A Gender-Based Analysis of HIV/AIDS in Belize

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Regional Office of the World Health Organization

A Gender-Based Analysis of HIV/AIDS in Belize

Prepared by
Prairie Women's Health Center of Excellence

June 2010

Printed by the Ministry of Health, Belize, with technical and financial support from the Pan American Health Organization

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretrovirals
CAREC	Caribbean Epidemiological Center
CEDAW	Committee on the Elimination of Discrimination against Women
CML	Central Medical Laboratory
CSEC	Commercial Sexual Exploitation of Children
BHIS	Belize Health Information System
GBV	Gender based violence
HIV	Human Immunodeficiency virus
NAC	National AIDS Commission
NAP	National AIDS Program
MCH	Maternal and Child Health
MOH	Ministry of Health
STI	Sexually Transmitted Infection
TB	Tuberculosis
UNAIDS	Joint United Nations Program on HIV/AIDS
UNIBAM	United Belize Advocacy Movement
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

Introduction

The Human Immunodeficiency Virus (HIV) is a serious public health concern in Belize, where the total number of HIV infections reported between 1986 and 2008 reached 4,680 in a population of only 322,000 [1]. There is growing recognition that HIV programs in Belize must identify, monitor, and respond to the distinct needs of men, women, boys and girls. A gendered approach is seen as one of the most effective strategies for reducing vulnerabilities to HIV infection, and enhancing individual and community capacities for coping with the consequences of HIV [2]. In this report, we present a Gender-Based Analysis (GBA) of HIV/AIDS in Belize. Added analysis of sexually transmitted infections (STIs) and gender-based violence (GBV) is provided, as they affect biological risks and social vulnerabilities and help inform the GBA of HIV/AIDS. The objective is to explore current epidemiological patterns and trends, access to testing and treatment, health-related outcomes, and various risk factors associated with contracting HIV/AIDS among men, women, boys and girls living in Belize.

What is HIV/AIDS?

HIV is a virus that reduces the effectiveness of the immune system, resulting in a chronic, progressive illness that increases a person's susceptibility to opportunistic infections and tumors [4]. HIV cannot survive outside of the body. It is transmitted from one person to another when infected blood, semen, vaginal fluid or breast milk is absorbed into the bloodstream, usually through a break in the skin or through the mucous membranes of the vagina, rectum, mouth, nose, or eyelids. Transmission can occur through unprotected sexual intercourse (vaginal, anal or oral); blood transfusion; contaminated hypodermic needles and syringes for injection drug use; unsterilized equipment for tattooing, skin piercing or acupuncture; pregnancy, delivery and breast feeding (from an HIV-infected mother to her infant); and occupational exposure in health care settings [5].

Types of HIV Infection:

HIV-1: This strain is found around the globe. It is the most common, virulent, and transmittable strain of HIV.

HIV-2: This strain is usually restricted to a very small portion of Western Africa. It is harder to spread, becomes more infectious as the disease progresses, and is slower to advance to AIDS. Antiretroviral therapy (ART) is less effective in treating this strain of the virus [3].

HIV infects the $CD4^+$ T cells responsible for establishing and maximizing the capabilities of the immune system. When the number of functional $CD4^+$ T cells drops and the body can no longer fight infection, a person enters the symptomatic stage of HIV infection known as Acquired Immune Deficiency Syndrome (AIDS) [6, 7]. Individuals who contract AIDS commonly experience fevers, night sweats, swollen glands, chills, and weight loss, symptoms that are primarily the result of conditions not usually observed among individuals with healthy immune systems. These infections are caused by bacteria, viruses, fungi, parasites, and malignancies normally controlled by the components of the immune system destroyed by HIV. As such, people with AIDS are at greater risk for developing cervical cancer, Human Papillomavirus (HPV), Tuberculosis (TB), pulmonary and gastrointestinal infections, cancers of the immune system (lymphomas), Kaposi's sarcoma, and other viruses of the herpes family [8, 9, 10]. Although the rate of clinical progression can vary widely between individuals, the median time from seroconversion to AIDS is approximately 10 years, and from AIDS to death only 9 months [11]. Prevention, early diagnosis, and access to antiretroviral therapy (ART) are important for reducing the prevalence and consequences of HIV/AIDS, as there is no cure for AIDS and currently no vaccine against HIV infection.

