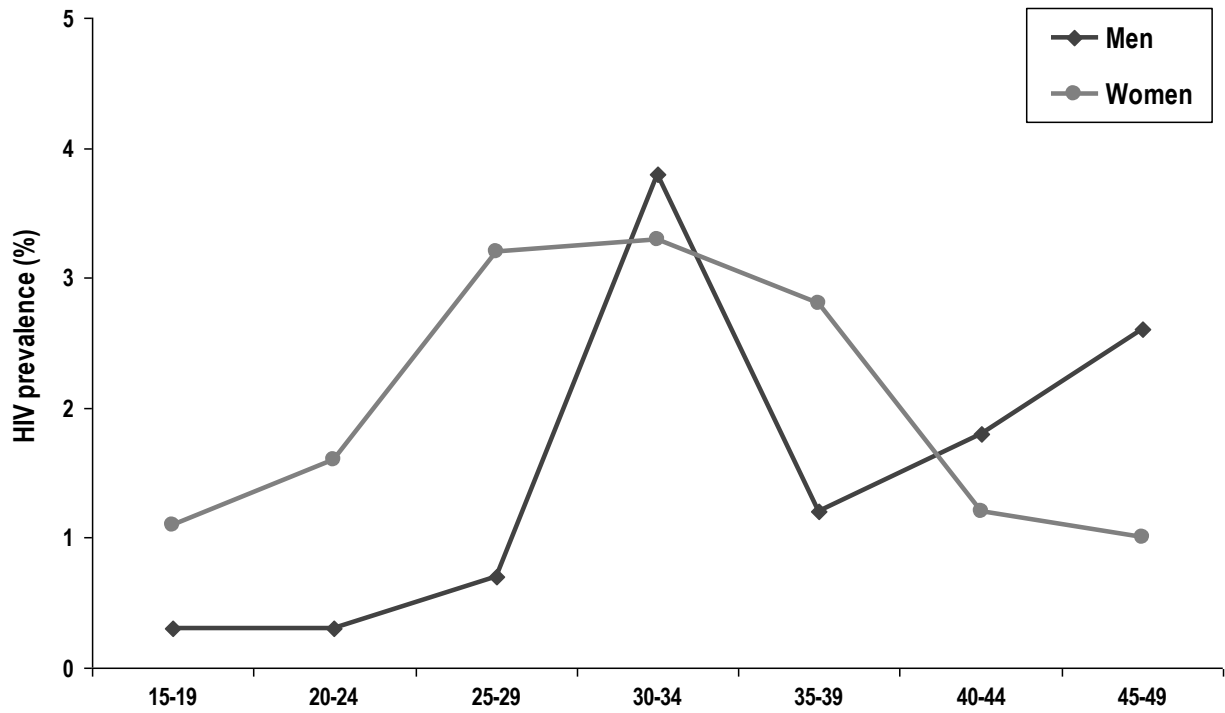


Figure 4.1j HIV prevalence among tested men and women 15-49 by age group, Burkina Faso 2003

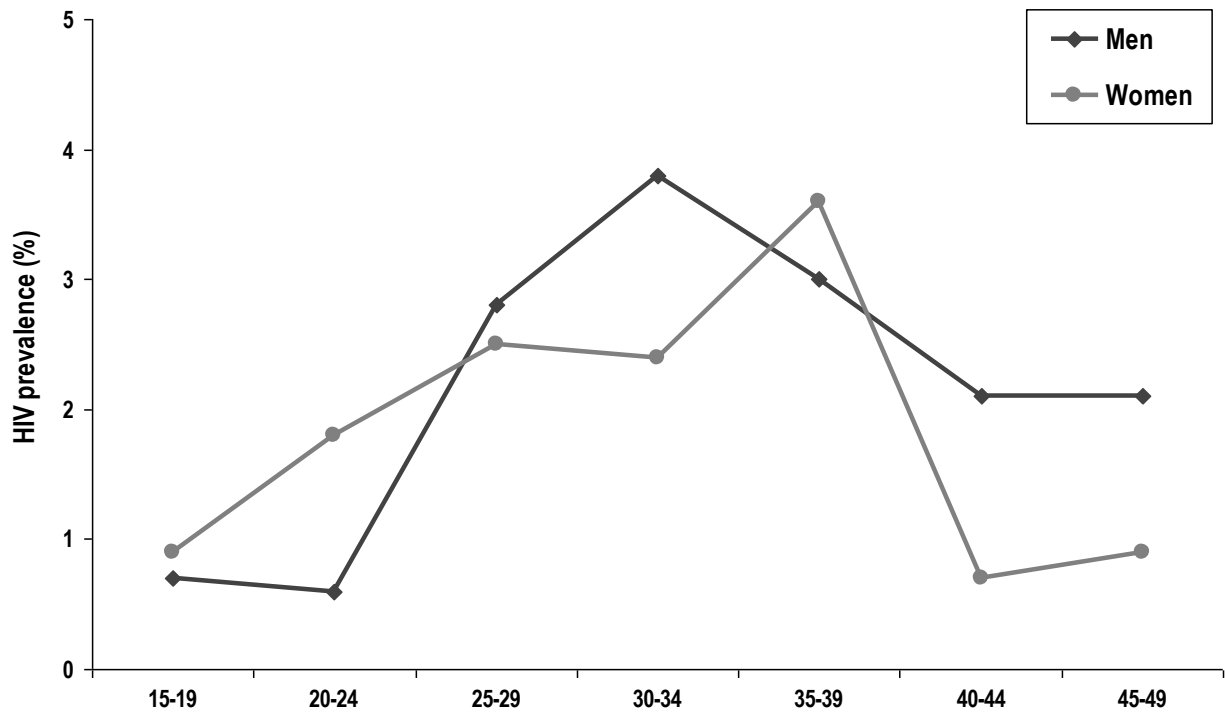


Figure 4.1k HIV prevalence among tested men and women 15-49 by age group, Ghana 2003

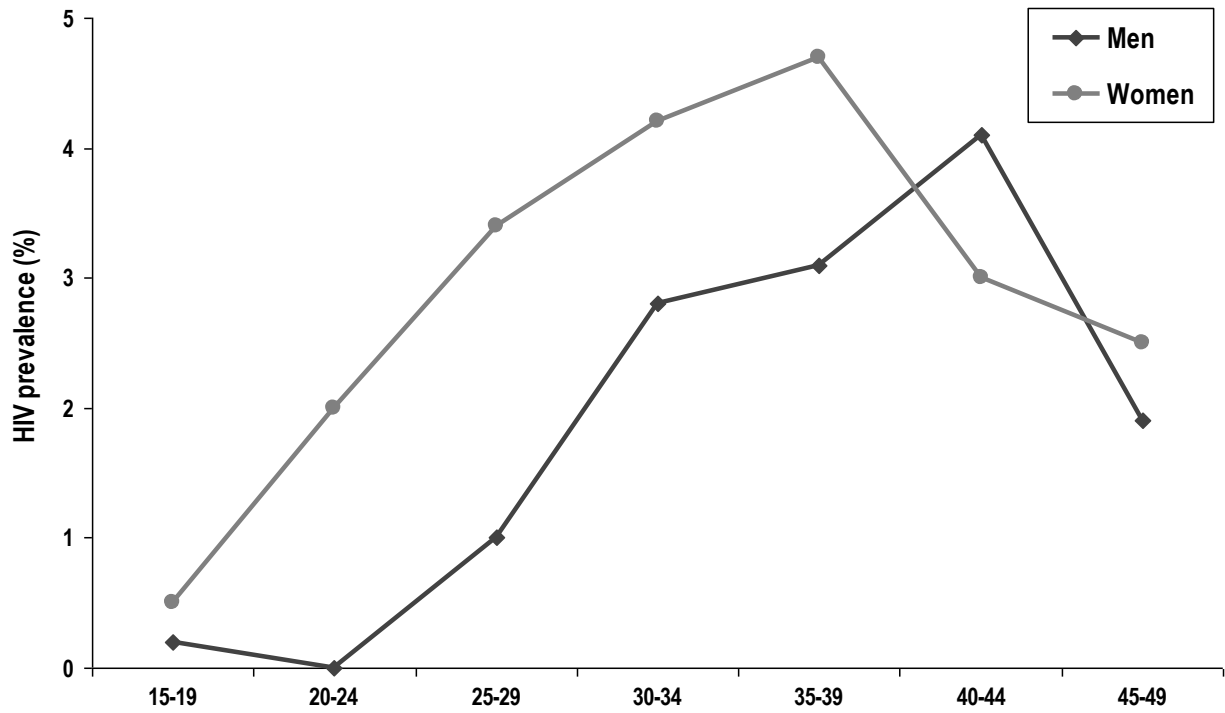


Figure 4.1l HIV prevalence among tested men and women 15-49 by age group, Haiti 2005

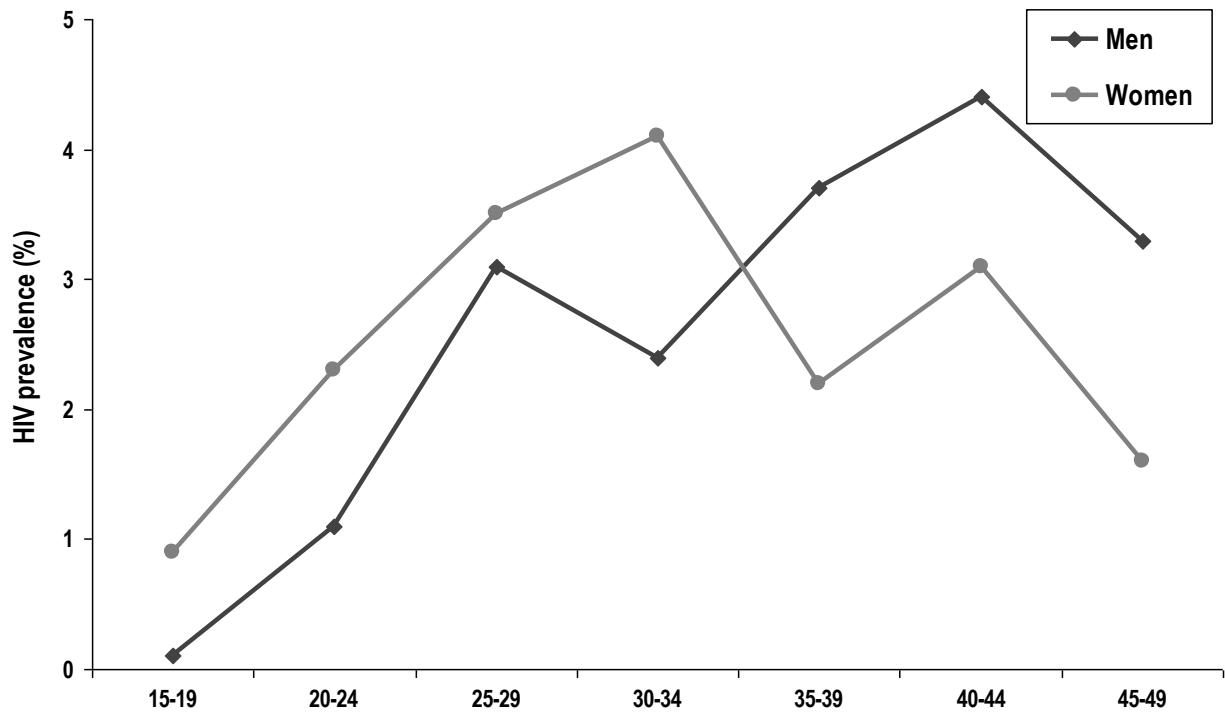




Figure 4.1m HIV prevalence among tested men and women 15-49 by age group, Rwanda 2005

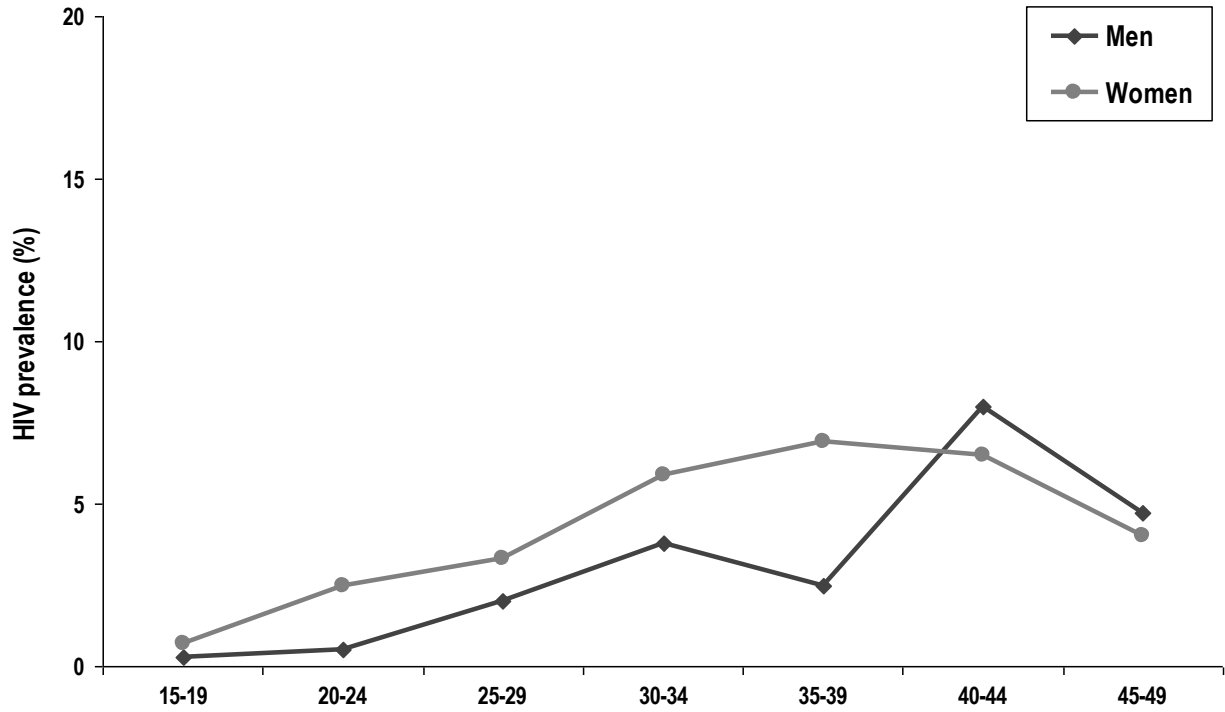


Figure 4.1n HIV prevalence among tested men and women 15-49 by age group, Côte d'Ivoire 2005

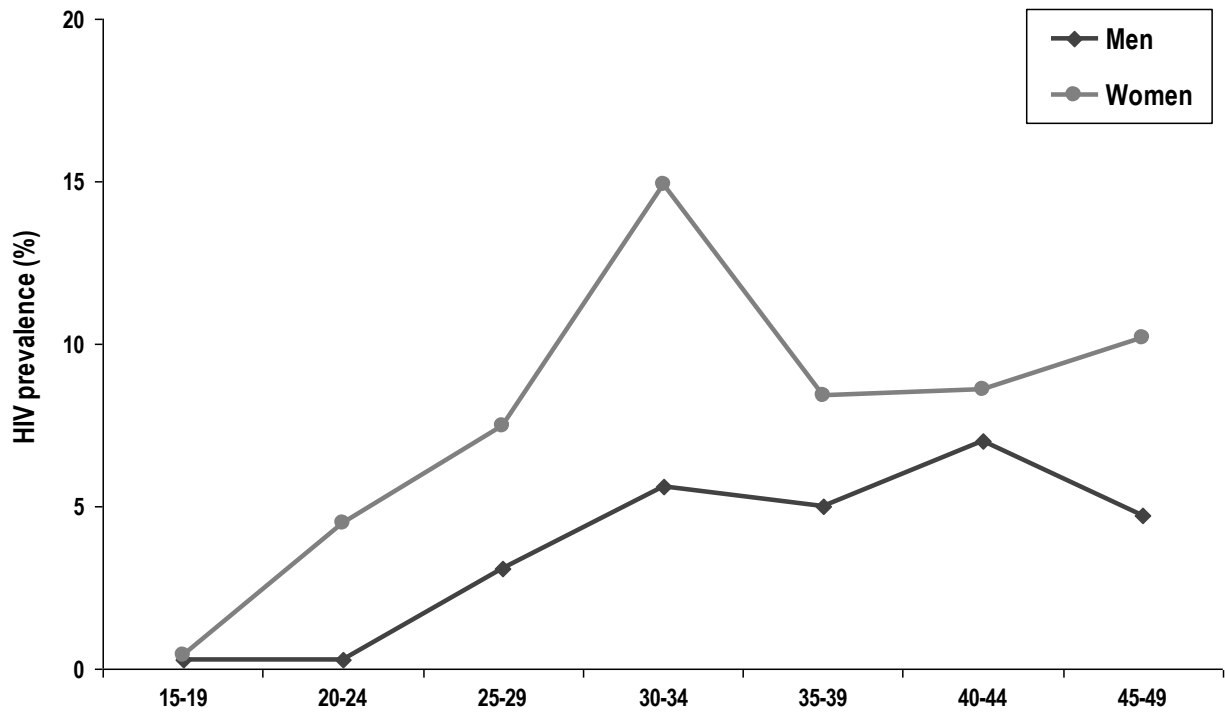


Figure 4.1o HIV prevalence among tested men and women 15-49 by age group, Cameroon 2004

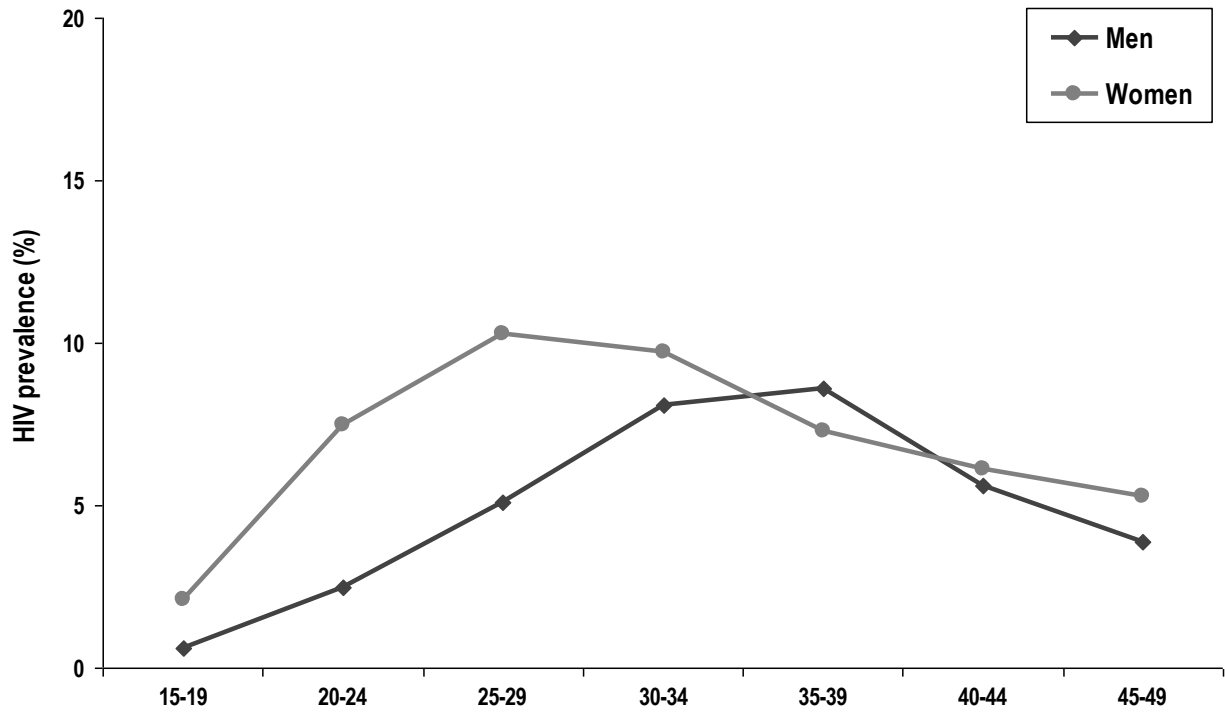


Figure 4.1p HIV prevalence among tested men and women 15-49 by age group, Uganda 2004/05

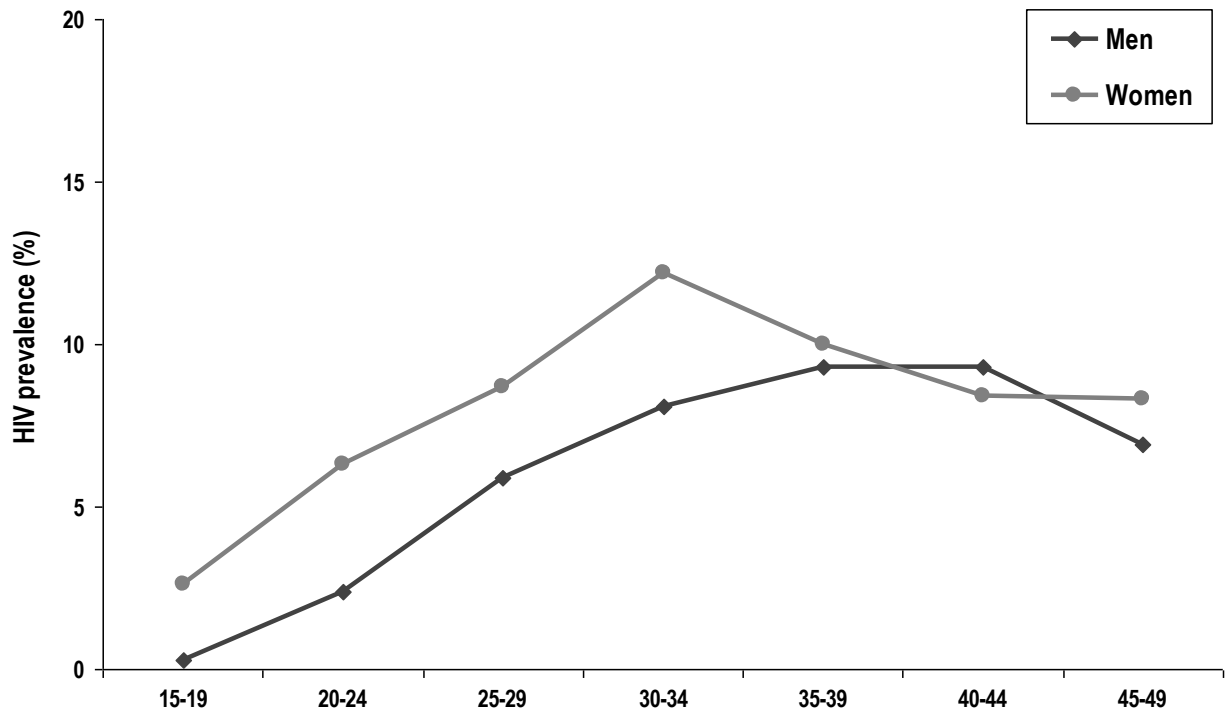


Figure 4.1q HIV prevalence among tested men and women 15-49 by age group, Kenya 2003

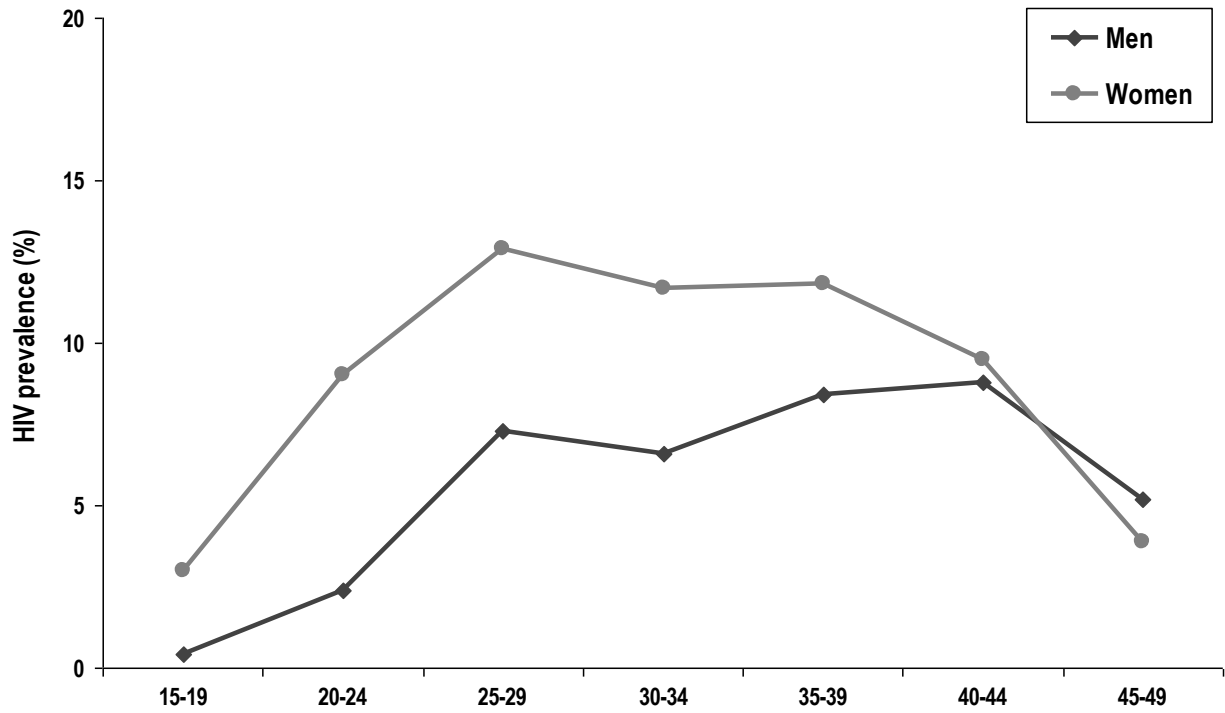


Figure 4.1r HIV prevalence among tested men and women 15-49 by age group, Tanzania 2003/04

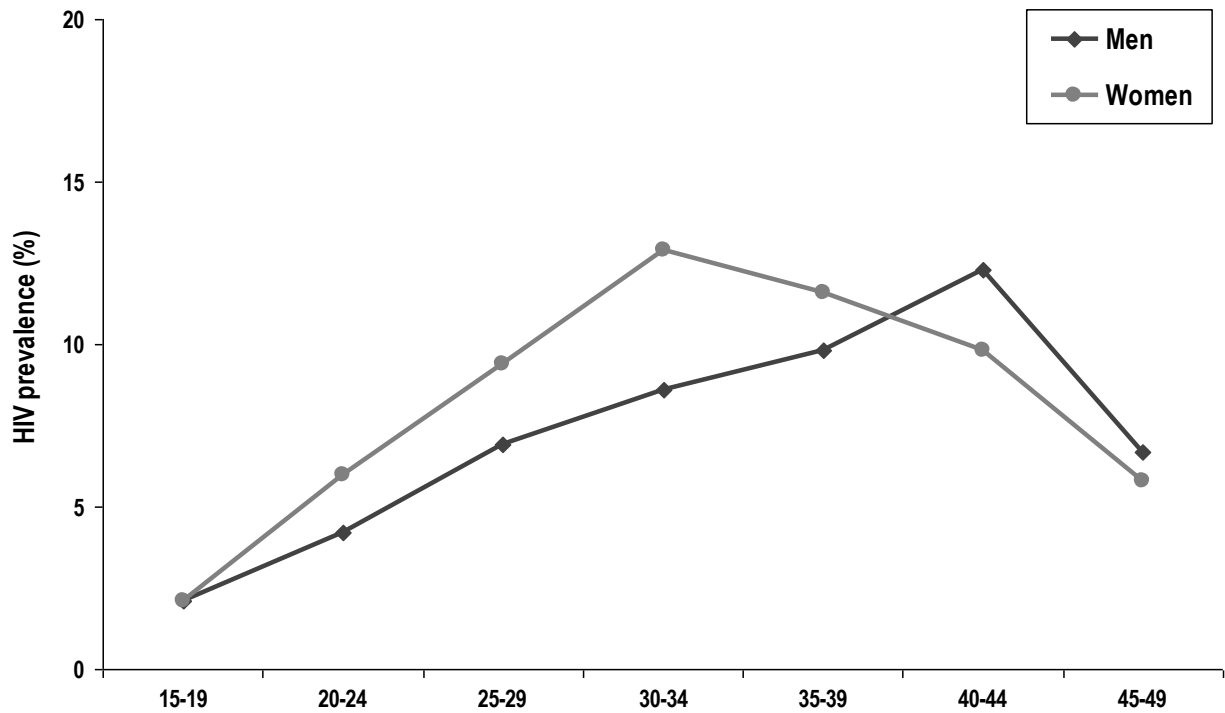


Figure 4.1s HIV prevalence among tested men and women 15-49 by age group, Malawi 2004

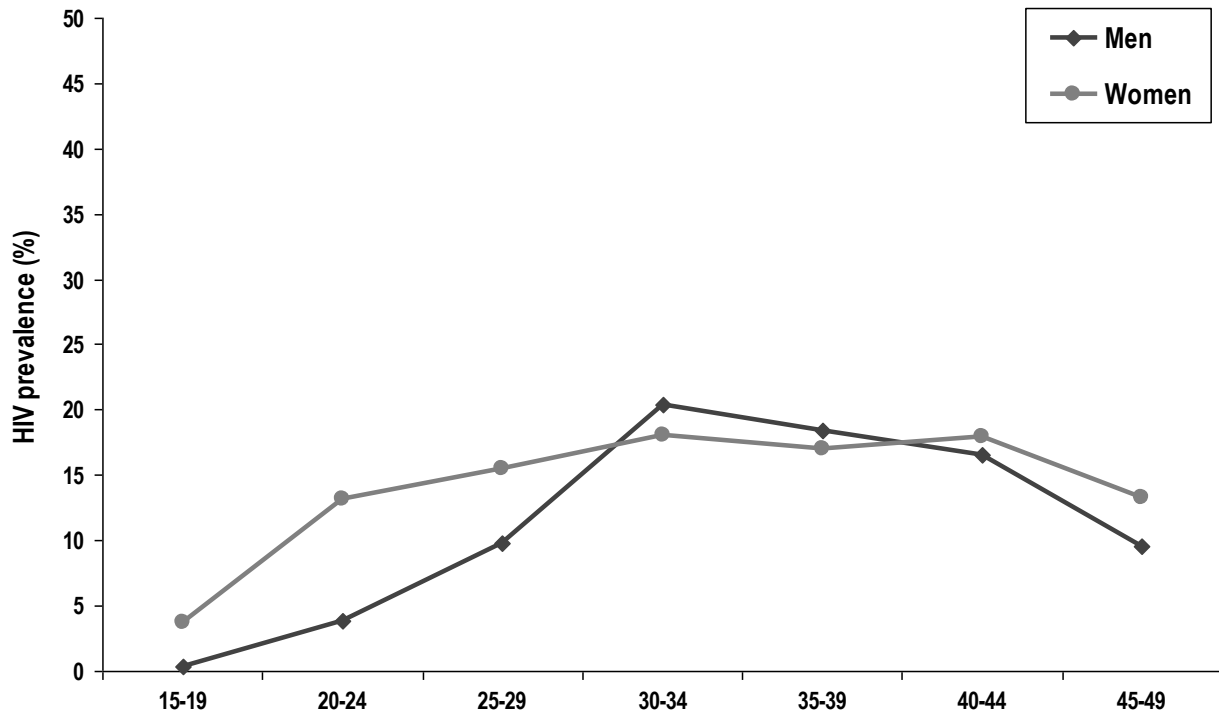


Figure 4.1t HIV prevalence among tested men and women 15-49 by age group, Zambia 2001/02

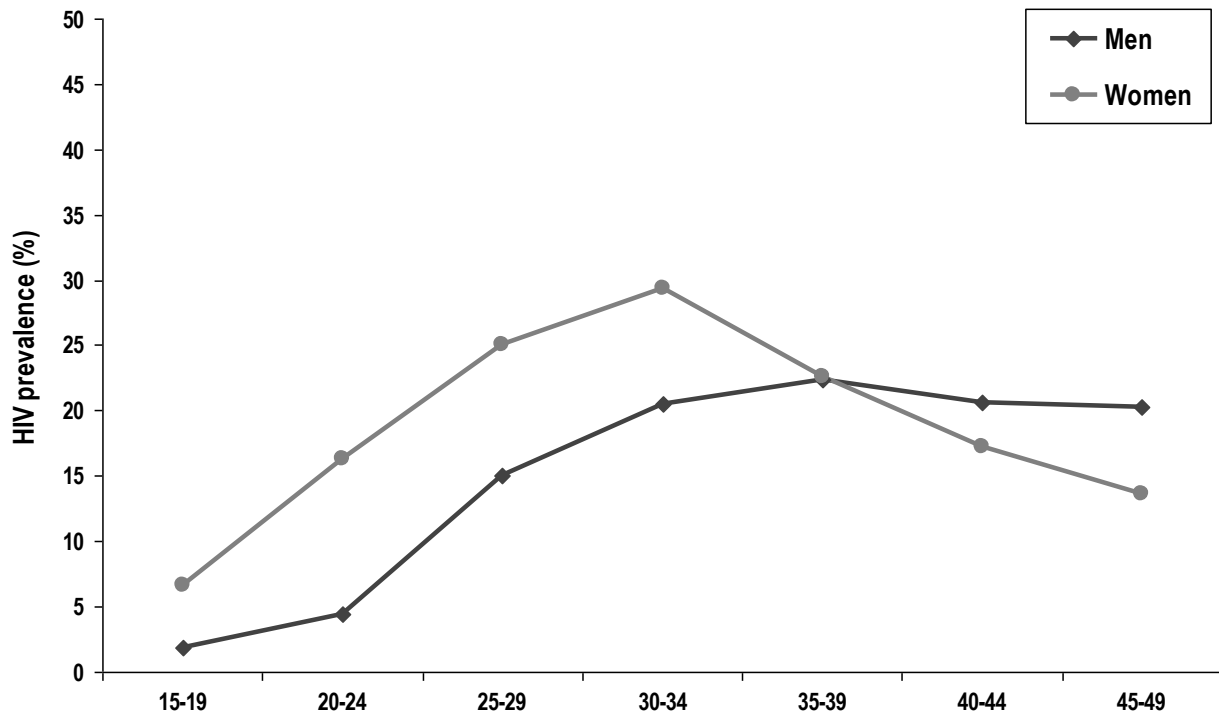


Figure 4.1u HIV prevalence among tested men and women 15-49 by age group, Zimbabwe 2005

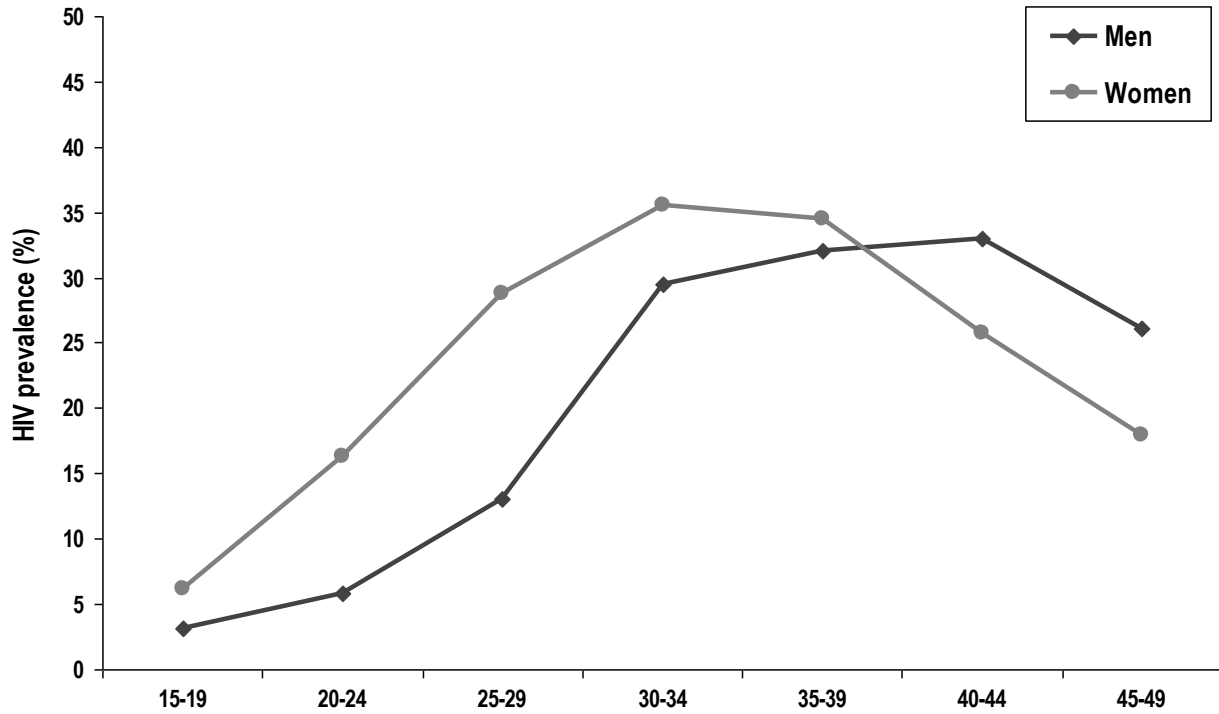
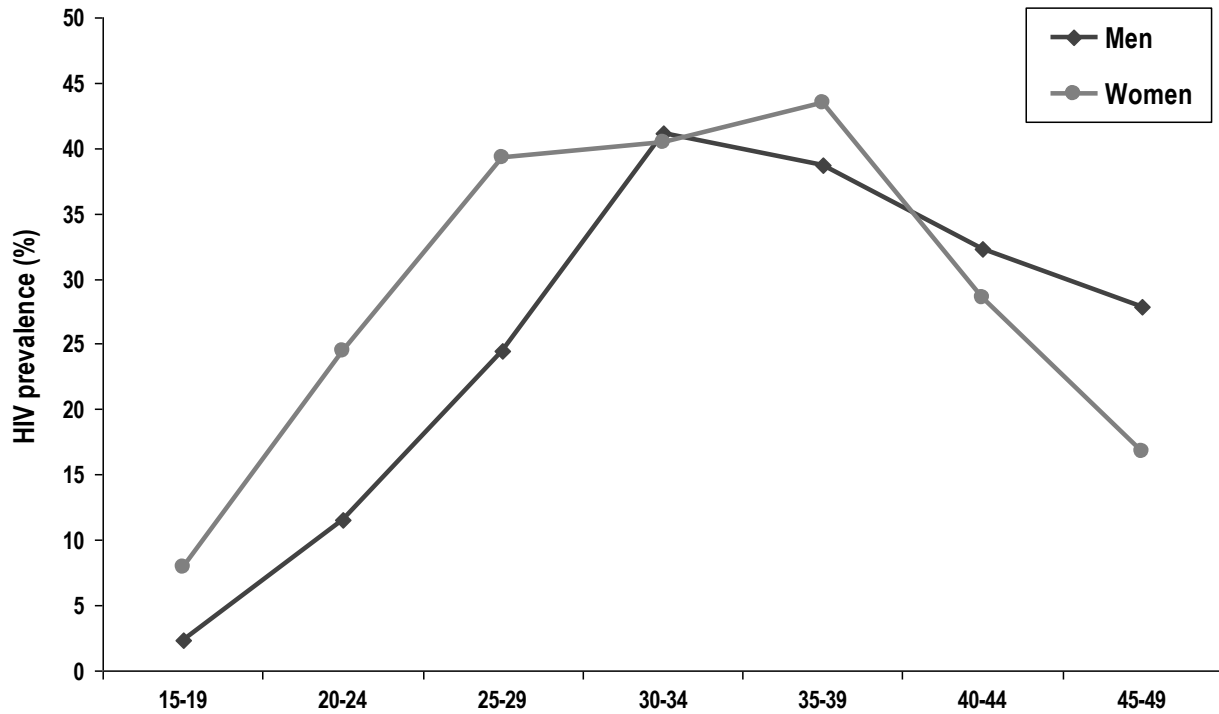


Figure 4.1v HIV prevalence among tested men and women 15-49 by age group, Lesotho 2004/05



#### 4.4 HIV Prevalence by Place of Residence

For all but two of the countries, HIV prevalence is higher in urban areas than in rural areas (Table 4.2). The only two exceptions are the Dominican Republic, where HIV prevalence is slightly higher in rural areas, at 1.2 percent compared with 0.9 percent in urban areas, and Senegal, where prevalence is equal in urban and rural areas, at 0.7 percent. For some countries, the difference in HIV prevalence between urban and rural areas is dramatic: in Burkina Faso, Guinea, Tanzania, and Zambia HIV prevalence is at least three times greater in urban areas than in rural areas; in Cambodia, Niger, Rwanda, and the Hai Phong province of Vietnam it is four or more times greater. In Ethiopia HIV prevalence is eight times greater in urban areas (5.6 percent) than in rural areas (0.7 percent).

**Table 4.2. HIV prevalence among women and men age 15-49, by urban/rural residence**

Country/sex	Residence			Number
	Urban	Rural	Total	
<b>Burkina Faso 2003</b>	<b>3.6</b>	<b>1.3</b>	<b>1.8</b>	<b>7,151</b>
Male	3.2	1.4	1.9	3,065
Female	4.0	1.2	1.8	4,086
Number	1,708	5,443	7,151	7,151
<b>Cambodia 2005</b>	<b>1.4</b>	<b>0.4</b>	<b>0.6</b>	<b>14,703</b>
Male	1.6	0.4	0.6	6,656
Female	1.3	0.5	0.6	8,047
Number	2,550	12,153	14,703	14,703
<b>Cameroon 2004</b>	<b>6.6</b>	<b>4.0</b>	<b>5.4</b>	<b>9,746</b>
Male	4.9	3.0	4.1	4,619
Female	8.2	4.8	6.6	5,128
Number	5,510	4,237	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>5.4</b>	<b>4.1</b>	<b>4.7</b>	<b>8,436</b>
Male	3.2	2.5	2.9	4,023
Female	7.4	5.5	6.4	4,413
Number	4,011	4,425	8,436	8,436
<b>Dominican Republic 2002</b>	<b>0.9</b>	<b>1.2</b>	<b>1.0</b>	<b>21,439</b>
Male	1.0	1.3	1.1	10,707
Female	0.9	1.0	0.9	10,732
Number	14,208	7,231	21,439	21,439
<b>Ethiopia 2005</b>	<b>5.6</b>	<b>0.7</b>	<b>1.4</b>	<b>10,540</b>
Male	2.4	0.7	0.9	4,804
Female	7.7	0.7	1.9	5,736
Number	1,664	8,875	10,540	10,540
<b>Ghana 2003</b>	<b>2.3</b>	<b>2.0</b>	<b>2.2</b>	<b>9,142</b>
Male	1.5	1.4	1.5	4,045
Female	2.9	2.5	2.7	5,097
Number	4,291	4,851	9,142	9,142

(Cont'd)

Table 4.2 – cont'd

Country/sex	Residence			Number
	Urban	Rural	Total	
<b>Guinea 2005</b>	<b>2.4</b>	<b>1.0</b>	<b>1.5</b>	<b>6,319</b>
Male	0.7	1.1	0.9	2,577
Female	4.0	0.9	1.9	3,742
Number	2,203	4,115	6,319	6,319
<b>Haiti 2005</b>	<b>2.3</b>	<b>2.1</b>	<b>2.2</b>	<b>9,551</b>
Male	1.8	2.1	2.0	4,321
Female	2.7	2.0	2.3	5,230
Number	4,339	5,212	9,551	9,551
<b>India 2005/06</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.4	0.3	0.4	46,506
Female	0.3	0.2	0.2	53,332
Number	33,978	65,861	99,838	99,838
<b>Kenya 2003</b>	<b>10.0</b>	<b>5.6</b>	<b>6.7</b>	<b>6,001</b>
Male	7.6	3.6	4.6	2,851
Female	12.3	7.5	8.7	3,151
Number	1,495	4,507	6,001	6,001
<b>Lesotho 2004/05</b>	<b>28.9</b>	<b>22.0</b>	<b>23.5</b>	<b>5,019</b>
Male	21.2	18.6	19.2	2,001
Female	33.1	24.3	26.4	3,018
Number	1,133	3,886	5,019	5,019
<b>Malawi 2004</b>	<b>17.1</b>	<b>10.8</b>	<b>11.8</b>	<b>5,150</b>
Male	16.3	8.8	10.2	2,465
Female	18.0	12.5	13.3	2,686
Number	872	4,279	5,150	5,150
<b>Mali 2001</b>	<b>2.3</b>	<b>1.5</b>	<b>1.8</b>	<b>6,438</b>
Male	1.9	1.0	1.3	2,595
Female	2.5	1.9	2.1	3,834
Number	2,001	4,437	6,438	6,438
<b>Niger 2006</b>	<b>1.5</b>	<b>0.5</b>	<b>0.7</b>	<b>7,262</b>
Male	1.3	0.6	0.8	2,856
Female	1.6	0.5	0.7	4,406
Number	1,628	5,633	7,262	7,262
<b>Rwanda 2005</b>	<b>7.3</b>	<b>2.2</b>	<b>3.0</b>	<b>9,988</b>
Male	5.7	1.5	2.3	4,348
Female	8.6	2.6	3.6	5,641
Number	1,711	8,278	9,988	9,988

(Cont'd)

Table 4.2 – cont'd

Country/sex	Residence			Number
	Urban	Rural	Total	
<b>Senegal 2005</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>7,412</b>
Male	0.4	0.5	0.5	3,183
Female	0.9	0.8	0.9	4,229
Number	4,009	3,403	7,412	7,412
<b>Tanzania 2003/04</b>	<b>10.9</b>	<b>5.4</b>	<b>7.0</b>	<b>10,747</b>
Male	9.6	4.8	6.3	4,994
Female	12.0	5.8	7.7	5,753
Number	3,276	7,471	10,747	10,747
<b>Uganda 2004/05</b>	<b>10.2</b>	<b>5.8</b>	<b>6.4</b>	<b>16,827</b>
Male	6.7	4.8	5.1	7,477
Female	12.8	6.5	7.5	9,350
Number	2,526	14,302	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>1.0</b>	<b>0.3</b>	<b>0.5</b>	<b>1,675</b>
Male	2.0	0.4	0.9	754
Female	0.3	0.2	0.2	921
Number	569	1,106	1,675	1,675
<b>Zambia 2001/02</b>	<b>23.1</b>	<b>10.8</b>	<b>15.6</b>	<b>3,806</b>
Male	19.2	8.9	12.9	1,734
Female	26.3	12.4	17.8	2,072
Number	1,483	2,323	3,806	3,806
<b>Zimbabwe 2005</b>	<b>18.9</b>	<b>17.6</b>	<b>18.1</b>	<b>12,796</b>
Male	15.7	13.8	14.5	5,848
Female	21.6	20.8	21.1	6,947
Number	4,990	7,806	12,796	12,796

For all but two countries, the urban-rural difference in HIV prevalence is similar for both men and women, with HIV prevalence higher in urban areas than rural areas. In Guinea, however, HIV prevalence among men is slightly higher in rural areas than in urban areas (1.1 percent in rural areas compared with 0.7 percent in urban areas). In contrast, among Guinean women HIV prevalence is higher in urban areas (4.0 percent) than in rural areas (0.9 percent). In Haiti HIV prevalence among men is higher in rural areas (2.1 percent) than urban areas (1.8 percent), but among women it is higher in urban areas (2.7 percent) than rural areas (2.0 percent).

#### 4.5 HIV Prevalence by Years Lived in Current Place of Residence

Table 4.3 shows HIV prevalence among women and men age 15-49 by the number of years lived in the current residence. For all countries but India, HIV prevalence is higher among individuals who have lived in their current residence for less than 10 years compared with those who have lived in their same residence for 10 years or more. In fact, for 12 of the 18 countries with data, HIV prevalence is highest among individuals who have lived in their residence for less than three years, while for the other 6 countries it is highest among individuals who have lived in their residence for 3-9 years. In India HIV



prevalence is the same (0.3 percent) for individuals who have lived in their current residence for 3-9 years as for those who have lived in their residence for 10 years or longer.

**Table 4.3. HIV prevalence among women and men aged 15-49, by number of years live in current residence**

Country/sex	Number of years in current place of residence			Total	Number
	<3	3-9	10+		
<b>Burkina Faso 2003</b>	<b>2.8</b>	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>	<b>7,151</b>
Male	0.6	1.9	1.9	1.9	3,065
Female	4.1	1.6	1.5	1.8	4,086
Number	735	1,209	5,126	7,151	7,151
<b>Cambodia 2005</b>	<b>0.8</b>	<b>1.0</b>	<b>0.5</b>	<b>0.6</b>	<b>14,703</b>
Male	0.9	0.8	0.6	0.6	6,656
Female	0.8	1.2	0.5	0.6	8,047
Number	1,485	2,069	11,125	14,703	14,703
<b>Cameroon 2004</b>	<b>7.5</b>	<b>6.5</b>	<b>4.2</b>	<b>5.4</b>	<b>9,746</b>
Male	5.3	4.8	3.4	4.1	4,619
Female	9.6	8.2	5.0	6.6	5,128
Number	2,038	2,226	5,469	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>5.4</b>	<b>4.8</b>	<b>4.2</b>	<b>4.7</b>	<b>8,436</b>
Male	2.7	2.6	3.2	2.9	4,023
Female	7.8	7.0	5.2	6.4	4,413
Number	2,382	2,195	3,845	8,436	8,436
<b>Ethiopia 2005</b>	<b>3.6</b>	<b>2.9</b>	<b>1.2</b>	<b>1.4</b>	<b>10,540</b>
Male	0.9	2.1	0.9	0.9	4,804
Female	5.2	3.3	1.4	1.9	5,736
Number	459	945	9,063	10,540	10,540
<b>Ghana 2003</b>	<b>2.1</b>	<b>2.4</b>	<b>2.1</b>	<b>2.2</b>	<b>9,142</b>
Male	1.6	1.7	1.4	1.5	4,045
Female	2.4	3.0	2.7	2.7	5,097
Number	1,349	2,300	5,379	9,142	9,142
<b>Guinea 2005</b>	<b>1.3</b>	<b>2.0</b>	<b>1.4</b>	<b>1.5</b>	<b>6,319</b>
Male	0.0	1.5	0.9	0.9	2,577
Female	2.2	2.4	1.8	1.9	3,742
Number	495	859	4,944	6,319	6,319
<b>Haiti 2005</b>	<b>3.2</b>	<b>1.9</b>	<b>2.0</b>	<b>2.2</b>	<b>9,551</b>
Male	2.7	1.3	2.1	2.0	4,321
Female	3.5	2.5	1.9	2.3	5,230
Number	1,544	1,876	6,122	9,551	9,551
<b>India 2005/06</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.3	0.6	0.3	0.4	46,506
Female	0.2	0.2	0.2	0.2	53,332
Number	11,025	13,824	74,942	99,838	99,838

(Cont'd)

Table 4.3 – cont'd

Country/sex	Number of years in current place of residence			Total	Number
	<3	3-9	10+		
<b>Kenya 2003</b>	<b>9.4</b>	<b>8.8</b>	<b>5.0</b>	<b>6.7</b>	<b>6,001</b>
Male	3.9	6.9	4.0	4.6	2,851
Female	12.9	10.1	6.1	8.7	3,151
Number	1,133	1,291	3,465	6,001	6,001
<b>Lesotho 2004/05</b>	<b>23.7</b>	<b>29.8</b>	<b>22.4</b>	<b>23.5</b>	<b>5,019</b>
Male	13.7	18.9	19.8	19.2	2,001
Female	28.6	34.4	24.4	26.4	3,018
Number	510	627	3,827	5,019	5,019
<b>Malawi 2004</b>	<b>14.4</b>	<b>12.0</b>	<b>10.8</b>	<b>11.8</b>	<b>5,150</b>
Male	14.7	12.6	7.6	10.2	2,465
Female	14.2	11.4	13.8	13.3	2,686
Number	1,065	1,211	2,874	5,150	5,150
<b>Niger 2006</b>	<b>1.2</b>	<b>1.1</b>	<b>0.7</b>	<b>0.7</b>	<b>7,262</b>
Male	0.4	1.4	0.8	0.8	2,856
Female	1.8	1.0	0.6	0.7	4,406
Number	550	792	5,892	7,262	7,262
<b>Rwanda 2005</b>	<b>3.1</b>	<b>4.5</b>	<b>2.6</b>	<b>3.0</b>	<b>9,988</b>
Male	2.8	4.0	1.9	2.3	4,348
Female	3.4	4.7	3.3	3.6	5,641
Number	1,274	1,887	6,809	9,988	9,988
<b>Senegal 2005</b>	<b>1.3</b>	<b>0.7</b>	<b>0.6</b>	<b>0.7</b>	<b>7,412</b>
Male	1.1	0.4	0.3	0.5	3,183
Female	1.6	0.9	0.8	0.9	4,229
Number	977	1,331	5,065	7,412	7,412
<b>Tanzania 2003/04</b>	<b>10.0</b>	<b>7.3</b>	<b>5.7</b>	<b>7.0</b>	<b>10,747</b>
Male	8.5	8.1	5.0	6.3	4,994
Female	10.9	6.7	6.6	7.7	5,753
Number	2,411	2,363	5,969	10,747	10,747
<b>Uganda 2004/05</b>	<b>8.4</b>	<b>7.2</b>	<b>5.2</b>	<b>6.4</b>	<b>16,827</b>
Male	5.3	5.7	4.7	5.1	7,477
Female	10.0	8.1	5.6	7.5	9,350
Number	4,021	4,197	8,573	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.9</b>	<b>0.0</b>	<b>0.6</b>	<b>0.5</b>	<b>1,675</b>
Male	2.5	0.0	0.9	0.9	754
Female	0.0	0.0	0.3	0.2	921
Number	122	196	1,358	1,675	1,675
<b>Zimbabwe 2005</b>	<b>17.2</b>	<b>19.8</b>	<b>17.8</b>	<b>18.1</b>	<b>12,796</b>
Male	13.9	13.5	14.9	14.5	5,848
Female	20.4	23.5	20.5	21.1	6,947
Number	1,611	2,429	8,746	12,796	12,796

In 10 of the 19 countries with data HIV prevalence is higher for both men and women who have lived for shorter periods of time in their current residence. However, for nine countries there is a difference in HIV prevalence between men and women by the number of years living at current residence. For example, in eight of these countries—Burkina Faso, Côte d’Ivoire, Ethiopia, Kenya, Lesotho, Niger, Uganda, and Zimbabwe—HIV prevalence is highest among men who have lived at their current residence for more than three years, while for women it is highest among those who have lived in their residence for less than three years. In the Hai Phong province of Vietnam, the pattern is opposite: HIV prevalence is highest among men who have lived in their residence for less than 3 years, while for women it is highest among those who have lived in their current residence for 10 years or more.

#### 4.6 HIV Prevalence by Number of Times Away From Home in the Last 12 Months

HIV prevalence varies according to the number of times male members of the household have been away from the home in the past 12 months (Table 4.4). Data are unavailable for four countries including Cameroon, Senegal, Tanzania, and Uganda. In 10 of the remaining 15 countries, HIV prevalence is highest among men who have not been away from home for more than one month in the past 12 months. In the other five countries—India, Lesotho, Malawi, Hai Phong province of Vietnam, and Zimbabwe—HIV prevalence is highest among men who have been away from the household for at least one month.

**Table 4.4. HIV prevalence among men age 15-49, by number of times away from home in last 12 months and away from home more than one month**

Country/sex	Away from home 1+ months		Times away from home last 12 months				Total
	No	Yes	0	1-2	3-4	5+	
<b>Burkina Faso 2003</b>							
Male	2.0	1.1	2.0	2.5	1.5	0.2	1.9
Number	2,544	515	1,848	665	255	291	3,065
<b>Cambodia 2005</b>							
Male	1.3	0.3	0.7	0.5	0.3	0.8	0.6
Number	5,812	844	3,319	1,670	758	901	6,656
<b>Côte d'Ivoire 2005</b>							
Male	3.1	2.0	1.9	5.3	2.3	3.0	2.9
Number	3,262	753	2,047	893	400	671	4,012
<b>Ethiopia 2005</b>							
Male	1.0	0.8	0.8	0.9	0.5	2.4	0.9
Number	4,512	289	3,389	821	239	352	4,804
<b>Ghana 2003</b>							
Male	1.5	1.3	1.4	1.3	1.2	1.9	1.5
Number	3,224	813	1,660	911	655	804	4,029
<b>Guinea 2005</b>							
Male	1.1	0.3	1.2	0.8	0.3	0.8	1.0
Number	2,113	455	1,271	703	268	323	2,568

(Cont'd)

Table 4.4 – cont'd

Country/sex	Away from home 1+ months		Times away from home last 12 months				Total
	No	Yes	0	1-2	3-4	5+	
<b>Haiti 2005</b>							
Male	2.0	1.5	2.1	2.0	1.4	1.6	2.0
Number	3,897	415	2,812	654	396	444	4,312
<b>India 2005/06</b>							
Male	0.3	0.4	0.4	0.2	0.4	0.3	0.4
Number	41,380	5,097	14,455	8,247	7,678	15,996	46,477
<b>Kenya 2003</b>							
Male	4.7	3.4	3.2	4.2	5.6	8.2	4.6
Number	2372	470	1,421	655	299	461	2,851
<b>Lesotho 2004/05</b>							
Male	18.7	21.0	18.3	19.8	21.1	20.7	19.2
Number	1,592	409	1,180	313	208	299	2,001
<b>Malawi 2004</b>							
Male	9.8	13.2	9.2	10.2	9.3	17.9	10.2
Number	2,156	307	1,567	431	216	245	2,465
<b>Niger 2006</b>							
Male	1.1	0.3	1.0	0.1	0.5	2.3	0.8
Number	1,859	980	1,234	1,066	233	305	2,839
<b>Rwanda 2005</b>							
Male	2.3	2.0	2.2	2.2	3.0	2.4	2.2
Number	3,990	342	3,224	662	237	208	4,333
<b>Hai Phong, Vietnam 2005</b>							
Male	0.8	2.0	0.6	2.1	0.0	2.2	0.9
Number	702	53	581	96	29	48	754
<b>Zimbabwe 2005</b>							
Male	14.3	15.5	14.4	11.2	14.6	18.2	14.5
Number	4,723	1,118	2,638	1,269	649	1,267	5,841

Note: Some of the HIV prevalence estimates for Hai Phong, Vietnam are based on small numbers of cases.

In contrast, when examining HIV prevalence by the number of times men reported being away from home in the last 12 months, HIV prevalence is higher among men who have never being away from home in only two countries (Guinea and Haiti). Instead, in 12 countries HIV prevalence is higher among men who have been away from home once or twice (Burkina Faso and Côte d'Ivoire), between three or four times (Lesotho and Rwanda), or at least five times in the past 12 months (Cambodia, Ethiopia, Ghana, Kenya, Malawi, Niger, the Hai Phong province of Vietnam, and Zimbabwe). These data suggest that it is not the duration but rather the frequency of time away from home that is related to higher levels of HIV prevalence among men.

## 4.7 HIV Prevalence by Pregnancy Status and Birth in Last 3 Years

In 14 of the 19 countries with data, HIV prevalence is higher among women who were not currently pregnant at the time of the survey (Table 4.5). In contrast, in four West African countries—Burkina Faso, Cameroon, Ghana, Senegal—HIV prevalence is higher among women who reported being currently pregnant at the time of the survey. In Niger, HIV prevalence is the same among both groups of women.

Similarly, in 12 of the 19 countries HIV prevalence is higher among women who had not given birth in the past 3-years. For women who had given birth in the past three years, in four countries (Ghana, Haiti, Rwanda, and Zimbabwe) HIV prevalence is higher among those who did not attend antenatal care during the last birth while in three countries (Cambodia, Ethiopia, Kenya) HIV prevalence is higher among women who did attend antenatal care.

**Table 4.5. HIV prevalence among women age 15-49, by pregnancy status, birth in last 3 years with antenatal care visit**

Country/sex	Pregnancy		Birth in last 3 years			Total
	No	Yes	No	Last birth, without ANC	Last birth, with ANC	
<b>Burkina Faso 2003</b>						
Female	1.8	2.0	2.1	0.6	1.9	1.8
Number	3,674	412	2,196	533	1,358	4,086
<b>Cambodia 2005</b>						
Female	0.6	0.3	0.6	0.4	0.9	0.6
Number	7,570	477	6,066	515	1,466	8,047
<b>Cameroon 2004</b>						
Female	6.6	7.3	7.5	2.4	6.0	6.6
Number	4,604	524	3,028	384	1,715	5,128
<b>Côte d'Ivoire 2005</b>						
Female	6.6	4.3	7.7	3.5	5.3	6.4
Number	4,060	353	2,704	844	865	4,413
<b>Ethiopia 2005</b>						
Female	1.9	1.1	2.0	1.0	3.7	1.9
Number	5,256	480	3,308	1,797	631	5,736
<b>Ghana 2003</b>						
Female	2.6	3.6	2.9	3.1	2.2	2.7
Number	4,712	385	3,309	255	1,533	5,097
<b>Guinea 2005</b>						
Female	2.0	0.6	2.7	0.2	1.2	1.9
Number	3,371	370	2,053	367	1,322	3,742
<b>Haiti 2005</b>						
Female	2.4	1.3	2.3	3.4	2.1	2.3
Number	4,941	289	3,724	217	1,289	5,230

(Cont'd)

Table 4.5 – cont'd

Country/sex	Pregnancy		Birth in last 3 years			Total
	No	Yes	No	Last birth, without ANC	Last birth, with ANC	
<b>India 2005/06</b>						
Female	0.2	0.1	0.3	0.1	0.1	0.2
Number	50,499	2,833	41,081	2,845	9,406	53,332
<b>Kenya 2003</b>						
Female	8.8	7.3	8.8	4.4	8.9	8.7
Number	2,891	260	1,961	120	1,070	3,151
<b>Lesotho 2004/05</b>						
Female	26.6	24.3	26.8	21.4	26.1	26.4
Number	2,824	194	2,116	110	792	3,018
<b>Malawi 2004</b>						
Female	13.9	9.8	16.6	9.3	10.4	13.3
Number	2,323	362	1,282	55	1,349	2,686
<b>Niger 2006</b>						
Female	0.7	0.7	1.0	0.1	0.9	0.7
Number	3,762	644	1,857	1,341	1,208	4,406
<b>Rwanda 2005</b>						
Female	3.7	2.2	3.9	8.6	2.9	3.6
Number	5,210	431	3,388	124	2,129	5,641
<b>Senegal 2005</b>						
Female	0.8	1.6	1.1	0.0	0.7	0.9
Number	3,895	334	2,658	140	1,431	4,229
<b>Tanzania 2003/04</b>						
Female	7.8	6.8	9.1	5.7	6.0	7.7
Number	5,219	533	3,206	352	2,195	5,753
<b>Uganda 2004/05</b>						
Female	7.6	6.5	8.6	8.4	6.0	7.5
Number	8,282	1,068	4,854	630	3,866	9,350
<b>Hai Phong, Vietnam 2005</b>						
Female	0.2	0.0	0.2	0.0	0.0	0.2
Number	893	28	799	4	117	921
<b>Zimbabwe 2005</b>						
Female	21.4	17.5	21.5	24.1	20.2	21.1
Number	6,473	474	4,602	115	2,230	6,947

Note: Some of the HIV prevalence estimates for Hai Phong, Vietnam are based on small numbers of cases.

## 5 HIV Prevalence by Socioeconomic Characteristics

### 5.1 Key Findings

- ❖ HIV prevalence is related to marital status, with widowed and divorced individuals at highest risk for HIV infection, and never-married individuals at lowest risk. There is little difference in HIV prevalence by whether individuals are in monogamous or polygamous marriages.
- ❖ In the majority of countries studied, individuals with more education are at a higher risk for HIV infection.
- ❖ HIV prevalence is related to occupational status, with employees in the professional and manual/domestic sectors most at risk for HIV infection.
- ❖ For the majority of countries, HIV prevalence increases with the amount of household wealth. Individuals in the top two quintiles of household wealth are at the most risk for HIV infection.
- ❖ There is no clear relationship across countries between media exposure to newspapers, radio, and television and HIV prevalence.

### 5.2 Introduction

This chapter reports HIV prevalence by the social and economic characteristics of the household population, including marital status, education level, occupation, and household wealth. Household wealth is measured by an index constructed using household assets data—ownership of consumer items, such as television sets, bicycles, and cars, as well as characteristics of the dwelling, such as source of drinking water, type of sanitation facilities, and type of flooring material. Surveyed households are ranked according to the index and divided into quintiles from one (lowest) to five (highest). In addition, frequency of media exposure (newspaper, radio, and television) is used as a proxy measure of socioeconomic status.

### 5.3 HIV Prevalence by Marital Status

In the 19 countries with data, HIV prevalence is related to marital status (Table 5.1). HIV prevalence is highest among individuals who are widowed. Those who are divorced or separated have an intermediate level of HIV infection, while those who have never been in a marital union have relatively low HIV prevalence. For example, in Côte d'Ivoire HIV prevalence among widowed individuals is 29.2 percent compared with 8.1 percent among divorced individuals, and 2.6 percent among the never-married. In general, there is little difference in HIV prevalence by whether an individual is in a polygynous or monogamous marriage.

**Table 5.1. HIV prevalence among women and men age 15-49, by marital status**

Country/sex	Marital status					Total	Number
	Never in union	Monoga-mous	Polygy-nous	Widowed	Divorced/separated		
<b>Burkina Faso 2003</b>	<b>1.2</b>	<b>2.5</b>	<b>1.2</b>	<b>7.0</b>	<b>4.2</b>	<b>1.8</b>	<b>7,151</b>
Male	0.7	3.2	1.5	16.1	3.3	1.9	3,065
Female	2.0	2.0	1.2	6.3	4.7	1.8	4,086
Number	2,277	2,742	1,916	104	114	7,151	7,151
<b>Cambodia 2005</b>	<b>0.1</b>	<b>0.8</b>		<b>3.1</b>	<b>1.3</b>	<b>0.6</b>	<b>14,703</b>
Male	0.1	0.9		4.1	2.0	0.6	6,656
Female	0.1	0.7		2.9	1.1	0.6	8,047
Number	5,070	8,769		370	494	14,703	14,703
<b>Cameroon 2004</b>	<b>2.6</b>	<b>6.1</b>	<b>5.2</b>	<b>10.6</b>		<b>5.4</b>	<b>9,746</b>
Male	2.1	5.6	3.5	7.4		4.1	4,619
Female	3.5	6.5	5.5	26.4	15.0	6.6	5,128
Number	3,231	4,341	1,327	308		9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>2.6</b>	<b>5.1</b>	<b>5.2</b>	<b>29.2</b>	<b>8.1</b>	<b>4.7</b>	<b>8,436</b>
Male	1.3	4.0	1.5	37.2	5.8	2.9	4,023
Female	4.6	6.0	6.4	26.5	9.8	6.4	4,413
Number	3,537	3,306	953	161	478	8,436	8,436
<b>Ethiopia 2005</b>	<b>0.5</b>	<b>1.5</b>	<b>1.4</b>	<b>8.4</b>	<b>4.7</b>	<b>1.4</b>	<b>10,540</b>
Male	0.3	1.4	1.3	13.1	1.9	0.9	4,804
Female	0.7	1.6	1.5	8.1	5.6	1.9	5,736
Number	3,532	5,661	607	222	517	10,540	10,540
<b>Ghana 2003</b>	<b>0.6</b>	<b>2.6</b>	<b>3.0</b>	<b>6.8</b>	<b>5.2</b>	<b>2.2</b>	<b>9,142</b>
Male	0.3	2.4	1.6	7.2	3.3	1.5	4,045
Female	1.1	2.8	3.4	6.8	6.2	2.7	5,097
Number	3,296	4,234	938	109	564	9,142	9,142
<b>Guinea 2005</b>	<b>0.8</b>	<b>1.7</b>	<b>1.3</b>	<b>13.5</b>	<b>1.8</b>	<b>1.5</b>	<b>6,319</b>
Male	0.6	1.3	1.3	0.0	0.0	0.9	2,577
Female	1.2	1.9	1.4	14.8	3.9	1.9	3,742
Number	1,722	2,376	1,943	84	193	6,319	6,319
<b>Haiti 2005</b>	<b>0.6</b>	<b>3.2</b>	<b>3.8</b>	<b>2.6</b>	<b>3.8</b>	<b>2.2</b>	<b>9,551</b>
Male	0.5	3.7	2.5	2.5	4.3	2.0	4,321
Female	0.7	2.8	4.2	2.6	3.5	2.3	5,230
Number	4,015	4,093	753	129	561	9,551	9,551
<b>India 2005/06</b>	<b>0.1</b>	<b>0.3</b>	<b>0.6</b>	<b>1.3</b>	<b>1.4</b>	<b>0.3</b>	<b>99,838</b>
Male	0.2	0.4	1.4	0.1	1.9	0.4	46,506
Female	0.0	0.2	0.3	1.5	1.1	0.2	53,332
Number	27,494	68,029	1,053	2,110	1,153	99,838	99,838
<b>Kenya 2003</b>	<b>2.8</b>	<b>6.9</b>	<b>11.6</b>	<b>31.9</b>	<b>15.1</b>	<b>6.7</b>	<b>6,001</b>
Male	1.6	6.5	11.9	44.2	6.4	4.6	2,851
Female	4.7	7.2	11.5	30.2	19.2	8.7	3,151
Number	2,302	2,800	449	151	299	6,001	6,001

(Cont'd)



Table 5.1 – cont'd

Country/sex	Marital status					Total	Number
	Never in union	Monoga-mous	Polygynous	Widowed	Divorced/separated		
<b>Lesotho 2004/05</b>	<b>11.5</b>	<b>28.8</b>		<b>46.5</b>	<b>49.7</b>	<b>23.5</b>	<b>5,019</b>
Male	8.7	32.9		38.3	36.1	19.2	2,001
Female	14.9	26.9		47.3	55.9	26.4	3,018
Number	2,125	2,346		279	264	5,019	5,019
<b>Malawi 2004</b>	<b>3.0</b>	<b>13.1</b>	<b>14.3</b>	<b>35.6</b>	<b>23.3</b>	<b>11.8</b>	<b>5,150</b>
Male	1.8	14.5	10.4	22.2	16.0	10.2	2,465
Female	5.3	11.8	16.0	37.4	25.5	13.3	2,686
Number	1,198	3,050	528	103	272	5,150	5,150
<b>Niger 2006</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>3.5</b>	<b>5.8</b>	<b>0.7</b>	<b>7,262</b>
Male	0.5	0.9	0.8	2.1	3.6	0.8	2,856
Female	0.4	0.5	0.6	3.9	6.7	0.7	4,406
Number	1,490	3,865	1,672	76	158	7,262	7,262
<b>Rwanda 2005</b>	<b>1.3</b>	<b>3.0</b>	<b>4.2</b>	<b>15.8</b>	<b>10.2</b>	<b>3.0</b>	<b>9,988</b>
Male	0.9	3.5	2.3	14.6	5.1	2.3	4,348
Female	1.6	2.6	4.8	15.9	10.9	3.6	5,641
Number	4,343	4,380	425	248	592	9,988	9,988
<b>Senegal 2005</b>	<b>0.1</b>	<b>0.9</b>	<b>1.0</b>	<b>3.2</b>	<b>3.3</b>	<b>0.7</b>	<b>7,412</b>
Male	0.0	0.9	0.8	27.8	1.1	0.5	3,183
Female	0.3	0.8	1.0	1.5	4.6	0.9	4,229
Number	2,935	2,804	1,334	66	273	7,412	7,412
<b>Tanzania 2003/04</b>	<b>3.4</b>	<b>7.1</b>	<b>9.5</b>	<b>18.4</b>		<b>7.0</b>	<b>10,747</b>
Male	3.1	7.7	9.0	15.0		6.3	4,994
Female	3.8	6.6	9.9	19.8		7.7	5,753
Number	3,459	5,687	634	967		10,747	10,747
<b>Uganda 2004/05</b>	<b>1.6</b>	<b>6.3</b>	<b>6.2</b>	<b>31.4</b>	<b>13.9</b>	<b>6.4</b>	<b>16,827</b>
Male	0.8	6.6	7.6	32.2	10.8	5.1	7,477
Female	2.7	6.1	5.6	31.2	16.0	7.5	9,350
Number	4,985	7,151	2,799	651	1,241	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.5</b>	<b>0.5</b>		<b>0.0</b>	<b>3.6</b>	<b>0.5</b>	<b>1,675</b>
Male	1.1	0.6		0.0	16.6	0.9	754
Female	0.0	0.3		0.0	0.0	0.2	921
Number	537	1,090		22	26	1,675	1,675
<b>Zimbabwe 2005</b>	<b>5.9</b>	<b>20.9</b>		<b>58.8</b>	<b>35.7</b>	<b>18.1</b>	<b>12,796</b>
Male	4.3	22.7		66.7	35.5	14.5	5,848
Female	8.4	19.8		57.7	35.8	21.1	6,947
Number	4,822	6,074		590	764	12,796	12,796

Note: Some of the HIV prevalence estimates for 'widowed' and 'divorced/separated' are based on small numbers of cases.

With a few notable exceptions, there are no differences between women and men in HIV prevalence by marital status. In Cameroon and India, however, widowed women are most likely to be HIV infected, while among men in India HIV prevalence is highest among the divorced or separated. In Lesotho and Senegal HIV prevalence is highest among divorced women, while for men it is highest among widowers. And in Haiti HIV prevalence is highest among divorced or separated men, but for women it is highest among those in a polygynous union.

## 5.4 HIV Prevalence by Level of Education

In the majority of countries, HIV prevalence is highest among individuals with either a primary or secondary education (Table 5.2). In six countries—Burkina Faso, Cambodia, Ethiopia, Malawi, Rwanda, and Tanzania—HIV prevalence is highest among individuals who have completed at least a secondary education. For the most part, this is true for both men and women. In Burkina Faso and Cambodia, however, men with a secondary or higher education have the highest HIV prevalence, while for women HIV prevalence is highest among those with an incomplete primary education.

**Table 5.2. HIV prevalence among women and men age 15-49, by education level**

Country/sex	Education level				Total	Number
	No education	Primary incomplete	Primary complete	Secondary/higher		
<b>Burkina Faso 2003</b>	<b>1.6</b>	<b>2.6</b>	<b>1.5</b>	<b>2.8</b>	<b>1.8</b>	<b>7,151</b>
Male	1.7	1.4	1.4	2.9	1.9	3,065
Female	1.5	4.1	1.6	2.8	1.8	4,086
Number	5,150	628	482	891	7,151	7,151
<b>Cambodia 2005</b>	<b>0.7</b>	<b>0.6</b>	<b>0.2</b>	<b>0.7</b>	<b>0.6</b>	<b>14,703</b>
Male	0.3	0.5	0.3	0.9	0.6	6,656
Female	0.8	0.7	0.0	0.5	0.6	8,047
Number	2,204	6,468	1,283	4,749	14,703	14,703
<b>Cameroon 2004</b>	<b>3.2</b>	<b>4.3</b>	<b>7.9</b>	<b>5.9</b>	<b>5.4</b>	<b>9,746</b>
Male	2.8	3.2	5.6	4.3	4.1	4,619
Female	3.3	5.2	9.8	8.0	6.6	5,128
Number	1,566	2,114	1,575	4,492	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>4.4</b>	<b>4.7</b>	<b>8.4</b>	<b>4.7</b>	<b>4.7</b>	<b>8,436</b>
Male	2.9	1.5	2.3	3.6	2.9	4,023
Female	5.2	7.5	12.3	7.0	6.4	4,413
Number	3,645	1,969	320	2,502	8,436	8,436
<b>Ethiopia 2005</b>	<b>1.0</b>	<b>1.2</b>	<b>2.2</b>	<b>3.4</b>	<b>1.4</b>	<b>10,540</b>
Male	0.8	0.3	1.4	2.0	0.9	4,804
Female	1.0	2.3	3.7	5.5	1.9	5,736
Number	5,665	2,737	523	1,614	10,540	10,540
<b>Ghana 2003</b>	<b>1.9</b>	<b>2.6</b>	<b>2.5</b>	<b>1.0</b>	<b>2.2</b>	<b>9,142</b>
Male	1.2	1.5	1.9	0.7	1.5	4,045
Female	2.2	3.4	3.1	1.6	2.7	5,097
Number	2,089	1,689	3,838	1,525	9,142	9,142

(Cont'd)

Table 5.2 – cont'd

Country/sex	Education level				Total	Number
	No education	Primary incomplete	Primary complete	Secondary/higher		
<b>Guinea 2005</b>	<b>1.3</b>	<b>1.4</b>	<b>3.3</b>	<b>2.2</b>	<b>1.5</b>	<b>6,319</b>
Male	1.2	0.6	0.0	0.8	0.9	2,577
Female	1.3	2.2	5.0	5.1	1.9	3,742
Number	4,121	836	79	1,282	6,319	6,319
<b>Haiti 2005</b>	<b>2.6</b>	<b>2.0</b>	<b>4.5</b>	<b>1.8</b>	<b>2.2</b>	<b>9,551</b>
Male	3.3	2.0	2.3	1.6	2.0	4,321
Female	2.3	1.9	6.3	2.1	2.3	5,230
Number	1,797	3,246	549	3,959	9,551	9,551
<b>India 2005/06</b>	<b>0.3</b>	<b>0.4</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>99,838</b>
Male	0.5	0.4	0.4	0.2	0.4	46,506
Female	0.3	0.3	0.1	0.1	0.2	53,332
Number	29,665	25,258	17,273	27,625	99,838	99,838
<b>Kenya 2003</b>	<b>3.9</b>	<b>6.4</b>	<b>8.5</b>	<b>6.6</b>	<b>6.7</b>	<b>6,001</b>
Male	2.7	3.4	5.9	5.2	4.6	2,851
Female	4.4	9.3	10.6	8.2	8.7	3,151
Number	552	2,034	1,444	1,972	6,001	6,001
<b>Lesotho 2004/05</b>	<b>27.1</b>	<b>21.5</b>	<b>24.4</b>	<b>24.3</b>	<b>23.5</b>	<b>5,019</b>
Male	26.9	16.7	18.3	19.1	19.2	2,001
Female	27.5	26.0	26.6	26.7	26.4	3,018
Number	398	1,819	1,056	1,741	5,019	5,019
<b>Malawi 2004</b>	<b>12.3</b>	<b>9.7</b>	<b>11.8</b>	<b>15.1</b>	<b>11.8</b>	<b>5,150</b>
Male	9.2	6.5	10.8	14.6	10.2	2,465
Female	13.6	12.3	13.0	15.7	13.3	2,686
Number	962	1,241	2,228	720	5,150	5,150
<b>Niger 2006</b>	<b>0.6</b>	<b>1.1</b>	<b>1.3</b>	<b>1.0</b>	<b>0.7</b>	<b>7,262</b>
Male	0.8	0.5	1.4	0.9	0.8	2,856
Female	0.6	1.7	1.1	1.2	0.7	4,406
Number	5,524	893	114	731	7,262	7,262
<b>Rwanda 2005</b>	<b>3.1</b>	<b>2.5</b>	<b>3.4</b>	<b>5.3</b>	<b>3.0</b>	<b>9,988</b>
Male	2.8	1.6	2.9	4.0	2.3	4,348
Female	3.3	3.2	3.8	6.6	3.6	5,641
Number	1,983	5,759	1,145	1,101	9,988	9,988
<b>Senegal 2005</b>	<b>0.8</b>	<b>0.9</b>	<b>1.1</b>	<b>0.3</b>	<b>0.7</b>	<b>7,412</b>
Male	0.6	0.5	1.2	0.2	0.5	3,183
Female	0.9	1.3	1.0	0.4	0.9	4,229
Number	3,669	1,707	263	1,772	7,412	7,412
<b>Tanzania 2003/04</b>	<b>5.3</b>	<b>5.3</b>	<b>7.9</b>	<b>8.2</b>	<b>7.0</b>	<b>10,747</b>
Male	4.2	4.8	7.0	7.3	6.3	4,994
Female	5.8	5.8	8.8	9.3	7.7	5,753
Number	1,804	1,894	6,030	1,019	10,747	10,747

(Cont'd)

Table 5.2 – cont'd

Country/sex	Education level				Total	Number
	No education	Primary incomplete	Primary complete	Secondary/higher		
<b>Uganda 2004/05</b>	<b>6.3</b>	<b>6.3</b>	<b>8.2</b>	<b>5.8</b>	<b>6.4</b>	<b>16,827</b>
Male	7.7	4.6	6.6	4.4	5.1	7,477
Female	5.9	7.7	9.8	7.6	7.5	9,350
Number	2,717	7,860	2,120	4,130	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.0</b>	<b>4.0</b>	<b>0.0</b>	<b>0.4</b>	<b>0.5</b>	<b>1,675</b>
Male	0.0	8.8	0.0	0.7	0.9	754
Female	0.0	0.0	0.0	0.2	0.2	921
Number	6	50	72	1,547	1,675	1,675
<b>Zimbabwe 2005</b>	<b>20.6</b>	<b>19.5</b>	<b>19.1</b>	<b>17.4</b>	<b>18.1</b>	<b>12,796</b>
Male	23.4	15.1	14.9	14.2	14.5	5,848
Female	20.0	22.5	22.3	20.5	21.1	6,947
Number	362	3,152	661	8,621	12,796	12,796

Note: Some of the HIV prevalence estimates for Guinea and Hai Phong, Vietnam are based on small numbers of cases.

In eight countries—Cameroon, Côte d'Ivoire, Guinea, Haiti, Kenya, Niger, Senegal, and Uganda—HIV prevalence is highest among people who have completed primary school.

However, there is an inconsistent relationship between HIV prevalence and level of education by sex of the respondents. In three of the countries (Côte d'Ivoire, Senegal, and Niger), HIV prevalence is higher among more educated men, while women with an incomplete primary or no education have the highest prevalence of HIV. In contrast, in three other countries (Guinea, Uganda, and Haiti) HIV prevalence among women is highest for those with at least a primary education, while among men those with no education have the highest HIV prevalence. In the other two countries (Kenya and Cambodia) there is no difference in the relationship between HIV prevalence and level of education by sex of the respondents.

In two countries—Lesotho and Zimbabwe—HIV prevalence is highest among individuals with no education. In another three countries—Ghana, India, and the Hai Phong province of Vietnam—HIV prevalence is highest among individuals with incomplete primary education. Again, there are notable differences by sex of the respondents. For example, in Lesotho and Zimbabwe men with no education have the highest HIV prevalence, but among women HIV prevalence varies little by education level.

## 5.5 HIV Prevalence by Occupation

HIV prevalence is related to occupational status, with employees in the professional and manual/domestic sectors having the highest prevalence (Table 5.3). In none of the 19 countries is overall HIV prevalence highest among those not working or those working in the agricultural sector.

**Table 5.3. HIV prevalence among women and men age 15-49, by occupation**

Country/sex	Occupation				Total	Number
	Not working	Professional/ white collar	Agriculture	Manual/ domestic		
<b>Burkina Faso 2003</b>	<b>1.6</b>	<b>3.1</b>	<b>1.4</b>	<b>3.5</b>	<b>1.8</b>	<b>7,151</b>
Male	1.3	3.1	1.9	0.0	1.9	3,065
Female	2.0	3.2	1.1	7.1	1.8	4,086
Number	1,063	1,282	4,427	371	7,151	7,151
<b>Cambodia 2005</b>	<b>0.1</b>	<b>0.5</b>	<b>0.7</b>	<b>1.1</b>	<b>0.6</b>	<b>14,703</b>
Male	0.0	0.3	1.6	1.5	0.6	6,656
Female	0.3	0.8	0.4	0.9	0.6	8,047
Number	1,777	5,324	4,824	2,678	14,703	14,703
<b>Cameroon 2004</b>	<b>4.1</b>	<b>8.3</b>	<b>4.4</b>	<b>7.3</b>	<b>5.4</b>	<b>9,746</b>
Male	1.4	8.7	3.5	5.0	4.1	4,619
Female	5.9	7.2	5.2	9.4	6.6	5,128
Number	3,265	990	3,057	2,435	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>3.8</b>	<b>6.7</b>	<b>3.7</b>	<b>2.9</b>	<b>4.7</b>	<b>8,436</b>
Male	2.1	3.7	2.7	3.1	2.9	4,023
Female	5.0	8.1	5.3	1.5	6.4	4,413
Number	2,382	2,939	2,378	736	8,436	8,436
<b>Ethiopia 2005</b>	<b>1.4</b>	<b>4.0</b>	<b>0.7</b>	<b>3.7</b>	<b>1.4</b>	<b>10,540</b>
Male	0.0	2.8	0.7	3.9	0.9	4,804
Female	1.6	4.7	0.5	3.4	1.9	5,736
Number	4,342	1,095	4,600	451	10,540	10,540
<b>Ghana 2003</b>	<b>1.0</b>	<b>3.3</b>	<b>2.2</b>	<b>1.8</b>	<b>2.2</b>	<b>9,142</b>
Male	0.3	1.6	2.0	1.7	1.5	4,045
Female	1.6	3.9	2.4	2.0	2.7	5,097
Number	2,119	2,480	2,972	1,479	9,142	9,142
<b>Guinea 2005</b>	<b>0.8</b>	<b>2.9</b>	<b>1.0</b>	<b>1.9</b>	<b>1.5</b>	<b>6,319</b>
Male	0.3	1.4	1.1	1.4	0.9	2,577
Female	1.4	3.5	0.9	2.8	1.9	3,742
Number	1,375	1,482	2,720	694	6,319	6,319
<b>Haiti 2005</b>	<b>1.3</b>	<b>3.2</b>	<b>2.0</b>	<b>2.9</b>	<b>2.2</b>	<b>9,551</b>
Male	0.8	2.9	2.3	2.9	2.0	4,321
Female	1.7	3.3	1.1	3.0	2.3	5,230
Number	3,933	2,781	1,771	1,058	9,551	9,551
<b>India 2005/06</b>	<b>0.1</b>	<b>0.5</b>	<b>0.3</b>	<b>0.4</b>	<b>0.3</b>	<b>99,838</b>
Male	0.1	0.5	0.3	0.4	0.4	46,506
Female	0.2	0.7	0.2	0.2	0.2	53,332
Number	36,413	15,850	26,972	20,533	99,838	99,838
<b>Kenya 2003</b>	<b>4.6</b>	<b>9.8</b>	<b>5.7</b>	<b>9.0</b>	<b>6.7</b>	<b>6,001</b>
Male	1.2	7.1	4.0	6.9	4.6	2,851
Female	6.6	12.1	7.3	13.1	8.7	3,151
Number	1,917	1,274	1,860	951	6,001	6,001

(Cont'd)

Table 5.3 – cont'd

Country/sex	Occupation				Total	Number
	Not working	Professional/ white collar	Agriculture	Manual/ domestic		
<b>Lesotho 2004/05</b>	<b>18.0</b>	<b>32.0</b>	<b>23.0</b>	<b>35.8</b>	<b>23.5</b>	<b>5,019</b>
Male	13.6	29.7	17.9	31.9	19.2	2,001
Female	20.9	33.2	27.1	38.5	26.4	3,018
Number	2,776	574	776	893	5,019	5,019
<b>Malawi 2004</b>	<b>9.6</b>	<b>20.6</b>	<b>12.6</b>	<b>10.3</b>	<b>11.8</b>	<b>5,150</b>
Male	6.4	15.3	18.1	9.2	10.2	2,465
Female	11.3	23.0	11.0	28.3	13.3	2,686
Number	1,623	544	1,517	1,467	5,150	5,150
<b>Niger 2006</b>	<b>0.5</b>	<b>1.2</b>	<b>0.6</b>	<b>0.8</b>	<b>0.7</b>	<b>7,262</b>
Male	0.1	1.3	0.6	1.1	0.8	2,856
Female	0.6	1.2	0.6	0.4	0.7	4,406
Number	2,820	1,671	1,900	795	7,262	7,262
<b>Rwanda 2005</b>	<b>2.2</b>	<b>8.9</b>	<b>2.7</b>	<b>4.0</b>	<b>3.0</b>	<b>9,988</b>
Male	1.7	5.5	1.9	3.4	2.3	4,348
Female	2.8	12.1	3.1	5.8	3.6	5,641
Number	3,643	659	4,784	855	9,988	9,988
<b>Senegal 2005</b>	<b>0.5</b>	<b>1.1</b>	<b>0.9</b>	<b>0.4</b>	<b>0.7</b>	<b>7,412</b>
Male	0.4	0.4	0.7	0.5	0.5	3,183
Female	0.6	1.4	1.2	0.3	0.9	4,229
Number	3,159	1,957	1,143	1,104	7,412	7,412
<b>Tanzania 2003/04</b>	<b>5.0</b>	<b>12.4</b>	<b>5.6</b>	<b>8.5</b>	<b>7.0</b>	<b>10,747</b>
Male	3.5	10.1	5.2	9.0	6.3	4,994
Female	6.1	14.0	6.0	6.7	7.7	5,753
Number	1,740	2,033	6,162	812	10,747	10,747
<b>Uganda 2004/05</b>	<b>3.9</b>	<b>10.7</b>	<b>5.9</b>	<b>8.3</b>	<b>6.4</b>	<b>16,827</b>
Male	1.3	6.7	5.5	7.4	5.1	7,477
Female	5.4	14.1	6.3	9.5	7.5	9,350
Number	4,594	2,538	7,392	2,304	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.0</b>	<b>0.3</b>	<b>0.5</b>	<b>1.1</b>	<b>0.5</b>	<b>1,675</b>
Male	0.0	0.0	1.3	1.4	0.9	754
Female	0.0	0.4	0.0	0.6	0.2	921
Number	284	396	573	422	1,675	1,675
<b>Zimbabwe 2005</b>	<b>15.6</b>	<b>22.6</b>	<b>18.4</b>	<b>19.8</b>	<b>18.1</b>	<b>12,796</b>
Male	8.3	19.6	15.4	17.7	14.5	5,848
Female	18.9	25.1	22.6	24.6	21.1	6,947
Number	5,760	2,250	2,501	2,197	12,796	12,796

In 15 of the 19 countries, HIV prevalence is highest among professional or white-collar workers. In six of these countries (Côte d'Ivoire, India, Niger, Rwanda, Tanzania, and Zimbabwe), prevalence is highest among both male and female professionals. However, in the other nine countries, there are several

differences by sex of the respondents in the relationship between occupation and HIV prevalence. In six countries—Ethiopia, Ghana, Guinea, Haiti, Senegal, and Uganda—HIV prevalence is highest among female professionals, but among men prevalence is highest among manual or agricultural workers. Conversely, in Cameroon and Kenya HIV prevalence is highest among male professionals, while among women it is highest among manual laborers. In Malawi HIV prevalence is highest among men employed in the agricultural sector but highest among women who are manual laborers.

In four countries—Burkina Faso, Cambodia, Lesotho, and the Hai Phong province of Vietnam—HIV prevalence is highest among manual laborers. Again, there are differences by respondents' sex. In Burkina Faso HIV prevalence is highest among male professionals, but among women it is highest among manual laborers. Similarly, in Cambodia among men HIV prevalence is highest among agricultural workers, while among women it is highest among manual laborers. In Lesotho and the Hai Phong province of Vietnam, there is no difference by respondents' sex in HIV prevalence and occupational status.

## 5.6 HIV Prevalence by Household Wealth

For the majority of countries, HIV prevalence increases with the amount of household wealth (Table 5.4). In 12 countries HIV prevalence is highest among individuals living in the highest household wealth quintile. In five countries—Cameroon, Haiti, India, Lesotho, and Zimbabwe—HIV prevalence is highest in the fourth (next-highest) wealth quintile. In Senegal and Ghana HIV prevalence is highest in the third quintile.