The Belizean Context of HIV/AIDS

The Caribbean is now considered the second most HIV/AIDS affected region in the world after sub-Saharan Africa, with an HIV prevalence rate of 1.6% [12]. Among the Central American countries, Belize has the highest estimated[1] prevalence rate of HIV among adults aged 15-49 at 2.1% [13]. In 2005, HIV/AIDS became the country's fourth leading cause of death among men and women of all ages, following diabetes mellitus, ischemic heart diseases, and land transportation accidents [14]. From 2003 to 2007, HIV/AIDS was the leading cause of death for Belizean men and women in the 40-49 year age group and among the leading causes of death for men and women aged 20-39 years [13]. Groups at risk for HIV transmission in Latin America include men who have sex with men (MSM)[2], commercial sex workers, and to a lesser extent, injection drug users [13]. In Belize, other groups at risk for contracting HIV/AIDS are thought to include the prison population, the uniformed services, and migrant populations, though the availability of epidemiological data to substantiate these findings is somewhat limited [13].

Why a Gender-Based Analysis (GBA)?

Globally, sexual contact is the primary mode of HIV transmission [15]. Unprotected receptive sexual acts are riskier than unprotected insertive sexual acts, and the risk for transmitting HIV through unprotected anal intercourse is greater than the risk from vaginal intercourse or oral sex [16]. Because men and women who have sexual contact typically have different biological vulnerabilities, as well as gendered abilities to negotiate safe sex, the Joint United Nations Programme on HIV/AIDS (UNAIDS), states that "unequal relationships between men and women and societal norms of femininity and masculinity are important influences on HIV epidemics" [2]. UNAIDS also recognizes that gender relations are not only associated with the spread of HIV, but also with its consequences. For example, women and girls continue to bear the greater burden of caring for family members with HIV/AIDS, even when they become HIV infected themselves [2]. Gender norms and expectations surrounding virility, male sexuality, and risk-taking can also make men and boys vulnerable to contracting HIV by reducing their likelihood of engaging in safe sexual practices or seeking medical care when they become ill.

A gender-based analysis of HIV/AIDS in Belize captures these gendered dimensions of the epidemic, thus increasing the sensitivity of our knowledge base, and the effectiveness of HIV/AIDS policies and programming. A gender-based analysis is an analytical process aimed at understanding how age, culture, ethnicity, sexual orientation, ability, geographical location, and other variables interact with sex and gender in ways that affect the daily lives of women, men, girls, and boys [18]. It assumes that *sex*—the biological and physiological aspects of the body—interacts with *gender*— the roles and responsibilities associated with the socially constructed concepts of "masculinity" and "femininity" —to create health conditions and outcomes that are different for women and men.

A gender-based analysis of HIV/AIDS recognizes the importance of focusing on the biological as well as the social, cultural and economic realities of women, men, girls and boys, since all experience life differently. In this regard, economic, social and cultural realities in the family, community and society become important determinants for HIV vulnerability, and these social

[1] See "Data Sources and Limitations" for an explanation of Spectrum estimation.

[2] The term *men who have sex with men* (MSM) refers to "all who engage in male-male sexual behavior. It includes gay men, bisexual men, MSM who do not identify as gay or bisexual, male sex workers, transgendered people, and a range of culture- and country-specific populations of MSM" [17].

determinants of health affect and have implications for HIV prevention, care, treatment and support programs.