**Table 5.4. HIV prevalence among women and men age 15-49, by household wealth status**

Country/sex	Wealth status					Total	Number
	Lowest	Second	Third	Fourth	Highest		
<b>Burkina Faso 2003</b>	<b>1.1</b>	<b>1.9</b>	<b>1.4</b>	<b>1.1</b>	<b>3.1</b>	<b>1.8</b>	<b>7,151</b>
Male	1.4	2.9	1.3	0.4	2.7	1.9	3,065
Female	0.9	1.1	1.5	1.7	3.4	1.8	4,086
Number	1,097	1,398	1,631	1,167	1,859	7,151	7,151
<b>Cambodia 2005</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>0.8</b>	<b>1.2</b>	<b>0.6</b>	<b>14,703</b>
Male	0.3	0.1	0.2	0.7	1.5	0.6	6,656
Female	0.5	0.4	0.4	0.8	0.9	0.6	8,047
Number	2,482	2,713	2,927	3,005	3,576	14,703	14,703
<b>Cameroon 2004</b>	<b>2.4</b>	<b>3.1</b>	<b>6.4</b>	<b>7.2</b>	<b>6.6</b>	<b>5.4</b>	<b>9,746</b>
Male	1.4	2.2	4.5	5.3	5.4	4.1	4,619
Female	3.1	4.0	8.1	9.1	7.9	6.6	5,128
Number	1,575	1,659	1,857	2,156	2,500	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>2.7</b>	<b>3.6</b>	<b>5.5</b>	<b>5.2</b>	<b>5.9</b>	<b>4.7</b>	<b>8,436</b>
Male	1.7	3.4	4.3	2.1	2.7	2.9	4,023
Female	3.6	3.9	6.5	8.0	8.8	6.4	4,413
Number	1,436	1,591	1,634	1,723	2,053	8,436	8,436
<b>Ethiopia 2005</b>	<b>0.5</b>	<b>0.7</b>	<b>0.6</b>	<b>0.3</b>	<b>4.3</b>	<b>1.4</b>	<b>10,540</b>
Male	0.7	0.3	0.9	0.4	2.2	0.9	4,804
Female	0.3	1.0	0.4	0.2	6.1	1.9	5,736
Number	1,916	2,057	2,006	2,023	2,538	10,540	10,540

(Cont'd)

Table 5.4 – cont'd

Country/sex	Wealth status					Total	Number
	Lowest	Second	Third	Fourth	Highest		
<b>Ghana 2003</b>	<b>1.4</b>	<b>2.2</b>	<b>3.1</b>	<b>2.2</b>	<b>1.9</b>	<b>2.2</b>	<b>9,142</b>
Male	1.4	1.5	2.0	1.4	1.1	1.5	4,045
Female	1.4	2.7	4.0	3.0	2.4	2.7	5,097
Number	1,567	1,582	1,763	2,001	2,229	9,142	9,142
<b>Guinea 2005</b>	<b>1.7</b>	<b>0.7</b>	<b>0.5</b>	<b>2.1</b>	<b>2.2</b>	<b>1.5</b>	<b>6,319</b>
Male	2.1	0.7	0.4	1.0	0.7	0.9	2,577
Female	1.4	0.7	0.6	2.8	3.6	1.9	3,742
Number	1,191	1,099	1,173	1,269	1,585	6,319	6,319
<b>Haiti 2005</b>	<b>2.1</b>	<b>1.8</b>	<b>2.4</b>	<b>3.1</b>	<b>1.5</b>	<b>2.2</b>	<b>9,551</b>
Male	1.7	2.8	2.4	2.3	0.9	2.0	4,321
Female	2.4	0.9	2.4	3.7	1.9	2.3	5,230
Number	1,470	1,729	1,724	2,165	2,463	9,551	9,551
<b>India 2005/06</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>0.4</b>	<b>0.2</b>	<b>0.3</b>	<b>99,838</b>
Male	0.4	0.3	0.3	0.5	0.2	0.4	46,506
Female	0.2	0.2	0.3	0.3	0.1	0.2	53,332
Number	16,623	18,956	20,500	21,393	22,366	99,838	99,838
<b>Kenya 2003</b>	<b>3.6</b>	<b>6.5</b>	<b>4.8</b>	<b>7.1</b>	<b>9.8</b>	<b>6.7</b>	<b>6,001</b>
Male	3.4	4.2	2.2	4.3	7.3	4.6	2,851
Female	3.9	8.5	7.1	9.7	12.2	8.7	3,151
Number	937	1,082	1,125	1,287	1,571	6,001	6,001
<b>Lesotho 2004/05</b>	<b>19.0</b>	<b>23.4</b>	<b>24.7</b>	<b>25.0</b>	<b>24.2</b>	<b>23.5</b>	<b>5,019</b>
Male	18.3	16.8	23.7	21.6	14.8	19.2	2,001
Female	19.6	27.9	25.5	27.3	28.9	26.4	3,018
Number	767	945	967	1,093	1,247	5,019	5,019
<b>Malawi 2004</b>	<b>8.3</b>	<b>7.6</b>	<b>12.4</b>	<b>13.2</b>	<b>16.4</b>	<b>11.8</b>	<b>5,150</b>
Male	4.4	4.6	12.1	11.7	14.9	10.2	2,465
Female	10.9	10.3	12.7	14.6	18.0	13.3	2,686
Number	755	1,033	1,149	1,159	1,054	5,150	5,150
<b>Niger 2006</b>	<b>0.3</b>	<b>0.7</b>	<b>0.6</b>	<b>0.6</b>	<b>1.4</b>	<b>0.7</b>	<b>7,262</b>
Male	0.2	1.0	0.8	0.1	1.4	0.8	2,856
Female	0.3	0.5	0.4	0.9	1.3	0.7	4,406
Number	1,140	1,367	1,533	1,447	1,774	7,262	7,262
<b>Rwanda 2005</b>	<b>2.1</b>	<b>2.0</b>	<b>2.8</b>	<b>2.8</b>	<b>5.4</b>	<b>3.0</b>	<b>9,988</b>
Male	1.3	1.7	1.8	2.1	4.1	2.3	4,348
Female	2.6	2.1	3.6	3.4	6.6	3.6	5,641
Number	1,992	1,974	1,918	1,997	2,108	9,988	9,988
<b>Senegal 2005</b>	<b>0.7</b>	<b>0.8</b>	<b>0.9</b>	<b>0.7</b>	<b>0.6</b>	<b>0.7</b>	<b>7,412</b>
Male	0.2	0.6	0.7	0.2	0.6	0.5	3,183
Female	1.0	1.0	1.0	1.0	0.6	0.9	4,229
Number	1,198	1,109	1,322	1,602	2,181	7,412	7,412

(Cont'd)



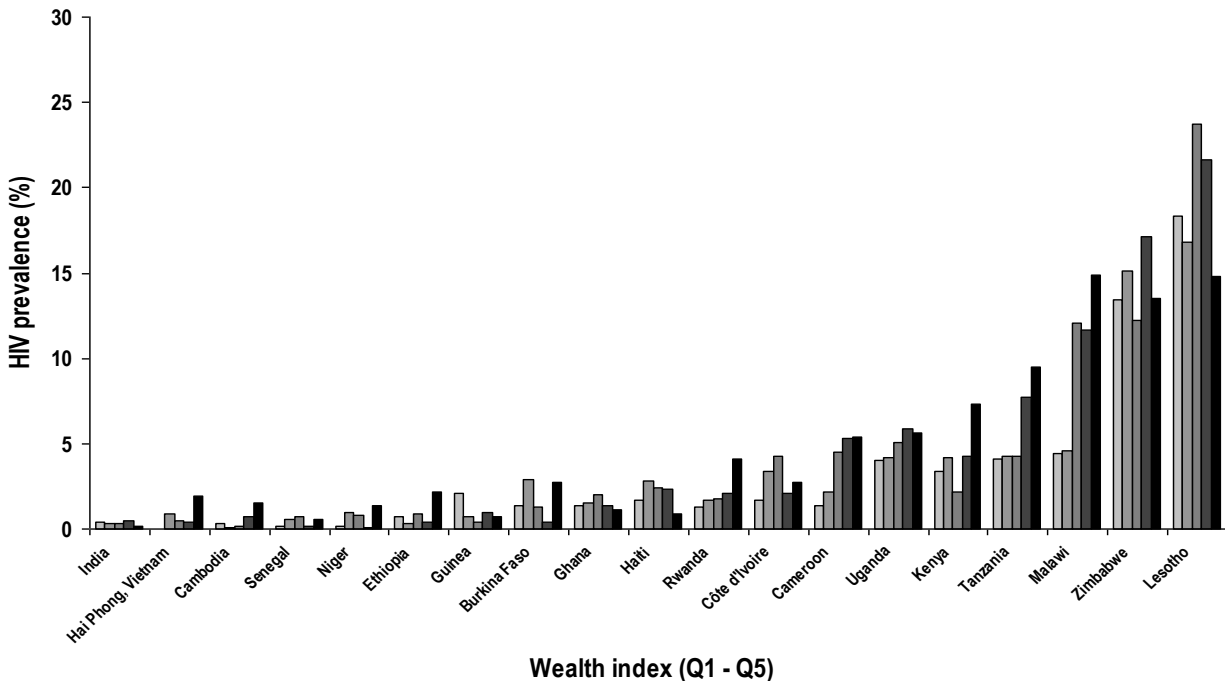
Table 5.4 – cont'd

Country/sex	Wealth status					Total	Number
	Lowest	Second	Third	Fourth	Highest		
<b>Tanzania 2003/04</b>	<b>3.4</b>	<b>4.5</b>	<b>5.6</b>	<b>9.4</b>	<b>10.5</b>	<b>7.0</b>	<b>10,747</b>
Male	4.1	4.3	4.3	7.7	9.5	6.3	4,994
Female	2.8	4.7	6.8	10.9	11.4	7.7	5,753
Number	1,837	1,966	2,035	2,142	2,766	10,747	10,747
<b>Uganda 2004/05</b>	<b>4.5</b>	<b>5.5</b>	<b>6.0</b>	<b>6.5</b>	<b>8.6</b>	<b>6.4</b>	<b>16,827</b>
Male	4.0	4.2	5.1	5.9	5.6	5.1	7,477
Female	4.9	6.6	6.7	7.0	11.0	7.5	9,350
Number	2,656	3,436	3,164	3,430	4,141	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.0</b>	<b>0.8</b>	<b>0.2</b>	<b>0.2</b>	<b>1.0</b>	<b>0.5</b>	<b>1,675</b>
Male	0.0	0.9	0.5	0.4	1.9	0.9	754
Female	0.0	0.8	0.0	0.0	0.3	0.2	921
Number	21	252	418	504	479	1,675	1,675
<b>Zimbabwe 2005</b>	<b>15.9</b>	<b>18.4</b>	<b>17.9</b>	<b>21.9</b>	<b>15.6</b>	<b>18.1</b>	<b>12,796</b>
Male	13.4	15.1	12.2	17.1	13.5	14.5	5,848
Female	17.7	21.1	22.8	26.9	17.1	21.1	6,947
Number	2,121	2,180	2,281	3,197	3,018	12,796	12,796

Note: HIV prevalence estimates for the lowest wealth quintile for Hai Phong, Vietnam are based on small numbers of cases.

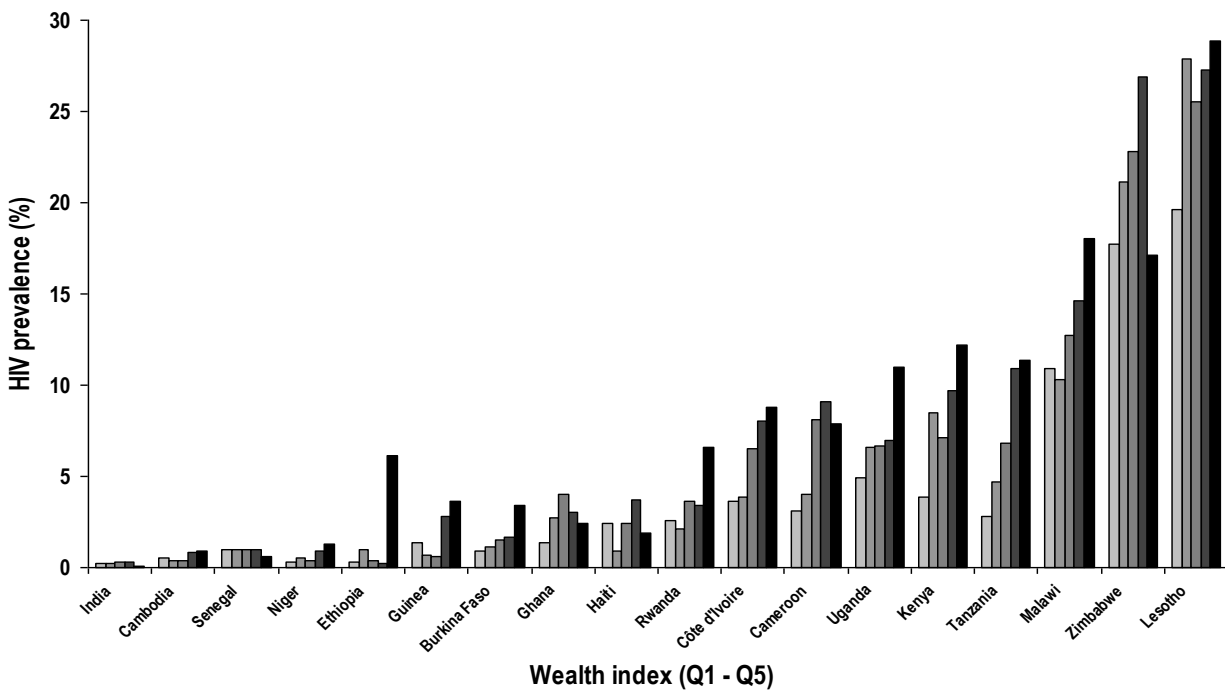
For the most part, there is no difference in the relationship between household wealth status and HIV prevalence by sex of respondents—both men and women in the higher wealth quintiles have higher HIV infection rates (Figures 5.1 and 5.2). However, in Burkina Faso, Côte d'Ivoire, Guinea, Haiti, Lesotho, and Uganda the highest HIV prevalence for men occurs in a lower wealth quintile than for women. In Burkina Faso the peak for HIV prevalence among men is in the second wealth quintile, while for women it is in the highest (fifth) quintile. Conversely, in Cameroon and in the Hai Phong province of Vietnam the peak of HIV prevalence occurs at lower wealth quintiles for women than for men. In the Hai Phong province of Vietnam, HIV prevalence among men is highest in the highest wealth quintile, while among women there are no HIV-positive cases in the sample in the lowest, third, and fourth wealth quintiles.

**Figure 5.1. HIV prevalence among tested men 15-49 by wealth status**



Note: HIV prevalence estimate for the lowest wealth quintile for Hai Phong, Vietnam is based on a small number of cases.

**Figure 5.2. HIV prevalence among tested women 15-49 by wealth status**



## 5.7 HIV Prevalence by Media Exposure

Media exposure is measured in three ways: by the frequency of reading newspapers, listening to the radio, and/or watching television. The effect of each type of exposure on HIV prevalence is presented separately, along with a composite measure of exposure to all three media sources.

### *Radio Exposure*

There is no clear pattern across countries between listening to the radio and HIV prevalence (Table 5.5). In 10 countries—Burkina Faso, Cameroon, Ethiopia, Guinea, Haiti, Kenya, Niger, Senegal, Tanzania, and Uganda—HIV prevalence is highest among respondents who listen to the radio at least once a week. However, in Ghana, Lesotho, the Hai Phong province of Vietnam, and Rwanda, HIV prevalence is highest among those who listen to the radio less than once a week, and in Cambodia, Côte d'Ivoire, India, Malawi, and Zimbabwe, HIV prevalence is highest among individuals who never listen to the radio.

There are several differences by sex of respondents in the relationship between HIV prevalence and frequency of radio exposure. In Burkina Faso, Malawi, Senegal, and Zimbabwe, HIV prevalence is highest among men with more exposure to radio, but highest among women with less radio exposure. Conversely, in Cote d'Ivoire, Ghana, Guinea, Haiti, Rwanda, Uganda, and in the Hai Phong province of Vietnam, HIV prevalence is highest among women with frequent radio exposure, but highest among men with less exposure. In the other eight countries there is no difference in this measure by respondents' sex.

**Table 5.5. HIV prevalence among women and men age 15-49, by frequency of listening to the radio**

Country/sex	Radio			Total	Number
	Not at all	Less than once per week	At least once per week		
<b>Burkina Faso 2003</b>	<b>1.1</b>	<b>1.8</b>	<b>2.2</b>	<b>1.8</b>	<b>7,151</b>
Male	1.4	2.8	1.9	1.9	3,065
Female	1.0	1.4	2.5	1.8	4,086
Number	1,806	1,071	4,262	7,151	7,151
<b>Cambodia 2005</b>	<b>0.7</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>14,703</b>
Male	0.8	0.4	0.6	0.6	6,656
Female	0.7	0.7	0.5	0.6	8,047
Number	3,654	2,907	8,134	14,703	14,703
<b>Cameroon 2004</b>	<b>4.2</b>	<b>5.4</b>	<b>6.0</b>	<b>5.4</b>	<b>9,746</b>
Male	1.4	3.2	4.7	4.1	4,619
Female	5.1	6.8	7.8	6.6	5,128
Number	2,443	1,454	5,849	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>5.1</b>	<b>4.5</b>	<b>4.6</b>	<b>4.7</b>	<b>8,436</b>
Male	3.5	3.9	2.6	2.9	4,023
Female	5.6	4.8	7.7	6.4	4,413
Number	2,457	1,012	4,967	8,436	8,436
<b>Ethiopia 2005</b>	<b>0.7</b>	<b>1.5</b>	<b>2.9</b>	<b>1.4</b>	<b>10,540</b>
Male	0.6	0.7	1.6	0.9	4,804
Female	0.7	2.3	5.1	1.9	5,736
Number	5,085	3,023	2,431	10,540	10,540

(Cont'd)

Table 5.5 – cont'd

Country/sex	Radio			Total	Number
	Not at all	Less than once per week	At least once per week		
<b>Ghana 2003</b>	<b>2.4</b>	<b>2.5</b>	<b>2.1</b>	<b>2.2</b>	<b>9,142</b>
Male	2.7	1.7	1.4	1.5	4,045
Female	2.3	2.8	2.8	2.7	5,097
Number	821	937	7,384	9,142	9,142
<b>Guinea 2005</b>	<b>1.3</b>	<b>1.1</b>	<b>1.8</b>	<b>1.5</b>	<b>6,319</b>
Male	1.9	0.4	0.9	0.9	2,577
Female	1.1	1.4	2.7	1.9	3,742
Number	1,428	1,366	3,505	6,319	6,319
<b>Haiti 2005</b>	<b>1.5</b>	<b>2.1</b>	<b>2.2</b>	<b>2.2</b>	<b>9,551</b>
Male	1.6	2.2	2.0	2.0	4,321
Female	1.5	2.1	2.5	2.3	5,230
Number	473	1,369	7,709	9,551	9,551
<b>India 2005/06</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.4	0.3	0.3	0.4	46,506
Female	0.3	0.1	0.2	0.2	53,332
Number	43,437	20,347	36,035	99,838	99,838
<b>Kenya 2003</b>	<b>6.1</b>	<b>6.4</b>	<b>6.8</b>	<b>6.7</b>	<b>6,001</b>
Male	2.7	1.4	4.8	4.6	2,851
Female	7.2	8.7	9.0	8.7	3,151
Number	630	384	4,988	6,001	6,001
<b>Lesotho 2004/05</b>	<b>22.1</b>	<b>26.0</b>	<b>24.2</b>	<b>23.5</b>	<b>5,019</b>
Male	16.5	24.5	20.3	19.2	2,001
Female	25.7	27.1	26.9	26.4	3,018
Number	1,953	324	2,742	5,019	5,019
<b>Malawi 2004</b>	<b>12.6</b>	<b>10.8</b>	<b>11.9</b>	<b>11.8</b>	<b>5,150</b>
Male	7.0	8.3	10.6	10.2	2,465
Female	13.8	12.4	13.4	13.3	2,686
Number	685	555	3,911	5,150	5,150
<b>Niger 2006</b>	<b>0.3</b>	<b>0.7</b>	<b>1.0</b>	<b>0.7</b>	<b>7,262</b>
Male	0.7	0.1	0.9	0.8	2,856
Female	0.2	0.9	1.2	0.7	4,406
Number	2,204	1,023	4,034	7,262	7,262
<b>Rwanda 2005</b>	<b>3.2</b>	<b>3.2</b>	<b>2.9</b>	<b>3.0</b>	<b>9,988</b>
Male	1.9	3.0	2.2	2.3	4,348
Female	3.5	3.3	3.8	3.6	5,641
Number	1,632	1,726	6,585	9,988	9,988
<b>Senegal 2005</b>	<b>0.6</b>	<b>0.2</b>	<b>0.8</b>	<b>0.7</b>	<b>7,412</b>
Male	0.4	0.0	0.5	0.5	3,183
Female	1.3	0.2	0.9	0.9	4,229
Number	1,742	463	5,207	7,412	7,412

(Cont'd)

Table 5.5 – cont'd

Country/sex	Radio			Total	Number
	Not at all	Less than once per week	At least once per week		
<b>Tanzania 2003/04</b>	<b>4.8</b>	<b>7.3</b>	<b>7.8</b>	<b>7.0</b>	<b>10,747</b>
Male	3.1	5.5	6.9	6.3	4,994
Female	5.4	8.6	8.8	7.7	5,753
Number	2,454	1,049	7,244	10,747	10,747
<b>Uganda 2004/05</b>	<b>5.7</b>	<b>5.5</b>	<b>6.6</b>	<b>6.4</b>	<b>16,827</b>
Male	4.2	5.6	5.1	5.1	7,477
Female	6.1	5.4	8.2	7.5	9,350
Number	2,208	1,633	12,987	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.5</b>	<b>1.1</b>	<b>0.4</b>	<b>0.5</b>	<b>1,675</b>
Male	1.2	1.1	0.7	0.9	754
Female	0.0	1.1	0.2	0.2	921
Number	583	183	909	1,675	1,675
<b>Zimbabwe 2005</b>	<b>20.5</b>	<b>18.5</b>	<b>16.6</b>	<b>18.1</b>	<b>12,796</b>
Male	15.0	15.5	14.2	14.5	5,848
Female	22.9	22.0	19.3	21.1	6,947
Number	4,280	1,396	7,120	12,796	12,796

### *Television Exposure*

As with radio, there is no clear pattern in the relationship between television viewing and HIV prevalence (Table 5.6). In seven countries—Burkina Faso, Côte d'Ivoire, Ethiopia, India, Kenya, Niger, and Rwanda—HIV prevalence is highest among individuals who watch television at least once a week. However, in Cambodia, Cameroon, Guinea, Lesotho, Senegal, Tanzania, and Uganda, HIV prevalence is highest among infrequent television viewers. Similarly, in Ghana, Haiti, Malawi, the Hai Phong province of Vietnam, and Zimbabwe, HIV prevalence is highest among those who never watch television.

There are several differences by respondents' sex in the relationship between HIV prevalence and frequency of television viewing. In Kenya, Niger, Rwanda, Lesotho, Tanzania, Senegal, Malawi, and Zimbabwe, HIV prevalence is highest among men with more exposure to television, but among women higher HIV prevalence is associated with less television exposure. In contrast, in Burkina Faso, Haiti, and in the Hai Phong province of Vietnam, HIV prevalence is highest among women with more exposure to television but among men those with limited or no exposure to television have the highest HIV prevalence. There are no differences by respondents' sex in the other eight countries.

**Table 5.6. HIV prevalence among women and men age 15-49, by frequency watching television**

Country/sex	Television			Total	Number
	Not at all	Less than once per week	At least once per week		
<b>Burkina Faso 2003</b>	<b>1.5</b>	<b>2.1</b>	<b>2.6</b>	<b>1.8</b>	<b>7151</b>
Male	1.8	2.5	1.8	1.9	3065
Female	1.4	1.5	3.5	1.8	4086
Number	4,663	670	1,813	7,151	7,151
<b>Cambodia 2005</b>	<b>0.5</b>	<b>0.9</b>	<b>0.6</b>	<b>0.6</b>	<b>14,703</b>
Male	0.5	1.0	0.6	0.6	6,656
Female	0.5	0.8	0.6	0.6	8,047
Number	2,421	2,093	10,183	14,703	14,703
<b>Cameroon 2004</b>	<b>4.7</b>	<b>6.0</b>	<b>5.9</b>	<b>5.4</b>	<b>9,746</b>
Male	2.9	4.6	4.6	4.1	4,619
Female	5.5	8.2	7.6	6.6	5,128
Number	3,828	1,765	4,153	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>3.9</b>	<b>3.7</b>	<b>5.2</b>	<b>4.7</b>	<b>8,436</b>
Male	2.6	1.4	3.2	2.9	4,023
Female	4.7	6.6	7.3	6.4	4,413
Number	2,336	870	5,230	8,436	8,436
<b>Ethiopia 2005</b>	<b>1.0</b>	<b>1.6</b>	<b>5.0</b>	<b>1.4</b>	<b>10,540</b>
Male	0.7	1.1	1.9	0.9	4,804
Female	1.2	2.4	8.9	1.9	5,736
Number	7,953	1,698	888	10,540	10,540
<b>Ghana 2003</b>	<b>2.5</b>	<b>1.9</b>	<b>2.0</b>	<b>2.2</b>	<b>9,142</b>
Male	1.6	1.4	1.4	1.5	4,045
Female	3.0	2.5	2.5	2.7	5,097
Number	3,217	1,618	4,307	9,142	9,142
<b>Guinea 2005</b>	<b>1.0</b>	<b>3.0</b>	<b>2.0</b>	<b>1.5</b>	<b>6,319</b>
Male	1.0	1.0	0.8	0.9	2,577
Female	1.0	4.6	3.4	1.9	3,742
Number	4,057	632	1,612	6,319	6,319
<b>Haiti 2005</b>	<b>2.5</b>	<b>1.9</b>	<b>2.0</b>	<b>2.2</b>	<b>9,551</b>
Male	3.0	1.1	1.7	2.0	4,321
Female	2.2	2.7	2.2	2.3	5,230
Number	3,795	2,664	3,093	9,551	9,551
<b>India 2005/06</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.3	0.3	0.4	0.4	46,506
Female	0.2	0.2	0.3	0.2	53,332
Number	25,969	15,007	58,846	99,838	99,838
<b>Kenya 2003</b>	<b>6.8</b>	<b>6.5</b>	<b>6.8</b>	<b>6.7</b>	<b>6,001</b>
Male	4.3	4.1	5.1	4.6	2,851
Female	8.1	11.9	8.9	8.7	3,151
Number	2,995	962	2,045	6,001	6,001

(Cont'd)

Table 5.6 – cont'd

Country/sex	Television			Total	Number
	Not at all	Less than once per week	At least once per week		
<b>Lesotho 2004/05</b>	<b>23.6</b>	<b>25.1</b>	<b>22.9</b>	<b>23.5</b>	<b>5,019</b>
Male	19.4	9.8	21.4	19.2	2,001
Female	26.0	41.7	24.4	26.4	3,018
Number	3,957	249	813	5,019	5,019
<b>Malawi 2004</b>	<b>12.3</b>	<b>10.0</b>	<b>11.0</b>	<b>11.8</b>	<b>5,150</b>
Male	10.3	8.9	11.4	10.2	2,465
Female	13.5	13.8	10.1	13.3	2,686
Number	3,916	600	635	5,150	5,150
<b>Niger 2006</b>	<b>0.6</b>	<b>0.8</b>	<b>1.2</b>	<b>0.7</b>	<b>7,262</b>
Male	0.6	0.6	1.4	0.8	2,856
Female	0.7	1.2	0.9	0.7	4,406
Number	5,731	358	1,173	7,262	7,262
<b>Rwanda 2005</b>	<b>2.8</b>	<b>3.5</b>	<b>4.4</b>	<b>3.0</b>	<b>9,988</b>
Male	2.1	2.0	3.6	2.3	4,348
Female	3.3	6.6	5.6	3.6	5,641
Number	8,190	994	788	9,988	9,988
<b>Senegal 2005</b>	<b>0.8</b>	<b>0.9</b>	<b>0.6</b>	<b>0.7</b>	<b>7,412</b>
Male	0.4	0.9	0.5	0.5	3,183
Female	1.3	0.8	0.7	0.9	4,229
Number	2,480	591	4,341	7,412	7,412
<b>Tanzania 2003/04</b>	<b>6.1</b>	<b>8.9</b>	<b>8.7</b>	<b>7.0</b>	<b>10,747</b>
Male	4.9	7.6	8.1	6.3	4,994
Female	6.9	11.1	9.5	7.7	5,753
Number	6,993	1,341	2,414	10,747	10,747
<b>Uganda 2004/05</b>	<b>6.2</b>	<b>7.9</b>	<b>6.8</b>	<b>6.4</b>	<b>16,827</b>
Male	5.0	5.7	4.6	5.1	7,477
Female	7.0	11.7	9.7	7.5	9,350
Number	13,222	1,500	2,106	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>5.4</b>	<b>0.0</b>	<b>0.5</b>	<b>0.5</b>	<b>1,675</b>
Male	14.8	0.0	0.8	0.9	754
Female	0.0	0.0	0.2	0.2	921
Number	19	16	1,640	1,675	1,675
<b>Zimbabwe 2005</b>	<b>18.9</b>	<b>17.2</b>	<b>17.3</b>	<b>18.1</b>	<b>12,796</b>
Male	14.3	14.3	14.8	14.5	5,848
Female	21.8	22.6	19.8	21.1	6,947
Number	6,713	1,073	5,009	12,796	12,796

Note: Some of the HIV prevalence estimates for Hai Phong, Vietnam are based on small numbers of cases.

## Newspaper/Magazine Exposure

There is an inconsistent pattern in the relationship between the frequency of newspaper reading and HIV prevalence (Table 5.7). For eight countries—Burkina Faso, Ethiopia, Guinea, Kenya, Malawi, Niger, Rwanda, and Tanzania—HIV prevalence is highest among those who read a newspaper or magazine at least once a week. However, in six countries—Cambodia, Cote d’Ivoire, Lesotho, Senegal, the Hai Phong province of Vietnam, and Zimbabwe—prevalence is highest among infrequent newspaper readers (those who read a newspaper less than once a week), while in Ghana, Haiti, India, and Uganda, HIV prevalence is highest among individuals who never read a newspaper or magazine.

For the most part, there are no differences by respondents’ sex in the relationship between newspaper reading and HIV prevalence. However, in Burkina Faso, Malawi, Cambodia, the Hai Phong province of Vietnam, and Uganda, HIV prevalence is highest among men with more exposure to newspapers, while it is highest among women with less exposure to newspapers. In contrast, in Ethiopia and Côte d’Ivoire HIV prevalence is highest among women who are frequently exposed to newspapers but highest among men with less exposure to newspapers.

**Table 5.7. HIV prevalence among women and men age 15-49, by frequency of reading newspaper and magazine**

Country/sex	Newspaper or magazine			Total	Number
	Not at all	Less than once per week	At least once per week		
<b>Burkina Faso 2003</b>	<b>1.6</b>	<b>3.0</b>	<b>3.9</b>	<b>1.8</b>	<b>7,151</b>
Male	1.6	0.9	4.4	1.9	3,065
Female	1.6	6.0	3.2	1.8	4,086
Number	6,209	377	548	7,151	7,151
<b>Cambodia 2005</b>	<b>0.5</b>	<b>0.9</b>	<b>0.6</b>	<b>0.6</b>	<b>14,703</b>
Male	0.6	0.6	0.9	0.6	6,656
Female	0.5	1.1	0.3	0.6	8,047
Number	9,715	3,024	1,949	14,703	14,703
<b>Cameroon 2004</b>	<b>5.0</b>	<b>6.3</b>	<b>6.0</b>	<b>5.4</b>	<b>9,746</b>
Male	3.7	4.5	4.6	4.1	4,619
Female	5.8	8.5	8.7	6.6	5,128
Number	5,899	1,904	1,943	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>4.8</b>	<b>5.7</b>	<b>3.9</b>	<b>4.7</b>	<b>8,436</b>
Male	3.0	2.8	2.6	2.9	4,023
Female	6.0	10.1	6.7	6.4	4,413
Number	5,601	957	1,878	8,436	8,436
<b>Ethiopia 2005</b>	<b>1.2</b>	<b>2.4</b>	<b>2.4</b>	<b>1.4</b>	<b>10,540</b>
Male	0.7	1.5	1.2	0.9	4,804
Female	1.5	3.6	5.4	1.9	5,736
Number	8,119	1,941	480	10,540	10,540
<b>Ghana 2003</b>	<b>2.5</b>	<b>1.6</b>	<b>1.1</b>	<b>2.2</b>	<b>9,142</b>
Male	1.6	1.5	1.2	1.5	4,045
Female	3.1	1.9	1.0	2.7	5,097
Number	6,315	1,078	1,748	9,142	9,142

(Cont'd)



Table 5.7 – cont'd

Country/sex	Newspaper or magazine			Total	Number
	Not at all	Less than once per week	At least once per week		
<b>Guinea 2005</b>	<b>1.3</b>	<b>1.8</b>	<b>3.6</b>	<b>1.5</b>	<b>6,319</b>
Male	0.9	0.0	2.0	0.9	2,577
Female	1.5	5.6	6.0	1.9	3,742
Number	5,467	391	414	6,319	6,319
<b>Haiti 2005</b>	<b>2.5</b>	<b>1.9</b>	<b>1.8</b>	<b>2.2</b>	<b>9,551</b>
Male	2.5	1.5	1.3	2.0	4,321
Female	2.4	2.2	2.2	2.3	5,230
Number	5,189	2,153	2,210	9,551	9,551
<b>India 2005/06</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.4	0.3	0.3	0.4	46,506
Female	0.3	0.1	0.2	0.2	53,332
Number	48,077	14,851	36,819	99,838	99,838
<b>Kenya 2003</b>	<b>6.7</b>	<b>6.2</b>	<b>7.1</b>	<b>6.7</b>	<b>6,001</b>
Male	3.1	3.9	6.0	4.6	2,851
Female	8.5	8.8	9.2	8.7	3,151
Number	2,704	1,340	1,958	6,001	6,001
<b>Lesotho 2004/05</b>	<b>23.9</b>	<b>30.4</b>	<b>17.8</b>	<b>23.5</b>	<b>5,019</b>
Male	19.1	28.1	15.8	19.2	2,001
Female	27.1	31.6	19.5	26.4	3,018
Number	3,809	428	782	5,019	5,019
<b>Malawi 2004</b>	<b>11.2</b>	<b>12.4</b>	<b>13.2</b>	<b>11.8</b>	<b>5,150</b>
Male	8.9	10.3	12.4	10.2	2,465
Female	12.5	16.0	14.7	13.3	2,686
Number	3,046	1,152	952	5,150	5,150
<b>Niger 2006</b>	<b>0.7</b>	<b>0.8</b>	<b>1.5</b>	<b>0.7</b>	<b>7,262</b>
Male	0.7	0.8	1.4	0.8	2,856
Female	0.7	0.8	1.6	0.7	4,406
Number	6,683	272	307	7,262	7,262
<b>Rwanda 2005</b>	<b>2.9</b>	<b>2.7</b>	<b>4.7</b>	<b>3.0</b>	<b>9,988</b>
Male	2.1	1.7	4.7	2.3	4,348
Female	3.5	3.7	4.8	3.6	5,641
Number	7,080	1,963	924	9,988	9,988
<b>Senegal 2005</b>	<b>0.7</b>	<b>1.1</b>	<b>0.4</b>	<b>0.7</b>	<b>7,412</b>
Male	0.4	0.7	0.5	0.5	3,183
Female	0.9	1.4	0.2	0.9	4,229
Number	5,294	896	1,221	7,412	7,412
<b>Tanzania 2003/04</b>	<b>5.5</b>	<b>8.1</b>	<b>9.5</b>	<b>7.0</b>	<b>10,747</b>
Male	4.4	6.3	8.7	6.3	4,994
Female	6.1	10.2	10.6	7.7	5,753
Number	5,918	1,958	2,872	10,747	10,747

(Cont'd)

Table 5.7 – cont'd

Country/sex	Newspaper or magazine			Total	Number
	Not at all	Less than once per week	At least once per week		
<b>Uganda 2004/05</b>	<b>6.6</b>	<b>6.0</b>	<b>6.2</b>	<b>6.4</b>	<b>16,827</b>
Male	5.1	4.6	5.3	5.1	7,477
Female	7.5	7.7	7.5	7.5	9,350
Number	10,577	2,997	3,253	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.3</b>	<b>0.7</b>	<b>0.6</b>	<b>0.5</b>	<b>1,675</b>
Male	0.8	0.6	1.1	0.9	754
Female	0.0	0.7	0.2	0.2	921
Number	592	310	773	1,675	1,675
<b>Zimbabwe 2005</b>	<b>18.8</b>	<b>19.0</b>	<b>16.5</b>	<b>18.1</b>	<b>12,796</b>
Male	13.8	15.3	14.8	14.5	5,848
Female	21.7	22.4	18.7	21.1	6,947
Number	6,127	2,726	3,943	12,796	12,796

### *Media Exposure (a composite measure)*

Unsurprisingly, given the mixed information above, no clear pattern emerges in the composite measure of media exposure and HIV prevalence (Table 5.8). In Ghana, the Hai Phong province of Vietnam, and Zimbabwe, HIV prevalence is highest among individuals who have no exposure to any of the three types of media. In Haiti, Lesotho, and Senegal, HIV prevalence is highest among individuals who are exposed to at least one media source at least once a week, while in Cameroon, Côte d'Ivoire, Kenya, and Uganda, HIV prevalence is highest among individuals who are exposed to two media sources at least once a week.

In Cambodia HIV prevalence is highest among individuals exposed to one or two media sources at least once a week. In Burkina Faso, Ethiopia, Guinea, Malawi, Niger, Rwanda, and Tanzania, HIV prevalence is highest among individuals who are exposed to all three media sources at least once a week. In India HIV prevalence varies little by the number of media sources a person is exposed to.

Generally, there is little difference in the relationship between media exposure and HIV prevalence by respondents' sex. In Lesotho, Malawi, Niger, and Senegal, however, the highest HIV prevalence for men occurs at higher levels of media exposure than for women. In contrast, in Kenya and in the Hai Phong province of Vietnam, HIV prevalence for women is higher at higher levels of media exposure than for men.

**Table 5.8. HIV prevalence among women and men age 15-49, by number of media sources exposed to at least once per week**

Country/sex	Number of media source exposed to at least once per week				Total	Number
	Not at all	One media	Two media	Three media		
<b>Burkina Faso 2003</b>	<b>1.3</b>	<b>1.7</b>	<b>2.6</b>	<b>3.8</b>	<b>1.8</b>	<b>7,151</b>
Male	2.0	1.5	2.0	3.5	1.9	3,065
Female	1.0	2.0	3.3	4.3	1.8	4,086
Number	2,559	2,957	1,242	394	7,151	7,151
<b>Cambodia 2005</b>	<b>0.5</b>	<b>0.7</b>	<b>0.7</b>	<b>0.2</b>	<b>0.6</b>	<b>14,703</b>
Male	0.6	0.5	0.8	0.3	0.6	6,656
Female	0.4	0.9	0.6	0.1	0.6	8,047
Number	2,775	5,041	5,423	1,459	14,703	14,703
<b>Cameroon 2004</b>	<b>4.6</b>	<b>5.3</b>	<b>6.3</b>	<b>5.9</b>	<b>5.4</b>	<b>9,746</b>
Male	2.5	3.8	4.9	4.8	4.1	4,619
Female	5.4	6.9	8.2	8.0	6.6	5,128
Number	3,130	2,624	2,655	1,337	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>4.0</b>	<b>5.1</b>	<b>5.7</b>	<b>3.6</b>	<b>4.7</b>	<b>8,436</b>
Male	2.9	2.6	3.4	2.5	2.9	4,023
Female	4.5	7.1	8.3	6.1	6.4	4,413
Number	2,078	2,220	2,555	1,582	8,436	8,436
<b>Ethiopia 2005</b>	<b>0.8</b>	<b>2.8</b>	<b>4.0</b>	<b>4.2</b>	<b>1.4</b>	<b>10,540</b>
Male	0.6	1.5	1.6	1.9	0.9	4,804
Female	1.0	4.7	7.3	11.9	1.9	5,736
Number	7,680	2,093	592	174	10,540	10,540
<b>Ghana 2003</b>	<b>2.8</b>	<b>2.1</b>	<b>2.4</b>	<b>1.1</b>	<b>2.2</b>	<b>9,142</b>
Male	2.4	1.3	1.6	1.2	1.5	4,045
Female	2.9	2.7	3.1	1.0	2.7	5,097
Number	1,415	3,419	2,905	1,403	9,142	9,142
<b>Guinea 2005</b>	<b>1.2</b>	<b>1.3</b>	<b>2.0</b>	<b>3.7</b>	<b>1.5</b>	<b>6,319</b>
Male	1.2	0.8	0.5	2.3	0.9	2,577
Female	1.2	1.8	3.9	6.3	1.9	3,742
Number	2,433	2,540	1,039	304	6,319	6,319
<b>Haiti 2005</b>	<b>1.8</b>	<b>2.6</b>	<b>2.0</b>	<b>1.7</b>	<b>2.2</b>	<b>9,551</b>
Male	1.8	2.5	1.5	1.4	2.0	4,321
Female	1.8	2.7	2.4	2.0	2.3	5,230
Number	1,628	4,206	2,345	1,372	9,551	9,551
<b>India 2005/06</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.3	0.4	0.3	0.3	0.4	46,506
Female	0.2	0.3	0.2	0.2	0.2	53,332
Number	27,713	28,538	27,601	15,987	99,838	99,838
<b>Kenya 2003</b>	<b>6.6</b>	<b>6.4</b>	<b>7.1</b>	<b>7.0</b>	<b>6.7</b>	<b>6,001</b>
Male	2.6	3.2	6.0	5.5	4.6	2,851
Female	7.9	8.9	8.3	9.9	8.7	3,151
Number	875	2,430	1,529	1,167	6,001	6,001

(Cont'd)

Table 5.8 – cont'd

Country/sex	Number of media source exposed to at least once per week				Total	Number
	Not at all	One media	Two media	Three media		
<b>Lesotho 2004/05</b>	<b>22.7</b>	<b>25.9</b>	<b>22.6</b>	<b>16.9</b>	<b>23.5</b>	<b>5,019</b>
Male	18.2	19.7	21.1	17.9	19.2	2,001
Female	25.6	29.8	23.5	15.6	26.4	3,018
Number	2,070	1,854	799	295	5,019	5,019
<b>Malawi 2004</b>	<b>11.7</b>	<b>11.9</b>	<b>11.4</b>	<b>13.3</b>	<b>11.8</b>	<b>5,150</b>
Male	8.0	10.0	9.7	14.7	10.2	2,465
Female	13.0	13.6	14.7	9.3	13.3	2,686
Number	1,123	2,909	763	354	5,150	5,150
<b>Niger 2006</b>	<b>0.3</b>	<b>1.0</b>	<b>1.0</b>	<b>1.8</b>	<b>0.7</b>	<b>7,262</b>
Male	0.4	0.8	1.1	2.1	0.8	2,856
Female	0.3	1.2	1.0	1.1	0.7	4,406
Number	3,073	3,070	912	207	7,262	7,262
<b>Rwanda 2005</b>	<b>3.2</b>	<b>2.7</b>	<b>3.7</b>	<b>6.5</b>	<b>3.0</b>	<b>9,988</b>
Male	2.6	1.9	2.5	6.3	2.3	4,348
Female	3.4	3.5	4.9	6.7	3.6	5,641
Number	3,225	5,504	979	278	9,988	9,988
<b>Senegal 2005</b>	<b>0.5</b>	<b>1.1</b>	<b>0.8</b>	<b>0.3</b>	<b>0.7</b>	<b>7,412</b>
Male	0.4	0.5	0.6	0.5	0.5	3,183
Female	0.8	1.2	0.9	0.1	0.9	4,229
Number	1,818	1,538	2,936	1,120	7,412	7,412
<b>Tanzania 2003/04</b>	<b>5.3</b>	<b>6.8</b>	<b>7.7</b>	<b>10.1</b>	<b>7.0</b>	<b>10,747</b>
Male	4.1	5.4	7.0	9.5	6.3	4,994
Female	5.9	8.2	8.7	11.1	7.7	5,753
Number	3,170	4,174	1,855	1,549	10,747	10,747
<b>Uganda 2004/05</b>	<b>5.9</b>	<b>6.5</b>	<b>6.7</b>	<b>6.5</b>	<b>6.4</b>	<b>16,827</b>
Male	5.3	4.9	5.3	5.0	5.1	7,477
Female	6.1	7.9	8.5	9.4	7.5	9,350
Number	3,574	9,378	2,659	1,217	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>4.1</b>	<b>0.2</b>	<b>0.8</b>	<b>0.4</b>	<b>0.5</b>	<b>1,675</b>
Male	12.9	0.0	1.4	0.4	0.9	754
Female	0.0	0.3	0.0	0.3	0.2	921
Number	25	506	616	528	1,675	1,675
<b>Zimbabwe 2005</b>	<b>20.2</b>	<b>17.0</b>	<b>17.5</b>	<b>16.2</b>	<b>18.1</b>	<b>12,796</b>
Male	15.4	13.4	13.7	15.4	14.5	5,848
Female	22.6	20.9	21.1	17.3	21.1	6,947
Number	4,624	2,875	2,693	2,604	12,796	12,796

Note: HIV prevalence estimates for 'not at all' category for Hai Phong, Vietnam are based on small numbers of cases.

## 6 HIV Prevalence by HIV/AIDS Knowledge, Misconceptions, and Attitudes

### 6.1 Key Findings

- ❖ Differences in HIV prevalence are small between individuals who know the three main HIV prevention strategies—abstinence, monogamy, and condom use—and those who do not know. In the majority of countries, knowledge of all three methods of HIV prevention is associated with higher HIV prevalence.
- ❖ Similarly, there is little difference in HIV prevalence among those who have correct information about modes of HIV transmission, both vertically and horizontally—suggesting that HIV knowledge may not be strongly associated with HIV prevalence.
- ❖ For most countries, having a more positive attitude towards people living with HIV/AIDS is associated with higher HIV prevalence, although differences in HIV prevalence rates across measures of HIV-related stigma are small.
- ❖ Generally, there are only small differences in HIV prevalence by any of these measures, although the differences vary substantially by country. Notably, there are no differences by respondents' sex in HIV prevalence by any of the measures of knowledge and attitudes discussed in this section.

### 6.2 Introduction

Information from the DHS provides an assessment of levels of knowledge regarding methods of preventing HIV transmission, as well misconceptions about how HIV is transmitted. The surveys also identify attitudes toward people living with HIV, in order to assess the level of AIDS-related stigma. This chapter presents information about the effect of HIV knowledge and attitudes on HIV prevalence. Participants are asked if they have heard of abstinence, monogamy, and condom use as HIV prevention methods. They are also asked if they know that breastfeeding can transmit HIV from an infected mother to her infant and whether they are aware that anti-retroviral drugs can prevent mother-to-child transmission of HIV. To identify gaps in HIV knowledge, participants are asked whether a healthy person can have AIDS and whether mosquitoes can spread AIDS. Finally, to assess attitudes toward people living with HIV, participants are asked whether or not they would: (1) keep the HIV-positive status of a family member a secret, (2) care for a family member with AIDS, (3) allow an infected female teacher to teach, and (4) buy vegetables from a vendor with AIDS.

### 6.3 HIV Prevalence by Knowledge of HIV Prevention Methods

In 15 of the 19 countries with data, HIV prevalence is highest among people who know that abstinence is an HIV prevention strategy (Table 6.1). In Cameroon, Ghana, and Senegal respondents who are unaware of abstinence as an HIV prevention strategy have slightly higher HIV prevalence, although differences in prevalence between those who know and those who do not know about abstinence for all three countries is less than 1 percent. In the Hai Phong province of Vietnam HIV prevalence does not differ between these two groups. (In Burkina Faso data on abstinence as an HIV prevention strategy is available only for men.)

**Table 6.1. HIV prevalence among women and men age 15-49, by knowledge of AIDS prevention methods**

Country/sex	Abstinence		Being faithful		Using condom		All three		Number
	No	Yes	No	Yes	No	Yes	No	Yes	
<b>Burkina Faso 2003</b>	<b>n/a</b>	<b>n/a</b>	<b>1.2</b>	<b>2.1</b>	<b>1.5</b>	<b>2.1</b>	<b>n/a</b>	<b>n/a</b>	<b>7,151</b>
Male	2.2	1.5	1.6	1.9	1.8	1.9	2.0	1.6	3,065
Female	n/a	n/a	1.1	2.3	1.4	2.4	n/a	n/a	4,086
Number	1,533	1,532	2,289	4,862	3,231	3,920	1,942	1,123	7,151
<b>Cambodia 2005</b>	<b>0.4</b>	<b>0.7</b>	<b>0.3</b>	<b>0.7</b>	<b>0.2</b>	<b>0.7</b>	<b>0.3</b>	<b>0.7</b>	<b>14,703</b>
Male	0.2	0.7	0.2	0.7	0.1	0.7	0.1	0.7	6,656
Female	0.5	0.6	0.4	0.7	0.3	0.7	0.5	0.7	8,047
Number	1,599	12,938	1,482	13,061	1,389	13,154	3,338	11,366	14,703
<b>Cameroon 2004</b>	<b>5.9</b>	<b>5.3</b>	<b>4.9</b>	<b>5.5</b>	<b>4.9</b>	<b>5.6</b>	<b>5.6</b>	<b>5.3</b>	<b>9,746</b>
Male	6.0	3.8	5.1	4.0	4.1	4.1	5.2	3.6	4,619
Female	5.9	6.9	4.8	7.0	5.3	7.3	5.9	7.3	5,128
Number	2,033	7,713	1,529	8,217	2,438	7,309	3,962	5,785	9,746
<b>Côte d'Ivoire 2005</b>	<b>4.6</b>	<b>4.8</b>	<b>5.1</b>	<b>4.6</b>	<b>4.7</b>	<b>4.7</b>	<b>4.9</b>	<b>4.6</b>	<b>8,436</b>
Male	2.5	3.0	3.4	2.7	2.5	3.0	3.1	2.7	4,023
Female	6.2	6.5	6.1	6.5	5.9	6.7	6.2	6.6	4,413
Number	2,444	5,992	2,200	6,236	2,650	5,786	3,709	4,727	8,436
<b>Ethiopia 2005</b>	<b>1.2</b>	<b>1.6</b>	<b>0.9</b>	<b>1.7</b>	<b>0.8</b>	<b>2.1</b>	<b>0.9</b>	<b>2.2</b>	<b>10,540</b>
Male	0.4	1.1	0.4	1.1	0.2	1.4	0.3	1.5	4,804
Female	1.5	2.1	1.1	2.4	1.0	3.2	1.3	3.4	5,736
Number	3,101	7,438	3,298	7,242	5,247	5,293	6,371	4,169	10,540
<b>Ghana 2003</b>	<b>2.4</b>	<b>2.1</b>	<b>2.5</b>	<b>2.1</b>	<b>2.0</b>	<b>2.2</b>	<b>2.3</b>	<b>2.1</b>	<b>9,142</b>
Male	1.8	1.4	1.4	1.5	1.0	1.6	1.6	1.4	4,045
Female	2.7	2.7	3.2	2.6	2.5	2.8	2.8	2.7	5,097
Number	1,765	7,377	1,109	8,032	2,097	7,045	3,156	5,985	9,142
<b>Guinea 2005</b>	<b>0.7</b>	<b>1.6</b>	<b>1.0</b>	<b>1.6</b>	<b>1.1</b>	<b>1.6</b>	<b>1.2</b>	<b>1.7</b>	<b>6,319</b>
Male	0.5	1.0	1.6	0.9	0.4	1.1	0.8	1.0	2,577
Female	0.8	2.1	0.8	2.0	1.3	2.1	1.4	2.2	3,742
Number	877	5,442	638	5,681	1,563	4,756	2,056	4,263	6,319
<b>Haiti 2005</b>	<b>1.7</b>	<b>2.3</b>	<b>2.3</b>	<b>2.2</b>	<b>1.7</b>	<b>2.2</b>	<b>2.0</b>	<b>2.2</b>	<b>9,551</b>
Male	1.0	2.1	2.5	2.0	1.3	2.1	1.4	2.1	4,321
Female	2.1	2.4	2.2	2.4	1.9	2.3	2.3	2.3	5,230
Number	1,322	8,172	547	8,956	1,108	8,384	2,267	7,284	9,551
<b>India 2005/06</b>	<b>0.2</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	46,506
Female	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.2	53,332
Number	46,739	53,098	41,822	58,014	47,529	52,307	57,626	42,212	99,838
<b>Kenya 2003</b>	<b>6.2</b>	<b>6.8</b>	<b>4.4</b>	<b>7.1</b>	<b>5.1</b>	<b>7.5</b>	<b>5.4</b>	<b>7.5</b>	<b>6,001</b>
Male	4.1	4.6	3.2	4.7	3.7	4.9	3.9	4.9	2,851
Female	7.3	9.0	5.1	9.5	6.0	10.3	6.4	10.4	3,151
Number	924	5,078	884	5,118	1,953	4,049	2,257	3,744	6,001

(Cont'd)

Table 6.1 – cont'd

Country/sex	Abstinence		Being faithful		Using condom		All three		Number
	No	Yes	No	Yes	No	Yes	No	Yes	
<b>Lesotho 2004/05</b>	<b>20.1</b>	<b>24.5</b>	<b>18.1</b>	<b>24.9</b>	<b>19.5</b>	<b>24.8</b>	<b>21.1</b>	<b>25.1</b>	<b>5,019</b>
Male	17.1	19.8	17.0	19.8	17.4	19.9	18.1	20.0	2,001
Female	22.3	27.6	19.1	27.9	21.5	27.7	23.6	28.0	3,018
Number	1,098	3,921	981	4,037	1,199	3,819	1,982	3,036	5,019
<b>Malawi 2004</b>	<b>11.8</b>	<b>11.8</b>	<b>10.7</b>	<b>12.2</b>	<b>12.5</b>	<b>11.5</b>	<b>11.8</b>	<b>11.9</b>	<b>5,150</b>
Male	8.3	10.4	7.9	10.8	11.1	10.0	9.3	10.8	2,465
Female	12.9	13.5	12.2	13.9	13.1	13.5	13.2	13.5	2,686
Number	1,000	4,151	1,358	3,793	1,693	3,457	2,483	2,668	5,150
<b>Niger 2006</b>	<b>0.6</b>	<b>0.8</b>	<b>0.6</b>	<b>0.8</b>	<b>0.6</b>	<b>0.8</b>	<b>0.6</b>	<b>0.9</b>	<b>7,262</b>
Male	0.6	0.8	0.3	0.8	0.3	0.9	0.6	0.9	2,856
Female	0.6	0.9	0.8	0.8	0.8	0.8	0.6	0.9	4,406
Number	1,042	5,224	560	5,718	2,012	4,253	3,537	3,725	7,262
<b>Rwanda 2005</b>	<b>2.8</b>	<b>3.1</b>	<b>3.2</b>	<b>3.0</b>	<b>2.9</b>	<b>3.1</b>	<b>3.0</b>	<b>3.1</b>	<b>9,988</b>
Male	2.2	2.3	2.2	2.3	2.1	2.3	2.2	2.3	4,348
Female	3.1	3.7	3.9	3.6	3.2	3.7	3.4	3.7	5,641
Number	1,558	8,398	1,331	8,641	1,501	8,469	3,208	6,780	9,988
<b>Senegal 2005</b>	<b>0.8</b>	<b>0.7</b>	<b>0.3</b>	<b>0.7</b>	<b>0.3</b>	<b>0.8</b>	<b>0.5</b>	<b>0.8</b>	<b>7,412</b>
Male	0.4	0.5	0.6	0.5	0.1	0.6	0.2	0.6	3,183
Female	1.1	0.8	0.0	0.9	0.5	1.0	0.8	0.9	4,229
Number	809	6,377	425	6,765	1,631	5,557	2,411	5,001	7,412
<b>Tanzania 2003/04</b>	<b>4.9</b>	<b>7.3</b>	<b>6.4</b>	<b>7.1</b>	<b>5.7</b>	<b>7.6</b>	<b>6.0</b>	<b>7.7</b>	<b>10,747</b>
Male	3.7	6.7	5.1	6.4	5.5	6.5	5.5	6.7	4,994
Female	6.0	7.9	7.5	7.7	5.8	8.6	6.4	8.6	5,753
Number	1,352	9,395	1,292	9,455	2,994	7,753	4,140	6,607	10,747
<b>Uganda 2004/05</b>	<b>4.7</b>	<b>6.7</b>	<b>4.3</b>	<b>6.7</b>	<b>4.2</b>	<b>7.3</b>	<b>4.7</b>	<b>7.5</b>	<b>16,827</b>
Male	4.8	5.1	3.5	5.2	4.0	5.3	4.3	5.4	7,477
Female	4.7	7.9	4.8	7.9	4.3	9.0	4.9	9.3	9,350
Number	2,404	14,423	1,837	14,990	4,642	12,185	6,415	10,412	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.5</b>	<b>0.5</b>	<b>1.1</b>	<b>0.5</b>	<b>0.6</b>	<b>0.5</b>	<b>0.4</b>	<b>0.6</b>	<b>1,675</b>
Male	0.8	0.9	3.8	0.8	3.9	0.8	0.7	1.0	754
Female	0.3	0.2	0.0	0.2	0.0	0.3	0.3	0.2	921
Number	435	1,240	95	1,580	166	1,509	497	1,178	1,675
<b>Zimbabwe 2005</b>	<b>17.9</b>	<b>18.2</b>	<b>16.6</b>	<b>18.5</b>	<b>15.5</b>	<b>18.8</b>	<b>16.5</b>	<b>19.1</b>	<b>12,796</b>
Male	13.5	14.8	12.3	15.0	14.0	14.7	13.1	15.3	5,848
Female	20.5	21.4	19.8	21.5	16.5	22.5	18.8	22.8	6,947
Number	1,830	10,752	2,027	10,589	2,522	10,086	4,929	7,866	12,796

Note: Some of the HIV prevalence estimates for 'being faithful' for Hai Phong, Vietnam are based on small numbers of cases.

In 14 of the 19 countries, HIV prevalence is highest among respondents who know that monogamy or faithfulness to one partner is an effective HIV prevention strategy. In the other five countries—Côte d’Ivoire, Ghana, Haiti, Rwanda, and the Hai Phong province of Vietnam—not knowing about monogamy as an HIV prevention strategy is associated with higher HIV prevalence.

In 16 of the 19 countries, knowledge of condom use as an HIV prevention strategy is associated with higher HIV prevalence, although differences between HIV prevalence by knowledge of condom use are generally slight. In Côte d’Ivoire there is no difference in HIV prevalence between individuals who know about condom use as an HIV prevention strategy and those who do not know. Malawi and the Hai Phong province of Vietnam are the only two countries where HIV prevalence is highest among people who are unaware of condom use as an HIV prevention strategy, but in both cases the difference in HIV prevalence by knowledge of condom use is less than 1 percent.

Finally, in 14 of the 18 countries with data from both women and men, knowing all three methods of HIV prevention—abstinence, monogamy, and condom use—is associated with higher HIV prevalence. In only three countries—Cameroon, Côte d’Ivoire and Ghana—is HIV prevalence higher among individuals who do not know the three HIV prevention strategies, although differences in HIV prevalence between those who know and those who do not know about the three methods are slight (less than 0.5 percent). In India there is no difference in HIV prevalence between people who know and those who do not know the three HIV prevention strategies. (In Burkina Faso men who do not know all three methods have slightly higher HIV prevalence, reflecting men’s lack of knowledge about abstinence.)

#### **6.4 HIV Prevalence by Knowledge of Mother-to-Child HIV Transmission**

In 16 of 19 countries with data, HIV prevalence is higher among respondents who are aware that breastfeeding can transmit the mother’s HIV infection to her infant (Table 6.2). Only in Burkina Faso and the Hai Phong province of Vietnam is HIV prevalence higher among those who are unaware that breastfeeding can transmit HIV to the infant. In Haiti there is no difference by this measure. For the most part, the difference in HIV prevalence between people who know and those who do not know about mother-to-child transmission of HIV is small (1 percentage point or less). The only exceptions, where differences in HIV prevalence by knowledge of breastfeeding and HIV transmission are greater than 1 percentage point, are Zimbabwe (difference of 2.3 percentage points), Malawi (3.9 percentage points), and Lesotho (6.1 percentage points). Also, in all 15 countries with data, HIV prevalence is higher among individuals who are aware of antiretroviral drugs to prevent mother-to-child transmission.



**Table 6.2. HIV prevalence among women and men age 15-49, by knowledge of mother-to-child-transmission (MTCT) of HIV**

Country/sex	Knows of MTCT of HIV through breastfeeding		Know that MTCT can be reduced by taking ARVs during pregnancy		Number
	No	Yes	No	Yes	
<b>Burkina Faso 2003</b>	<b>1.9</b>	<b>1.8</b>	<b>n/a</b>	<b>n/a</b>	<b>7,151</b>
Male	1.8	1.9	n/a	n/a	3,065
Female	1.9	1.7	n/a	n/a	4,086
Number	3,645	3,506	n/a	n/a	7,151
<b>Cambodia 2005</b>	<b>0.2</b>	<b>0.7</b>	<b>0.4</b>	<b>1.2</b>	<b>14,703</b>
Male	0.0	0.7	0.3	1.6	6,656
Female	0.4	0.6	0.5	0.9	8,047
Number	2,070	12,634	10,521	4,182	14,703
<b>Cameroon 2004</b>	<b>4.9</b>	<b>5.9</b>	<b>n/a</b>	<b>n/a</b>	<b>9,746</b>
Male	3.7	4.4	n/a	n/a	4,619
Female	5.8	7.5	n/a	n/a	5,128
Number	4,565	5,181	n/a	n/a	9,746
<b>Côte d'Ivoire 2005</b>	<b>4.1</b>	<b>5.1</b>	<b>3.8</b>	<b>5.9</b>	<b>8,436</b>
Male	2.7	3.0	2.2	3.7	4,023
Female	5.6	6.9	5.3	7.8	4,413
Number	3,322	5,114	4,647	3,789	8,436
<b>Ethiopia 2005</b>	<b>0.8</b>	<b>1.7</b>	<b>1.0</b>	<b>2.9</b>	<b>10,540</b>
Male	0.6	1.1	0.7	1.6	4,804
Female	0.9	2.3	1.2	4.3	5,736
Number	2,887	7,653	7,965	2,575	10,540
<b>Ghana 2003</b>	<b>1.7</b>	<b>2.3</b>	<b>n/a</b>	<b>n/a</b>	<b>9,142</b>
Male	1.3	1.5	n/a	n/a	4,045
Female	2.0	3.0	n/a	n/a	5,097
Number	2,416	6,726	n/a	n/a	9,142
<b>Guinea 2005</b>	<b>1.4</b>	<b>1.6</b>	<b>1.5</b>	<b>1.8</b>	<b>6,319</b>
Male	0.9	1.0	0.9	1.0	2,577
Female	1.7	2.1	1.8	2.6	3,742
Number	2,651	3,668	5,547	771	6,319
<b>Haiti 2005</b>	<b>2.2</b>	<b>2.2</b>	<b>2.1</b>	<b>2.2</b>	<b>9,551</b>
Male	1.2	2.1	1.7	2.6	4,321
Female	2.7	2.2	2.5	1.9	5,230
Number	1,425	8,126	6,478	3,072	9,551
<b>Kenya 2003</b>	<b>6.3</b>	<b>6.9</b>	<b>5.9</b>	<b>8.2</b>	<b>6,001</b>
Male	5.0	4.4	3.8	5.9	2,851
Female	7.6	9.1	7.7	10.5	3,151
Number	1,752	4,250	3,868	2,133	6,001

(Cont'd)

Table 6.2 – cont'd

Country/sex	Knows of MTCT of HIV through breastfeeding		Know that MTCT can be reduced by taking ARVs during pregnancy		Number
	No	Yes	No	Yes	
<b>Lesotho 2004/05</b>	<b>19.1</b>	<b>25.2</b>	<b>20.7</b>	<b>26.7</b>	<b>5,019</b>
Male	16.4	20.4	17.2	22.2	2,001
Female	21.4	28.1	23.7	29.1	3,018
Number	1,354	3,665	2,683	2,336	5,019
<b>Malawi 2004</b>	<b>9.0</b>	<b>12.9</b>	<b>10.3</b>	<b>14.4</b>	<b>5,150</b>
Male	6.7	11.8	8.7	12.9	2,465
Female	11.8	13.8	11.8	15.7	2,686
Number	1,433	3,718	3,205	1,945	5,150
<b>Niger 2006</b>	<b>0.6</b>	<b>0.9</b>	<b>0.7</b>	<b>0.8</b>	<b>7,262</b>
Male	0.8	0.8	0.9	0.7	2,856
Female	0.5	0.9	0.7	1.0	4,406
Number	3,153	4,109	5,624	1,638	7,262
<b>Rwanda 2005</b>	<b>2.3</b>	<b>3.2</b>	<b>1.8</b>	<b>3.4</b>	<b>9,988</b>
Male	2.0	2.3	1.2	2.5	4,348
Female	2.5	3.9	2.2	4.1	5,641
Number	1,922	8,066	2,396	7,592	9,988
<b>Senegal 2005</b>	<b>0.6</b>	<b>0.8</b>	<b>0.7</b>	<b>0.8</b>	<b>7,412</b>
Male	0.5	0.5	0.4	0.6	3,183
Female	0.6	1.0	0.9	0.9	4,229
Number	3,074	4,338	5,396	2,016	7,412
<b>Tanzania 2003/04</b>	<b>6.1</b>	<b>7.5</b>	<b>6.5</b>	<b>9.3</b>	<b>10,747</b>
Male	5.6	6.7	5.8	8.1	4,994
Female	6.7	8.1	7.1	10.6	5,753
Number	3,506	7,241	8,815	1,932	10,747
<b>Uganda 2004/05</b>	<b>5.8</b>	<b>6.9</b>	<b>5.2</b>	<b>7.7</b>	<b>16,827</b>
Male	4.8	5.3	4.4	5.7	7,477
Female	6.6	8.2	5.8	9.4	9,350
Number	7,297	9,530	8,464	8,364	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.6</b>	<b>0.4</b>	<b>0.4</b>	<b>0.9</b>	<b>1,675</b>
Male	1.0	0.7	0.8	1.1	754
Female	0.2	0.2	0.0	0.8	921
Number	929	746	1,258	417	1,675
<b>Zimbabwe 2005</b>	<b>16.3</b>	<b>18.6</b>	<b>16.7</b>	<b>19.4</b>	<b>12,796</b>
Male	12.7	15.0	13.8	15.4	5,848
Female	19.5	21.5	19.8	22.1	6,947
Number	2,500	10,296	6,118	6,677	12,796

## 6.5 HIV Prevalence by Misconceptions Regarding HIV Infection

In 17 of the 19 countries with data, HIV prevalence is higher among respondents who correctly know that a healthy person can be infected with HIV (Table 6.3). Only in Senegal is HIV prevalence higher among individuals who have the misconception that a healthy looking person cannot be HIV-infected, although the difference is slight. In India there is no difference by this measure.

**Table 6.3. HIV prevalence among women and men age 15-49, by misconceptions about HIV infection**

Country/sex	Healthy looking person can have AIDS		Mosquitoes cannot spread AIDS		Number
	No	Yes	Yes, can	No, cannot	
<b>Burkina Faso 2003</b>	<b>1.5</b>	<b>2.1</b>	<b>1.7</b>	<b>2.2</b>	<b>7,151</b>
Male	1.4	2.1	1.7	2.1	3,065
Female	1.5	2.1	1.7	2.4	4,086
Number	2,817	4,335	4,809	2,342	7,151
<b>Cambodia 2005</b>	<b>0.4</b>	<b>0.7</b>	<b>0.3</b>	<b>0.8</b>	<b>14,703</b>
Male	0.5	0.7	0.2	0.8	6,656
Female	0.4	0.7	0.4	0.7	8,047
Number	5,269	9,434	5,074	9,629	14,703
<b>Cameroon 2004</b>	<b>3.7</b>	<b>6.1</b>	<b>6.0</b>	<b>4.9</b>	<b>9,746</b>
Male	3.0	4.4	4.9	3.5	4,619
Female	4.1	7.8	6.9	6.3	5,128
Number	2,536	7,210	4,843	4,903	9,746
<b>Côte d'Ivoire 2005</b>	<b>4.6</b>	<b>4.8</b>	<b>4.9</b>	<b>4.5</b>	<b>8,436</b>
Male	3.3	2.7	3.3	2.4	4,023
Female	5.3	7.1	6.0	6.9	4,413
Number	2,622	5,814	4,635	3,801	8,436
<b>Ethiopia 2005</b>	<b>0.7</b>	<b>2.0</b>	<b>1.2</b>	<b>1.7</b>	<b>10,540</b>
Male	0.3	1.2	0.7	1.2	4,804
Female	0.9	2.9	1.5	2.3	5,736
Number	4,300	6,240	5,305	5,234	10,540
<b>Ghana 2003</b>	<b>1.8</b>	<b>2.2</b>	<b>2.5</b>	<b>1.9</b>	<b>9,142</b>
Male	0.9	1.6	1.9	1.2	4,045
Female	2.2	2.8	2.9	2.5	5,097
Number	1,558	7,584	3,891	5,251	9,142
<b>Guinea 2005</b>	<b>1.2</b>	<b>1.8</b>	<b>1.2</b>	<b>2.0</b>	<b>6,319</b>
Male	0.5	1.2	0.9	1.1	2,577
Female	1.4	2.4	1.4	2.5	3,742
Number	2,744	3,574	3,775	2,544	6,319

(Cont'd)

Table 6.3 – cont'd

Country/sex	Healthy looking person can have AIDS		Mosquitoes cannot spread AIDS		Number
	No	Yes	Yes, can	No, cannot	
<b>Haiti 2005</b>	<b>1.4</b>	<b>2.3</b>	<b>2.1</b>	<b>2.2</b>	<b>9,551</b>
Male	1.5	2.0	2.2	1.8	4,321
Female	1.4	2.5	2.1	2.5	5,230
Number	1,350	8,200	4,414	5,137	9,551
<b>India 2005/06</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>99,838</b>
Male	0.4	0.4	0.4	0.3	46,506
Female	0.2	0.3	0.2	0.3	53,332
Number	50,992	48,844	83,877	15,959	99,838
<b>Kenya 2003</b>	<b>5.4</b>	<b>6.9</b>	<b>6.7</b>	<b>6.7</b>	<b>6,001</b>
Male	3.4	4.7	3.6	4.9	2,851
Female	6.5	9.1	8.6	8.8	3,151
Number	777	5,224	1,956	4,046	6,001
<b>Lesotho 2004/05</b>	<b>17.7</b>	<b>25.7</b>	<b>26.8</b>	<b>19.2</b>	<b>5,019</b>
Male	14.3	21.4	22.4	14.9	2,001
Female	20.6	28.3	29.7	22.1	3,018
Number	1,360	3,659	2,851	2,167	5,019
<b>Malawi 2004</b>	<b>7.3</b>	<b>12.5</b>	<b>10.6</b>	<b>12.5</b>	<b>5,150</b>
Male	3.7	10.7	7.7	11.3	2,465
Female	8.5	14.5	12.8	13.6	2,686
Number	694	4,456	1,692	3,458	5,150
<b>Niger 2006</b>	<b>0.7</b>	<b>0.8</b>	<b>0.7</b>	<b>0.8</b>	<b>7,262</b>
Male	0.3	1.1	0.7	0.9	2,856
Female	0.8	0.5	0.7	0.7	4,406
Number	3,800	3,462	4,785	2,476	7,262
<b>Rwanda 2005</b>	<b>1.7</b>	<b>3.2</b>	<b>1.9</b>	<b>3.3</b>	<b>9,988</b>
Male	0.6	2.4	1.4	2.5	4,348
Female	2.1	3.9	2.4	3.9	5,641
Number	1,263	8,726	2,074	7,915	9,988
<b>Senegal 2005</b>	<b>1.0</b>	<b>0.6</b>	<b>0.7</b>	<b>0.7</b>	<b>7,412</b>
Male	0.2	0.6	0.4	0.5	3,183
Female	1.3	0.6	1.0	0.8	4,229
Number	2,653	4,759	4,391	3,021	7,412
<b>Tanzania 2003/04</b>	<b>4.2</b>	<b>7.7</b>	<b>6.3</b>	<b>7.3</b>	<b>10,747</b>
Male	2.8	6.9	5.4	6.6	4,994
Female	5.1	8.4	7.1	7.9	5,753
Number	1,969	8,778	2,929	7,818	10,747

(Cont'd)

Table 6.3 – cont'd

Country/sex	Healthy looking person can have AIDS		Mosquitoes cannot spread AIDS		Number
	No	Yes	Yes, can	No, cannot	
<b>Uganda 2004/05</b>	<b>4.7</b>	<b>6.9</b>	<b>6.6</b>	<b>6.2</b>	<b>16,827</b>
Male	3.8	5.3	5.5	4.7	7,477
Female	5.1	8.3	7.5	7.5	9,350
Number	3,568	13,260	7,197	9,630	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.4</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>1,675</b>
Male	1.4	0.8	1.2	0.8	754
Female	0.0	0.3	0.0	0.3	921
Number	263	1,412	599	1,076	1,675
<b>Zimbabwe 2005</b>	<b>14.2</b>	<b>18.6</b>	<b>21.8</b>	<b>16.9</b>	<b>12,796</b>
Male	9.2	15.0	18.0	13.3	5,848
Female	16.8	21.8	25.1	19.8	6,947
Number	1,471	11,325	3,201	9,595	12,796

There is more variation in the relationship between HIV prevalence and knowledge about whether mosquitoes can spread HIV. In nine countries, correctly knowing that mosquitoes cannot transmit HIV is associated with higher HIV prevalence. However, in Cameroon, Côte d'Ivoire, Ghana, Lesotho, Uganda, and Zimbabwe, having the misconception that HIV can be transmitted by mosquitoes is associated with higher HIV prevalence. In India, Kenya, Senegal, and the Hai Phong province of Vietnam, there is no difference in HIV prevalence by whether individuals know or do not know about mosquitoes and HIV transmission.

## 6.6 HIV Prevalence by Attitudes toward People Living with HIV (PLHIV)

To assess levels of stigma, the surveys ask four questions related to respondents' attitudes toward PLHIV. By the first measure, whether the respondent would keep the HIV status of a family member a secret from non-family members, no clear pattern emerges among the 17 countries with data (Table 6.4). In seven of these countries—Burkina Faso, Cambodia, Cameroon, Côte d'Ivoire, Haiti, Lesotho, and Zimbabwe—respondents who would not want to keep the HIV-infected status of a family member a secret have higher HIV prevalence. However, in another seven countries—Ethiopia, Ghana, Malawi, Niger, Senegal, Tanzania, and Uganda—the opposite is true: Respondents who would want to keep the HIV status of a family member a secret have higher HIV prevalence. In India, Kenya, and the Hai Phong province of Vietnam, there is no difference in HIV prevalence by this measure.

**Table 6.4. HIV prevalence among women and men age 15-49, by attitude toward people living with HIV (PLHIV)**

Country/sex	Will not keep HIV+ status of family member secrete		Care for a family member with AIDS		Allow infected female teacher to teach		Buy vegetables from a vendor with AIDS		Attitudes toward PLHIV				Number		
	Yes	No	No	Yes	No	Yes	No	Yes	No	Any 1	Any 2	Any 3		All 4	
<b>Burkina Faso 2003</b>	<b>2.0</b>	<b>1.7</b>	<b>1.2</b>	<b>2.1</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>7,151</b>
Male	2.2	1.7	2.0	1.8	1.2	2.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3,065
Female	1.9	1.7	0.7	2.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,086
Number	3,533	3,618	1,887	5,264	5,524	1,627	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7,151
<b>Cambodia 2005</b>	<b>0.7</b>	<b>0.6</b>	<b>0.5</b>	<b>0.6</b>	<b>0.3</b>	<b>0.7</b>	<b>0.3</b>	<b>0.8</b>	<b>0.8</b>	<b>1.0</b>	<b>0.1</b>	<b>0.5</b>	<b>0.7</b>	<b>0.8</b>	<b>14,703</b>
Male	0.7	0.6	0.6	0.6	0.5	0.7	0.4	0.7	1.5	0.1	0.8	0.6	0.6	0.7	6,656
Female	0.7	0.6	0.5	0.7	0.2	0.7	0.2	0.8	0.7	0.1	0.3	0.7	0.7	0.8	8,047
Number	5,452	9,252	3,070	11,634	3,086	11,618	4,835	9,869	315	1,339	2,668	5,197	5026	5026	14,703
<b>Cameroon 2004</b>	<b>6.0</b>	<b>4.8</b>	<b>4.4</b>	<b>5.8</b>	<b>5.1</b>	<b>5.8</b>	<b>4.9</b>	<b>6.1</b>	<b>5.0</b>	<b>4.3</b>	<b>5.9</b>	<b>6.3</b>	<b>4.9</b>	<b>4.9</b>	<b>9,746</b>
Male	3.9	4.3	4.2	4.1	4.1	4.1	3.9	4.4	4.6	3.1	4.7	4.0	4.4	4.4	4,619
Female	7.4	5.5	4.6	7.6	5.8	7.6	5.7	8.0	5.1	5.1	7.1	8.7	5.9	5.9	5,128
Number	5,108	4,639	2,517	7,230	4,903	4,844	5,361	4,386	752	2,307	2,584	2,791	1,313	1,313	9,746
<b>Côte d'Ivoire 2005</b>	<b>4.9</b>	<b>4.5</b>	<b>4.4</b>	<b>4.8</b>	<b>4.5</b>	<b>4.8</b>	<b>4.2</b>	<b>5.3</b>	<b>3.6</b>	<b>5.1</b>	<b>4.4</b>	<b>5.1</b>	<b>4.7</b>	<b>4.7</b>	<b>8,436</b>
Male	2.5	3.2	3.6	2.7	3.0	2.8	2.9	2.8	2.8	3.1	2.9	2.7	3.0	3.0	4,023
Female	6.4	6.3	4.9	6.9	5.7	7.0	5.2	8.0	4.0	6.5	5.8	7.2	9.0	9.0	4,413
Number	5,093	3,343	1,877	6,559	3,571	4,865	4,552	3,884	956	1,488	2,060	2,687	1,245	1,245	8,436
<b>Ethiopia 2005</b>	<b>1.0</b>	<b>1.7</b>	<b>0.3</b>	<b>2.2</b>	<b>0.5</b>	<b>2.7</b>	<b>0.9</b>	<b>3.4</b>	<b>0.2</b>	<b>0.4</b>	<b>1.0</b>	<b>2.2</b>	<b>4.5</b>	<b>4.5</b>	<b>10,540</b>
Male	0.7	1.0	0.2	1.3	0.3	1.6	0.6	2.0	0.0	0.2	0.7	1.2	2.5	2.5	4,804
Female	1.1	2.4	0.4	3.1	0.6	4.0	1.2	5.2	0.3	0.6	1.3	3.5	7.3	7.3	5,736
Number	3,445	7,094	4,135	6,405	6,041	4,499	8,376	2,163	1,568	2,616	2,846	2,182	1,327	1,327	10,540
<b>Ghana 2003</b>	<b>1.9</b>	<b>2.3</b>	<b>2.3</b>	<b>2.1</b>	<b>2.1</b>	<b>2.3</b>	<b>2.3</b>	<b>1.7</b>	<b>1.2</b>	<b>2.4</b>	<b>2.4</b>	<b>2.3</b>	<b>1.5</b>	<b>1.5</b>	<b>9,142</b>
Male	1.3	1.5	1.8	1.3	1.1	1.8	1.4	1.5	0.0	1.2	1.9	1.6	1.0	1.0	4,045
Female	2.3	3.0	2.7	2.7	2.7	2.7	3.0	1.9	1.8	3.0	2.7	2.9	2.1	2.1	5,097
Number	3,544	5,598	2,821	6,321	5,308	3,834	6,415	2,727	679	2,492	2,931	2,031	1,008	1,008	9,142

(Cont'd)

Table 6.4 – cont'd

Country/sex	Will not keep HIV+ status of family member secretive		Care for a family member with AIDS		Allow infected female teacher to teach		Buy vegetables from a vendor with AIDS		Attitudes toward PLHIV					
	Yes	No	No	Yes	No	Yes	No	Yes	No	Any 1	Any 2	Any 3	All 4	Number
<b>Guinea 2005</b>	n/a	n/a	1.1	1.8	1.5	1.6	1.5	1.8	0.6	1.4	1.9	1.3	1.8	6,319
Male	n/a	n/a	0.8	1.0	1.1	0.7	1.0	0.8	1.0	0.9	1.2	0.4	1.3	2,577
Female	n/a	n/a	1.3	2.6	1.7	2.6	1.7	3.8	0.5	1.6	2.5	2.8	3.2	3,742
Number	n/a	n/a	2,797	3,522	4,718	1,601	5,502	817	594	2,411	2,184	909	220	6,319
<b>Haiti 2005</b>	2.5	2.0	2.1	2.2	2.1	2.2	2.1	2.2	2.8	2.1	2.2	1.8	2.6	9,551
Male	2.1	1.9	1.8	2.1	2.2	1.7	1.9	2.1	3.2	2.0	1.5	2.0	2.4	4,321
Female	2.8	2.1	2.3	2.3	2.1	2.7	2.3	2.4	2.6	2.1	2.7	1.5	3.0	5,230
Number	2,531	7,020	3,944	5,607	5,959	3,592	6,566	2,984	606	3,004	2,813	1,938	1,190	9,551
<b>India 2005/06</b>	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.5	0.3	0.3	99,838
Male	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.5	0.4	0.3	46,506
Female	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.3	0.5	0.2	0.2	53,332
Number	53,476	46,341	44,948	54,868	47,902	51,911	55,589	44,222	31,943	9,339	12,917	20,264	25,325	99,838
<b>Kenya 2003</b>	6.7	6.7	5.1	7.0	6.1	7.2	5.8	7.2	5.8	5.0	6.5	6.9	7.5	6,001
Male	4.0	4.8	2.3	4.9	4.6	4.5	3.1	5.1	3.5	2.8	4.0	4.7	5.3	2,851
Female	8.5	8.8	7.0	9.0	7.3	9.7	7.3	9.7	7.0	6.4	8.2	8.9	10.4	3,151
Number	2,085	3,916	912	5,090	2,541	3,461	2,090	3,911	299	738	1,230	1,757	1,977	6,001
<b>Lesotho 2004/05</b>	24.5	22.9	17.9	25.0	n/a	n/a	22.9	24.3	n/a	n/a	n/a	n/a	n/a	5,019
Male	17.9	19.9	13.7	21.0	n/a	n/a	16.7	22.4	n/a	n/a	n/a	n/a	n/a	2,001
Female	28.5	25.0	21.9	27.4	n/a	n/a	27.2	25.6	n/a	n/a	n/a	n/a	n/a	3,018
Number	1,957	3,061	1,056	3,963	n/a	n/a	2,756	2,263	n/a	n/a	n/a	n/a	n/a	5,019
<b>Malawi 2004</b>	10.8	12.6	6.5	12.1	8.2	13.2	10.4	12.3	2.3	8.8	7.8	12.3	14.2	5,150
Male	10.2	10.2	4.8	10.4	5.6	11.4	9.7	10.3	0.0	5.4	6.4	11.4	10.7	2,465
Female	11.6	14.2	7.2	13.8	9.6	15.2	10.7	14.6	3.1	10.6	8.6	13.6	17.3	2,686
Number	2,211	2,939	265	4,886	1,409	3,741	1,278	3,873	56	261	909	2,341	1,584	5,150
<b>Niger 2006</b>	0.6	0.8	0.6	0.9	0.5	1.2	0.7	0.8	0.3	0.6	1.1	1.1	0.9	7,262
Male	1.0	0.6	0.4	0.9	0.5	1.3	0.8	0.8	0.7	0.5	0.8	1.1	0.9	2,856
Female	0.4	1.0	0.6	0.8	0.6	1.2	0.7	0.9	0.2	0.6	1.3	1.0	0.8	4,406
Number	3,486	3,775	3,142	4,120	5,138	2,124	5,808	1,454	1,447	2,270	1,911	1,154	480	7,262

(Cont'd)

Table 6.4 – cont'd

Country/sex	Will not keep HIV+ status of family member secrete		Care for a family member with AIDS		Allow infected female teacher to teach		Buy vegetables from a vendor with AIDS		Attitudes toward PLHIV					
	Yes	No	No	Yes	No	Yes	No	Yes	No	Any 1	Any 2	Any 3	All 4	Number
<b>Rwanda 2005</b>														
Male	n/a	n/a	1.4	3.1	1.7	3.4	1.4	3.6	n/a	n/a	n/a	n/a	n/a	9,988
Female	n/a	n/a	1.2	2.3	1.4	2.5	0.9	2.6	n/a	n/a	n/a	n/a	n/a	4,348
Number	n/a	n/a	1.6	3.8	1.9	4.2	1.6	4.5	n/a	n/a	n/a	n/a	n/a	5,641
	n/a	n/a	603	9,386	2,331	7,657	2,599	7,390	n/a	n/a	n/a	n/a	n/a	9,988
<b>Senegal 2005</b>														
Male	0.6	0.9	1.1	0.6	0.6	0.8	0.6	0.9	0.8	0.8	0.4	0.7	1.4	7,412
Female	0.3	0.8	0.4	0.5	0.3	0.7	0.2	0.9	0.0	0.2	0.3	0.6	1.6	3,183
Number	4,890	2,522	1,879	5,533	4,343	3,069	5,141	2,271	846	2,363	2,023	1,733	447	7,412
<b>Tanzania 2003/04</b>														
Male	6.9	7.1	3.2	7.5	4.9	7.9	5.7	8.0	2.0	5.3	5.1	7.8	8.6	10,747
Female	4.9	6.8	3.6	6.5	4.8	6.9	5.6	6.7	1.9	5.5	4.1	6.5	7.6	4,994
Number	3,683	7,064	1,213	9,534	3,193	7,554	4,628	6,119	318	1,033	2,358	3,633	3,406	10,747
<b>Uganda 2004/05</b>														
Male	6.2	6.6	3.5	6.9	5.3	7.1	5.1	7.1	2.7	4.9	5.7	6.8	8.0	16,827
Female	4.4	5.6	2.4	5.5	4.4	5.4	3.5	5.7	2.3	3.1	3.9	5.4	6.6	7,477
Number	8,678	8,149	2,347	14,481	6,316	10,511	5,983	10,845	626	2,260	3,936	6,166	3,839	16,827
<b>Hai Phong, Vietnam 2005</b>														
Male	0.5	0.5	1.2	0.5	0.2	0.7	0.5	0.5	2.5	0.0	0.7	0.0	1.1	1,675
Female	1.2	0.7	3.7	0.8	0.6	1.0	1.4	0.6	8.3	0.0	1.9	0.0	1.2	754
Number	758	917	83	1,592	494	1,181	755	920	41	166	397	633	438	1,675
<b>Zimbabwe 2005</b>														
Male	18.9	17.3	13.5	19.2	17.2	18.5	18.3	18.0	17.4	16.4	18.1	18.0	20.0	12,796
Female	15.5	13.4	11.7	15.7	14.8	14.4	14.5	14.6	5.9	14.3	14.8	14.6	14.7	5,848
Number	6,806	5,990	2,469	10,326	3,577	9,219	5,015	7,780	249	1,346	3,402	6,030	1,769	12,796

Note: Some of the HIV prevalence estimates for Malawi and Hai Phong, Vietnam are based on small numbers of cases.



By the second measure, whether respondents would be willing to care for an HIV-infected relative in their household, in 15 of the 19 countries with data HIV prevalence is higher among those who would be willing to care for an HIV-infected relative in their household. However, in Ghana, Senegal, and the Hai Phong province of Vietnam, HIV prevalence is slightly higher among respondents who would be unwilling to care for an HIV-infected relative. In India there is no difference in HIV prevalence by this measure.

By the third measure, whether HIV-infected female teachers should be allowed to continue teaching, in all 17 countries with data HIV prevalence is higher among respondents who say these teachers should be allowed to continue teaching. However, the differences in HIV prevalence according to this measure are slight, at less than 1 percent for most countries.

By the fourth measure, whether respondents would buy vegetables from an HIV-infected market vendor, in 14 of the 18 countries with data, respondents who would continue to buy produce and other goods from an HIV-infected market vendor have higher HIV prevalence. In Ghana and Zimbabwe, however, the reverse is true, and in India and the Hai Phong province of Vietnam there is no difference.

Examining all four measures of accepting attitudes toward PLHIV together, it appears that, for most countries, having a more positive attitude toward PLHIV is associated with higher HIV prevalence. In 11 of the 17 countries with data on all four measures, having three or all four positive attitudes is associated with higher HIV prevalence. In Guinea, India, and Ghana HIV prevalence is highest among respondents who have two of the four accepting attitudes toward PLHIV. In only three countries, Cambodia, Haiti, and the Hai Phong province of Vietnam, is HIV prevalence highest among respondents who have none of these four accepting attitudes.



## 7 HIV Prevalence by Risk Behaviors

### 7.1 Key Findings

- ❖ In general, an earlier age of sexual debut (<17) is associated with higher HIV prevalence. This is especially true for women.
- ❖ In all countries, HIV prevalence increases with increasing number of lifetime sex partners, both overall and for men and women separately.
- ❖ In the majority of countries, HIV prevalence is higher among individuals who report having a sexual encounter with a non-marital, non-cohabitating partner in the past 12 months.
- ❖ For all but one of the 19 countries with data, alcohol use by either or both partners at last sex is associated with higher HIV prevalence. Although true for both men and women, the relationship between alcohol use during last sex and HIV prevalence is especially strong among women.

### 7.2 Introduction

This chapter presents information on HIV prevalence by selected risk factors. These include number of sex partners, age at first sex, engaging in higher-risk sex, and alcohol consumption. Number of sex partners is measured by both the number of partners in the past 12 months and by number of lifetime sex partners. Behaviors such as sex with non-marital, non-cohabitating partners, and paying or receiving money to have sex are considered to be higher-risk sexual behaviors. Alcohol consumption is measured in two ways, as consumption in the past three months and as consumption before last sex.

### 7.3 HIV Prevalence by Age at First Sex

In all 19 countries with data, HIV prevalence is lowest among individuals who report that they never have had sex (Table 7.1). Among individuals who have ever had sex, an earlier age of sexual debut is generally associated with higher HIV prevalence. For eight countries—Cambodia, Côte d’Ivoire, Ethiopia, Ghana, Kenya, Malawi, Tanzania, and Uganda—sexual debut at 17 years or younger is associated with higher HIV prevalence. Additionally, in Guinea, Lesotho, Niger, Rwanda, and the Hai Phong province of Vietnam, the peak HIV prevalence occurs among individuals whose sexual debut occurred at age 18-19. In only three countries—Burkina Faso, Haiti, and India—does the peak HIV prevalence occur among individuals whose sexual debut was at age 20 or older.

For the majority of countries, the peak in HIV prevalence occurs among men who were older at their sexual debut. In contrast, the peak of HIV prevalence for women occurs among those who were younger at their sexual debut.

**Table 7.1. HIV prevalence among women and men age 15-49, by age at fist sexual intercourse**

Country/sex	Age at fist sexual intercourse					Total	Number
	Never had sex	<15	15-17	18-19	20+		
<b>Burkina Faso 2003</b>	<b>0.6</b>	<b>1.3</b>	<b>1.8</b>	<b>2.2</b>	<b>2.9</b>	<b>1.8</b>	<b>7,151</b>
Male	0.8	0.7	0.8	1.5	3.6	1.9	3,065
Female	0.5	1.5	2.1	2.7	0.3	1.8	4,086
Number	1,371	385	2,779	1,204	1,384	7,151	7,151
<b>Cambodia 2005</b>	<b>0.1</b>	<b>2.2</b>	<b>0.9</b>	<b>0.8</b>	<b>0.9</b>	<b>0.6</b>	<b>14,703</b>
Male	0.0	0.0	0.6	1.1	0.9	0.6	6,656
Female	0.1	2.5	1.1	0.6	0.8	0.6	8,047
Number	4,695	157	1,791	2,713	5,337	14,703	14,703
<b>Cameroon 2004</b>	<b>0.9</b>	<b>5.8</b>	<b>6.5</b>	<b>6.5</b>	<b>5.7</b>	<b>5.4</b>	<b>9,746</b>
Male	1.0	3.7	5.0	5.2	4.7	4.1	4,619
Female	0.7	6.6	7.6	8.0	8.6	6.6	5,128
Number	1,448	1,650	3,817	1,594	1,211	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>0.2</b>	<b>5.8</b>	<b>5.0</b>	<b>5.0</b>	<b>5.5</b>	<b>4.7</b>	<b>8,436</b>
Male	0.4	2.9	3.3	2.9	3.4	2.9	4,023
Female	0.0	7.3	6.2	8.0	11.1	6.4	4,413
Number	868	1,419	3,691	1,422	1,024	8,436	8,436
<b>Ethiopia 2005</b>	<b>0.1</b>	<b>1.9</b>	<b>2.6</b>	<b>1.9</b>	<b>1.5</b>	<b>1.4</b>	<b>10,540</b>
Male	0.2	0.2	1.7	1.3	1.3	0.9	4,804
Female	0.1	2.0	2.9	2.5	1.9	1.9	5,736
Number	3,132	1,409	2,309	1,360	2,276	10,540	10,540
<b>Ghana 2003</b>	<b>0.1</b>	<b>4.9</b>	<b>2.3</b>	<b>3.2</b>	<b>2.1</b>	<b>2.2</b>	<b>9,142</b>
Male	0.2	2.0	0.9	2.6	2.1	1.5	4,045
Female	0.0	6.1	2.8	3.6	2.2	2.7	5,097
Number	1,861	584	2,641	1,900	2,145	9,142	9,142
<b>Guinea 2005</b>	<b>0.4</b>	<b>1.6</b>	<b>1.8</b>	<b>2.0</b>	<b>1.2</b>	<b>1.5</b>	<b>6,319</b>
Male	0.6	1.3	0.8	1.1	1.0	0.9	2,577
Female	0.1	1.6	2.1	3.0	2.0	1.9	3,742
Number	730	1,217	2,569	891	892	6,319	6,319
<b>Haiti 2005</b>	<b>0.1</b>	<b>2.7</b>	<b>2.5</b>	<b>2.4</b>	<b>3.0</b>	<b>2.2</b>	<b>9,551</b>
Male	0.2	1.9	2.2	2.4	3.8	2.0	4,321
Female	0.1	4.2	2.7	2.3	2.6	2.3	5,230
Number	1,613	2,403	2,988	1,263	1,262	9,551	9,551
<b>India 2005/06</b>	<b>0.1</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.4</b>	<b>0.3</b>	<b>99,838</b>
Male	0.1	0.3	0.5	0.4	0.5	0.4	46,506
Female	0.0	0.3	0.3	0.2	0.2	0.2	53,332
Number	25,268	10,185	21,282	13,935	29,156	99,838	99,838
<b>Kenya 2003</b>	<b>1.3</b>	<b>8.9</b>	<b>7.6</b>	<b>7.9</b>	<b>6.0</b>	<b>6.7</b>	<b>6,001</b>
Male	0.9	6.0	4.4	4.9	6.0	4.6	2,851
Female	1.6	13.1	10.2	10.2	5.9	8.7	3,151
Number	966	1,281	1,909	1,020	814	6,001	6,001

(Cont'd)

Table 7.1 – cont'd

Country/sex	Age at first sexual intercourse					Total	Number
	Never had sex	<15	15-17	18-19	20+		
<b>Lesotho 2004/05</b>	<b>4.4</b>	<b>16.8</b>	<b>25.4</b>	<b>31.2</b>	<b>30.4</b>	<b>23.5</b>	<b>5,019</b>
Male	3.7	8.1	18.7	30.5	27.5	19.2	2,001
Female	5.0	25.4	29.1	31.6	32.8	26.4	3,018
Number	879	361	1,553	1,103	1,105	5,019	5,019
<b>Malawi 2004</b>	<b>2.2</b>	<b>15.0</b>	<b>12.7</b>	<b>13.7</b>	<b>10.8</b>	<b>11.8</b>	<b>5,150</b>
Male	1.9	11.7	10.3	14.1	9.8	10.2	2,465
Female	2.5	17.0	14.4	13.3	12.8	13.3	2,686
Number	514	720	1,982	1,074	852	5,150	5,150
<b>Niger 2006</b>	<b>0.3</b>	<b>0.7</b>	<b>0.6</b>	<b>1.4</b>	<b>1.0</b>	<b>0.7</b>	<b>7,262</b>
Male	0.4	0.7	0.2	1.1	1.1	0.8	2,856
Female	0.2	0.7	0.7	1.7	0.4	0.7	4,406
Number	1,204	1,497	2,245	738	1,546	7,262	7,262
<b>Rwanda 2005</b>	<b>0.6</b>	<b>1.7</b>	<b>4.6</b>	<b>4.6</b>	<b>4.2</b>	<b>3.0</b>	<b>9,988</b>
Male	0.2	0.6	4.1	3.9	3.2	2.3	4,348
Female	0.8	3.3	5.0	5.0	4.9	3.6	5,641
Number	3,097	591	1,476	1,615	3,199	9,988	9,988
<b>Senegal 2005</b>	<b>0.2</b>	<b>1.1</b>	<b>0.8</b>	<b>1.1</b>	<b>0.8</b>	<b>0.7</b>	<b>7,412</b>
Male	0.0	0.0	0.7	0.4	0.9	0.5	3,183
Female	0.3	1.7	0.9	1.6	0.7	0.9	4,229
Number	2,193	769	1,835	955	1,633	7,412	7,412
<b>Tanzania 2003/04</b>	<b>1.9</b>	<b>8.7</b>	<b>8.0</b>	<b>8.0</b>	<b>7.1</b>	<b>7.0</b>	<b>10,747</b>
Male	2.4	8.1	8.2	5.9	6.2	6.3	4,994
Female	1.4	9.2	7.9	9.8	8.4	7.7	5,753
Number	1,560	1,113	3,879	2,300	1,884	10,747	10,747
<b>Uganda 2004/05</b>	<b>0.5</b>	<b>7.9</b>	<b>7.9</b>	<b>6.7</b>	<b>7.1</b>	<b>6.4</b>	<b>16,827</b>
Male	0.2	4.3	6.3	6.1	7.0	5.1	7,477
Female	0.8	9.8	8.8	7.3	7.4	7.5	9,350
Number	2,585	2,624	6,236	3,149	2,203	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>1.5</b>	<b>0.5</b>	<b>0.5</b>	<b>1,675</b>
Male	0.4	0.0	0.0	1.5	1.1	0.9	754
Female	0.0	0.0	0.0	1.4	0.0	0.2	921
Number	502	4	63	197	908	1,675	1,675
<b>Zimbabwe 2005</b>	<b>3.2</b>	<b>23.5</b>	<b>22.6</b>	<b>23.5</b>	<b>21.9</b>	<b>18.1</b>	<b>12,796</b>
Male	2.7	11.4	18.5	20.4	19.1	14.5	5,848
Female	3.9	28.8	24.9	25.8	25.3	21.1	6,947
Number	2,994	679	3,288	2,681	3,133	12,796	12,796

Note: Some of the HIV prevalence estimates for Hai Phong, Vietnam are based on small numbers of cases.

## **7.4 HIV Prevalence by Number of Sex Partners**

### *Number of Lifetime Sex Partners*

In the 13 countries with data for both men and women on the number of lifetime sex partners, HIV prevalence is highest among respondents reporting three or more lifetime partners (Table 7.2). This is true for both men and women. In two other countries with data only for men, Lesotho and Senegal, HIV prevalence is highest among respondents who report more than three lifetime sex partners. Moreover, in all 15 countries HIV prevalence increases with increasing number of lifetime sex partners, both overall and for men and women separately (Figures 7.1 and 7.2).