Data Sources and Limitations

This analysis uses information summarized in the Belize *National HIV/AIDS Epidemiological Profile 2003-2007* [13], in addition to HIV data collected in 2008 by the Ministry of Health in Belmopan [1]. The *profile* uses HIV/AIDS data collected by the Central Medical Laboratory (CML) in Belize City, the Maternal and Child Health program (MCH), and various Voluntary Counseling and Testing (VCT) sites across the nation, which are administrated by the National AIDS Programme (NAP) within the Belize Ministry of Health. Some HIV/AIDS estimates reported in the profile are calculated using a program developed by UNAIDS known as *Spectrum*. Assumptions about the survival time after HIV infection, the sex distribution of infection, and other population estimates are combined with epidemic curves derived from HIV prevalence rates for tested populations and various high risk groups (MSM, sex workers and their clients) to produce final estimates of HIV prevalence for the adult population of Belize.

Incidence Rates: The probability that healthy people will develop a disease during a certain time period [18].

Prevalence Rates: The number of existing cases of disease in a population at one point in time [18].

Spectrum Estimates: A method for calculating estimated incidence and prevalence rates using aggregate case data and assumed distributions [13].

The CML serves as the national referral laboratory responsible for confirmatory testing of all HIV positive specimens collected in the country's six administrative districts: Belize, Cayo, Corozal, Orange Walk, Stann Creek, and Toledo. Whereas *Spectrum* provides estimates for the entire adult population based on assumed distributions and results derived from population-specific samples, the CML reports actual case data by age group, sex, and district of residence for those voluntarily testing for HIV. These data are stored in the CLAB, and reported on a quarterly basis to the Epidemiology Unit of the Ministry of Health (MOH) in Belmopan. Note that while the CML confirms all HIV positive specimens from both the public and private sectors, data on the number of persons tested is limited to the public sector. Although rates of newly identified HIV cases cannot provide true incidence rates for the entire population, they do provide important information about the spread of HIV in Belize.

AIDS cases are reported directly to the Epidemiology Unit in Belmopan by health facilities across the nation. The sex, age, date of diagnosis, and district of residence for each individual case are also included. AIDS-related deaths are identified using death certificates coded for the underlying cause of death. Despite procedural safeguards protecting the confidentiality of data, concerns regarding patient privacy persist, which may contribute to under-reporting of AIDS cases by physicians. It is suspected that some medical officers neglect to declare AIDS as an underlying cause of death due to concerns about the presumed negative consequences of a breach of confidentiality for AIDS patients or their family members. Thus, the number of AIDS cases and deaths may be underestimated in these data, and findings should be interpreted with caution [13].

STI data for Belize are collected by the Epidemiology Unit of the Ministry of Health which forward data to the Caribbean Epidemiology Centre (CAREC) [19]. These data are not comprehensive as there exist under-reporting of STI cases by public health facilities. Domestic violence data presented in this report were obtained from the Ministry of Health. In Belize, there

is an established surveillance program for domestic violence wherein the police, the Women's Department, and emergency rooms across the nation complete a standard form which is later sent to the Epidemiological Unit of the Ministry of Health and stored in the health information system [20].

It is important to note that the data sources from which we draw cannot be considered representative of the entire HIV/AIDS-affected population in Belize. Administrative data are constrained by voluntary testing and such factors as limited resources for health services outreach, and do not capture men and women who do not have access to HIV or STI testing, who are unaware of testing availability, who refuse to be tested, or who fear discrimination for being tested. Our ability to report on current epidemiological trends among various ethnic groups living in Belize (e.g. Mestizo, Creole, Maya, and Garifuna) is also limited, as current HIV/AIDS data are not disaggregated by ethnicity. It is anticipated that these data will be available in 2010, as ethnicity is now included in the Belize Health Information System (BHIS).

The incidence of domestic violence reported by the Ministry of Health must also be interpreted with caution, since these rates represent men, women, and children who reported violent episodes to legal authorities or who sought medical care for their injuries. The under-reporting of domestic violence in other nations is often associated with embarrassment and stigma associated with the crime [21], perceptions by victims that they will not be believed or that the criminal justice system is ineffective, or that some incidents are not considered serious enough to warrant criminal investigation [22], all of which may also contribute to under-reporting in Belize. Wherever possible, we have reported data disaggregated by age, sex, district of residence, and ethnicity, though our ability to provide a comprehensive account of HIV/AIDS, STIs, and domestic violence in Belize is limited to existing data.