**Table 7.2. HIV prevalence among women and men age 15-49, by number of sexual partners in past 12 months (only among those who ever had sex) and by number of lifetime sexual partners**

Country/sex	# sex partner(s) in last 12 months				Total	Number	# sex partner(s) in lifetime				Total	Number
	0	1	2+	2+			0	1	2	3+		
<b>Burkina Faso 2003</b>	<b>2.2</b>	<b>2.2</b>	<b>1.6</b>	<b>2.1</b>	<b>2.1</b>	<b>5,780</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Male	3.0	2.4	1.3	2.3	2.3	2,260	n/a	n/a	n/a	n/a	n/a	n/a
Female	1.9	2.0	5.4	2.1	2.1	3,520	n/a	n/a	n/a	n/a	n/a	n/a
Number	1,274	4,004	492	5,780	5,780	5,780	n/a	n/a	n/a	n/a	n/a	n/a
<b>Cambodia 2005</b>	<b>2.3</b>	<b>0.7</b>	<b>2.0</b>	<b>0.9</b>	<b>0.9</b>	<b>10,009</b>	<b>0.1</b>	<b>0.5</b>	<b>1.6</b>	<b>2.2</b>	<b>0.6</b>	<b>14,703</b>
Male	3.1	0.7	2.0	0.9	0.9	4,460	0.0	0.3	0.7	2.1	0.6	6,656
Female	2.1	0.6	0.0	0.8	0.8	5,548	0.1	0.6	2.6	9.1	0.6	8,047
Number	983	8,603	414	10,009	10,009	10,009	4,695	7,497	1,062	1,421	14,703	14,703
<b>Cameroon 2004</b>	<b>6.5</b>	<b>5.7</b>	<b>7.6</b>	<b>6.2</b>	<b>6.2</b>	<b>8,298</b>	<b>0.88</b>	<b>2.3</b>	<b>6.6</b>	<b>7.7</b>	<b>5.4</b>	<b>9,746</b>
Male	1.8	3.7	7.1	4.8	4.8	3,795	1.00	0.5	2.3	5.6	4.1	4,619
Female	8.8	6.9	10.3	7.4	7.4	4,503	0.72	2.7	8.2	11.0	6.6	5,128
Number	874	5,672	1,736	8,282	8,282	8,298	1,448	2,029	1,282	4,970	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>8.3</b>	<b>4.9</b>	<b>4.1</b>	<b>5.2</b>	<b>5.2</b>	<b>7,568</b>	<b>0.2</b>	<b>3.8</b>	<b>3.8</b>	<b>6.3</b>	<b>4.7</b>	<b>8,436</b>
Male	3.8	3.2	2.9	3.2	3.2	3,553	0.4	2.8	2.0	3.4	2.9	4,023
Female	12.0	6.1	11.1	7.0	7.0	4,015	0.0	4.1	4.4	11.3	6.4	4,413
Number	937	5,467	1,164	7,568	7,568	7,568	893	1,748	1,407	4,356	8,436	8,436
<b>Ethiopia 2005</b>	<b>4.5</b>	<b>1.6</b>	<b>4.5</b>	<b>2.0</b>	<b>2.0</b>	<b>7,407</b>	<b>0.1</b>	<b>1.2</b>	<b>3.4</b>	<b>3.0</b>	<b>1.4</b>	<b>10,540</b>
Male	2.1	1.2	4.0	1.4	1.4	3,043	0.2	0.6	1.8	2.1	0.9	4,804
Female	5.5	1.9	13.2	2.4	2.4	4,364	0.1	1.4	4.7	5.6	1.9	5,736
Number	904	6,385	119	7,407	7,407	7,407	3,132	4,567	1,542	1,259	10,540	10,540
<b>Ghana 2003</b>	<b>2.9</b>	<b>2.6</b>	<b>2.5</b>	<b>2.7</b>	<b>2.7</b>	<b>7,280</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Male	1.8	2.0	1.7	1.9	1.9	2,975	n/a	n/a	n/a	n/a	n/a	n/a
Female	3.5	3.1	8.6	3.2	3.2	4,306	n/a	n/a	n/a	n/a	n/a	n/a
Number	1,254	5,589	438	7,280	7,280	7,280	n/a	n/a	n/a	n/a	n/a	n/a

(Cont'd)

Table 7.2 – cont'd

Country/sex	# sex partner(s) in last 12 months				Total	Number	# sex partner(s) in lifetime				Total	Number
	0	1	2+	2+			0	1	2	3+		
<b>Guinea 2005</b>												
Male	1.4	1.7	1.8	1.7	1.7	5,588	0.4	1.0	1.7	2.4	1.5	6,319
Female	0.4	0.8	1.6	1.0	1.0	2,202	0.6	0.9	0.5	1.2	0.9	2,577
Number	1,182	3,641	747	5,588	5,588	5,588	730	2,330	1,173	1,948	6,319	6,319
<b>Haiti 2005</b>												
Male	2.0	2.7	2.6	2.6	2.6	7,938	0.1	1.2	2.2	3.4	2.1	9,551
Female	1.1	2.5	2.1	2.3	2.3	3,766	0.2	0.6	0.1	2.6	2.0	4,321
Number	1,052	5,822	1,058	7,938	7,938	7,938	1,613	2,253	1,523	4,065	9,551	9,551
<b>India 2005/06</b>												
Male	0.7	0.3	0.9	0.4	0.4	74,571	0.1	0.3	0.7	0.9	0.3	99,838
Female	0.8	0.4	0.7	0.5	0.5	32,052	0.1	0.4	0.6	0.9	0.4	46,506
Number	6,523	67,220	676	74,571	74,571	74,571	25,266	67,333	4,393	2,580	99,838	99,838
<b>Kenya 2003</b>												
Male	6.7	7.7	10.4	7.8	7.8	5,036	n/a	n/a	n/a	n/a	n/a	n/a
Female	1.9	5.4	8.5	5.3	5.3	2,399	n/a	n/a	n/a	n/a	n/a	n/a
Number	11.2	9.6	21.0	10.1	10.1	2,636	n/a	n/a	n/a	n/a	n/a	n/a
	785	3,866	385	5,036	5,036	5,036	n/a	n/a	n/a	n/a	n/a	n/a
<b>Lesotho 2004/05</b>												
Male	23.0	28.0	30.1	27.6	27.6	4,139	n/a	n/a	n/a	n/a	n/a	n/a
Female	13.9	23.8	25.2	23.0	23.0	1,601	3.7	13.5	19.8	26.1	19.2	2,001
Number	27.3	30.1	39.7	30.5	30.5	2,538	n/a	n/a	n/a	n/a	n/a	n/a
	600	2,848	691	4,139	4,139	4,139	400	319	219	1,007	2,001	2,001
<b>Malawi 2004</b>												
Male	14.9	12.3	18.0	12.9	12.9	4,636	n/a	n/a	n/a	n/a	n/a	n/a
Female	7.8	11.0	16.2	11.2	11.2	2,199	n/a	n/a	n/a	n/a	n/a	n/a
Number	21.0	13.3	43.7	14.4	14.4	2,438	n/a	n/a	n/a	n/a	n/a	n/a
	528	3,849	260	4,636	4,636	4,636	n/a	n/a	n/a	n/a	n/a	n/a
<b>Niger 2006</b>												
Male	0.9	0.7	1.6	0.8	0.8	6,058	0.3	0.2	1.4	3.0	0.7	7,262
Female	0.5	0.8	1.7	0.9	0.9	2,093	0.4	0.2	1.1	1.7	0.8	2,856
Number	1.1	0.7	0.0	0.8	0.8	3,965	0.2	0.2	1.7	9.5	0.7	4,406
	492	5,162	377	6,058	6,058	6,058	1,204	3,995	1,300	715	7,262	7,262

(Cont'd)

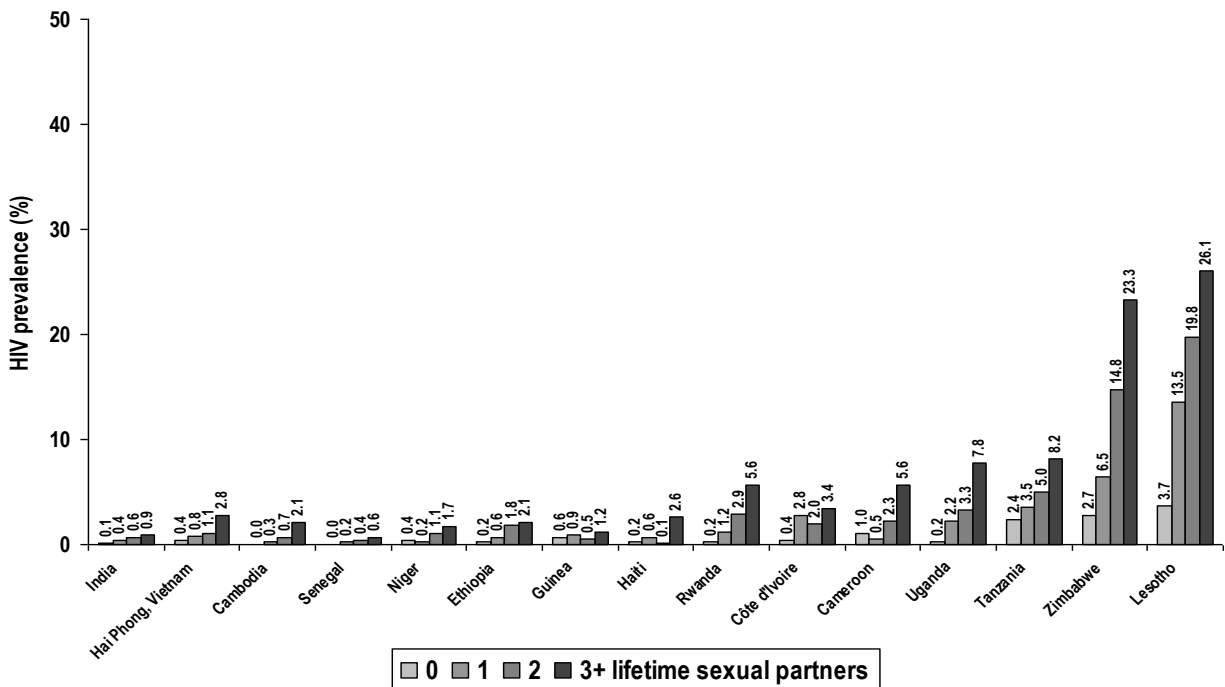


Table 7.2 – cont'd

Country/sex	# sex partner(s) in last 12 months					# sex partner(s) in lifetime					
	0	1	2+	Total	Number	0	1	2	3+	Total	Number
<b>Rwanda 2005</b>											
Male	6.5	3.4	4.6	4.1	6,892	0.6	2.4	5.6	7.1	3.0	9,988
Female	2.6	3.3	4.1	3.2	3,009	0.2	1.2	2.9	5.6	2.3	4,348
Number	1,629	5,120	140	6,892	6,892	3,100	3,848	1,602	1,430	9,988	9,988
<b>Senegal 2005</b>											
Male	1.1	0.9	0.8	0.9	5,219	n/a	n/a	n/a	n/a	n/a	n/a
Female	0.3	0.7	0.8	0.7	2,207	0.0	0.2	0.4	0.6	0.5	3,183
Number	789	3,932	474	5,219	5,219	977	479	438	1,182	3,183	3,183
<b>Tanzania 2003/04</b>											
Male	11.2	7.5	7.7	7.9	9,186	1.9	3.8	8.2	10.2	14.7	10,747
Female	6.5	7.2	6.9	7.0	4,167	2.4	3.5	5.0	8.2	13.4	4,994
Number	15.2	7.6	10.5	8.6	5,019	1.4	3.9	10.1	13.4	27.4	5,753
	999	6,859	1,328	9,186	9,186	1,560	2,724	1,950	4,414	10,747	10,747
<b>Uganda 2004/05</b>											
Male	10.3	6.7	8.9	7.5	14,242	0.5	3.6	6.9	10.4	6.4	16,827
Female	4.7	5.5	8.1	6.1	6,151	0.2	2.2	3.3	7.8	5.1	7,477
Number	14.5	7.3	13.4	8.5	8,091	0.8	4.0	8.6	14.6	7.5	9,350
	2,010	10,382	1,850	14,242	14,242	2,603	4,374	3,268	6,576	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>											
Male	0.0	0.7	0.0	0.7	1,173	0.2	0.5	1.0	2.8	0.5	1,675
Female	0.0	1.2	0.0	1.1	520	0.4	0.8	1.1	2.8	0.9	754
Number	78	1,084	11	1,173	1,173	502	1,011	93	68	1,675	1,675
<b>Zimbabwe 2005</b>											
Male	29.9	21.6	18.8	22.7	9,802	3.2	16.1	28.3	27.4	18.1	12,796
Female	14.2	20.5	15.1	18.9	4,271	2.7	6.5	14.8	23.3	14.5	5,848
Number	40.2	22.3	49.9	25.5	5,531	3.9	18.1	37.1	43.5	21.1	6,947
	1,484	7,691	614	9,802	9,802	2,994	4,381	1,982	3,359	12,796	12,796

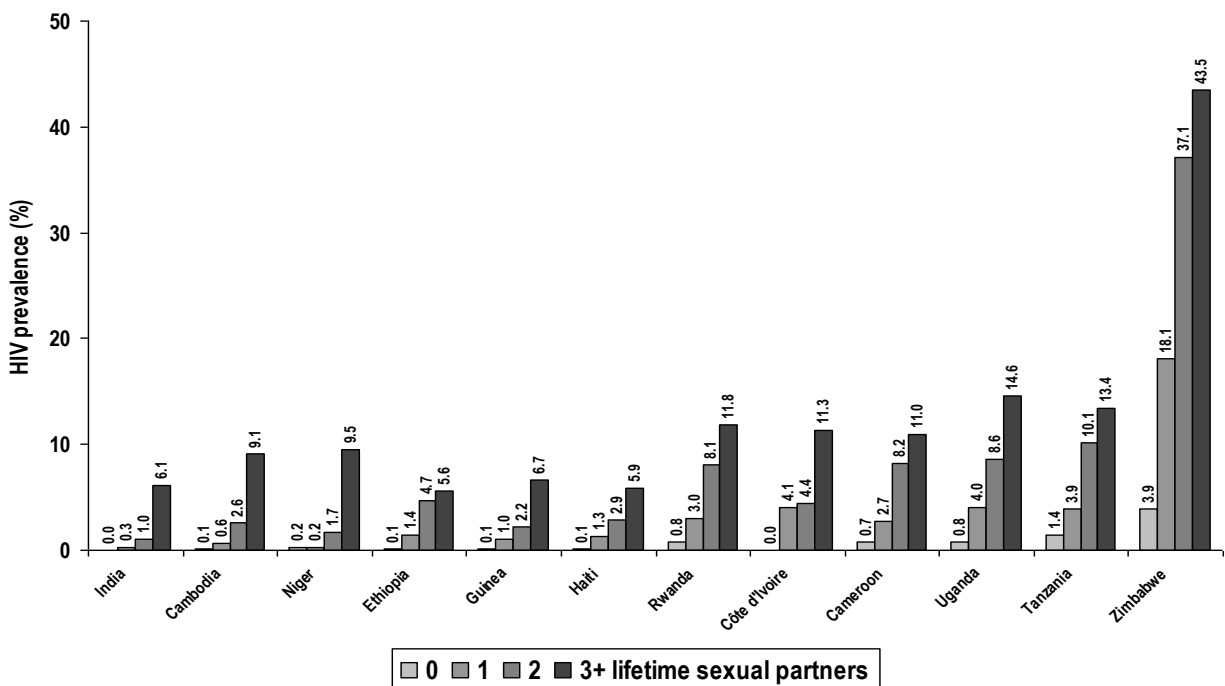
Note: Some of the HIV prevalence estimates for Hai Phong, Vietnam are based on small numbers of cases.

**Figure 7.1. HIV prevalence among tested men 15-49 by number of lifetime sexual partners**



Note: HIV prevalence estimates for 2 and 3+ lifetime partners for Hai Phong, Vietnam are based on small numbers of cases.

**Figure 7.2. HIV prevalence among tested women 15-49 by number of lifetime sexual partners**



### *Number of Sex Partners in the Past Year*

Among the 19 countries with data, there is an inconsistent pattern between number of sex partners in the past 12 months and HIV prevalence. In eight of the countries—Cambodia, Côte d’Ivoire, Ghana, Rwanda, Senegal, Tanzania, Uganda, and Zimbabwe—HIV prevalence is highest overall among respondents who had no sex partners in the past 12 months (Table 7.2). In two countries, Haiti and in the Hai Phong province of Vietnam, HIV prevalence is highest among respondents who had one sex partner in the past 12 months. In seven countries—Cameroon, Guinea, India, Kenya, Lesotho, Malawi, and Niger—HIV prevalence is highest among respondents with two or more sex partners in the past 12 months. In Burkina Faso HIV prevalence is the same for respondents who had no sex partners in the past 12 months as for those who had one partner. And in Ethiopia HIV prevalence is the same for respondents who had no partners in the past 12 months as for those who had two or more partners.

There is significant variation by respondents’ sex. In five countries—Burkina Faso, Ghana, Haiti, India and Zimbabwe—HIV prevalence for women peaks at a higher number of sex partners than for men. In contrast, in six countries—Kenya, Niger, Rwanda, Senegal, Uganda, and Tanzania—the peak HIV prevalence for men occurs at higher number of sex partners than for women. In the other eight countries the peak HIV prevalence occurs at the same number of sex partners for both men and women.

## **7.5 HIV Prevalence by Higher-risk Sex Behavior**

### *Sex with A Non-Spousal Partner*

In 15 of the 19 countries with data, HIV prevalence is higher among respondents with higher-risk sex behavior—that is, respondents who report having sex with a non-marital, non-cohabitating partner in the past 12 months (Table 7.3). In Ghana, Malawi, and Zimbabwe HIV prevalence is slightly higher among respondents who do not report higher-risk sexual behavior in the past 12 months, although in each of these three countries the difference between those who do or do not report a higher-risk sex partner is less than 1 percent. Similarly, in Burkina Faso there is no difference in HIV prevalence overall by higher-risk sex behavior, although there is a difference among women.

HIV prevalence is more strongly related to higher-risk sex behavior among women than among men (Figures 7.3 and 7.4). For example, in Ethiopia HIV prevalence is 12.1 percent among women who report having a higher-risk sex partner in the past 12 months compared with 1.6 percent among those who do not report such behavior. This pattern is also observed among women in Zimbabwe (39.2 percent vs. 20.3 percent), Cambodia (6.2 percent vs. 0.6 percent), Niger (15.7 percent vs. 0.6 percent), and India (3.5 percent vs. 0.2 percent). In contrast, among men, HIV prevalence is generally similar for those who do or do not report having a higher-risk sexual partner in the past 12 months.

**Table 7.3. HIV prevalence among women and men age 15-49, by higher risk sexual behavior among those who had sex in past 12 months before the survey**

Country/sex	Had sex with a non-spousal partner(s) in last 12 months		Paid (men) or received gift/money/favor (women) in exchange for sex		Total	Number
	No	Yes	No	Yes		
<b>Burkina Faso 2003</b>	<b>2.1</b>	<b>2.1</b>	<b>n/a</b>	<b>n/a</b>	<b>2.1</b>	<b>4,496</b>
Male	2.8	1.0	n/a	n/a	2.1	1,902
Female	1.8	4.8	n/a	n/a	2.1	2,594
Number	3,465	1,030	n/a	n/a	4,496	4,496
<b>Cambodia 2005</b>	<b>0.6</b>	<b>1.8</b>	<b>n/a</b>	<b>n/a</b>	<b>0.7</b>	<b>9,025</b>
Male	0.7	1.5	0.7	8.9	0.8	4,238
Female	0.6	6.2	n/a	n/a	0.6	4,787
Number	8,408	602	3,829	26	9,025	9,025
<b>Cameroon 2004</b>	<b>5.3</b>	<b>7.2</b>	<b>n/a</b>	<b>n/a</b>	<b>6.2</b>	<b>7,408</b>
Male	4.1	5.6	4.8	10.8	5.0	3,514
Female	5.9	10.4	n/a	n/a	7.2	3,893
Number	4,095	3,312	3,374	141	7,408	7,408
<b>Côte d'Ivoire 2005</b>	<b>4.5</b>	<b>5.1</b>	<b>n/a</b>	<b>n/a</b>	<b>4.8</b>	<b>6,650</b>
Male	2.6	3.4	3.2	0.5	3.1	3,139
Female	5.5	7.7	n/a	n/a	6.3	3,510
Number	3,531	3,106	3,039	101	6,650	6,650
<b>Ethiopia 2005</b>	<b>1.5</b>	<b>5.1</b>	<b>n/a</b>	<b>n/a</b>	<b>1.7</b>	<b>6,504</b>
Male	1.3	1.7	1.3	0.5	1.3	2,778
Female	1.6	12.1	n/a	n/a	1.9	3,726
Number	6,175	329	2,759	25	6,504	6,504
<b>Ghana 2003</b>	<b>2.8</b>	<b>2.3</b>	<b>n/a</b>	<b>n/a</b>	<b>2.6</b>	<b>6,027</b>
Male	2.4	1.2	1.7	4.0	1.9	2,562
Female	3.0	3.8	n/a	n/a	3.1	3,465
Number	4,361	1,667	2,342	222	6,027	6,027
<b>Guinea 2005</b>	<b>1.5</b>	<b>2.3</b>	<b>n/a</b>	<b>n/a</b>	<b>1.7</b>	<b>4,407</b>
Male	1.1	1.1	1.1	3.9	1.1	1,905
Female	1.6	5.5	n/a	n/a	2.2	2,502
Number	2,970	1,416	1,880	24	4,407	4,407
<b>Haiti 2005</b>	<b>2.5</b>	<b>2.8</b>	<b>n/a</b>	<b>n/a</b>	<b>2.7</b>	<b>6,886</b>
Male	2.7	2.3	2.2	6.8	2.4	3,323
Female	2.5	3.5	n/a	n/a	3.0	3,563
Number	2,621	4,256	3,205	118	6,886	6,886
<b>India 2005/06</b>	<b>0.3</b>	<b>0.6</b>	<b>n/a</b>	<b>n/a</b>	<b>0.3</b>	<b>68,048</b>
Male	0.4	0.4	0.4	0.4	0.4	29,747
Female	0.2	3.5	n/a	n/a	0.2	38,301
Number	66,170	1,733	29,591	155	68,048	68,048
<b>Kenya 2003</b>	<b>7.7</b>	<b>8.8</b>	<b>n/a</b>	<b>n/a</b>	<b>8.0</b>	<b>4,251</b>
Male	6.7	4.7	5.6	7.0	5.9	2,025
Female	8.3	17.2	n/a	n/a	9.9	2,225
Number	3,046	1,204	1,687	339	4,251	4,251

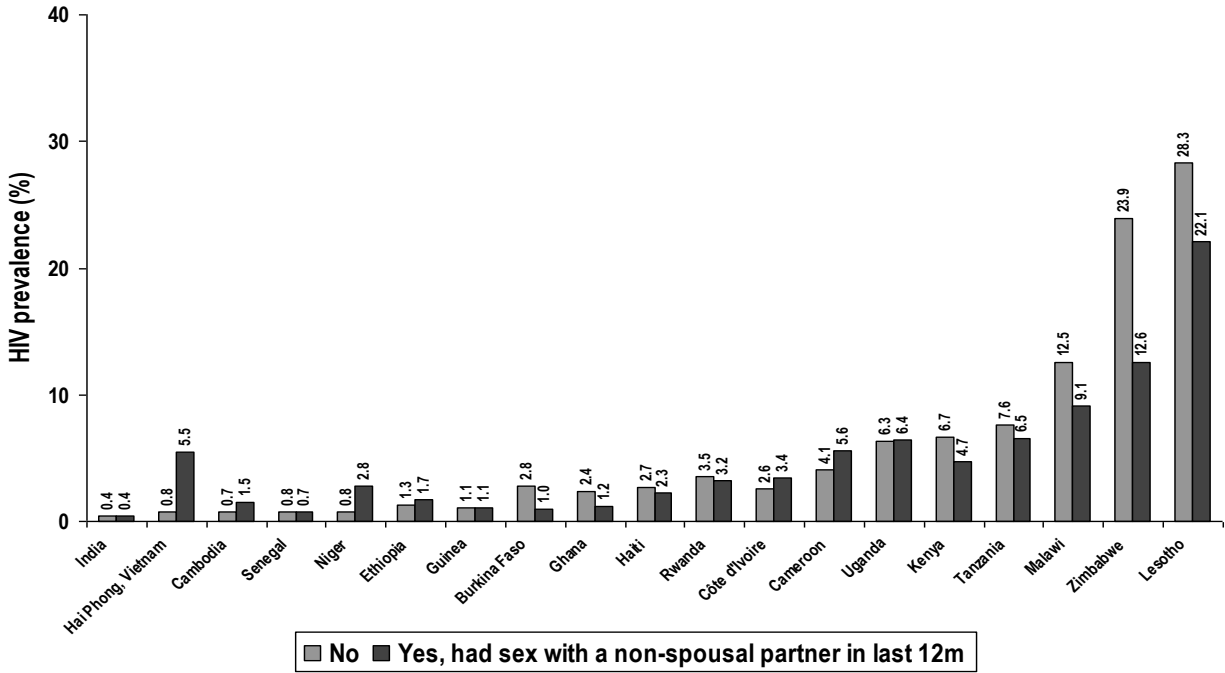
(Cont'd)

Table 7.3 – cont'd

Country/sex	Had sex with a non-spousal partner(s) in last 12 months		Paid (men) or received gift/money/ favor (women) in exchange for sex		Total	Number
	No	Yes	No	Yes		
<b>Lesotho 2004/05</b>	<b>27.6</b>	<b>29.3</b>	<b>n/a</b>	<b>n/a</b>	<b>28.4</b>	<b>3,539</b>
Male	28.3	22.1	22.9	41.7	24.3	1,409
Female	27.3	37.7	n/a	n/a	31.1	2,130
Number	1,840	1,699	1,312	99	3,539	3,539
<b>Malawi 2004</b>	<b>12.7</b>	<b>12.4</b>	<b>n/a</b>	<b>n/a</b>	<b>12.6</b>	<b>4,111</b>
Male	12.5	9.1	10.7	15.1	11.6	1,958
Female	12.8	21.9	n/a	n/a	13.6	2,153
Number	3,450	659	1,528	430	4,111	4,111
<b>Niger 2006</b>	<b>0.7</b>	<b>5.1</b>	<b>n/a</b>	<b>n/a</b>	<b>0.8</b>	<b>5,566</b>
Male	0.8	2.8	0.9	3.3	1.0	1,907
Female	0.6	15.7	n/a	n/a	0.7	3,659
Number	5,338	193	1,875	32	5,566	5,566
<b>Rwanda 2005</b>	<b>3.2</b>	<b>5.4</b>	<b>n/a</b>	<b>n/a</b>	<b>3.4</b>	<b>5,263</b>
Male	3.5	3.2	3.3	7.7	3.4	2,362
Female	3.0	8.3	n/a	n/a	3.5	2,901
Number	4,632	573	2,331	31	5,263	5,263
<b>Senegal 2005</b>	<b>0.8</b>	<b>1.2</b>	<b>n/a</b>	<b>n/a</b>	<b>0.9</b>	<b>4,430</b>
Male	0.8	0.7	0.7	0.0	0.7	1,820
Female	0.8	3.4	n/a	n/a	1.0	2,611
Number	3,418	982	1,792	28	4,430	4,430
<b>Tanzania 2003/04</b>	<b>7.1</b>	<b>8.3</b>	<b>n/a</b>	<b>n/a</b>	<b>7.5</b>	<b>8,188</b>
Male	7.6	6.5	7.1	7.3	7.1	3,711
Female	6.8	11.3	n/a	n/a	7.8	4,477
Number	5,386	2,801	3,636	75	8,188	8,188
<b>Uganda 2004/05</b>	<b>6.2</b>	<b>9.6</b>	<b>7.0</b>	<b>10.6</b>	<b>7.0</b>	<b>12,232</b>
Male	6.3	6.4	6.3	10.5	6.3	5,289
Female	6.1	15.4	7.6	11.4	7.6	6,943
Number	9,203	3,003	12,142	91	12,232	12,232
<b>Hai Phong, Vietnam 2005</b>	<b>0.6</b>	<b>5.0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.7</b>	<b>1,095</b>
Male	0.8	5.5	n/a	n/a	1.2	499
Female	0.3	0.0	n/a	n/a	0.3	595
Number	1,057	38	n/a	n/a	1,095	1,095
<b>Zimbabwe 2005</b>	<b>21.6</b>	<b>20.7</b>	<b>n/a</b>	<b>n/a</b>	<b>21.4</b>	<b>8,317</b>
Male	23.9	12.6	20.1	9.6	19.7	3,685
Female	20.3	39.2	n/a	n/a	22.7	4,633
Number	6,348	1,963	3,545	140	8,317	8,317

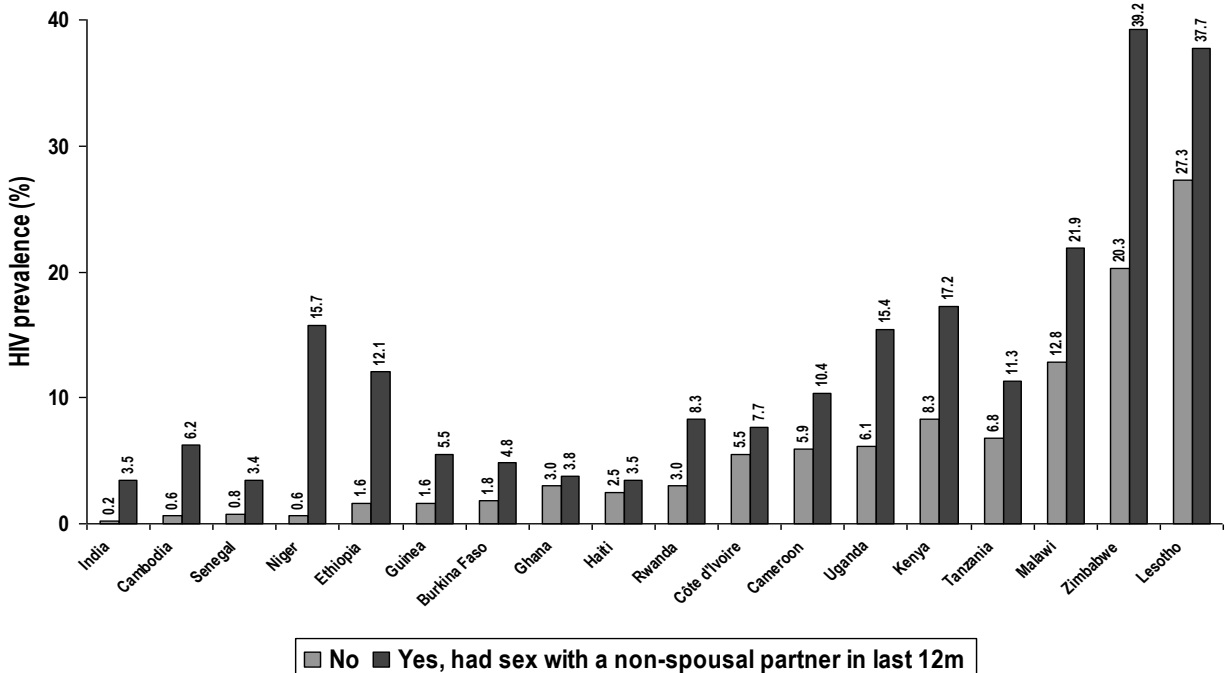
Note: Several of the HIV prevalence estimates for 'paid sex' are based on small numbers of cases. Also, the estimates for 'sex with a non-spousal partner' for Hai Phong, Vietnam are based on small numbers of cases.

**Figure 7.3. HIV prevalence among tested men 15-49 by sex with a non-spousal partner in last 12 months**



Note: HIV prevalence estimate for sex with a non-spousal partner for Hai Phong, Vietnam is based on a small number of cases.

**Figure 7.4. HIV prevalence among tested women 15-49 by sex with a non-spousal partner in last 12 months**



## *Transactional Sex*

Data are available for men for 17 countries on HIV prevalence by respondents' experience with transactional sex in the past 12 months—that is, sex in exchange for money paid. In 12 of the 17 countries, HIV prevalence is higher among men who engaged in transactional sex in the past 12 months than those who did not (Table 7.3). For the most part, in these 12 countries the difference in HIV prevalence between the two groups is considerable. In 4 of the 17 countries—Côte d'Ivoire, Ethiopia, Senegal, and Zimbabwe—HIV prevalence is higher among men who did not engage in transactional sex in the past 12 months. In Senegal and Ethiopia the differences in HIV prevalence between the two groups are minimal. In Côte d'Ivoire and Zimbabwe, however, HIV prevalence is considerably higher among men who did not engage in transactional sex in the past 12 months (Côte d'Ivoire: 3.2 percent vs. 0.5 percent; Zimbabwe: 20.1 percent vs. 9.6 percent). In India there is no difference in HIV prevalence by this measure.

Data on transactional sex are available for women only for Uganda, where the measure is sex in exchange for gifts, money, or favors received. By this measure, HIV prevalence is higher among women who had transactional sex in the past 12 months, at 11.4 percent, compared with 7.6 percent among women who did not have sex in exchange for gifts, money, or favors.

## **7.6 HIV Prevalence by Alcohol Consumption**

The influence of alcohol can impair judgment and increase risky sexual behavior, and ultimately increase HIV prevalence. To determine the effect of alcohol use on HIV prevalence, surveys ask if respondents consumed alcohol in the last three months. In addition, the surveys ask respondents who had sex in the 12 months preceding the survey if, for each partner, they or their partner drank alcohol the last time they had sex.

Data for HIV prevalence by alcohol consumption in the last three months are available only for four countries—Burkina Faso, India, Kenya, and Lesotho (Table 7.4). For Burkina Faso and India there is almost no difference in HIV prevalence by whether or not respondents consumed alcohol in the past three months (Burkina Faso: 1.8 percent vs. 1.9 percent; India: 0.3 percent vs. 0.4 percent). This is true for both men and women. For Kenya and Lesotho, respondents who consumed alcohol in the past three months have higher HIV prevalence than those who did not consume alcohol. This is true for both men and women but is especially for women. For example, in Kenya, HIV prevalence among women who drank alcohol in the past three months is 17.5 percent compared with 8.2 percent among non-drinkers. In Lesotho HIV prevalence among women who drank alcohol in the past three months is 32.2 percent compared with 25.4 percent among non-drinkers.

Data are available for 13 countries on alcohol use at last sex. For all but one country, alcohol use by either or both partners is associated with higher HIV prevalence. For many of these countries, the difference in HIV prevalence between people who drank at last sex and those who did not is pronounced. This is true especially for women. For example, in Zimbabwe, HIV prevalence among women who report that both partners drank alcohol at last sex is 75.5 percent compared with 22.1 percent among women who report that neither partner drank alcohol.

The only exception to the association of higher HIV prevalence with alcohol use is Haiti, where HIV prevalence is slightly higher among men who did not drink alcohol at last sex. Among women in Haiti, however, HIV prevalence is higher among those who drank alcohol at last sex than for those who did not (4.4 percent vs. 2.9 percent).

**Table 7.4. HIV prevalence among women and men age 15-49, by alcohol consumption in last 3 months, and by alcohol consumption before last sex (among those who had sex in last 12 months)**

Country/sex	Used alcohol in last 3 months			Used alcohol last time had sex			Total	Number
	No	Yes	Number	No	Either partner	Both partners		
<b>Burkina Faso 2003</b>	<b>1.9</b>	<b>1.8</b>	<b>7,151</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Male	2.0	1.6	3,065	n/a	n/a	n/a	n/a	n/a
Female	1.8	2.0	4,086	n/a	n/a	n/a	n/a	n/a
Number	5,057	2,087	7,151	n/a	n/a	n/a	n/a	n/a
<b>Cameroon 2004</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>5.9</b>	<b>6.7</b>	<b>8.1</b>	<b>6.2</b>	<b>7,408</b>
Male	n/a	n/a	n/a	4.8	5.4	6.4	5.0	3,514
Female	n/a	n/a	n/a	6.8	8.3	10.1	7.2	3,893
Number	n/a	n/a	n/a	5,815	1,104	488	7,408	7,408
<b>Ethiopia 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>1.5</b>	<b>7.0</b>	<b>0.0</b>	<b>1.7</b>	<b>6,504</b>
Male	n/a	n/a	n/a	1.2	16.1	0.0	1.3	2,778
Female	n/a	n/a	n/a	1.8	4.4	0.0	1.9	3,726
Number	n/a	n/a	n/a	6,343	148	13	6,504	6,504
<b>Ghana 2003</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>2.6</b>	<b>2.7</b>	<b>1.8</b>	<b>2.6</b>	<b>6,028</b>
Male	n/a	n/a	n/a	1.9	2.5	0.0	1.9	2,561
Female	n/a	n/a	n/a	3.2	3.0	2.8	3.1	3,466
Number	n/a	n/a	n/a	5,307	633	88	6,028	6,028
<b>Guinea 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>1.6</b>	<b>4.1</b>	<b>8.1</b>	<b>1.7</b>	<b>4,388</b>
Male	n/a	n/a	n/a	1.0	2.4	0.0	1.1	1,897
Female	n/a	n/a	n/a	2.1	6.3	12.7	2.2	2,491
Number	n/a	n/a	n/a	4,250	99	16	4,388	4,388
<b>Haiti 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>2.7</b>	<b>2.2</b>	<b>2.2</b>	<b>2.7</b>	<b>6,880</b>
Male	n/a	n/a	n/a	2.5	1.0	1.0	2.4	3,318
Female	n/a	n/a	n/a	2.9	4.4	4.4	3.0	3,562
Number	n/a	n/a	n/a	6,536	331	331	6,880	6,880
<b>India 2005/06</b>	<b>0.3</b>	<b>0.4</b>	<b>99,838</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Male	0.3	0.4	46,506	n/a	n/a	n/a	n/a	n/a
Female	0.2	0.3	53,332	n/a	n/a	n/a	n/a	n/a
Number	83,521	16,311	99,838	n/a	n/a	n/a	n/a	n/a
<b>Kenya 2003*</b>	<b>6.5</b>	<b>8.1</b>	<b>6,001</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Male	3.8	6.3	2,851	n/a	n/a	n/a	n/a	n/a
Female	8.2	17.5	3,151	n/a	n/a	n/a	n/a	n/a
Number	5,018	984	6,001	n/a	n/a	n/a	n/a	n/a
<b>Lesotho 2004/05</b>	<b>22.1</b>	<b>28.1</b>	<b>5,019</b>	<b>22.4</b>	<b>35.1</b>	<b>35.1</b>	<b>23.5</b>	<b>5,019</b>
Male	15.0	25.8	2,001	17.9	31.7	31.7	19.2	2,001
Female	25.4	32.2	3,018	25.3	37.4	37.4	26.4	3,018
Number	3,800	1,218	5,019	4,560	457	457	5,019	5,019

(Cont'd)



Table 7.4 – cont'd

Country/sex	Used alcohol in last 3 months			Used alcohol last time had sex				Number
	No	Yes	Number	No	Either partner	Both partners	Total	
<b>Niger 2006</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.8</b>	<b>11.1</b>		<b>0.8</b>	<b>5,538</b>
Male	n/a	n/a	n/a	1.0	0.0		1.0	1,891
Female	n/a	n/a	n/a	0.7	27.5		0.7	3,647
Number	n/a	n/a	n/a	5,510	13		5,538	5,538
<b>Rwanda 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>3.5</b>	<b>4.0</b>	<b>1.9</b>	<b>3.4</b>	<b>5,260</b>
Male	n/a	n/a	n/a	3.4	4.5	0.0	3.4	2,359
Female	n/a	n/a	n/a	3.5	3.6	8.4	3.5	2,901
Number	n/a	n/a	n/a	4,714	413	45	5,260	5,260
<b>Senegal 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.8</b>	<b>13.3</b>	<b>0.0</b>	<b>0.9</b>	<b>4,406</b>
Male	n/a	n/a	n/a	0.6	12.3	0.0	0.7	1,810
Female	n/a	n/a	n/a	0.9	14.8	0.0	1.0	2,596
Number	n/a	n/a	n/a	4,355	44	6	4,406	4,406
<b>Tanzania 2003/04</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>7.0</b>	<b>10.1</b>	<b>12.2</b>	<b>7.5</b>	<b>8,188</b>
Male	n/a	n/a	n/a	6.7	9.3	13.8	7.1	3,711
Female	n/a	n/a	n/a	7.3	10.5	11.0	7.8	4,477
Number	n/a	n/a	n/a	7,023	868	296	8,188	8,188
<b>Uganda 2004/05</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>6.8</b>	<b>7.6</b>	<b>7.5</b>	<b>7.0</b>	<b>12,206</b>
Male	n/a	n/a	n/a	5.8	7.6	7.3	6.3	5,269
Female	n/a	n/a	n/a	7.5	7.7	7.6	7.6	6,937
Number	n/a	n/a	n/a	8,478	2,711	1,017	12,206	12,206
<b>Hai Phong, Vietnam 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.5</b>	<b>1.1</b>		<b>0.7</b>	<b>1,095</b>
Male	n/a	n/a	n/a	0.9	1.8		1.2	499
Female	n/a	n/a	n/a	0.2	0.6		0.3	595
Number	n/a	n/a	n/a	750	345		1,095	1,095
<b>Zimbabwe 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>21.1</b>	<b>22.6</b>	<b>60.0</b>	<b>21.4</b>	<b>8,306</b>
Male	n/a	n/a	n/a	19.9	18.3	33.7	19.7	3,676
Female	n/a	n/a	n/a	22.1	25.9	75.5	22.7	4,629
Number	n/a	n/a	n/a	7,460	789	35	8,306	8,306

\* In Kenya the information was collected for last month only

Note: Several of the HIV prevalence estimates for 'alcohol use at last sex' are based on small numbers of cases.



## 8 HIV Prevalence among Youth by Sexual Behavior

### 8.1 Key Findings

- ❖ In most countries, youth age 15-24 who were under age 18 at their first sexual encounter have higher rates of HIV prevalence. This is true for both young men and young women.
- ❖ HIV prevalence among youth age 15-24 who have never had sex (primary abstinence) is low, ranging from 0.1 percent in Cote d'Ivoire, Cambodia, Ghana, Haiti, and India to 3.8 percent in Lesotho.
- ❖ Similarly, HIV prevalence among youth age 15-24 reporting no sexual encounters in the past 12 months (secondary abstinence) is generally low (less than 1 percent), except in Lesotho, where 6.2 percent of youth are HIV-infected.

### 8.2 Introduction

UNAIDS estimates that 6,800 new HIV infections occur globally each day (UNAIDS, 2008). Forty-five percent of these infections are among youth age 15-24. This chapter presents HIV prevalence data among youth age 15-24 by respondents' sex, urban/rural residence, age at sexual initiation, primary abstinence (never had sex), and secondary abstinence (had sex but not in last 12 months).

### 8.3 HIV Prevalence among Youth by Sex and Urban/Rural Residence

For 13 of the 22 countries studied, HIV prevalence among youth is higher in urban areas than in rural areas. In five countries, however—Cambodia, Guinea, India, Senegal, and in the Hai Phong province of Vietnam—HIV prevalence is the same in both urban and rural areas. In the Dominican Republic, Ghana, Mali, and Niger, HIV prevalence is higher in rural areas than in urban areas.

**Table 8.1. HIV prevalence among women and men age 15-24, by urban/rural residence**

Country/sex	Residence			Number
	Urban	Rural	Total	
<b>Burkina Faso 2003</b>	<b>1.8</b>	<b>0.7</b>	<b>1.0</b>	<b>3,067</b>
Male	1.0	0.5	0.7	1,380
Female	2.3	0.9	1.3	1,687
Number	849	2,218	3,067	3,067
<b>Cambodia 2005</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>5,997</b>
Male	0.0	0.2	0.1	2,856
Female	0.4	0.3	0.3	3,140
Number	1,149	4,848	5,997	5,997
<b>Cameroon 2004</b>	<b>3.5</b>	<b>2.5</b>	<b>3.1</b>	<b>4,466</b>
Male	1.4	1.5	1.5	2,105
Female	5.4	3.4	4.6	2,362
Number	2,668	1,799	4,466	4,466

(Cont'd)

Table 8.1 – cont'd

Country/sex	Residence			Number
	Urban	Rural	Total	
<b>Côte d'Ivoire 2005</b>	<b>1.9</b>	<b>0.9</b>	<b>1.4</b>	<b>3,750</b>
Male	0.4	0.2	0.3	1,706
Female	3.1	1.6	2.4	2,044
Number	1,874	1,875	3,750	3,750
<b>Dominican Republic 2002</b>	<b>0.5</b>	<b>0.8</b>	<b>0.6</b>	<b>8,125</b>
Male	0.2	0.9	0.4	4,230
Female	0.8	0.7	0.8	3,895
Number	5,445	2,680	8,125	8,125
<b>Ethiopia 2005</b>	<b>2.1</b>	<b>0.4</b>	<b>0.7</b>	<b>4,525</b>
Male	0.3	0.2	0.2	2,104
Female	3.3	0.6	1.1	2,422
Number	863	3,662	4,525	4,525
<b>Ghana 2003</b>	<b>0.6</b>	<b>0.8</b>	<b>0.7</b>	<b>3,598</b>
Male	0.2	0.0	0.1	1,651
Female	0.9	1.5	1.2	1,946
Number	1,858	1,740	3,598	3,598
<b>Guinea 2005</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>2,440</b>
Male	0.0	1.2	0.6	1,101
Female	1.9	0.7	1.2	1,339
Number	1,102	1,338	2,440	2,440
<b>Haiti 2005</b>	<b>1.5</b>	<b>0.7</b>	<b>1.0</b>	<b>4,389</b>
Male	0.8	0.4	0.6	2,069
Female	2.0	1.0	1.5	2,320
Number	2,115	2,274	4,389	4,389
<b>India 2005/06</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>36,764</b>
Male	0.1	0.1	0.1	16,488
Female	0.2	0.1	0.1	20,276
Number	12,406	24,358	36,764	36,764
<b>Kenya 2003</b>	<b>5.3</b>	<b>3.1</b>	<b>3.6</b>	<b>2,679</b>
Male	2.6	0.8	1.2	1,311
Female	7.6	5.3	5.9	1,369
Number	649	2,030	2,679	2,679
<b>Lesotho 2004/05</b>	<b>15.1</b>	<b>10.5</b>	<b>11.4</b>	<b>2,356</b>
Male	4.7	6.3	6.0	1,021
Female	21.4	14.0	15.5	1,335
Number	428	1,928	2,356	2,356
<b>Malawi 2004</b>	<b>7.2</b>	<b>5.8</b>	<b>6.0</b>	<b>2,071</b>
Male	0.3	2.5	2.1	910
Female	13.3	8.2	9.1	1,161
Number	872	4,279	2,071	2,071

(Cont'd)

Table 8.1 – cont'd

Country/sex	Residence			Number
	Urban	Rural	Total	
<b>Mali 2001</b>	<b>0.7</b>	<b>1.1</b>	<b>0.9</b>	<b>2,545</b>
Male	0.6	0.1	0.3	994
Female	0.8	1.6	1.3	1,545
Number	945	1,600	2,545	2,545
<b>Niger 2006</b>	<b>0.3</b>	<b>0.5</b>	<b>0.4</b>	<b>2,675</b>
Male	0.0	0.4	0.3	1,042
Female	0.5	0.5	0.5	1,633
Number	736	1,939	2,675	2,675
<b>Rwanda 2005</b>	<b>2.8</b>	<b>0.6</b>	<b>1.0</b>	<b>4,476</b>
Male	1.1	0.2	0.4	2,019
Female	4.1	1.0	1.5	2,456
Number	781	3,694	4,476	4,476
<b>Senegal 2005</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>3,371</b>
Male	0.0	0.2	0.1	1,520
Female	0.5	0.4	0.5	1,851
Number	1,887	1,484	3,371	3,371
<b>Tanzania 2003/04</b>	<b>5.5</b>	<b>2.6</b>	<b>3.5</b>	<b>4,472</b>
Male	5.6	1.8	3.0	2,084
Female	5.5	3.2	4.0	2,388
Number	1,486	2,986	4,472	4,472
<b>Uganda 2004/05</b>	<b>4.8</b>	<b>2.5</b>	<b>2.9</b>	<b>6,944</b>
Male	1.8	0.9	1.1	3,097
Female	6.9	3.8	4.3	3,847
Number	1,200	5,744	6,944	6,944
<b>Hai Phong, Vietnam 2005</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>577</b>
Male	1.3	0.6	0.8	258
Female	0.0	0.0	0.0	318
Number	577	381	577	577
<b>Zambia 2001/02</b>	<b>10.5</b>	<b>5.8</b>	<b>7.8</b>	<b>1,615</b>
Male	3.7	2.6	3.1	675
Female	15.2	8.2	11.2	940
Number	1,615	945	1,615	1,615
<b>Zimbabwe 2005</b>	<b>8.0</b>	<b>7.6</b>	<b>7.8</b>	<b>6,139</b>
Male	4.4	4.1	4.2	2,939
Female	11.2	10.9	11.0	3,200
Number	2,439	3,700	6,139	6,139

For the most part, the differences in HIV prevalence between urban and rural areas are fairly small. In Burkina Faso, Côte d'Ivoire, Haiti, and Tanzania, however, HIV prevalence among youth is twice as high in urban areas as in rural areas. In Ethiopia and Rwanda HIV prevalence is five times greater in urban areas than in rural areas. In Ethiopia this difference is driven by urban-rural differences in HIV prevalence among young women: Among Ethiopian young women, HIV prevalence is 5.5 times higher in urban than rural areas compared with 1.5 times higher among young men.

For most countries, the urban-rural patterns of HIV prevalence are similar for both men and women age 15-24. However, in the Dominican Republic and Malawi, they differ. Among Dominican young men, HIV prevalence is higher in rural than urban areas, while among young women, prevalence is slightly higher in urban than rural areas. Malawi follows the same pattern: HIV prevalence for rural young men is 2.5 percent compared with 0.3 percent among urban young men, while prevalence for young women is 13.3 percent in urban areas compared with 8.2 percent in rural areas.

#### 8.4 HIV Prevalence among Youth by Age at First Sexual Intercourse

Considering HIV prevalence among youth by age at sexual debut, findings differ for youth age 15-19 and for youth age 20-24. Data among youth age 15-19 present a mixed picture of the association between age at first sexual intercourse and HIV prevalence (Table 8.2). In 8 of the 19 countries with data—Burkina Faso, Cambodia, Ethiopia, Guinea, India, Lesotho, Rwanda, and Zimbabwe—HIV prevalence is higher among youth who were age 15 or older at first sex. However, in 9 of the 19 countries—Cameroon, Côte d'Ivoire, Ghana, Haiti, Kenya, Malawi, Senegal, Tanzania, and Uganda—HIV prevalence is higher among youth who were under age 15 at sexual debut. In Niger and in the Hai Phong province of Vietnam, none of the youth age 15-19 tested positive for the HIV virus. In general, girls who first had sex before age 15 have higher HIV prevalence, while for boys higher HIV prevalence occurs among those whose sexual debut occurred at age 15 or older.

**Table 8.2. HIV prevalence among women and men age 15-24, by age at first sexual intercourse**

Country/sex	Youth age 15-19			Youth age 20-24		
	1st sex at age < 15	1st sex at age 15 +	Number	1st sex at age < 18	1st sex at age 18 +	Number
<b>Burkina Faso 2003</b>	<b>0.7</b>	<b>0.8</b>	<b>1,819</b>	<b>1.5</b>	<b>1.1</b>	<b>1,248</b>
Male	0.0	0.7	862	0.8	0.5	518
Female	1.3	0.9	957	1.8	1.8	731
Number	96	1,723	1,819	639	609	1,248
<b>Cambodia 2005</b>	<b>0.0</b>	<b>0.1</b>	<b>3,298</b>	<b>0.2</b>	<b>0.6</b>	<b>2,698</b>
Male	0.1	0.0	1,641	0.0	0.4	1,215
Female	0.0	0.2	1,657	0.4	0.8	1,483
Number	2,999	299	3,298	1,147	1,551	2,698
<b>Cameroon 2004</b>	<b>2.3</b>	<b>1.2</b>	<b>2,477</b>	<b>6.6</b>	<b>3.1</b>	<b>1,990</b>
Male	0.0	0.7	1,198	3.5	1.6	906
Female	3.7	1.8	1,278	8.5	5.1	1,084
Number	387	2,090	2,477	1,206	784	1,990
<b>Côte d'Ivoire 2005</b>	<b>0.8</b>	<b>0.2</b>	<b>1,872</b>	<b>2.6</b>	<b>2.3</b>	<b>1,878</b>
Male	0.0	0.3	807	0.0	0.6	899
Female	1.3	0.2	1,065	4.4	4.7	979
Number	363	1,509	1,872	1,179	699	1,878

(Cont'd)

Table 8.2 – cont'd

Country/sex	Youth age 15-19			Youth age 20-24		
	1st sex at age < 15	1st sex at age 15 +	Number	1st sex at age < 18	1st sex at age 18 +	Number
<b>Ethiopia 2005</b>	<b>0.0</b>	<b>0.5</b>	<b>2,572</b>	<b>1.7</b>	<b>0.8</b>	<b>1,954</b>
Male	0.0	0.1	1,175	0.2	0.4	929
Female	0.0	0.8	1,397	2.1	1.4	1,025
Number	161	2,411	2,572	626	1,328	1,954
<b>Ghana 2003</b>	<b>2.7</b>	<b>0.2</b>	<b>2,070</b>	<b>1.3</b>	<b>1.1</b>	<b>1,528</b>
Male	0.0	0.2	1,035	0.0	0.0	616
Female	4.3	0.2	1,035	1.8	2.0	912
Number	118	1,952	2,070	548	980	1,528
<b>Guinea 2005</b>	<b>0.5</b>	<b>1.2</b>	<b>1,416</b>	<b>1.3</b>	<b>0.8</b>	<b>1,007</b>
Male	0.5	0.5	640	1.1	0.0	455
Female	0.4	1.7	776	1.4	2.2	552
Number	897	519	1,416	761	246	1,007
<b>Haiti 2005</b>	<b>0.6</b>	<b>0.2</b>	<b>2,505</b>	<b>1.9</b>	<b>1.1</b>	<b>1,869</b>
Male	0.1	0.2	1,185	1.2	0.6	870
Female	1.1	0.1	1,320	2.6	1.4	999
Number	1,928	577	2,505	1,451	418	1,869
<b>India 2005/06</b>	<b>0.0</b>	<b>0.1</b>	<b>19,360</b>	<b>0.2</b>	<b>0.2</b>	<b>17,393</b>
Male	0.0	0.0	8,662	0.2	0.2	7,823
Female	0.1	0.1	10,698	0.2	0.1	9,571
Number	16,382	2,978	19,360	11,822	5,572	17,393
<b>Kenya 2003</b>	<b>2.3</b>	<b>1.4</b>	<b>1,456</b>	<b>7.5</b>	<b>4.1</b>	<b>1,224</b>
Male	0.0	0.5	745	2.6	2.0	566
Female	7.1	2.2	711	13.2	5.4	658
Number	347	1,109	1,456	662	561	1,224
<b>Lesotho 2004/05</b>	<b>4.5</b>	<b>5.5</b>	<b>1,338</b>	<b>21.7</b>	<b>17.5</b>	<b>1,019</b>
Male	2.0	2.4	611	11.0	11.9	410
Female	9.3	7.8	726	30.9	20.6	608
Number	168	1,169	1,338	429	589	1,019
<b>Malawi 2004</b>	<b>4.1</b>	<b>1.7</b>	<b>967</b>	<b>11.7</b>	<b>6.4</b>	<b>1,103</b>
Male	0.0	0.5	467	4.8	2.9	442
Female	9.2	2.8	500	15.7	9.3	661
Number	157	810	967	629	475	1,103
<b>Niger 2006</b>	<b>0.0</b>	<b>0.0</b>	<b>1,381</b>	<b>1.0</b>	<b>0.6</b>	<b>1,281</b>
Male	0.0	0.0	577	0.9	0.0	461
Female	0.0	0.0	804	1.0	1.2	820
Number	1,040	341	1,381	991	290	1,281
<b>Rwanda 2005</b>	<b>0.4</b>	<b>2.3</b>	<b>2,408</b>	<b>1.6</b>	<b>1.6</b>	<b>2,066</b>
Male	0.1	2.7	1,090	0.6	0.3	929
Female	0.6	2.0	1,318	2.5	2.5	1,138
Number	2,233	175	2,408	1,326	741	2,066

(Cont'd)

Table 8.2 – cont'd

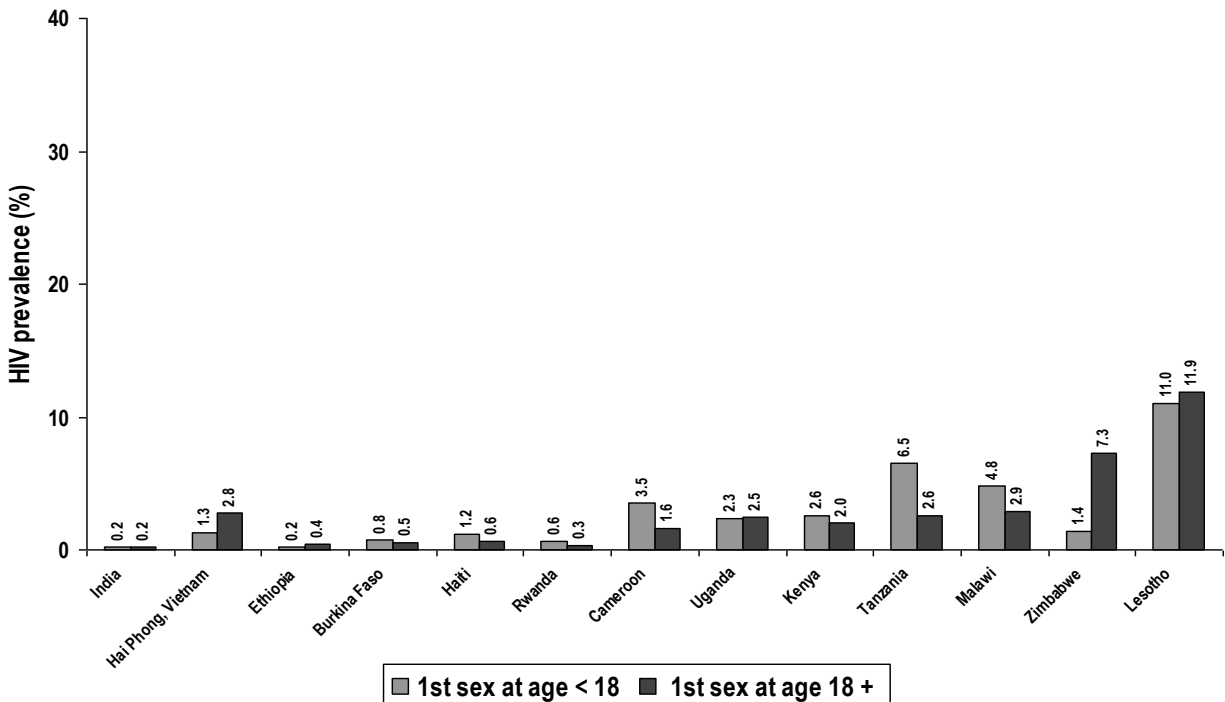
Country/sex	Youth age 15-19			Youth age 20-24		
	1st sex at age < 15	1st sex at age 15 +	Number	1st sex at age < 18	1st sex at age 18 +	Number
<b>Senegal 2005</b>	<b>0.1</b>	<b>0.0</b>	<b>1,961</b>	<b>0.6</b>	<b>0.3</b>	<b>1,403</b>
Male	0.0	0.0	906	0.0	0.7	611
Female	0.2	0.0	1,056	1.1	0.0	792
Number	1,623	338	1,961	1,009	394	1,403
<b>Tanzania 2003/04</b>	<b>3.1</b>	<b>2.0</b>	<b>2,415</b>	<b>7.1</b>	<b>3.4</b>	<b>2,056</b>
Male	2.9	2.0	1,181	6.5	2.6	903
Female	3.3	2.0	1,234	7.5	4.3	1,153
Number	267	2,148	2,415	992	1,064	2,056
<b>Uganda 2004/05</b>	<b>3.3</b>	<b>1.2</b>	<b>3,973</b>	<b>5.3</b>	<b>4.1</b>	<b>2,972</b>
Male	0.0	0.3	1,922	2.3	2.5	1,175
Female	7.4	1.9	2,051	6.6	5.7	1,797
Number	571	3,402	3,973	1,681	1,291	2,972
<b>Hai Phong, Vietnam 2005</b>	<b>0.0</b>	<b>0.0</b>	<b>324</b>	<b>0.6</b>	<b>1.1</b>	<b>253</b>
Male	0.0	0.0	148	1.3	2.8	110
Female	0.0	0.0	176	0.0	0.0	143
Number	314	10	324	157	96	253
<b>Zimbabwe 2005</b>	<b>3.0</b>	<b>8.3</b>	<b>3,370</b>	<b>3.4</b>	<b>13.7</b>	<b>2,762</b>
Male	2.9	3.4	1,690	1.4	7.3	1,244
Female	3.1	12.5	1,680	5.9	18.4	1,518
Number	2,341	1,029	3,370	550	2,211	2,762

Note: Some of the HIV prevalence estimates for Burkina Faso and Hai Phong, Vietnam are based on small numbers of cases.

Data for youth age 20-24 present a clearer picture. In majority of countries, youth age 20-24 who were under age 18 at first sex have higher HIV prevalence than those whose sexual debut occurred at age 18 or older. This is true for both young men and women (Figures 8.1 and 8.2). Only in Cambodia, the Hai Phong province of Vietnam, and Zimbabwe is HIV prevalence higher among youth who were age 18 or older at their sexual debut. In India and Rwanda there was no difference in HIV prevalence by whether the youth began sex before or after age 18.

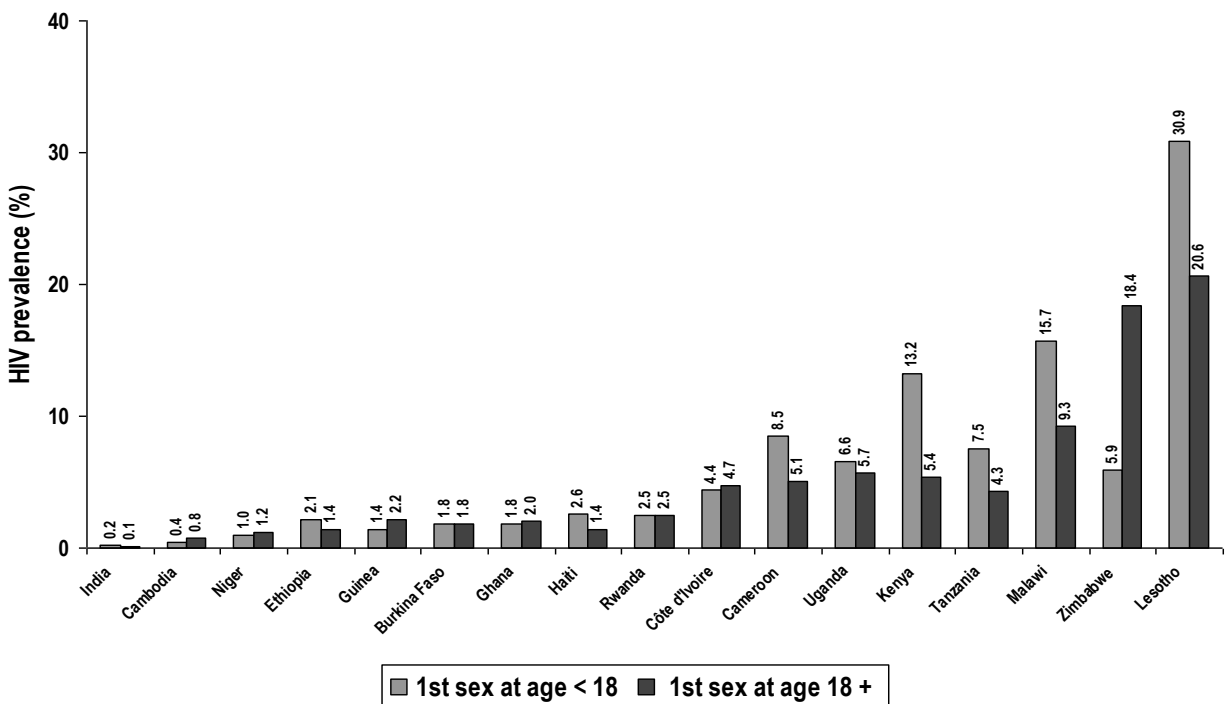


**Figure 8.1. HIV prevalence among tested men 20-24 who had first sexual intercourse before age 18**



Note: HIV prevalence estimate for sex with a non-spousal partner for Hai Phong, Vietnam is based on a small number of cases.

**Figure 8.2. HIV prevalence among tested women 20-24 who had first sexual intercourse before age 18**



## **8.5 HIV Prevalence among Youth by Primary Abstinence**

HIV prevalence is low among youth age 15-24 who have never had sex (primary abstinence), ranging from 0.1 percent in Côte d'Ivoire, Cambodia, Ghana, Haiti, and India to 3.8 percent in Lesotho, among the 19 countries with data (Table 8.3). Generally, HIV prevalence is higher among youth age 20-24 than those age 15-19, although in Burkina Faso, Côte d'Ivoire, Ghana, and Uganda, HIV prevalence is slightly higher among youth age 15-19.

In the majority of countries studied, HIV prevalence is lower for women age 15-24 who have never had sex than is the case for young men who have never had sex. In Ghana, Haiti, India, Niger, and in the Hai Phong province of Vietnam, there are no HIV cases reported among young women who have never had sex. Conversely, in Cambodia, Kenya, Lesotho, Malawi, Rwanda, Senegal, Uganda, and Zimbabwe, HIV prevalence is higher among young women who have never had sex than among young men who have never had sex.

## **8.6 HIV Prevalence by Secondary Abstinence**

HIV prevalence among sexually-experienced youth who have not had sex in the past 12 months (secondary abstinence) is generally very low, except in Lesotho where 6.2 percent of youth age 15-24 are HIV-infected (Table 8.3). For all but two countries studied, HIV prevalence among youth who report secondary abstinence is higher for those age 20-24 than for those age 15-19. In Guinea and Haiti, however, HIV prevalence is slightly higher among youth age 15-19 than age 20-24, among those reporting secondary abstinence. Generally, HIV prevalence among respondents reporting secondary abstinence is higher among young women than young men, while in Cambodia, it is the same. In contrast, in India, Tanzania, and the Hai Phong province of Vietnam, HIV prevalence is slightly higher among young men than young women reporting secondary abstinence.

**Table 8.3. HIV prevalence among women and men age 15-24, by primary abstinence (never had sex) and secondary abstinence (ever had sex, but not in last 12m)**

Country/sex	Never had sex			Number	Ever had sex, but not in last 12m			Number
	15-19	20-24	15-24		15-19	20-24	15-24	
<b>Burkina Faso 2003</b>	<b>0.8</b>	<b>0.0</b>	<b>0.7</b>	<b>1,312</b>	<b>1.1</b>	<b>1.3</b>	<b>1.2</b>	<b>309</b>
Male	1.0	0.0	0.8	754	0.0	0.0	0.0	104
Female	0.5	0.0	0.5	558	1.8	1.8	1.8	205
Number	1,144	167	1,312	1,312	91	218	309	309
<b>Cambodia 2005</b>	<b>0.0</b>	<b>0.2</b>	<b>0.1</b>	<b>4,146</b>	<b>0.0</b>	<b>0.2</b>	<b>0.1</b>	<b>4,313</b>
Male	0.1	0.0	0.0	2,071	0.1	0.2	0.1	2,161
Female	0.0	0.4	0.1	2,075	0.0	0.3	0.1	2,153
Number	2,999	1,147	4,146	4,146	3,024	1,289	4,313	4,313
<b>Cameroon 2004</b>	<b>0.8</b>	<b>1.6</b>	<b>0.9</b>	<b>1,407</b>	<b>0.8</b>	<b>3.0</b>	<b>1.3</b>	<b>1,793</b>
Male	0.8	2.5	1.0	794	0.7	2.6	1.1	955
Female	0.7	0.0	0.7	613	0.9	3.4	1.5	838
Number	1,218	189	1,407	1,407	1,393	401	1,793	1,793
<b>Côte d'Ivoire 2005</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>836</b>	<b>0.4</b>	<b>1.6</b>	<b>0.7</b>	<b>1,208</b>
Male	0.2	0.0	0.2	451	0.2	0.0	0.1	655
Female	n/a	n/a	n/a	385	0.6	3.7	1.4	554
Number	715	121	836	836	857	351	1,208	1,208
<b>Ethiopia 2005</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>2,893</b>	<b>0.1</b>	<b>0.4</b>	<b>0.2</b>	<b>3,119</b>
Male	0.1	0.3	0.2	1,616	0.1	0.3	0.2	1,715
Female	0.1	0.2	0.1	1,277	0.1	0.6	0.3	1,404
Number	2,089	804	2,893	2,893	2,156	963	3,119	3,119
<b>Ghana 2003</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>1,784</b>	<b>0.1</b>	<b>0.4</b>	<b>0.2</b>	<b>2,160</b>
Male	0.2	0.0	0.2	1,015	0.2	0.0	0.2	1,156
Female	0.0	0.0	0.0	769	0.0	0.8	0.2	1,004
Number	1,455	330	1,784	1,784	1,588	572	2,160	2,160
<b>Guinea 2005</b>	<b>0.4</b>	<b>0.5</b>	<b>0.4</b>	<b>713</b>	<b>0.6</b>	<b>0.4</b>	<b>0.6</b>	<b>1,039</b>
Male	0.7	0.0	0.6	363	0.6	0.0	0.5	471
Female	0.0	1.1	0.1	350	0.7	0.7	0.7	568
Number	626	87	713	713	767	272	1,039	1,039
<b>Haiti 2005</b>	<b>0.0</b>	<b>0.2</b>	<b>0.1</b>	<b>1,490</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>2,029</b>
Male	0.1	0.7	0.2	527	0.1	0.3	0.1	842
Female	0.0	0.0	0.0	963	0.5	0.1	0.4	1,187
Number	1,220	270	1,490	1,490	1,536	493	2,029	2,029
<b>India 2005/06</b>	<b>0.0</b>	<b>0.1</b>	<b>0.1</b>	<b>21,976</b>	<b>0.0</b>	<b>0.2</b>	<b>0.1</b>	<b>23,157</b>
Male	0.0	0.2	0.1	12,026	0.0	0.2	0.1	12,773
Female	0.0	0.0	0.0	9,950	0.0	0.0	0.0	10,384
Number	15,296	6,680	21,976	21,976	15,698	7,459	23,157	23,157
<b>Kenya 2003</b>	<b>1.3</b>	<b>1.6</b>	<b>1.3</b>	<b>929</b>	<b>1.1</b>	<b>2.2</b>	<b>1.4</b>	<b>1,341</b>
Male	0.7	2.3	1.0	434	0.5	1.3	0.7	692
Female	1.7	1.1	1.6	495	1.8	3.1	2.1	649
Number	769	160	929	929	981	360	1,341	1,341

(Cont'd)

Table 8.3 – cont'd

Country/sex	Never had sex			Number	Ever had sex, but not in last 12m			Number
	15-19	20-24	15-24		15-19	20-24	15-24	
<b>Kenya 2003</b>	<b>1.3</b>	<b>1.6</b>	<b>1.3</b>	<b>929</b>	<b>1.1</b>	<b>2.2</b>	<b>1.4</b>	<b>1,341</b>
Male	0.7	2.3	1.0	434	0.5	1.3	0.7	692
Female	1.7	1.1	1.6	495	1.8	3.1	2.1	649
Number	769	160	929	929	981	360	1,341	1,341
<b>Lesotho 2004/05</b>	<b>3.7</b>	<b>4.6</b>	<b>3.8</b>	<b>846</b>	<b>3.9</b>	<b>13.0</b>	<b>6.2</b>	<b>1,127</b>
Male	1.8	8.6	2.8	380	1.6	9.1	3.3	482
Female	5.2	0.8	4.7	466	5.8	15.4	8.3	645
Number	728	118	846	846	850	277	1,127	1,127
<b>Malawi 2004</b>	<b>1.5</b>	<b>6.8</b>	<b>2.2</b>	<b>494</b>	<b>1.7</b>	<b>5.8</b>	<b>2.7</b>	<b>746</b>
Male	0.9	6.6	2.0	250	0.7	3.5	1.5	408
Female	2.1	7.2	2.5	244	2.8	9.2	4.3	338
Number	428	67	494	494	551	195	746	746
<b>Niger 2006</b>	<b>0.0</b>	<b>1.0</b>	<b>0.2</b>	<b>1,096</b>	<b>0.0</b>	<b>1.1</b>	<b>0.3</b>	<b>1,289</b>
Male	0.0	1.3	0.4	683	0.0	1.0	0.3	793
Female	0.0	0.0	0.0	413	0.0	1.2	0.3	495
Number	822	274	1,096	1,096	891	398	1,289	1,289
<b>Rwanda 2005</b>	<b>0.3</b>	<b>0.9</b>	<b>0.5</b>	<b>2,832</b>	<b>0.4</b>	<b>1.2</b>	<b>0.7</b>	<b>3,517</b>
Male	0.1	0.4	0.2	1,230	0.2	0.4	0.2	1,685
Female	0.5	1.3	0.7	1,603	0.6	2.1	1.1	1,832
Number	1,992	841	2,832	2,832	2,273	1,243	3,517	3,517
<b>Senegal 2005</b>	<b>0.0</b>	<b>0.7</b>	<b>0.2</b>	<b>1,929</b>	<b>0.1</b>	<b>0.5</b>	<b>0.2</b>	<b>2,234</b>
Male	0.0	0.0	0.0	859	0.0	0.0	0.0	1,075
Female	0.1	1.3	0.4	1,070	0.2	1.1	0.4	1,158
Number	1,421	508	1,929	1,929	1,528	706	2,234	2,234
<b>Tanzania 2003/04</b>	<b>1.6</b>	<b>3.1</b>	<b>1.8</b>	<b>1,495</b>	<b>1.9</b>	<b>4.1</b>	<b>2.4</b>	<b>1,930</b>
Male	1.9	5.3	2.4	784	2.0	4.6	2.6	1,062
Female	1.4	0.0	1.2	711	1.7	3.4	2.1	869
Number	1,301	194	1,495	1,495	1,499	432	1,930	1,930
<b>Uganda 2004/05</b>	<b>0.6</b>	<b>0.4</b>	<b>0.5</b>	<b>2,515</b>	<b>0.6</b>	<b>3.0</b>	<b>1.1</b>	<b>3,374</b>
Male	0.3	0.0	0.2	1,281	0.2	0.9	0.4	1,816
Female	0.9	0.9	0.9	1,235	1.0	6.1	1.9	1,558
Number	2,235	281	2,515	2,515	2,719	656	3,374	3,374
<b>Hai Phong, Vietnam 2005</b>	<b>0.0</b>	<b>0.7</b>	<b>0.2</b>	<b>457</b>	<b>0.0</b>	<b>0.6</b>	<b>0.2</b>	<b>460</b>
Male	0.0	1.3	0.4	218	0.0	1.3	0.4	220
Female	0.0	0.0	0.0	239	0.0	0.0	0.0	240
Number	313	144	457	457	313	147	460	460
<b>Zimbabwe 2005</b>	<b>3.0</b>	<b>3.4</b>	<b>3.1</b>	<b>2,891</b>	<b>3.3</b>	<b>7.3</b>	<b>4.3</b>	<b>3,490</b>
Male	2.9	1.4	2.6	1,519	3.2	2.9	3.1	1,893
Female	3.1	5.9	3.6	1,372	3.3	13.0	5.7	1,596
Number	2,341	550	2,891	2,891	2,571	919	3,490	3,490

Note: Some of the HIV prevalence estimates for Burkina Faso, Guinea, and Malawi are based on small numbers of cases.

## 9 HIV Prevalence by Protective Behaviors

### 9.1 Key Findings

- ❖ Ever-use of condoms is associated with higher HIV prevalence, both overall and for men and women separately.
- ❖ Generally, the difference in HIV prevalence between respondents who do, or do not, consistently use condoms is small (less than 1 percent). The exception is Ethiopia, where HIV prevalence is considerably higher among those consistently using condoms (7.0 percent vs. 1.5 percent).
- ❖ In the majority of countries, not using condoms at last sex, and/or at last sex with a higher-risk partner, is associated with higher HIV prevalence, especially among women.
- ❖ There appears no clear pattern of association between male circumcision and HIV prevalence. In 8 of 18 countries with data, HIV prevalence is lower among circumcised men, while in the remaining 10 countries HIV prevalence is higher among circumcised men.

### 9.2 Introduction

This chapter presents data on HIV prevalence by behaviors that have been shown to prevent HIV infection. Condom use is a key behavior to prevent HIV infection among sexually active people. This behavior is measured in four ways: ever-use of condoms (among those who have ever had sex), condom use at last sex (among those who had sex in the past 12 months), condom use at last higher-risk sex (among those who have had higher-risk sex), and consistent use of condoms (among those who had sex in the past 12 months). Because some research has shown a protective effect of male circumcision on the transmission of HIV (Agot et al., 2004; Auvert et al., 2001), this chapter also reports HIV prevalence by male circumcision status.

### 9.3 HIV Prevalence by Male Condom Use

#### *Ever-Use of Condoms*

Sixteen countries have data on ever-use of male condoms, among respondents who have ever had sex (Table 9.1). In four of these countries—Burkina Faso, Cambodia, Cameroon, and Haiti—condom use data are available from female respondents only. In all four of these countries, HIV prevalence is higher among women who report having ever used a condom. Among the other 12 countries, HIV prevalence among respondents who have ever used condoms is higher in 8 countries, both overall and for men and women separately. In Senegal there is no difference in HIV prevalence, both overall and for women, between those who have ever used a condom and those who have not. For men who have ever used condoms, however, HIV prevalence is slightly higher than for those who have never used condoms. In Ghana, Kenya, and India, HIV prevalence is higher among respondents who report never using condoms. In India this is true for both men and women. In Ghana and Kenya, however, while HIV prevalence is higher among men who have never used condoms, it is higher among women who have ever used condoms.

**Table 9.1. HIV prevalence among women and men age 15-49, by ever use of condom (among those who ever had sex) and consistent use of condom in last 12 months (among those who had sex in last 12 months)**

Country/sex	Ever use of condom			Number	Consistent use of condom in last 12m			Number
	No	Yes	Total		No	Yes	Total	
<b>Burkina Faso 2003</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>2.1</b>	<b>2.0</b>	<b>2.1</b>	<b>4,496</b>
Male	n/a	n/a	n/a	n/a	2.3	1.7	2.1	1,902
Female	2.0	3.7	2.1	3,520	2.1	2.4	2.1	2,594
Number	2,584	421	3,520	3,520	3,705	790	4,496	4,496
<b>Cambodia 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.7</b>	<b>1.6</b>	<b>0.7</b>	<b>9,017</b>
Male	n/a	n/a	n/a	n/a	0.7	1.7	0.8	4,231
Female	0.7	2.2	0.8	5,548	0.6	1.5	0.6	4,785
Number	5,161	388	5,548	5,548	8,425	586	9,017	9,017
<b>Cameroon 2004</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>6.3</b>	<b>5.8</b>	<b>6.2</b>	<b>7,408</b>
Male	n/a	n/a	n/a	n/a	5.1	4.9	5.0	3,514
Female	6.1	9.9	8.2	3,876	7.2	7.3	7.2	3,893
Number	2,853	1,650	4,503	3,876	5,860	1,548	7,408	7,408
<b>Côte d'Ivoire 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>4.8</b>	<b>4.6</b>	<b>4.8</b>	<b>6,638</b>
Male	n/a	n/a	n/a	n/a	2.9	3.6	3.1	3,139
Female	n/a	n/a	n/a	n/a	6.3	6.5	6.3	3,499
Number	n/a	n/a	n/a	n/a	5,303	1,334	6,638	6,638
<b>Ethiopia 2005</b>	<b>1.8</b>	<b>6.1</b>	<b>2.0</b>	<b>7,407</b>	<b>1.5</b>	<b>7.0</b>	<b>1.7</b>	<b>6,504</b>
Male	1.3	2.3	1.4	3,043	1.3	1.6	1.3	2,778
Female	2.1	23.7	2.4	4,364	1.7	22.4	1.9	3,726
Number	7,053	354	7,407	7,407	6,347	157	6,504	6,504
<b>Ghana 2003</b>	<b>2.8</b>	<b>2.5</b>	<b>2.7</b>	<b>7,280</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>6,027</b>
Male	2.0	1.9	1.9	2,975	1.9	2.1	1.9	2,560
Female	3.1	3.5	3.2	4,306	3.1	3.5	3.1	3,466
Number	4,747	2,534	7,280	7,280	5,258	768	6,027	6,027
<b>Guinea 2005</b>	<b>1.6</b>	<b>2.0</b>	<b>1.7</b>	<b>5,588</b>	<b>1.7</b>	<b>2.2</b>	<b>1.7</b>	<b>4,388</b>
Male	0.8	1.3	1.0	2,202	1.1	1.1	1.1	1,897
Female	1.9	4.3	2.1	3,387	2.0	5.9	2.2	2,491
Number	4,606	982	5,588	5,588	3,893	487	4,388	4,388
<b>Haiti 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>2.8</b>	<b>2.3</b>	<b>2.7</b>	<b>6,880</b>
Male	n/a	n/a	n/a	n/a	2.8	1.4	2.4	3,318
Female	2.6	3.9	2.9	4,173	2.8	4.1	3.0	3,562
Number	3,189	946	4,173	4,173	5,612	1,265	6,880	6,880
<b>India 2005/06</b>	<b>0.4</b>	<b>0.3</b>	<b>0.4</b>	<b>74,571</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>67,896</b>
Male	0.5	0.4	0.5	32,052	0.4	0.4	0.4	29,637
Female	0.3	0.2	0.3	42,519	0.2	0.1	0.2	38,259
Number	58,571	15,910	74,571	74,571	62,863	5,016	67,896	67,896
<b>Kenya 2003</b>	<b>8.4</b>	<b>6.5</b>	<b>7.8</b>	<b>5,036</b>	<b>8.0</b>	<b>7.3</b>	<b>8.0</b>	<b>4,251</b>
Male	5.5	5.0	5.3	2,399	6.2	4.2	5.9	2,025
Female	9.8	11.7	10.1	2,636	9.6	15.4	9.9	2,225
Number	3,469	1,567	5,036	5,036	3,807	444	4,251	4,251

(Cont'd)

Table 9.1 – cont'd

Country/sex	Ever use of condom			Number	Consistent use of condom in last 12m			
	No	Yes	Total		No	Yes	Total	Number
<b>Lesotho 2004/05</b>	<b>26.2</b>	<b>29.2</b>	<b>27.6</b>	<b>4,139</b>	<b>28.8</b>	<b>27.0</b>	<b>28.4</b>	<b>3,539</b>
Male	22.9	23.1	23.0	1,601	26.8	17.5	24.3	1,409
Female	27.8	34.2	30.5	2,538	30.0	36.0	31.1	2,130
Number	2,188	1,952	4,139	4,139	2,758	781	3,539	3,539
<b>Malawi 2004</b>	<b>12.4</b>	<b>14.1</b>	<b>12.9</b>	<b>4,636</b>	<b>12.6</b>	<b>13.1</b>	<b>12.6</b>	<b>4,111</b>
Male	8.8	13.7	11.2	2,199	12.0	9.2	11.6	1,958
Female	14.3	15.4	14.4	2,438	13.1	22.7	13.6	2,153
Number	3,305	1,332	4,636	4,636	3,735	374	4,111	4,111
<b>Niger 2006</b>	<b>0.7</b>	<b>2.7</b>	<b>0.8</b>	<b>6,058</b>	<b>0.8</b>	<b>2.8</b>	<b>0.8</b>	<b>5,538</b>
Male	0.7	2.6	0.9	2,093	0.9	2.5	1.0	1,891
Female	0.8	4.0	0.8	3,965	0.7	4.8	0.7	3,647
Number	5,830	228	6,058	6,058	5,449	88	5,538	5,538
<b>Rwanda 2005</b>	<b>3.7</b>	<b>9.3</b>	<b>4.1</b>	<b>6,892</b>	<b>2.8</b>	<b>16.9</b>	<b>3.4</b>	<b>5,260</b>
Male	2.3	7.5	3.2	3,009	2.8	12.8	3.4	2,359
Female	4.4	15.5	4.9	3,883	2.9	23.4	3.5	2,901
Number	6,192	699	6,892	6,892	5,027	228	5,260	5,260
<b>Senegal 2005</b>	<b>1.0</b>	<b>1.0</b>	<b>0.9</b>	<b>5,219</b>	<b>0.9</b>	<b>1.2</b>	<b>0.9</b>	<b>4,406</b>
Male	0.5	0.9	0.7	2,207	0.7	0.7	0.7	1,810
Female	1.2	1.2	1.1	3,012	0.9	3.9	1.0	2,596
Number	3,297	1,284	5,219	5,219	3,837	566	4,406	4,406
<b>Tanzania 2003/04</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>7.0</b>	<b>10.4</b>	<b>7.5</b>	<b>8,188</b>
Male	n/a	n/a	n/a	n/a	6.8	8.4	7.1	3,711
Female	n/a	n/a	n/a	n/a	7.1	13.3	7.8	4,477
Number	n/a	n/a	n/a	n/a	6,982	1,205	8,188	8,188
<b>Uganda 2004/05</b>	<b>5.5</b>	<b>10.9</b>	<b>6.4</b>	<b>16,827</b>	<b>6.7</b>	<b>9.8</b>	<b>7.0</b>	<b>12,206</b>
Male	4.2	8.5	5.1	7,477	6.4	6.0	6.3	5,269
Female	6.5	13.9	7.5	9,350	6.9	14.4	7.6	6,937
Number	14,064	2,764	16,827	16,827	10,834	1,372	12,206	12,206
<b>Hai Phong, Vietnam 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.4</b>	<b>2.2</b>	<b>0.7</b>	<b>1,095</b>
Male	n/a	n/a	n/a	n/a	1.0	1.9	1.2	499
Female	n/a	n/a	n/a	n/a	0.0	2.8	0.3	595
Number	n/a	n/a	n/a	n/a	920	174	1,095	1,095
<b>Zimbabwe 2005</b>	<b>21.1</b>	<b>24.6</b>	<b>22.7</b>	<b>9,802</b>	<b>21.4</b>	<b>21.2</b>	<b>21.4</b>	<b>8,306</b>
Male	14.6	20.9	18.9	4,271	21.4	15.1	19.7	3,676
Female	23.2	32.1	25.5	5,531	21.4	37.8	22.7	4,629
Number	5,433	4,369	9,802	9,802	6,966	1,339	8,306	8,306

Note: HIV prevalence estimates for 'consistent condom use' for Niger are based on small numbers of cases.

### *Consistent Condom Use*

In 10 of the 19 countries with data on consistent condom use (condom use at last sex with all sexual partners (up to three) in the past 12 months)—Cambodia, Ethiopia, Guinea, Malawi, Niger, Rwanda, Senegal, Tanzania, Uganda, and the Hai Phong province of Vietnam—HIV prevalence is higher among respondents who consistently use condoms, although the difference is often slight. In 8 of the 19 countries—Burkina Faso, Cameroon, Côte d’Ivoire, Haiti, India, Kenya, Lesotho, and Zimbabwe—HIV prevalence is higher among respondents who do not consistently use condoms. In Ghana there is no difference in HIV prevalence according to whether or not people consistently use condoms.

In countries where HIV prevalence is higher among respondents who consistently use condoms, this pattern tends to be true for both men and women, except in Malawi and Uganda (Table 9.1). In countries where HIV prevalence overall is higher among respondents who do not consistently use condoms, however, the pattern often differs by respondents’ sex. Notably, in Burkina Faso, Cameroon, Haiti, Kenya, Lesotho, and Zimbabwe, while HIV prevalence is higher among men who do not consistently use condoms, prevalence is higher among women who do consistently use them. In Côte d’Ivoire, although HIV prevalence is higher among women who do not use condoms consistently, it is higher among men who use condoms consistently.

### *Condom Use at Last Sex*

In 11 of the 19 countries with data—Cambodia, Cameroon, Ethiopia, Guinea, Niger, Rwanda, Senegal, Tanzania, Uganda, the Hai Phong province of Vietnam, and Zimbabwe—HIV prevalence is higher among respondents who did not use a condom at last sex (Table 9.2). For the most part, there is no difference by respondents’ sex except in Uganda and Zimbabwe, where HIV prevalence for men is higher among those who used a condom at last sex, while it is higher among women who did not use a condom at last sex.

In seven countries—Burkina Faso, Côte d’Ivoire, Haiti, India, Kenya, Lesotho, and Malawi—HIV prevalence is higher among respondents who report using a condom at last sex. For the most part, in these countries the difference in HIV prevalence between those who used or did not use a condom at last sex is slight, and it varies by respondents’ sex. In Burkina Faso, Haiti, Kenya, Lesotho, and Malawi, HIV prevalence is higher among men who used a condom at last sex but is higher among women who did not use a condom at last sex. However, in Ghana for both men and women, HIV prevalence is higher among people who did not use a condom at last sex.



**Table 9.2. HIV prevalence among women and men age 15-49, by condom use at last sex (among those who had sex in last 12 months) and condom use at last higher risk sex (among those who had higher risk sex)**

Country/sex	Condom use at last sex			Number	Condom use at last higher risk sex			Number
	No	Yes	Total		No	Yes	Total	
<b>Burkina Faso 2003</b>	<b>1.9</b>	<b>2.2</b>	<b>2.1</b>	<b>4,496</b>	<b>2.9</b>	<b>1.6</b>	<b>2.1</b>	<b>1,030</b>
Male	1.6	2.3	2.1	1,902	1.1	1.0	1.0	743
Female	2.4	2.1	2.1	2,594	6.1	3.6	4.8	287
Number	830	3,665	4,496	4,496	358	672	1,030	1,030
<b>Cambodia 2005</b>	<b>1.6</b>	<b>0.7</b>	<b>0.7</b>	<b>9,025</b>	<b>2.6</b>	<b>1.6</b>	<b>1.8</b>	<b>602</b>
Male	1.6	0.7	0.8	4,238	1.1	1.6	1.5	564
Female	1.5	0.6	0.6	4,787	6.9	0.0	6.2	38
Number	609	8,402	9,025	9,025	133	470	602	602
<b>Cameroon 2004</b>	<b>6.7</b>	<b>6.0</b>	<b>6.2</b>	<b>7,408</b>	<b>7.7</b>	<b>6.8</b>	<b>7.2</b>	<b>3,312</b>
Male	5.7	4.7	5.0	3,514	4.8	6.2	5.6	2,194
Female	8.4	7.0	7.2	3,893	12.2	8.2	10.4	1,118
Number	1,812	5,595	7,408	7,408	1,573	1,740	3,312	3,312
<b>Côte d'Ivoire 2005</b>	<b>4.5</b>	<b>4.9</b>	<b>4.8</b>	<b>6,650</b>	<b>5.5</b>	<b>4.7</b>	<b>5.1</b>	<b>3,106</b>
Male	3.4	3.0	3.1	3,139	2.6	4.2	3.4	1,880
Female	6.7	6.3	6.3	3,510	8.5	6.1	7.7	1,226
Number	1,448	5,189	6,650	6,650	1,698	1,408	3,106	3,106
<b>Ethiopia 2005</b>	<b>6.7</b>	<b>1.5</b>	<b>1.7</b>	<b>6,504</b>	<b>3.0</b>	<b>8.3</b>	<b>5.1</b>	<b>329</b>
Male	1.6	1.3	1.3	2,778	1.2	2.3	1.7	221
Female	19.9	1.7	1.9	3,726	5.6	30.7	12.1	108
Number	164	6,340	6,504	6,504	197	133	329	329
<b>Ghana 2003</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>6,029</b>	<b>2.6</b>	<b>1.8</b>	<b>2.3</b>	<b>1,667</b>
Male	2.1	1.9	1.9	2,562	1.1	1.3	1.2	960
Female	3.4	3.1	3.1	3,466	4.1	2.9	3.8	707
Number	794	5,234	6,029	6,029	1,022	645	1,667	1,667
<b>Guinea 2005</b>	<b>2.2</b>	<b>1.7</b>	<b>1.7</b>	<b>4,407</b>	<b>2.8</b>	<b>1.2</b>	<b>2.3</b>	<b>1,416</b>
Male	1.1	1.1	1.1	1,905	1.4	0.5	1.1	1,022
Female	5.7	2.0	2.2	2,502	6.1	3.7	5.5	393
Number	490	3,896	4,407	4,407	980	436	1,416	1,416
<b>Haiti 2005</b>	<b>2.3</b>	<b>2.8</b>	<b>2.7</b>	<b>6,886</b>	<b>2.8</b>	<b>2.6</b>	<b>2.8</b>	<b>4,256</b>
Male	1.4	2.8	2.4	3,323	2.7	1.4	2.3	2,548
Female	4.2	2.8	3.0	3,563	3.0	5.5	3.5	1,708
Number	1,267	5,615	6,886	6,886	3,122	1,134	4,256	4,256
<b>India 2005/06</b>	<b>0.2</b>	<b>0.3</b>	<b>0.3</b>	<b>68,048</b>	<b>0.5</b>	<b>0.8</b>	<b>0.6</b>	<b>1,733</b>
Male	0.4	0.4	0.4	29,747	0.2	0.8	0.4	1,625
Female	0.1	0.2	0.2	38,301	4.1	0.0	3.5	108
Number	5,077	62,809	68,048	68,048	1,089	644	1,733	1,733
<b>Kenya 2003</b>	<b>6.9</b>	<b>8.1</b>	<b>8.0</b>	<b>4,251</b>	<b>9.4</b>	<b>7.8</b>	<b>8.8</b>	<b>1,204</b>
Male	4.1	6.3	5.9	2,025	4.2	5.3	4.7	812
Female	15.2	9.6	9.9	2,225	17.2	16.9	17.2	392
Number	483	3,767	4,251	4,251	749	456	1,204	1,204

(Cont'd)

Table 9.2 – cont'd

Country/sex	Condom use at last sex			Number	Condom use at last higher risk sex			Number
	No	Yes	Total		No	Yes	Total	
<b>Lesotho 2004/05</b>	<b>26.9</b>	<b>28.8</b>	<b>28.4</b>	<b>3,539</b>	<b>30.2</b>	<b>27.0</b>	<b>29.0</b>	<b>1,923</b>
Male	17.7	27.1	24.3	1,409	25.7	17.6	22.1	921
Female	36.6	29.8	31.1	2,130	33.5	39.1	35.3	1,002
Number	822	2,717	3,539	3,539	1,197	725	1,923	1,923
<b>Malawi 2004</b>	<b>12.4</b>	<b>12.7</b>	<b>12.6</b>	<b>4,111</b>	<b>11.8</b>	<b>13.3</b>	<b>12.4</b>	<b>659</b>
Male	8.6	12.2	11.6	1,958	8.5	9.8	9.1	488
Female	22.4	13.1	13.6	2,153	19.7	25.9	21.9	171
Number	400	3,709	4,111	4,111	375	284	659	659
<b>Niger 2006</b>	<b>2.8</b>	<b>0.8</b>	<b>0.8</b>	<b>5,566</b>	<b>6.3</b>	<b>3.3</b>	<b>5.1</b>	<b>193</b>
Male	2.5	0.9	1.0	1,907	2.9	2.7	2.8	158
Female	4.8	0.7	0.7	3,659	16.1	13.0	15.7	34
Number	88	5,456	5,566	5,566	119	74	193	193
<b>Rwanda 2005</b>	<b>16.9</b>	<b>2.8</b>	<b>3.4</b>	<b>5,263</b>	<b>4.5</b>	<b>7.6</b>	<b>5.4</b>	<b>573</b>
Male	12.8	2.8	3.4	2,362	3.0	3.4	3.2	322
Female	23.4	2.9	3.5	2,901	6.0	15.9	8.3	251
Number	228	5,027	5,263	5,263	406	166	573	573
<b>Senegal 2005</b>	<b>1.2</b>	<b>0.9</b>	<b>0.9</b>	<b>4,430</b>	<b>1.0</b>	<b>1.3</b>	<b>1.2</b>	<b>982</b>
Male	0.7	0.7	0.7	1,820	0.6	0.8	0.7	804
Female	3.8	0.9	1.0	2,611	2.5	5.0	3.4	179
Number	569	3,834	4,430	4,430	478	504	982	982
<b>Tanzania 2003/04</b>	<b>10.1</b>	<b>7.0</b>	<b>7.5</b>	<b>8,188</b>	<b>7.1</b>	<b>9.7</b>	<b>8.3</b>	<b>2,801</b>
Male	8.2	6.8	7.1	3,711	5.3	7.8	6.5	1,756
Female	13.1	7.1	7.8	4,477	9.6	14.1	11.3	1,045
Number	1,287	6,900	8,188	8,188	1,513	1,288	2,801	2,801
<b>Uganda 2004/05</b>	<b>9.6</b>	<b>6.7</b>	<b>7.0</b>	<b>12,232</b>	<b>10.9</b>	<b>8.4</b>	<b>9.6</b>	<b>3,003</b>
Male	5.9	6.4	6.3	5,289	7.6	5.3	6.4	1,938
Female	14.7	6.8	7.6	6,943	16.1	14.7	15.4	1,065
Number	1,497	10,733	12,232	12,232	1,453	1,550	3,003	3,003
<b>Hai Phong, Vietnam 2005</b>	<b>2.2</b>	<b>0.4</b>	<b>0.7</b>	<b>1,095</b>	<b>23.9</b>	<b>0.0</b>	<b>5.0</b>	<b>38</b>
Male	1.9	1.0	1.2	499	37.8	0.0	5.5	34
Female	2.8	0.0	0.3	595	0.0	0.0	0.0	4
Number	174	920	1,095	1,095	8	30	38	38
<b>Zimbabwe 2005</b>	<b>21.7</b>	<b>21.3</b>	<b>21.4</b>	<b>8,317</b>	<b>23.5</b>	<b>18.1</b>	<b>20.7</b>	<b>1,963</b>
Male	15.0	21.3	19.7	3,685	14.2	11.4	12.6	1,364
Female	39.1	21.2	22.7	4,633	38.6	40.0	39.2	599
Number	1,353	6,960	8,317	8,317	944	1,019	1,963	1,963

Note: HIV prevalence estimates for 'condom use at last higher risk sex' for Niger and Hai Phong, Vietnam are based on small numbers of cases.

### *Condom Use at Last Higher-Risk Sex*

In 6 of the 19 countries—Ethiopia, India, Malawi, Rwanda, Senegal, and Tanzania—HIV prevalence is higher among respondents who report condom use at last sex with a non-marital, non-cohabitating partner (Table 9.2). This is true for both men and women in all countries except India, where HIV prevalence is higher among women who did not use a condom at last higher-risk sex, while for men it is higher among those who did use a condom.

For the remaining 13 countries, HIV prevalence is higher among people who did not use a condom at last higher-risk sex than among those who did. Again, there are several differences by the sex of respondents. In Cambodia, Cameroon, Côte d'Ivoire, Ghana, and Kenya, HIV prevalence is higher among men who used a condom at their last higher-risk sex, while it is higher among women who did not use a condom. In contrast, in Haiti, Lesotho, and Zimbabwe HIV prevalence is higher among men who did not use a condom at their last higher-risk sex, while it was higher among women who did use a condom.

### **9.4 HIV Prevalence by Male Circumcision**

Findings from the 18 countries with data present a mixed picture of the association between male circumcision and HIV prevalence (Table 9.3). In eight of the countries (Burkina Faso, Cambodia, Côte d'Ivoire, Ethiopia, Ghana, India, Kenya, and Uganda), HIV prevalence is higher among men who are not circumcised, although the difference between circumcised and non-circumcised men is slight, except in Kenya, where the difference is substantial (HIV prevalence of 11.5 percent for non-circumcised men compared with 3.1 percent for circumcised men) (Figure 9.1). In 10 of the countries—Cameroon, Guinea, Haiti, Lesotho, Malawi, Niger, Rwanda, Senegal, Tanzania, and Zimbabwe—HIV prevalence is higher among circumcised men.

**Table 9.3. HIV prevalence among men age 15-49, by male circumcision**

Country/sex	Male circumcision		Total
	No	Yes	
<b>Burkina Faso 2003</b>			
Male	2.9	1.7	1.9
Number	334	2,731	3,065
<b>Cambodia 2005</b>			
Male	0.6	0.0	0.6
Number	6,517	138	6,656
<b>Cameroon 2004</b>			
Male	1.3	4.3	4.1
Number	317	4,298	4,615
<b>Côte d'Ivoire 2005</b>			
Male	3.5	2.8	2.9
Number	173	3,850	4,023
<b>Ethiopia 2005</b>			
Male	1.2	0.9	0.9
Number	384	4,420	4,804

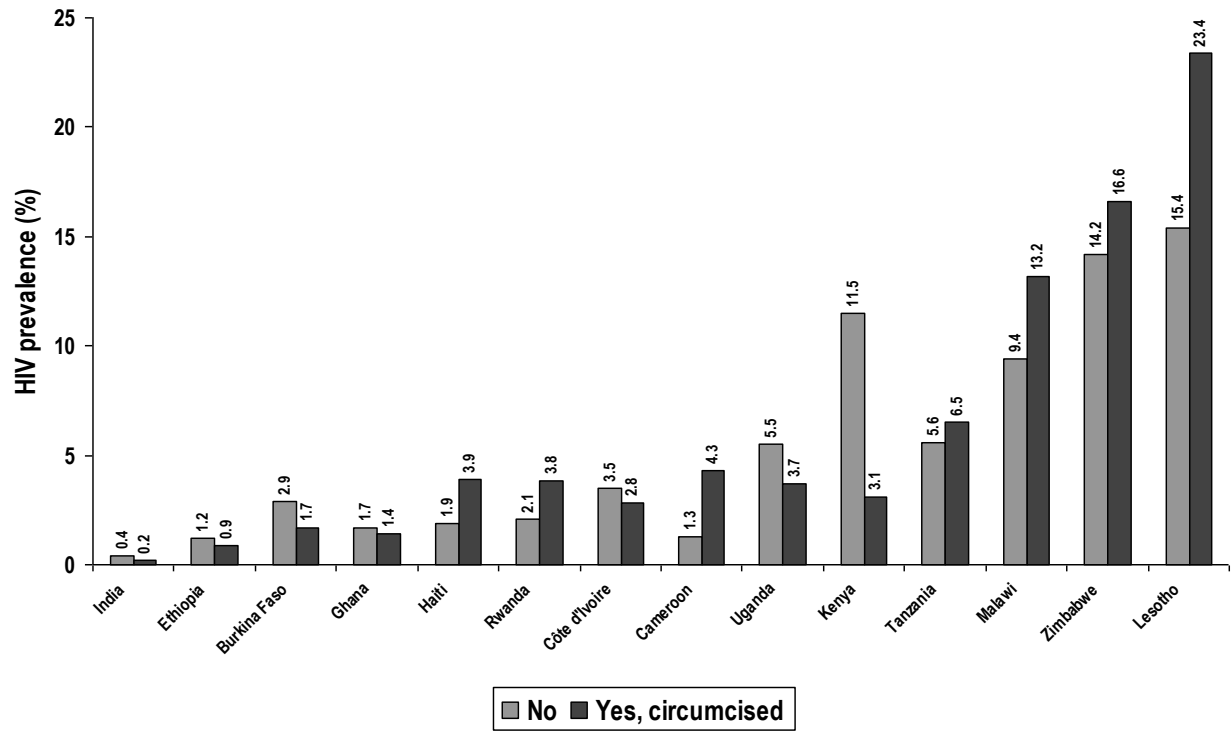
(Cont'd)

Table 9.3 – cont'd

Country/sex	Male circumcision		Total
	No	Yes	
<b>Ghana 2003</b>			
Male	1.7	1.4	1.5
Number	181	3,864	4,045
<b>Guinea 2005</b>			
Male	0.0	1.0	0.9
Number	18	2,558	2,577
<b>Haiti 2005</b>			
Male	1.9	3.9	2.0
Number	4,071	243	4,321
<b>India 2005/06</b>			
Male	0.4	0.2	0.4
Number	40,340	5,818	46,506
<b>Kenya 2003</b>			
Male	11.5	3.1	4.6
Number	475	2,372	2,851
<b>Lesotho 2004/05</b>			
Male	15.4	23.4	19.2
Number	1,046	951	2,001
<b>Malawi 2004</b>			
Male	9.4	13.2	10.2
Number	1,906	500	2,405
<b>Niger 2006</b>			
Male	0.0	0.8	0.8
Number	14	2,841	2,856
<b>Rwanda 2005</b>			
Male	2.1	3.8	2.3
Number	3,908	418	4,348
<b>Senegal 2005</b>			
Male	0.0	0.5	0.5
Number	56	3,124	3,183
<b>Tanzania 2003/04</b>			
Male	5.6	6.5	6.3
Number	1,529	3,463	4,994
<b>Uganda 2004/05</b>			
Male	5.5	3.7	5.1
Number	5,613	1,858	7,477
<b>Zimbabwe 2005</b>			
Male	14.2	16.6	14.5
Number	5,235	597	5,848

Note: HIV prevalence estimates for 'not circumcised' men for Guinea and Niger are based on small numbers of cases.

Figure 9.1. HIV prevalence among tested men 15-49 by male circumcision





## 10 HIV Prevalence by Medical Injection Use, Prevalence of Other STIs, and Prior HIV Testing Experience

### 10.1 Key Findings

- ❖ In most countries, receiving multiple medical injections is positively associated with being HIV-infected, for both women and men.
- ❖ Also, in most countries, having an STI or STI symptoms in the past 12 months is associated with higher HIV prevalence, both overall and for men and women separately.
- ❖ In all countries studied, HIV prevalence is higher among those who report having been previously tested for HIV, both overall and for men and women separately.

### 10.2 Introduction

This chapter presents associations of HIV prevalence with medical injections (injections received for a health care need) in the recent past (3 months, 6 months, or 12 months before the survey), and with STIs or STI symptoms (including abnormal discharge or a genital sore/ulcer) in the past 12 months. The chapter also presents the association between HIV prevalence and prior HIV testing experience, and whether the respondent received result of the most recent HIV test.

Medical injections given with re-used, non-sterilized equipment may increase the risk of HIV and other infections (Kane et al., 1999). WHO categorizes up to 50 percent of medical injections in developing countries as unsafe, and often as unnecessary (WHO, 2007). Receiving multiple medical injections has been shown to be significantly positively associated with being HIV-infected, for both women and men (Mishra et al., 2008b; Mishra et al., 2008c). STIs, including herpes, syphilis, and gonorrhea, have been associated with increased risk of HIV transmission (Royce et al., 1997; Gray et al., 2001).

### 10.3 HIV Prevalence by Medical Injection Use

Table 10.1 and Figures 10.1 and 10.2 show that, among the seven countries with data, men who received one or more medical injections in the recent past are more likely to be infected with HIV than those who did not receive any recent medical injections, in all countries except Ethiopia. The association is also positive for women in seven of the eight countries with data on women. Similarly, in all countries with data, women and men who received three or more medical injections in the recent past are more likely to be infected with HIV than those who received two or fewer injections.

**Table 10.1. HIV prevalence by receipt of medical injections**

Country/sex	Recently received a medical injection		Recently received 3+ medical injections	
	Yes	No	Yes	No
<b>Burkina Faso 2003<sup>a</sup></b>				
Women	1.4	1.9	2.2	1.8
Men	n/a	n/a	n/a	n/a
<b>Cameroon 2004<sup>a</sup></b>				
Women	9.7	6.1	13.5	6.3
Men	6.2	3.7	6.3	4.0
<b>Tanzania 2003/04</b>				
Women	8.1	7.4	n/a	n/a
Men	8.7	5.4	n/a	n/a
<b>Lesotho 2004<sup>a</sup></b>				
Women	35.0	24.7	49.2	26.0
Men	44.5	17.6	49.9	18.8
<b>Malawi 2004</b>				
Women	15.1	12.6	14.5	13.2
Men	16.6	9.3	14.1	10.1
<b>Uganda 2004/05<sup>b</sup></b>				
Women	8.5	6.4	10.2	6.1
Men	6.8	3.9	8.5	3.9
<b>Ethiopia 2005</b>				
Women	2.3	1.7	3.2	1.6
Men	0.8	1.0	1.4	0.9
<b>Zimbabwe 2006<sup>c</sup></b>				
Women	27.5	20.0	33.9	20.8
Men	29.1	13.5	36.0	14.1

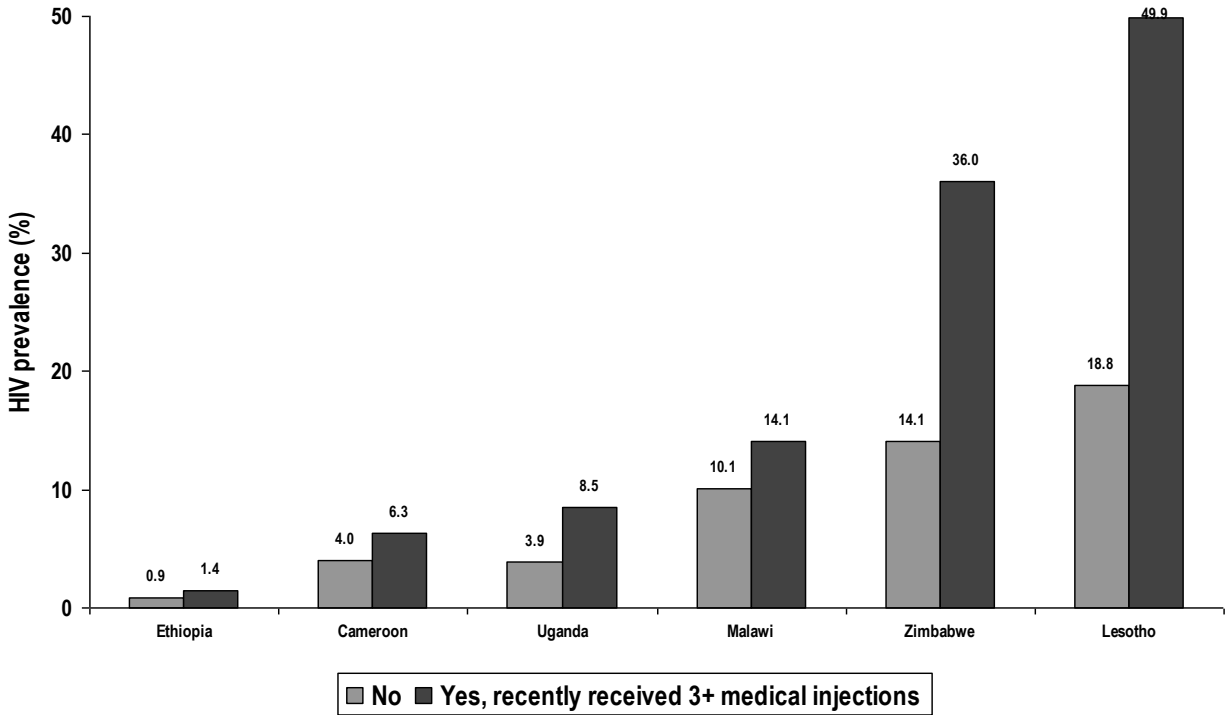
<sup>a</sup>In the last 3 months

<sup>b</sup>By a health professional

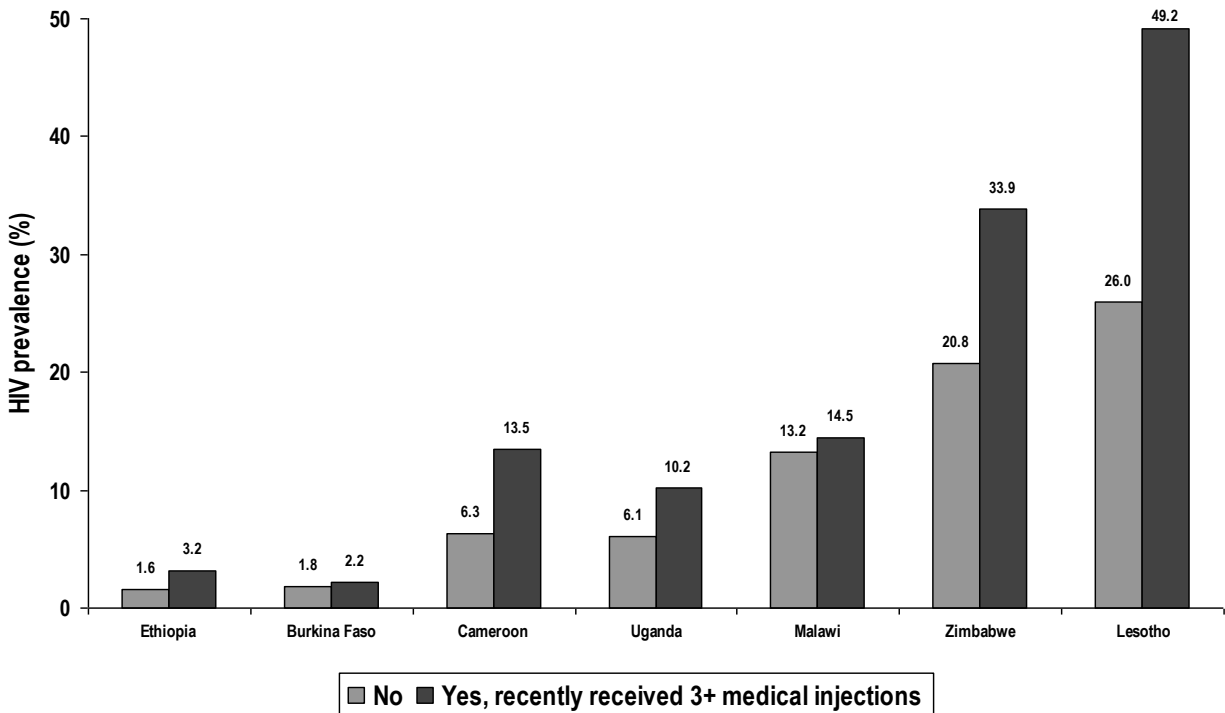
<sup>c</sup>In the last 6 months



**Figure 10.1. HIV prevalence among tested men 15-49 by receipt of 3+ medical injections**



**Figure 10.2. HIV prevalence among tested women 15-49 by receipt of 3+ medical injections**



## 10.4 HIV Prevalence by STIs or STI Symptoms

Having an STI in the past 12 months is associated with higher HIV prevalence in 15 of the 19 countries with data, both overall and for males and females separately (Table 10.2). In India HIV prevalence is the same for respondents who reported an STI in the past 12 months and those who did not, both overall and for women. Among Indian men, however, HIV prevalence is higher among those who reported an STI in the past 12 months. In Ethiopia, Senegal, and the Hai Phong province of Vietnam, HIV prevalence is slightly higher among those who did not report an STI in the past 12 months, although for all three countries the difference is less than 1 percent. In Senegal and in the Hai Phong province of Vietnam, there are no differences by respondents' sex. In Ethiopia, however, HIV prevalence is slightly higher among women who had an STI in the past 12 months, while among men prevalence is slightly higher among those who did not have an STI.

**Table 10.2. HIV prevalence among women and men age 15-49 who ever had sex, by having STI or STI symptom in the last 12 months**

Country/sex	STI		Abnormal discharge		Genital Sore/ulcer		Any STI or STI symptom		Total	Number
	No	Yes	No	Yes	No	Yes	No	Yes		
<b>Burkina Faso 2003</b>	<b>2.1</b>	<b>6.5</b>	<b>2.1</b>	<b>4.3</b>	<b>2.1</b>	<b>3.6</b>	<b>2.0</b>	<b>4.3</b>	<b>1.8</b>	<b>5,780</b>
Male	2.3	2.4	2.3	0.0	2.3	0.0	2.3	0.7	2.3	2,260
Female	1.9	8.6	1.9	5.8	2.0	7.6	1.8	6.2	2.1	3,520
Number	5,700	80	5,578	202	5,704	76	5,518	262	5,780	5,780
<b>Cambodia 2005</b>	<b>0.8</b>	<b>8.0</b>	<b>0.8</b>	<b>4.2</b>	<b>0.9</b>	<b>1.4</b>	<b>0.7</b>	<b>3.5</b>	<b>0.9</b>	<b>10,009</b>
Male	0.7	30.9	0.8	15.3	0.9	0.0	0.7	13.0	0.9	4,460
Female	0.8	4.0	0.8	2.5	0.8	1.6	0.7	1.9	0.8	5,548
Number	9,837	171	9,748	261	9,550	459	9,394	614	10,009	10,009
<b>Cameroon 2004</b>	<b>6.1</b>	<b>9.4</b>	<b>6.1</b>	<b>10.3</b>	<b>6.0</b>	<b>9.6</b>	<b>5.9</b>	<b>9.2</b>	<b>6.2</b>	<b>8,298</b>
Male	4.6	7.6	4.6	11.2	4.7	6.2	4.5	7.2	4.8	3,795
Female	7.2	11.6	7.4	9.6	7.0	11.2	7.0	10.4	7.5	4,503
Number	7,840	458	8,046	253	7,658	640	7,399	899	8,298	8,298
<b>Côte d'Ivoire 2005</b>	<b>5.1</b>	<b>7.5</b>	<b>5.1</b>	<b>7.3</b>	<b>5.0</b>	<b>6.9</b>	<b>4.8</b>	<b>7.4</b>	<b>5.2</b>	<b>7,568</b>
Male	2.9	7.8	3.0	8.5	3.1	4.7	2.8	7.5	3.2	3,553
Female	7.0	7.1	7.1	6.8	6.9	7.5	7.0	7.3	7.0	4,015
Number	7,257	312	7,222	346	6,634	934	6,413	1,152	7,568	7,568
<b>Ethiopia 2005</b>	<b>2.0</b>	<b>1.8</b>	<b>2.0</b>	<b>3.8</b>	<b>2.0</b>	<b>2.6</b>	<b>2.0</b>	<b>3.0</b>	<b>2.0</b>	<b>7,407</b>
Male	1.4	0.0	1.4	8.3	1.4	0.2	1.4	2.2	1.4	3,043
Female	2.4	2.7	2.4	2.6	2.4	3.8	2.4	3.4	2.4	4,364
Number	7,362	46	7,358	50	7,321	86	7,261	137	7,407	7,407
<b>Ghana 2003</b>	<b>2.6</b>	<b>5.1</b>	<b>2.6</b>	<b>5.2</b>	<b>2.6</b>	<b>3.6</b>	<b>2.6</b>	<b>4.2</b>	<b>2.7</b>	<b>7,283</b>
Male	1.9	1.7	1.9	1.6	1.9	1.1	1.9	2.2	1.9	2,977
Female	3.1	7.9	3.1	7.3	3.1	4.4	3.1	4.9	3.2	4,306
Number	7,156	127	7,111	172	6,909	374	6,783	496	7,283	7,283

(Cont'd)

Table 10.2 – cont'd

Country/sex	STI		Abnormal discharge		Genital Sore/ulcer		Any STI or STI symptom		Total	Number
	No	Yes	No	Yes	No	Yes	No	Yes		
<b>Guinea 2005</b>	<b>1.6</b>	<b>2.5</b>	<b>1.7</b>	<b>1.6</b>	<b>1.6</b>	<b>1.7</b>	<b>1.5</b>	<b>2.1</b>	<b>1.7</b>	<b>533</b>
Male	0.9	2.1	1.0	0.0	1.1	0.0	1.0	1.4	1.0	2,202
Female	2.0	2.6	2.1	1.9	2.1	1.9	2.0	2.2	2.1	3,387
Number	5,055	533	5,332	256	4,435	1,153	4,300	1,288	5,588	533
<b>Haiti 2005</b>	<b>2.6</b>	<b>3.0</b>	<b>2.5</b>	<b>5.2</b>	<b>2.6</b>	<b>2.5</b>	<b>2.5</b>	<b>3.1</b>	<b>2.6</b>	<b>515</b>
Male	2.2	4.9	2.1	8.7	2.3	2.0	2.1	4.4	2.3	3,766
Female	2.9	2.5	2.9	3.3	3.0	2.7	3.0	2.7	2.9	4,173
Number	7,423	515	7,619	320	6,854	1,084	6,718	1,220	7,938	515
<b>India 2005/06</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>0.7</b>	<b>0.4</b>	<b>0.3</b>	<b>0.4</b>	<b>74,571</b>
Male	0.5	1.2	0.5	0.4	0.5	0.7	0.5	0.4	0.5	32,052
Female	0.3	0.3	0.3	0.3	0.3	0.8	0.3	0.3	0.3	42,519
Number	73,588	811	69,114	5,340	72,730	1,719	67,702	6,441	74,571	74,571
<b>Kenya 2003</b>	<b>7.7</b>	<b>13.9</b>	<b>7.4</b>	<b>25.8</b>	<b>7.5</b>	<b>16.4</b>	<b>7.4</b>	<b>17.3</b>	<b>7.8</b>	<b>5035.8</b>
Male	5.0	15.6	4.9	26.3	5.1	11.2	4.9	14.9	5.3	2,399
Female	10.0	11.8	9.7	25.4	9.8	19.6	9.7	19.0	10.1	2,636
Number	4,942	94	4,941	95	4,904	131	4,842	185	5,036	5,036
<b>Lesotho 2004/05</b>	<b>26.8</b>	<b>50.4</b>	<b>26.2</b>	<b>46.3</b>	<b>26.3</b>	<b>37.9</b>	<b>25.5</b>	<b>39.3</b>	<b>27.6</b>	<b>4,139</b>
Male	22.4	42.1	21.8	37.9	22.4	29.5	21.9	30.4	23.0	1,601
Female	29.6	55.4	28.9	52.0	28.8	41.7	27.8	43.9	30.5	2,538
Number	3,995	144	1,006	136	3,670	470	3,506	631	4,139	4,139
<b>Malawi 2004</b>	<b>12.7</b>	<b>36.8</b>	<b>12.1</b>	<b>26.3</b>	<b>12.7</b>	<b>19.6</b>	<b>12.0</b>	<b>23.6</b>	<b>12.9</b>	<b>4,636</b>
Male	11.0	44.0	10.7	24.8	11.1	14.6	10.7	20.1	11.2	2,199
Female	14.1	34.4	13.5	27.0	14.1	22.7	13.3	25.6	14.4	2,438
Number	4,587	50	4,383	253	4,491	145	4,277	353	4,636	4,636
<b>Niger 2006</b>	<b>0.8</b>	<b>2.7</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>1.3</b>	<b>0.8</b>	<b>6,058</b>
Male	0.9	0.0	0.9	1.8	0.9	0.0	0.9	0.8	0.9	2,093
Female	0.7	4.3	0.8	0.5	0.8	1.0	0.7	1.5	0.8	3,965
Number	6,020	38	5,916	142	5,927	131	5,835	223	6,058	6,058

(Cont'd)

Table 10.2 – cont'd

Country/sex	STI		Abnormal discharge		Genital Sore/ulcer		Any STI or STI symptom		Total	Number
	No	Yes	No	Yes	No	Yes	No	Yes		
<b>Rwanda 2005</b>	<b>3.9</b>	<b>25.1</b>	<b>3.8</b>	<b>18.1</b>	<b>3.9</b>	<b>13.7</b>	<b>3.6</b>	<b>15.7</b>	<b>4.1</b>	<b>6,892</b>
Male	3.0	19.1	3.0	14.2	3.2	3.4	3.0	9.9	3.2	3,009
Female	4.6	28.7	4.4	19.6	4.4	16.5	4.1	18.1	4.9	3,883
Number	6,812	80	6,731	161	6,706	186	6,605	287	6,892	6,892
<b>Senegal 2005</b>	<b>0.9</b>	<b>0.6</b>	<b>0.9</b>	<b>1.2</b>	<b>0.8</b>	<b>1.9</b>	<b>0.9</b>	<b>1.4</b>	<b>0.9</b>	<b>5,219</b>
Male	0.7	0.0	0.7	0.0	0.7	0.0	0.7	0.0	0.7	2,207
Female	1.1	0.9	1.1	1.7	1.0	2.2	1.0	1.8	1.1	3,012
Number	5,136	84	5,063	156	4,871	348	4,753	466	5,219	5,219
<b>Tanzania 2003/04</b>	<b>7.8</b>	<b>12.3</b>	<b>7.7</b>	<b>13.5</b>	<b>7.8</b>	<b>11.0</b>	<b>7.6</b>	<b>12.2</b>	<b>7.9</b>	<b>9,186</b>
Male	7.0	9.0	6.9	11.1	7.0	8.9	6.9	9.4	7.0	4,167
Female	8.4	17.2	8.4	16.3	8.5	12.7	8.2	15.1	8.6	5,019
Number	8,888	298	8,926	260	8,826	360	8,608	578	9,186	9,186
<b>Uganda 2004/05</b>	<b>6.4</b>	<b>14.3</b>	<b>6.4</b>	<b>14.2</b>	<b>5.8</b>	<b>14.6</b>	<b>5.2</b>	<b>13.3</b>	<b>7.5</b>	<b>14,242</b>
Male	5.1	13.6	5.6	12.8	4.6	14.5	4.2	12.9	6.1	6,151
Female	7.4	14.7	7.1	14.6	6.8	14.7	6.1	13.4	8.5	8,091
Number	12,234	2,009	12,252	1,990	11,488	2,754	10,210	4,026	14,242	14,242
<b>Hai Phong, Vietnam 2005</b>	<b>0.7</b>	<b>0.0</b>	<b>0.7</b>	<b>0.0</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.6</b>	<b>0.7</b>	<b>1,173</b>
Male	1.1	0.0	1.1	0.0	1.1	0.0	1.1	0.0	1.1	520
Female	0.3	0.0	0.3	0.0	0.2	0.7	0.2	0.6	0.3	653
Number	1,154	19	1,124	48	1,021	152	1,007	166	1,173	1,173
<b>Zimbabwe 2005</b>	<b>21.7</b>	<b>45.7</b>	<b>21.4</b>	<b>44.8</b>	<b>21.6</b>	<b>40.4</b>	<b>21.0</b>	<b>37.3</b>	<b>22.7</b>	<b>9,802</b>
Male	18.3	35.7	17.9	37.8	18.1	39.1	17.7	33.0	18.9	4,271
Female	24.3	51.2	24.1	49.7	24.3	40.9	23.7	39.7	25.5	5,531
Number	9,401	401	9,273	529	9,227	575	8,829	972	9,802	9,802

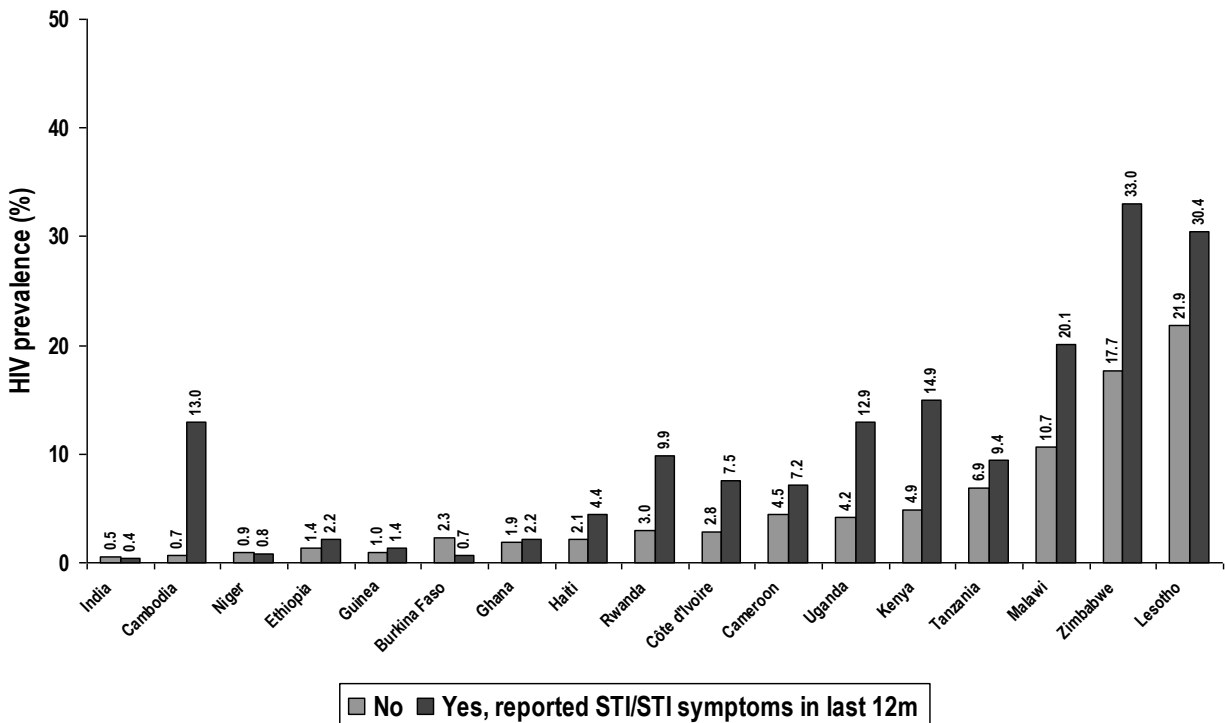
Note: Some of the HIV prevalence estimates for Burkina Faso, Ethiopia, Kenya, Malawi, Niger, Rwanda, Senegal, and Hai Phong, Vietnam are based on small numbers of cases.

In 15 of the 19 countries, having an abnormal discharge in the past 12 months is associated with higher HIV prevalence. For the most part, this is true for both men and women. However, in Burkina Faso, Ghana, and Senegal, HIV prevalence is higher among men who did not have an abnormal discharge, while for women it was higher among those who had an abnormal discharge. In Côte d'Ivoire this pattern is reversed. In Niger HIV prevalence is the same for respondents having an abnormal discharge and those who did not. Among men in Niger, however, HIV prevalence is higher among those who did have abnormal discharge, while for women it is slightly higher among those who did not. In Guinea, India, and the Hai Phong province of Vietnam, HIV prevalence is slightly higher among those without an abnormal discharge in the past 12 months, both overall and among men and women separately.

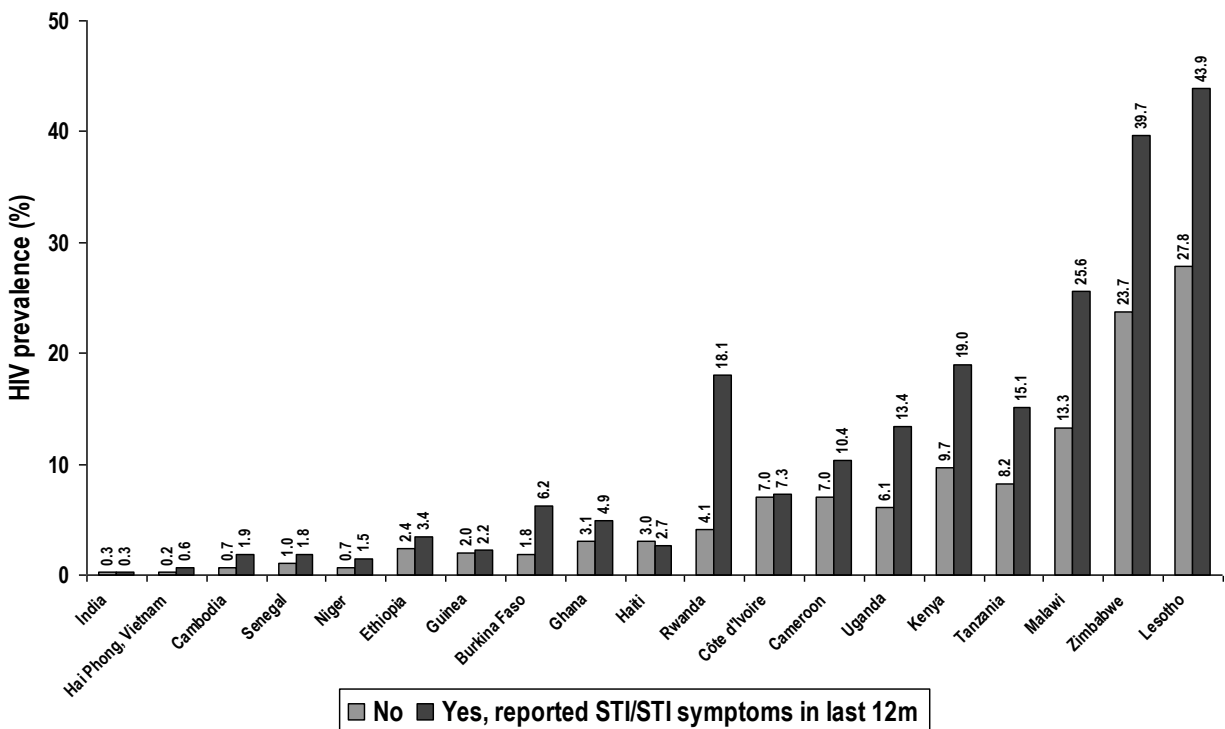
In 16 of the 19 countries, respondents reporting a genital sore in the past 12 months tend to have higher HIV prevalence (Table 10.2). Although this is generally true for both sexes, in some countries there are some notable differences by respondents' sex. In Burkina Faso, Cambodia, Ethiopia, Ghana, and Senegal, HIV prevalence is higher among men who report having a genital sore, but among women HIV prevalence is higher among those who did not have a genital sore in the past 12 months. In the Hai Phong province of Vietnam, this pattern is reversed. In Niger and the Hai Phong province of Vietnam, there is no difference in overall HIV prevalence according to whether or not respondents had a genital sore. However, in both countries HIV prevalence is higher among men without a genital sore in the past 12 months, but higher among women with a genital sore. Haiti is the only country where HIV prevalence is higher among respondents who did not report a genital sore, although the difference is small among those who did or did not report a genital sore.

In 17 of the 19 countries, having any STI or STI symptoms (i.e., reporting an STI, abnormal discharge, or genital sore or ulcer) is associated with higher HIV prevalence, and the difference is often substantial. This is generally true for both men and women (Figures 10.3 and 10.4). However, in Burkina Faso, Niger, and Senegal, HIV prevalence is higher among men with no STI or STI symptoms, while it is higher among females with an STI or STI symptoms. In Haiti this pattern is reversed. In India and in the Hai Phong province of Vietnam, HIV prevalence is marginally higher among those without any STI or STI symptoms, although the difference between those with and those without any STI or STI symptoms is only 0.1 percent. In both countries, HIV prevalence is higher among men without any STI or STI symptoms. Among women in India, however, there is no difference in HIV prevalence by whether or not women report any STI or STI symptoms. In the Hai Phong province of Vietnam, HIV prevalence is higher among women who report having any STI or STI symptoms in the past 12 months.

**Figure 10.3. HIV prevalence among tested men 15-49 who ever had sex by reported STI or STI symptoms in last 12 months**



**Figure 10.4. HIV prevalence among tested women 15-49 who ever had sex by reported STI or STI symptoms in last 12 months**



## 10.5 HIV Prevalence by Prior HIV Testing Experience

Data are available from 18 countries for both men and women on HIV prevalence by prior HIV testing experience. In Burkina Faso data are available for men but not women. In all cases HIV prevalence is higher among respondents who previously tested for HIV (Table 10.3).

Among those previously tested for HIV, in 12 of the 18 countries with data for both men and women—Cambodia, Côte d’Ivoire, Ghana, Guinea, Lesotho, Niger, Rwanda, Senegal, Tanzania, Uganda, the Hai Phong province of Vietnam, and Zimbabwe—receiving the result of a prior test is associated with lower HIV prevalence compared with previously tested respondents who did not receive their test results. In Burkina Faso HIV prevalence is also lower among previously tested men who received the result of their last test. In contrast, in the remaining six countries—Cameroon, Ethiopia, Haiti, India, Kenya, and Malawi—receiving the result of a prior HIV test is associated with higher HIV prevalence, among those previously tested.

In general, these patterns hold for both women and men in each country, but there are some exceptions. For example, in Côte d’Ivoire among those previously tested, receiving the result of a prior test is associated with lower HIV prevalence among men but higher prevalence among women, whereas in Ethiopia this pattern is reversed.



**Table 10.3. HIV prevalence among women and men age 15-49, by previous HIV testing experience, and whether received result of most recent HIV test (among those previously tested)**

Country/sex	Previously tested for HIV		Received result of last test		Total	Number
	Not tested	Tested	No	Yes		
<b>Burkina Faso 2003</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Male	1.8	2.6	2.7	1.7	1.9	3,065
Female	n/a	n/a	n/a	n/a	n/a	n/a
Number	2,837	228	194	33	3,065	3,065
<b>Cambodia 2005</b>	<b>0.4</b>	<b>2.4</b>	<b>2.4</b>	<b>2.3</b>	<b>0.6</b>	<b>14,703</b>
Male	0.4	2.1	2.1	2.3	0.6	6,656
Female	0.4	2.7	2.7	2.4	0.6	8,047
Number	12,934	1,769	1,624	145	14,703	14,703
<b>Cameroon 2004</b>	<b>4.7</b>	<b>8.8</b>	<b>8.6</b>	<b>9.1</b>	<b>5.4</b>	<b>9,746</b>
Male	3.6	6.8	7.4	2.5	4.1	4,619
Female	5.7	10.2	10.3	10.1	6.6	5,128
Number	7,991	1,755	1,074	681	9,746	9,746
<b>Côte d'Ivoire 2005</b>	<b>4.3</b>	<b>8.5</b>	<b>8.6</b>	<b>8.3</b>	<b>4.7</b>	<b>8,436</b>
Male	2.4	7.3	8.6	0.6	2.9	4,023
Female	6.0	9.4	8.6	14.1	6.4	4,413
Number	7,532	904	765	139	8,436	8,436
<b>Ethiopia 2005</b>	<b>1.4</b>	<b>3.5</b>	<b>2.8</b>	<b>10.8</b>	<b>1.4</b>	<b>10,540</b>
Male	0.9	2.6	1.1	14.5	0.9	4,804
Female	1.8	4.5	4.7	0.6	1.9	5,736
Number	10,083	456	417	39	10,540	10,540
<b>Ghana 2003</b>	<b>2.1</b>	<b>3.1</b>	<b>3.3</b>	<b>2.6</b>	<b>2.2</b>	<b>9,142</b>
Male	1.5	1.3	1.7	0.0	1.5	4,045
Female	2.5	4.4	4.5	4.1	2.7	5,097
Number	8,266	876	672	204	9,142	9,142
<b>Guinea 2005</b>	<b>1.5</b>	<b>2.1</b>	<b>2.4</b>	<b>0.0</b>	<b>1.5</b>	<b>6,319</b>
Male	1.0	0.8	0.9	0.0	0.9	2,577
Female	1.8	4.5	5.9	0.0	1.9	3,742
Number	6,070	249	210	38	6,319	6,319
<b>Haiti 2005</b>	<b>1.8</b>	<b>4.3</b>	<b>4.0</b>	<b>7.8</b>	<b>2.2</b>	<b>9,551</b>
Male	1.8	3.8	3.2	12.4	2.0	4,321
Female	1.8	4.5	4.4	6.0	2.3	5,230
Number	8,152	1,399	1,276	122	9,551	9,551
<b>India 2005/06</b>	<b>0.3</b>	<b>1.0</b>	<b>1.0</b>	<b>1.2</b>	<b>0.3</b>	<b>99,838</b>
Male	0.3	1.5	1.4	1.8	0.4	46,506
Female	0.2	0.5	0.5	0.0	0.2	53,332
Number	96,440	3,390	3,020	358	99,838	99,838
<b>Kenya 2003</b>	<b>6.2</b>	<b>9.8</b>	<b>9.6</b>	<b>11.1</b>	<b>6.7</b>	<b>6,001</b>
Male	4.1	7.3	7.3	6.8	4.6	2,851
Female	8.1	12.2	11.9	14.9	8.7	3,151
Number	5,085	916	827	90	6,001	6,001

(Cont'd)

Table 10.3 – cont'd

Country/sex	Previously tested for HIV		Received result of last test		Total	Number
	Not tested	Tested	No	Yes		
<b>Lesotho 2004/05</b>	<b>21.6</b>	<b>37.1</b>	<b>37.9</b>	<b>33.2</b>	<b>23.5</b>	<b>5,019</b>
Male	17.4	35.7	37.4	23.8	19.2	2,001
Female	24.5	37.7	38.1	35.8	26.4	3,018
Number	4,392	627	520	107	5,019	5,019
<b>Malawi 2004</b>	<b>11.4</b>	<b>14.0</b>	<b>13.7</b>	<b>16.4</b>	<b>11.8</b>	<b>5,150</b>
Male	9.8	12.3	12.2	12.8	10.2	2,465
Female	12.9	16.0	15.5	18.3	13.3	2,686
Number	4,323	828	721	107	5,150	5,150
<b>Niger 2006</b>	<b>0.7</b>	<b>2.3</b>	<b>2.5</b>	<b>1.3</b>	<b>0.7</b>	<b>7,262</b>
Male	0.7	3.1	3.4	1.9	0.8	2,856
Female	0.7	1.2	1.4	0.0	0.7	4,406
Number	7,031	230	192	38	7,262	7,262
<b>Rwanda 2005</b>	<b>2.3</b>	<b>5.5</b>	<b>5.6</b>	<b>4.5</b>	<b>3.0</b>	<b>9,988</b>
Male	1.9	3.8	3.7	4.8	2.3	4,348
Female	2.7	6.6	6.9	4.4	3.6	5,641
Number	7,727	2,262	2,026	235	9,988	9,988
<b>Senegal 2005</b>	<b>0.7</b>	<b>1.3</b>	<b>1.7</b>	<b>0.7</b>	<b>0.7</b>	<b>7,412</b>
Male	0.4	2.3	2.6	0.0	0.5	3,183
Female	0.9	0.8	0.8	0.8	0.9	4,229
Number	7,031	381	241	140	7,412	7,412
<b>Tanzania 2003/04</b>	<b>6.4</b>	<b>10.5</b>	<b>11.0</b>	<b>6.8</b>	<b>7.0</b>	<b>10,747</b>
Male	5.8	8.8	9.2	6.0	6.3	4,994
Female	6.9	11.9	12.7	7.5	7.7	5,753
Number	9,084	1,663	1,435	228	10,747	10,747
<b>Uganda 2004/05</b>	<b>5.7</b>	<b>10.7</b>	<b>11.2</b>	<b>7.3</b>	<b>6.4</b>	<b>16,827</b>
Male	4.8	7.0	7.2	6.2	5.1	7,477
Female	6.5	13.1	13.9	8.0	7.5	9,350
Number	14,544	2,283	1,972	311	16,827	16,827
<b>Hai Phong, Vietnam 2005</b>	<b>0.3</b>	<b>1.9</b>	<b>2.0</b>	<b>0.0</b>	<b>0.5</b>	<b>1,675</b>
Male	0.6	2.8	3.0	0.0	0.9	754
Female	0.1	0.9	1.0	0.0	0.2	921
Number	1,471	204	190	14	1,675	1,675
<b>Zimbabwe 2005</b>	<b>17.0</b>	<b>21.9</b>	<b>22.4</b>	<b>19.0</b>	<b>18.1</b>	<b>12,796</b>
Male	13.9	17.5	17.7	15.8	14.5	5,848
Female	20.0	24.4	25.2	20.5	21.1	6,947
Number	9,904	2,892	2,461	431	12,796	12,796

Note: Some of the HIV prevalence estimates for 'received result of last test' for Burkina Faso, Ethiopia, Guinea, Kenya, Niger, and Hai Phong, Vietnam are based on small numbers of cases.

## 11 HIV Prevalence by Women's Status

### 11.1 Key Findings

- ❖ The findings are mixed regarding the effect of an age gap between sex partners on HIV prevalence. In 5 of the 10 countries with data, HIV prevalence is higher among women whose last sex partner was at least 10 years older. In the other five countries, HIV prevalence is higher among women whose partner was less than 10 years older, or was younger.
- ❖ HIV prevalence is higher among both men and women who agree that women can negotiate safer sex with their husband if he is infected with an STI.
- ❖ Similarly, HIV prevalence is generally higher among women who report active participation in household decision making.

### 11.2 Introduction

According to UNAIDS, globally women account for half of all individuals over age 15 living with HIV. In sub-Saharan Africa, nearly 60 percent of all HIV infections are among women (UNAIDS, 2008). Although women are biologically more susceptible to HIV infection, women's unequal status in society often contributes to their vulnerability to HIV infection (Gupta, 2002). This chapter presents data on the effect of several different measures of women's empowerment on HIV prevalence. The first measure is the age gap between women age 15-24 and their last sex partner. Additionally, women's ability to negotiate safer sex is measured by asking both men and women whether they agree that a wife is justified: (1) to ask a husband to use a condom, and (2) to refuse sex if the husband is infected with an STI. Another measure of empowerment is women's participation in major personal and household decision-making.

### 11.3 HIV Prevalence by Women's Age Gap with Partner

Examining age differences between young women and their partners is important because young women may have less power to negotiate safer sex including condom use with older men than with men their own age or younger (Gupta, 2002). Moreover, older men are more likely to be infected with HIV (UNAIDS, 2008). To assess the effect of age differences between sexual partners on HIV prevalence, women age 15-19 who had sex in the 12 months preceding the survey are asked the ages of all partners in the past 12 months. If they do not know the ages of their partners, they are asked if their partners were older or younger than they, and if older, whether they were 10 or more years older.

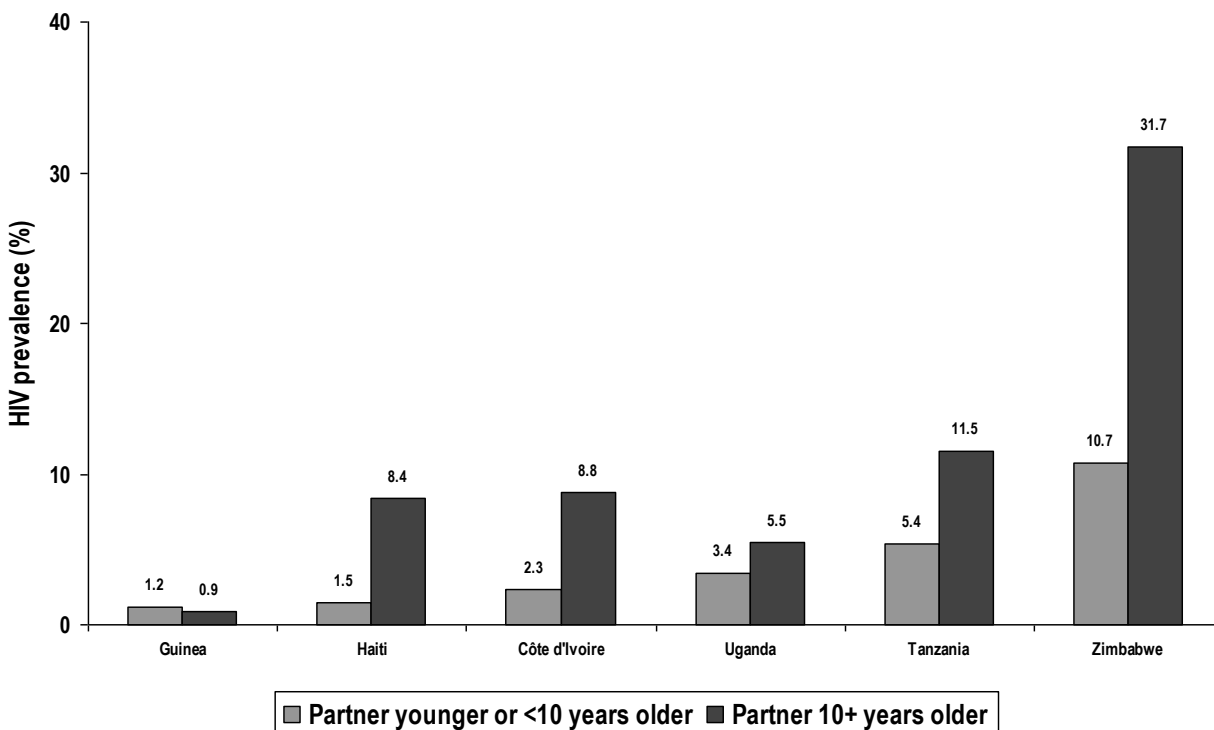
Data are available for 10 countries regarding the age-gap between women age 15-19 and their last sex partner (Table 11.1). In four of these countries—Ghana, Niger, Rwanda, and Senegal—the survey samples are too small to measure HIV prevalence among women age 15-19 whose most recent sex partner was more than 10 years older. In five of the remaining six countries—Côte d'Ivoire, Haiti, Tanzania, Uganda, and Zimbabwe—HIV prevalence is considerably higher among women age 15-19 whose most recent sex partner was more than 10 years older than the respondent (Figure 11.1). In Zimbabwe, for example, HIV prevalence among women whose last partner was at least 10 years older is 31.7 percent compared with 10.7 percent among women whose last partner was less than 10 years older, or was younger. In contrast, in Guinea HIV prevalence is slightly higher among women age 15-19 whose last partner was less than 10 years older, or was younger.

**Table 11.1. Observed HIV prevalence among women age 15-19, by age-gap with the most recent sex partner in last 12 months (among those who had sex in past 12 months)**

Country/sex	Age-gap with the last sex partner		Total
	Partner younger or <10 years older	Partner 10+ years older	
<b>Côte d'Ivoire 2005</b>			
Female	2.3	8.8	4.0
Number	142	48	190
<b>Haiti 2005</b>			
Female	1.5	8.4	1.7
Number	2,274	78	2,351
<b>Ghana 2003</b>			
Female	1.4	0.0	1.6
Number	227	9	332
<b>Guinea 2005</b>			
Female	1.2	0.9	1.2
Number	1,358	38	1,396
<b>Niger 2006</b>			
Female	0.5	0.0	0.5
Number	1,417	1	1,418
<b>Rwanda 2005</b>			
Female	2.3	0.0	2.3
Number	950	11	960
<b>Senegal 2005</b>			
Female	0.4	0.0	0.4
Number	1,152	21	1,173
<b>Tanzania 2003/04</b>			
Female	5.4	11.5	6.1
Number	478	67	545
<b>Uganda 2004/05</b>			
Female	3.4	5.5	3.5
Number	1,451	75	1,525
<b>Zimbabwe 2005</b>			
Female	10.7	31.7	12.5
Number	2,437	238	2,675

Note: For most countries, the HIV prevalence estimates for women age 15-19 with '10+ years older' partner are based on small numbers of cases.

**Figure 11.1. HIV prevalence among tested women 15-19 who had sex in past 12 months by age-gap with the most recent sex partner in last 12 months**



In Kenya data are available regarding the age gap between women age 15-24 and their first sex partner. In this case, the only country with such data, HIV prevalence is higher among women whose first sex partner was more than 10 years older with an HIV prevalence of 12.3 percent for women age 15-24 whose first sex partner was at least 10 years older compared with 7.5 percent when the age gap was less than 10 years (data not shown in Table).

#### **11.4 HIV Prevalence by Women’s Ability to Negotiate Safer Sex**

Women’s ability to negotiate safer sex is measured by asking respondents if a wife is justified to ask her husband to use a condom if he is infected with an STI. In 12 countries data are available for both men and women. In 11 of these countries, HIV prevalence is higher among respondents who agree with the statement that a wife is justified in asking her husband to use a condom if he has an STI (Table 11.2). This is true for both men and women in all countries except Kenya, where men who disagree with the statement have higher HIV prevalence, while women who agree have higher HIV prevalence.

In Ghana and India data are available for this measure only among men. These data are mixed, with HIV prevalence higher among Ghanaian men who disagree with the statement that a wife is justified in requesting condom use, while among Indian men HIV prevalence is higher among those who agree with the statement. In Guinea, Niger, and Rwanda, data are available only for women. For all three countries, HIV prevalence is higher among women who agree that a wife is justified to ask her husband to use a condom if he has an STI.

**Table 11.2. HIV prevalence among women and men age 15-49 who agreed that wife is justified for asking husband to use condom and refusing sex with husband if he has an STI**

Country/sex	Wife is justified for asking husband to use condom if he has an STI		Wife is justified for refusing sex with husband		Agreed that women can negotiate safer sex			Total	Number
	No	Yes	No	Yes	No	Any 1	Both		
<b>Burkina Faso 2003</b>	n/a	n/a	1.5	1.9	n/a	n/a	n/a	1.8	7,151
Male	n/a	n/a	1.5	1.9	n/a	n/a	n/a	1.9	3,065
Female	n/a	n/a	1.4	1.9	n/a	n/a	n/a	1.8	4,086
Number	n/a	n/a	1,346	5,805	n/a	n/a	n/a	7,151	7,151
<b>Cambodia 2005</b>	0.4	0.6	n/a	n/a	n/a	n/a	n/a	0.6	14,703
Male	0.0	0.6	0.5	0.6	0.0	0.6	0.6	0.6	6,656
Female	0.5	0.6	n/a	n/a	n/a	n/a	n/a	0.6	8,047
Number	1,344	13,360	258	6,398	79	229	6,348	14,703	14,703
<b>Cameroon 2004</b>	2.4	6.7	2.2	6.4	1.32	4.77	6.71	5.4	9,746
Male	1.5	5.0	1.5	4.8	1.1	3.0	5.1	4.1	4,619
Female	3.0	8.3	2.8	7.8	1.5	5.7	8.4	6.6	5,128
Number	2,806	6,941	2,186	7,560	1,791	1,409	6,546	9,746	9,746
<b>Côte d'Ivoire 2005</b>	5.5	4.5	4.6	4.7	6.16	3.16	4.78	4.7	8,436
Male	3.2	2.8	2.4	2.9	2.9	2.5	2.9	2.9	4,023
Female	6.3	6.5	5.4	6.8	7.2	3.4	7.2	6.4	4,413
Number	1,670	6,766	1,812	6,624	1,099	1,284	6,053	8,436	8,436
<b>Ethiopia 2005</b>	0.8	2.1	0.6	1.6	0.4	1.0	2.1	1.4	10,540
Male	0.2	1.4	0.2	1.1	0.1	0.2	1.4	0.9	4,804
Female	1.1	3.1	1.0	2.1	0.5	1.4	3.0	1.9	5,736
Number	5,130	5,410	1,784	8,755	1,438	4,038	5,063	10,540	10,540
<b>Ghana 2003</b>	n/a	n/a	2.4	2.1	n/a	n/a	n/a	2.2	9,142
Male	1.6	1.4	0.3	1.6	0.8	1.0	1.5	1.5	4,045
Female	n/a	n/a	3.5	2.6	n/a	n/a	n/a	2.7	5,097
Number	339	3,708	1,063	8,081	121	458	3,468	9,142	9,142
<b>Guinea 2005</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Male	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Female	1.2	2.4	1.1	2.2	0.9	1.5	2.5	1.9	3,742
Number	1,552	2,190	1,015	2,726	746	1,076	1,920	3,742	3,742
<b>Haiti 2005</b>	1.0	2.4	1.3	2.3	0.9	1.7	2.4	2.2	9,551
Male	0.6	2.3	0.8	2.3	0.5	2.0	2.3	2.0	4,321
Female	1.7	2.4	2.1	2.4	2.6	1.6	2.4	2.3	5,230
Number	1,349	8,202	1,436	8,115	937	910	7,703	9,551	9,551

(Cont'd)

Table 11.2 – cont'd

Country/sex	Wife is justified for asking husband to use condom if he has an STI		Wife is justified for refusing sex with husband		Agreed that women can negotiate safer sex			Total	Number
	No	Yes	No	Yes	No	Any 1	Both		
<b>India 2005/06</b>	<b>n/a</b>	<b>n/a</b>	<b>0.3</b>	<b>0.3</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.3</b>	<b>99,838</b>
Male	0.2	0.4	0.3	0.4	0.2	0.4	0.4	0.4	46,506
Female	n/a	n/a	0.3	0.2	n/a	n/a	n/a	0.2	53,332
Number	7,677	38,683	20,409	79,410	5,181	5,714	3,5456	99,838	99,838
<b>Kenya 2003</b>	<b>5.4</b>	<b>7.1</b>	<b>4.9</b>	<b>6.9</b>	<b>3.1</b>	<b>6.2</b>	<b>7.1</b>	<b>6.7</b>	<b>6,001</b>
Male	5.2	4.4	0.7	4.9	1.3	5.1	4.6	4.6	2,851
Female	5.5	9.5	7.0	8.9	4.2	7.1	9.5	8.7	3,151
Number	1,203	4,799	592	5,409	301	1,193	4,507	6,001	6,001
<b>Lesotho 2004/05</b>	<b>15.0</b>	<b>24.8</b>	<b>21.5</b>	<b>24.1</b>	<b>14.97</b>	<b>21.63</b>	<b>24.91</b>	<b>23.5</b>	<b>5,019</b>
Male	12.9	20.5	17.4	19.9	10.5	18.8	20.6	19.2	2,001
Female	17.9	27.3	25.8	26.6	20.5	24.8	27.2	26.4	3,018
Number	629	4,390	1,154	3,865	321	1,140	3,557	5,019	5,019
<b>Malawi 2004</b>	<b>10.2</b>	<b>12.2</b>	<b>9.1</b>	<b>12.6</b>	<b>7.3</b>	<b>10.8</b>	<b>12.7</b>	<b>11.8</b>	<b>5,150</b>
Male	8.2	10.6	7.4	10.9	6.5	8.3	11.2	10.2	2,465
Female	11.9	13.6	10.3	14.4	7.8	13.0	14.2	13.3	2,686
Number	949	4,201	1,140	4,010	364	1,362	3,424	5,150	5,150
<b>Niger 2006</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Male	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Female	0.5	0.8	0.7	0.7	0.62	0.54	0.83	0.7	4,406
Number	1,798	2,608	1,210	3,196	907	1,193	2,305	4,406	4,406
<b>Rwanda 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>3.4</b>	<b>3.0</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>3.0</b>	<b>9,988</b>
Male	n/a	n/a	1.7	2.3	n/a	n/a	n/a	2.3	4,348
Female	2.2	3.8	4.0	3.6	1.78	3.54	3.71	3.6	5,641
Number	770	4,871	668	9,320	239	781	4,622	9,988	9,988
<b>Senegal 2005</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Male	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Female	n/a	n/a	0.6	1.0	n/a	n/a	n/a	0.9	4,229
Number	n/a	n/a	758	3,471	n/a	n/a	n/a	4,229	4,229
<b>Tanzania 2003/04</b>	<b>6.1</b>	<b>7.4</b>	<b>4.7</b>	<b>7.5</b>	<b>3.3</b>	<b>7.9</b>	<b>7.4</b>	<b>7.0</b>	<b>10,747</b>
Male	5.6	6.5	3.8	6.7	1.9	8.3	6.4	6.3	4,994
Female	6.4	8.3	5.5	8.2	4.4	7.6	8.3	7.7	5,753
Number	2,945	7,802	1,794	8,953	1,179	2,380	7,187	10,747	10,747
<b>Uganda 2004/05</b>	<b>5.1</b>	<b>6.8</b>	<b>5.5</b>	<b>6.7</b>	<b>4.9</b>	<b>5.8</b>	<b>6.9</b>	<b>6.4</b>	<b>16,827</b>
Male	4.2	5.2	4.5	5.2	3.9	4.9	5.2	5.1	7,477
Female	5.6	8.3	5.9	8.1	5.3	6.2	8.7	7.5	9,350
Number	3,943	12,884	3,862	12,965	2,081	3,643	11,103	16,827	16,827

(Cont'd)

Table 11.2 – cont'd

Country/sex	Wife is justified for asking husband to use condom if he has an STI		Wife is justified for refusing sex with husband		Agreed that women can negotiate safer sex			Total	Number
	No	Yes	No	Yes	No	Any 1	Both		
<b>Hai Phong, Vietnam 2005</b>	<b>0.0</b>	<b>0.6</b>	<b>0.3</b>	<b>0.6</b>	<b>0.0</b>	<b>0.4</b>	<b>0.6</b>	<b>0.5</b>	<b>1,675</b>
Male	0.0	0.9	0.0	1.0	0.0	0.0	1.0	0.9	754
Female	0.0	0.3	0.3	0.2	0.0	0.5	0.2	0.2	921
Number	176	1,499	422	1,253	155	287	1,233	1,675	1,675
<b>Zimbabwe 2005</b>	<b>14.1</b>	<b>18.9</b>	<b>15.5</b>	<b>18.8</b>	<b>11.8</b>	<b>17.0</b>	<b>19.1</b>	<b>18.1</b>	<b>12,796</b>
Male	9.2	15.5	13.3	14.9	9.4	13.1	15.5	14.5	5,848
Female	17.7	21.8	17.5	22.0	13.6	20.5	22.1	21.1	6,947
Number	2,016	10,780	2,730	10,065	964	2,817	9,014	12,796	12,796

Women's ability to negotiate safer sex is also measured by asking respondents whether a wife is justified in refusing sex with a husband who is infected with an STI. Data are available from 15 countries for both men and women on this measure. In 12 of these countries, HIV prevalence is higher among respondents who agree that a woman is justified in refusing sex if her husband has an STI, both overall and for men and women separately (Table 11.2). In India there is no difference in HIV prevalence by agreement or disagreement with the statement. However, HIV prevalence is slightly higher among men who agree that a wife can refuse sex, and slightly higher among women who disagree. In Ghana and Rwanda HIV prevalence is higher among those who disagree that a wife is justified to refuse sex with a husband who is infected with an STI, but there are differences by respondent's sex. For men, HIV prevalence is higher among those who agree that a wife can refuse sex but higher among women who disagree.

In Cambodia data are available on this measure only for men. In this case, HIV prevalence is slightly higher among men who agree that a wife can refuse sex if her husband has an STI. In Guinea, Niger, and Senegal, data are available only for women. In Guinea and Senegal HIV prevalence is higher among women who agree that a wife can refuse sex, while in Niger there is no difference in HIV prevalence among women by whether or not they agree with the statement.

Participants who agree with either one or both of the above statements about refusal are considered to agree that women are justified in negotiating safer sex with their husbands. Data for this composite measure are not available from Burkina Faso and Senegal. In all other countries studied, HIV prevalence generally is higher among respondents who agree that women can negotiate safer sex. In 10 of the countries where data are available for both women and men—Cameroon, Ethiopia, Haiti, Kenya, Lesotho, Malawi, Tanzania, Uganda, the Hai Phong province of Vietnam, and Zimbabwe—HIV prevalence is higher among respondents who agree that wives are justified in negotiating safe sex. There are no differences by respondents' sex. In Guinea, Niger, and Rwanda, where data are available only for women, HIV prevalence is higher among women who agree with either or both statements. In Cambodia, Ghana, and India, where data are available only for men, HIV prevalence is higher among men who agree.



## **11.5 HIV Prevalence by Women's Participation in Household Decision-Making**

Data are available for 14 countries on HIV prevalence by women's participation in household decision-making. Surveys measure women's participation in household decision-making in four key aspects: (1) health care for themselves, (2) large household purchases, (3) purchases for daily needs, and (4) visiting family members or relatives.

In 12 of the 14 countries, HIV prevalence is higher among women who participate in decisions regarding their own health care (Table 11.3). However, in India there is no difference, and in Zimbabwe the association is slightly reversed. In the same 12 countries, HIV prevalence is higher among women who participate in decisions on large household purchases. In India and Zimbabwe there is no difference in HIV prevalence by this measure. In 11 of the 14 countries with data, HIV prevalence is higher among women who participate in daily household purchase decisions, while in India there is no difference by this measure. In Zimbabwe and Ethiopia HIV prevalence is slightly higher among women who do not participate in daily purchase decisions. Finally, in 12 of the 14 countries, HIV prevalence is higher among women who usually participate in decisions about visits to family members or relatives. In India there is no difference in HIV prevalence by this measure, while in Zimbabwe prevalence is slightly lower among women who participate in decisions about visits.

**Table 11.3. HIV prevalence among women age 15-49, by their participation in household decision-making**

Country/sex	Decision on own health care		Decision on large household purchases		Decision on purchasing daily need items		Decision on visiting family and relative		Participation in household decision-making				Total	
	No	Yes	No	Yes	No	Yes	No	Yes	None	Any 1	Any 2	Any 3		All 4
<b>Burkina Faso 2003</b>														
Female	1.5	3.1	1.7	2.2	1.8	1.9	1.5	2.4	1.4	2.0	2.5	1.3	2.9	1.8
Number	4,642	2,509	4,586	2,565	4,223	2,928	3,869	3,282	2,947	1,255	610	543	1,795	4,086
<b>Cameroon 2004</b>														
Female	4.7	10.6	5.3	9.5	4.9	8.8	4.7	9.1	3.6	7.5	7.7	7.4	10.8	6.6
Number	3,409	1,719	3,463	1,665	2,875	2,253	2,849	2,279	2,136	785	636	422	1,148	5,128
<b>Ethiopia 2005</b>														
Female	1.7	2.0	1.8	1.9	2.0	1.7	1.8	1.9	2.1	0.2	1.2	1.9	2.1	1.9
Number	3,335	2,401	3,712	2,024	2,625	3,111	2,802	2,934	2,342	305	632	926	1,530	5,736
<b>Ghana 2003</b>														
Female	1.4	3.9	1.7	4.0	1.5	3.8	1.5	3.9	1.1	2.0	2.9	3.2	4.3	2.7
Number	2,467	2,630	2,825	2,271	2,486	2,610	2,481	2,616	1,739	646	482	399	1,830	5,097
<b>Guinea 2005</b>														
Female	1.3	2.7	1.3	2.7	1.4	2.5	1.3	2.6	1.3	1.1	1.1	3.0	2.9	1.9
Number	2,229	1,513	2,208	1,533	1,969	1,772	1,972	1,770	1,512	427	398	252	1,152	3,742
<b>Haiti 2005</b>														
Female	1.8	3.2	1.9	3.1	1.8	2.9	1.5	3.2	1.5	3.4	1.6	3.2	3.3	2.3
Number	3,307	1,923	3,253	1,977	2,836	2,394	2,635	2,595	2,422	322	435	508	1,543	5,230
<b>India 2005/06</b>														
Female	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.2
Number	28,264	25,067	32,346	20,985	29,507	23,825	29,257	24,074	21,565	5,213	5,520	6,433	14,600	53,332
<b>Kenya 2003</b>														
Female	6.6	10.7	7.3	11.5	6.8	10.8	7.0	10.3	5.8	8.4	8.9	7.6	12.8	8.7
Number	1,540	1,611	2,117	1,034	1,635	1,516	1,521	1,630	960	551	480	362	799	3,151

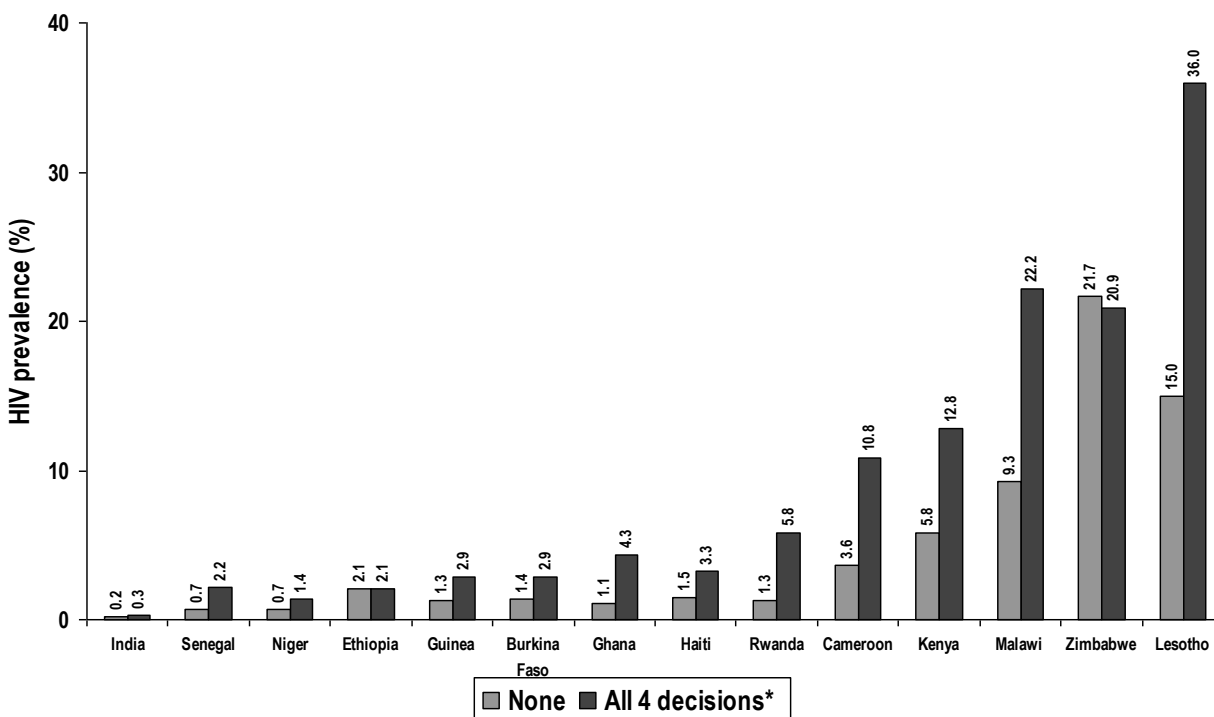
(Cont'd)

Table 11.3 – cont'd

Country/sex	Decision on own health care		Decision on large household purchases		Decision on purchasing daily need items		Decision on visiting family and relative		Participation in household decision-making					
	No	Yes	No	Yes	No	Yes	No	Yes	None	Any 1	Any 2	Any 3	All 4	Total
<b>Lesotho 2004/05</b>														
Female	20.6	32.9	21.2	34.3	16.6	33.0	18.2	34.3	15.0	21.8	29.9	32.6	36.0	26.4
Number	1,580	1,438	1,813	1,206	1,208	1,810	1,473	1,545	912	426	381	384	915	3,018
<b>Malawi 2004</b>														
Female	10.8	18.5	11.2	20.0	10.7	18.2	8.8	16.4	9.3	11.3	15.1	13.0	22.2	13.3
Number	1,818	867	2,039	647	1,749	936	1,082	1,604	917	737	307	194	530	2,686
<b>Niger 2006</b>														
Female	0.7	0.9	0.6	1.1	0.7	0.9	0.6	0.9	0.7	0.7	0.4	0.3	1.4	0.7
Number	3,289	1,116	3,753	653	3,560	846	3,247	1,159	2,591	907	295	177	436	4,406
<b>Rwanda 2005</b>														
Female	1.7	5.4	2.1	5.4	1.8	5.4	2.0	4.6	1.3	2.8	3.3	3.9	5.8	3.6
Number	2,742	2,899	3,061	2,580	2,795	2,846	2,235	3,406	1,838	658	554	398	2,193	5,641
<b>Senegal 2005</b>														
Female	0.6	1.9	0.7	1.7	0.7	1.5	0.8	1.2	0.7	0.3	1.9	0.7	2.2	0.9
Number	3,367	862	3,564	665	3,289	940	2,983	1,245	2,485	831	300	172	441	4,229
<b>Zimbabwe 2005</b>														
Female	21.3	20.9	21.3	21.0	21.4	20.8	21.8	20.6	21.7	18.0	20.7	20.3	20.9	21.1
Number	3,539	3,409	3,212	3,735	3,302	3,646	3,238	3,709	2,936	125	242	687	2,957	6,947

In 12 of 14 countries with data on a composite of all four measures of women’s participation in household decisions, HIV prevalence is much higher among women who participate in all four measures than among women who do not participate in any of the four measures (Figure 11.2). Ethiopia and Zimbabwe are exceptions to this pattern. In Ethiopia HIV prevalence is the same for women who participate in none of the four decisions as for women who participate in all four. In Zimbabwe HIV prevalence is slightly higher among women who participate in none of the four household decisions (21.7 percent) than those who participate in all four decisions (20.9 percent).

**Figure 11.2. HIV prevalence among tested women age 15-49 by their participation in household decision-making**



\*The four household decisions include: decision on own health care, decision on large household purchases, decision on purchasing daily need items, and decision on visiting family and relative.

## 12 Summary and Conclusions

### 12.1 Summary

This report analyzes data from 22 DHS and AIS surveys that included HIV testing and were conducted between 2001 and 2006. In most of these surveys, nationally representative samples of women age 15-49 and men age 15-59 were tested for HIV.

Inclusion of HIV testing as part of national DHS and AIS surveys provides direct representative data on the distribution of HIV infection among the population and allows individual HIV test results to be linked with information collected in the survey on demographic, socioeconomic, and behavioral characteristics of the respondents. These features help to overcome limitations of data obtained from HIV surveillance among pregnant women attending selected antenatal clinics.

Nonetheless, several limitations of the survey data should be kept in mind in interpreting the study's findings. Findings may be biased to the extent that the survey respondents misreport their behaviors. Also, the findings reflect associations but cannot determine causality, and some associations may be due to reverse causality. In addition, some data on associations may be biased if HIV infection preceded the behaviors reported for the 12 months preceding the survey.

### 12.2 Key Findings

HIV prevalence varies considerably among the 22 countries studied. In four sub-Saharan African countries HIV prevalence is above 10 percent for the general population, while in three Asian countries it is below 1 percent. In most countries HIV prevalence is higher among women than men. Widowed and divorced individuals are at highest risk for HIV infection, and never-married individuals are at lowest risk.

HIV prevalence is higher in urban areas than in rural areas and also appears to be related to socioeconomic status, being higher among people who have more education, work in the professional and manual/domestic sectors, and have more household wealth. Such findings may reflect an association between these characteristics and sexual risk-taking. Similarly, for men who report being away from their home at least once in the past 12 months, the number of times the individual left home, but not the amount of time spent away from home during an absence, is related to higher levels of HIV prevalence. More absences from home may lead to more exposure to risk-taking and potential HIV infection.

There is little difference in HIV prevalence among respondents by whether they have correct information about modes of HIV transmission, while knowledge of all three methods of HIV prevention is associated with higher HIV prevalence.

As might be expected, higher-risk sexual behaviors are closely related to higher HIV prevalence. In general, starting sex earlier, having more lifetime partners, having sex outside of marriage, and having sex while under the influence of alcohol are all associated with higher HIV prevalence. Similarly, not using condoms at last sex and/or not using condoms at last sex with a higher-risk partner are generally associated with higher HIV prevalence, especially among women. Also, youth age 15-24 who avoid sex, either by abstaining or delaying the onset of sexual activity, have lower HIV prevalence in the majority of countries.

There appears to be no clear pattern of association between male circumcision and HIV prevalence. In 8 of 18 countries with data, as expected, HIV prevalence is lower among circumcised men, while in the remaining 10 countries HIV prevalence is higher among circumcised men.

In most countries, receiving multiple medical injections in the recent past is associated with being HIV-infected, for both women and men, probably reflecting the fact that some medical injections are given with re-used, non-sterilized equipment. Also, in most countries, having an STI or STI symptoms in the past 12 months is associated with higher HIV prevalence, both overall and for men and women separately.

In all countries studied, HIV prevalence is higher among those who report having been previously tested for HIV, both overall and for men and women separately. This is to be expected, given that people engaging in risky behaviors and suspecting HIV infection are more likely to be HIV-positive and more likely to have received HIV testing.

HIV prevalence is higher among both men and women who agree that women can negotiate safer sex with their husband if he is infected with an STI. Similarly, HIV prevalence is generally higher among women who report participation in household decision making. These positive associations between measures of women's empowerment and HIV prevalence may be due to more empowered women having higher education, greater work force participation, and higher wealth status, which have been associated with higher prevalence of HIV (Mishra et al., 2007b).

### **12.3 Program and Policy Implications**

HIV-related surveys provide HIV/AIDS program managers and policymakers with valuable information at the national and sub-national levels that helps them monitor and evaluate existing programs and to effectively design new strategies for addressing the epidemic. Inclusion of HIV testing as part of national DHS and AIS surveys provides direct representative data on the distribution of HIV infection among the population and allows individual HIV test results to be linked with information collected in the survey on demographic, socioeconomic, and behavioral characteristics of the respondents.

These features help to overcome limitations of data obtained from HIV surveillance among pregnant women attending selected antenatal clinics. Additionally, HIV prevalence data from population-based surveys can help calibrate estimates of HIV prevalence obtained from clinic-based surveillance and can substantially improve the accuracy of national estimates of HIV prevalence in countries with generalized epidemics.

## References

- Agot, K.E., J.O. Ndinya-Achola, J.K. Kreiss, and N.S. Weiss. 2004. Risk of HIV-1 in rural Kenya: a comparison of circumcised and uncircumcised men. *Epidemiology*, 15(2):157-163.
- Auvert, B., A. Buvé, E. Lagarde, M. Kahindo, J. Chege, N. Rutenberg, R. Musonda, M. Laourou, E. Akam, and H.A. Weiss, and Study Group on the Heterogeneity of HIV Epidemics in African Cities. 2001. Male circumcision and HIV infection in four cities in sub-Saharan Africa. *AIDS*, 15(Suppl 4):S31-S40.
- Buvé, A., E. Lagarde, M. Caraël, N. Rutenberg, B. Ferry, J.R. Glynn, M. Laourou, E. Akam, J. Chege, and T. Sukwa, and Study Group on Heterogeneity of HIV Epidemics in African Cities. 2001. Interpreting sexual behavior data: validity issues in the multicentre study on factors determining the differential spread of HIV in four African cities. *AIDS*, 15(Suppl 4):S117-S126.
- Case, A., C. Paxson, and J. Ableidinger. 2004. Orphans in Africa: parental death, poverty, and school enrollment. *Demography*, 41:483-508.
- Cayemittes, Michel, Marie Florence Placide, Soumaïla Mariko, Bernard Barrère, Blaise Sévère, Canez Alexandre. 2007. *Enquête Mortalité, Morbidité et Utilisation des Services, Haïti, 2005-2006*. Calverton, Maryland, USA: Ministère de la Santé Publique et de la Population, Institut Haïtien de l'Enfance et Macro International Inc.
- Cellule de Planification et de Statistique du Ministère de la Santé (CPS/MS) [Mali], Direction Nationale de la Statistique et de l'Informatique (DNSI) [Mali] et ORC Macro. 2002. *Enquête Démographique et de Santé au Mali 2001*. Calverton, Maryland, USA: CPS/MS, DNSI et ORC Macro.
- Central Bureau of Statistics (CBS) [Kenya], Ministry of Health (MOH) [Kenya], and ORC Macro. 2004. *Kenya Demographic and Health Survey 2003*. Calverton, Maryland: CBS, MOH, and ORC Macro.
- Central Statistical Agency (CSA) [Ethiopia] and ORC Macro. 2006. *Ethiopia Demographic and Health Survey 2005*. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ORC Macro.
- Central Statistical Office (CSO) [Zimbabwe] and Macro International Inc. 2007. *Zimbabwe Demographic and Health Survey 2005-06*. Calverton, Maryland: CSO and Macro International Inc.
- Central Statistical Office [Zambia], Central Board of Health [Zambia], and ORC Macro. 2003. *Zambia Demographic and Health Survey 2001-2002*. Calverton, Maryland, USA: Central Statistical Office, Central Board of Health, and ORC Macro.
- Centro de Estudios Sociales y Demográficos (CESDEM) [Dominican Republic] and MEASURE DHS+/ORC Macro. 2003. *República Dominicana Encuesta de Demografía y Salud 2002*. Calverton, Maryland, USA: Centro de Estudios Sociales y Demográficos, CESDEM and MEASURE DHS+/ORC Macro.

Cowan, F., J. Humphrey, R. Ntozini, K. Mutasa, R. Morrow, and P. Iliff. 2008. Maternal Herpes simplex virus type 2 infection, syphilis and risk of intra-partum transmission of HIV-1: results of a case control study. *AIDS*, 22(2):193-201.

DeCock, K., M. Fowler, E. Mercier, I. de Vincenzi, J. Saba, E. Hoff, D. Alnwick, M. Rogers, and N. Shaffer. 2000. Prevention of mother-to-child HIV transmission in resource-poor countries: translating research into policy and practice. *JAMA*, 283(9):1175-1181.

Direction Nationale de la Statistique (DNS) (Guinée) et ORC Macro. 2006. Enquête Démographique et de Santé, Guinée 2005. Calverton, Maryland, U.S.A. : DNS et ORC Macro.

General Statistical Office (GSO) [Vietnam], National Institute of Hygiene and Epidemiology (NIHE) [Vietnam] and ORC Macro. 2006. Vietnam Population and AIDS Indicator Survey 2005. Calverton, Maryland, USA: GSO, NIHE, and ORC Macro.

Ghana Statistical Service (GSS), Noguchi Memorial Institute for Medical Research (NMIMR), and ORC Macro. 2004. Ghana Demographic and Health Survey 2003. Calverton, Maryland: GSS, NMIMR, and ORC Macro.

Gray, R., M. Wawer, R. Brookmeyer, N. Sewankambo, D. Serwadda, F. Wabwire-Mangen, T. Lutalo, X. Li, T. van Cott, T. Quinn, and Rakai Project Team. 2001. Probability of HIV-1 transmission per coital act in monogamous, heterosexual, HIV-1-discordant couples in Rakai, Uganda. *Lancet*, 357:1149-1153.

Gupta, G. 2002. How men's power over women fuels the HIV epidemic. *BMJ*, 324:184-185.

Hunter, S. 2003. *AIDS in Africa: Who cares?* Palgrave MacMillan, New York City, New York, USA.

Institut National de la Statistique (INS) [Cameroun] et ORC Macro. 2004. Enquête Démographique et de Santé du Cameroun 2004. Calverton, Maryland, USA: INS et ORC Macro.

Institut National de la Statistique (INS) [Niger] et Macro International Inc. 2007. Enquête Démographique et de Santé et à Indicateurs Multiples du Niger 2006. Calverton, Maryland, USA: INS et Macro International Inc.

Institut National de la Statistique (INS) et Ministère de la Lutte contre le Sida [Côte d'Ivoire] et ORC Macro. 2006. Enquête sur les Indicateurs du Sida, Côte d'Ivoire 2005. Calverton, Maryland, U.S.A. : INS et ORC Macro.

Institut National de la Statistique du Rwanda (INSR) [Rwanda] and ORC Macro. Rwanda Demographic and Health Survey 2005. Calverton, Maryland, USA: INSR and ORC Macro. 2006.

Institut National de la Statistique et de la Démographie (INSD) [Burkina Faso] et ORC Macro. 2004. Enquête Démographique et de Santé du Burkina Faso 2003. Calverton, Maryland, USA: INSD et ORC Macro.



- International Institute for Population Sciences (IIPS) [India] and Macro International. 2007. National Family Health Survey (NFHS-3), 2005–06: India: Volume I. Mumbai: IIPS.
- International Monetary Fund (IMF). 2004. *The Macroeconomics of HIV/AIDS*. Washington, D.C.: IMF.
- Kane, A., J. Lloyd, M. Zaffran, L. Simonsen, and M. Kane. 1999. Transmission of hepatitis B, hepatitis C and human immunodeficiency viruses through unsafe injections in the developing world: model-based regional estimates. *Bulletin of the World Health Organization*, 77:801-807.
- Lyons, M. 2000. The impact of HIV and AIDS on children, families and communities: risks and realities of childhood during the HIV epidemic. UNDP Working Paper No. 30. Available at: <http://www.undp.org/hiv/publications/issues/english/issue30e.html>. Accessed: February 4, 2009.
- Macro International. 2007a. *HIV testing field manual: demographic and health surveys*. Calverton, Maryland: Macro International Inc.
- Macro International. 2007b. *HIV testing laboratory manual: demographic and health surveys*. Calverton, Maryland: Macro International Inc.
- Mensch, B.S., P.C. Hewett, and A.S. Erulkar. 2003. The reporting of sensitive behavior by adolescents: a methodological experiment in Kenya. *Demography*, 40:247-268.
- Mermin, J., J. Lule, and J. Ekwaru. 2006. Malaria and CD4 cell count decline among persons with HIV. *Journal of Acquired Immune Deficiency Syndromes*, 41:12-30.
- Mishra, V., M. Vaessen, J.T. Boerma, F. Arnold, A. Way, B. Barrere, A. Cross, R. Hong, J. Sangha. 2006. HIV testing in national population-based surveys: experience from the Demographic and Health Surveys. *Bulletin of the World Health Organization*, 84:537-545.
- Mishra, V., F. Arnold, F. Otieno, A. Cross, R. Hong. 2007a. Education and nutritional status of orphans and children of HIV-infected parents in Kenya. *AIDS Education and Prevention*, 19:383-395.
- Mishra, V., S.B. Van Assche, R. Greener, M. Vaessen, R. Hong, P.D. Ghys, J.T. Boerma, A. Van Assche, S. Khan, S. Rutstein. 2007b. HIV Infection Does Not Disproportionately Affect the Poorer in Sub-Saharan Africa. *AIDS*, 21(Suppl 7): S17-S28.
- Mishra, V., B. Barrere, R. Hong, and S. Khan. 2008a. Evaluation of bias in HIV seroprevalence estimates from national household surveys. *Sexually Transmitted Infections*, 84(Suppl D):i63-i70.
- Mishra, V., B. Kottiri, L. Liu, R. Hong, S. Khan, and A. Opio. 2008b. The association between medical injections and prevalent HIV infection: evidence from a national sero-survey in Uganda. DHS Working Papers No. 42. Calverton, Maryland, USA: Macro International Inc.
- Mishra, V., S. Khan, L. Liu, and B. Kottiri. 2008c. Medical injection use and HIV in sub-Saharan Africa. DHS Comparative Reports No. 21. Calverton, Maryland, USA: Macro International Inc.

Mishra, Vinod, and Simona Bignami-Van Assche. 2008. Orphans and vulnerable children in high HIV-prevalence countries in sub-Saharan Africa. DHS Analytical Studies No. 15. Calverton, Maryland, USA: Macro International Inc.

National Institute of Public Health (NIPH) [Cambodia], National Institute of Statistics (NIS) [Cambodia], and ORC Macro. 2006. Cambodia Demographic and Health Survey 2005. Phnom Penh, Cambodia and Calverton, Maryland, USA: National Institute of Public Health, National Institute of Statistics and ORC Macro.

National Statistical Office (NSO) [Malawi], and ORC Macro. 2005. Malawi Demographic and Health Survey 2004. Calverton, Maryland: NSO and ORC Macro.

Ndiaye, Salif, et Mohamed Ayad. 2006. Enquête Démographique et de Santé au Sénégal 2005. Calverton, Maryland, USA : Centre de Recherche pour le Développement Humain [Sénégal] et ORC Macro.

Ng'weshemi, J., M. Urassa, R. Isingo, G. Mwaluko, J. Ngalula, T. Boerma, M. Marston, and B. Zaba. 2003. HIV impact on mother and child mortality in rural Tanzania. *Journal of Acquired Immune Deficiency Syndrome*, 33:393-404.

Royce, R., A. Sena, W. Cates, and M. Cohen. 1997. Sexual transmission of HIV. *NEJM*, 336(15):1072-1078.

Rutstein, S.O., and K. Johnson. 2004. The DHS wealth index. DHS Comparative Reports No. 6. Calverton, Maryland: ORC Macro.

Schulz, K.F. 2004. Population-based interventions for reducing sexually transmitted infections, including HIV infection: RHL commentary (last revised: 24 June 2004). The WHO Reproductive Health Library; Geneva, Switzerland: World Health Organization.

Smith, TW. 1992. Discrepancies between men and women in reporting number of sexual partners: a summary from four countries. *Social Biology*, 39(3-4):203-211.

Tanzania Commission for AIDS (TACAIDS) [Tanzania], National Bureau of Statistics (NBS) [Tanzania], and ORC Macro. 2005. Tanzania HIV/AIDS Indicator Survey 2003-04. Calverton, Maryland, USA: TACAIDS, NBS, and ORC Macro.

ter Kuile, F., M. Parise, F. Verhoeff, V. Udhayakumar, R. Newman, A. van Eijk, S. Rogerson, and R. Stekelee. 2004. The burden of co-infection with human immunodeficiency virus type 1 and malaria in pregnant women in sub-Saharan Africa. *American Journal of Tropical Medicine and Hygiene*, 71:41-54.

Uganda Bureau of Statistics (UBOS) [Uganda] and Macro International Inc. 2007. Uganda Demographic and Health Survey 2006. Calverton, Maryland, USA: UBOS and Macro International Inc.

UNAIDS. 2008. 2008 report on the global AIDS epidemic. Geneva, Switzerland: UNAIDS.

UNAIDS/WHO, Working Group on Global HIV/AIDS and STI Surveillance. 2005. Guidelines for measuring national HIV prevalence in population-based surveys. Geneva, Switzerland: UNAIDS/WHO.

UNAIDS/WHO. 2003. A history of the HIV/AIDS epidemic with emphasis on Africa. Report from the workshop on HIV/AIDS and adult mortality in developing countries. New York, 8-13 September 2003. Available at: [http://un.org/esa/population/publications/adultmort/UNAIDS\\_WHOpaper2.pdf](http://un.org/esa/population/publications/adultmort/UNAIDS_WHOpaper2.pdf). Accessed: February 4, 2009.

UNICEF and UNAIDS. 2006. Africa's orphaned and vulnerable generations: children affected by AIDS. New York: UNICEF and UNAIDS.

UNDP. 2001. HIV/AIDS: implications for poverty reduction. New York, USA: UNDP.

WHO. 2006. World health report, 2006. Working together for health. Geneva, Switzerland: WHO.

WHO. 2007. Global tuberculosis control: surveillance, planning and financing. Geneva, Switzerland: WHO.

WHO. 2007. Report of the Global Injection Safety and Infection Control Meeting. Geneva, Switzerland, 23-25 October 2007. Available at: [www.who.int/injection\\_safety/sign/meetings/SIGN2007MeetRep-22Jan08.pdf](http://www.who.int/injection_safety/sign/meetings/SIGN2007MeetRep-22Jan08.pdf). Accessed: February 12, 2009.

WHO/UNICEF. 2005. World malaria report 2005. Geneva, Switzerland: WHO and UNICEF.



## DHS Comparative Reports Series

1. Westoff, Charles F. 2001. *Unmet Need at the End of the Century*.
2. Westoff, Charles F., and Akinrinola Bankole. 2002. *Reproductive Preferences in Developing Countries at the Turn of the Century*.
3. Rutstein, Shea O. 2002. *Fertility Levels, Trends, and Differentials 1995-1999*.
4. Mahy, Mary. 2003. *Childhood Mortality in the Developing World: A Review of Evidence from the Demographic and Health Surveys*.
5. Westoff, Charles F. 2003. *Trends in Marriage and Early Childbearing in Developing Countries*.
6. Rutstein, Shea O., and Kiersten Johnson. 2004. *The DHS Wealth Index*.
7. Yoder, P. Stanley, Nouredine Abderrahim, and Arlinda Zhuzhuni. 2004. *Female Genital Cutting in the Demographic and Health Surveys: A Critical and Comparative Analysis*.
8. Stallings, Rebecca. 2004. *Child Morbidity and Treatment Patterns*.
9. Rutstein, Shea O., and Iqbal H. Shah. 2004. *Infecundity, Infertility, and Childlessness in Developing Countries*.
10. Mukuria, Altrena, Jeanne Cushing, and Jasbir Sangha. 2005. *Nutritional Status of Children: Results from the Demographic and Health Surveys, 1994-2001*.
11. Mukuria, Altrena, Casey Aboulafia, and Albert Themme. 2005. *The Context of Women's Health: Results from the Demographic and Health Surveys, 1994-2001*.
12. Yoder, P. Stanley, Nouredine Abderrahim, and Arlinda Zhuzhuni. 2005. *L'excision dans les Enquêtes Démographiques et de Santé: Une Analyse Comparative*.
13. Garenne, Michel, and Julien Zwang. 2006. *Premarital Fertility and Ethnicity in Africa*.
14. Westoff, Charles F. 2006. *New Estimates of Unmet Need and the Demand for Family Planning*.
15. Fort, Alfredo L., Monica T. Kothari, and Nouredine Abderrahim. 2006. *Postpartum Care: Levels and Determinants in Developing Countries*.
16. Khan, Shane, Vinod Mishra, Fred Arnold, and Nouredine Abderrahim. 2007. *Contraceptive Trends in Developing Countries*.
17. Johnson, Kiersten, and Yuan Gu. 2009. *Men's Reproductive Health: Findings from Demographic and Health Surveys, 1995-2005*.
18. Garenne, M. Michel. 2008. *Fertility Changes in Sub-Saharan Africa*.
19. Khan, Shane, and Vinod Mishra. 2008. *Youth Reproductive and Sexual Health*.
20. Kishor, Sunita, and Lekha Subaiya. 2008. *Understanding Women's Empowerment: A Comparative Analysis of Demographic and Health Surveys (DHS) Data*.
21. Mishra, Vinod, Shane Khan, Li Liu, and Benny Kottiri. 2008. *Medical Injection Use and HIV in Sub-Saharan Africa*.
22. Mishra, Vinod, Amy Medley, Rathavuth Hong, Yuan Gu, and Bryant Robey. 2009. *Levels and Spread of HIV Seroprevalence and Associated Factors: Evidence from National Household Surveys*.