Data Analysis

HIV/AIDS in Belize

Despite the fact that HIV infection is largely preventable, hundreds of new infections occur each year, and the number of Belizeans living with HIV is rising. Although projections for 2009-2012 predict a plateau in the number of new cases of HIV in Belize [13], these estimates do not tell us which Belizeans are at risk for contracting HIV/AIDS, where they live, or how differential access to HIV testing and ARV treatment can influence the severity of consequences of HIV infection. In the following section, we explore the current epidemiological situation of HIV/AIDS in Belize, with the goal of identifying at-risk groups, highlighting trends, and providing information that will improve the effectiveness of Belizean strategies for minimizing transmission, disease progression, and effects on the quality of life among vulnerable populations.

Incidence of HIV Infection

Although early stages of the global HIV/AIDS epidemic saw a clear majority of men among those newly infected, women have increasingly been represented among HIV positive individuals, raising concerns not only for women themselves, but also for how increased heterosexual and mother-to-child transmission may affect the future of the epidemic. The higher rate of HIV infection among women than men in Sub-Saharan Africa is well recognized, and now stands as a precautionary example of why not to ignore sex and gender differences in planning a public health response to HIV/AIDS [23].

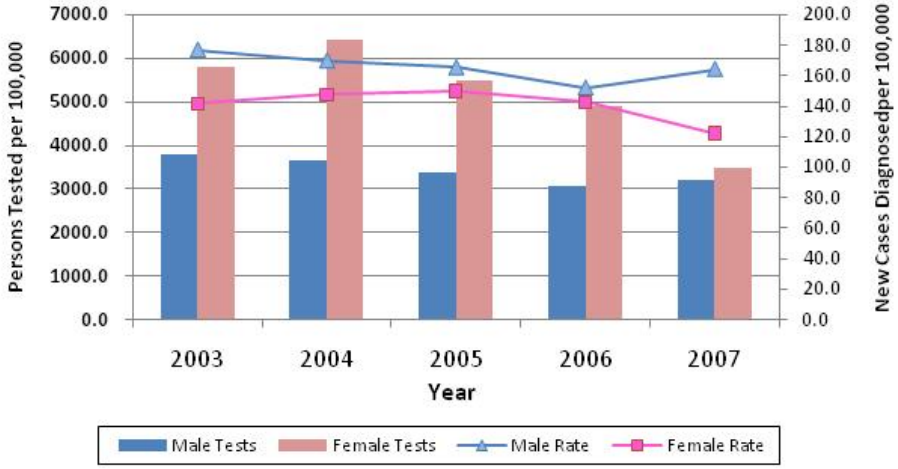
In Belize, a similar number and proportion of females and males tested positive for HIV in each of the last several years. From 2003 to 2007 (Table 1), males were somewhat more likely than females to receive positive HIV test results. However, in 2008, new cases in females outnumbered those in males for the first time. Among 425 newly reported HIV infections that year, 224 cases were found in females and 201 were in males. Similarly, rates of newly reported HIV infection were consistently higher among males than females from 2003 through 2007 (Figure 1), although recent data again show a reversal in 2008, when the rate of new HIV in females was approximately 10% higher than for males (139.0 versus 124.9 cases per 100,000 population in females and males, respectively) [1]. It remains to be seen whether higher rates of new HIV infections for women will be sustained in subsequent years. For both females and males, annual rates of new HIV infection saw an overall decrease from 2003 through 2008, although this trend must also be viewed in the context of HIV tests performed.

Table 1: New Cases of HIV by Sex, and Sex Ratios, Belize 2003-2008

Year	New HIV			Sex Ratio
	Males	Females	Total	M:F
2003	241	206	447	1.2
2004	242	215	457	1.1
2005	224	210	434	1.1
2006	253	190	443	1.3
2007	254	196	450	1.3
2008	201	224	425	0.9

Source: Ministry of Health, Belize [1, 24]

Figure 1: Persons tested for $HIV_{1,2}$ Antibody and New HIV Cases per 100,000 Population by Sex, 2003-2007



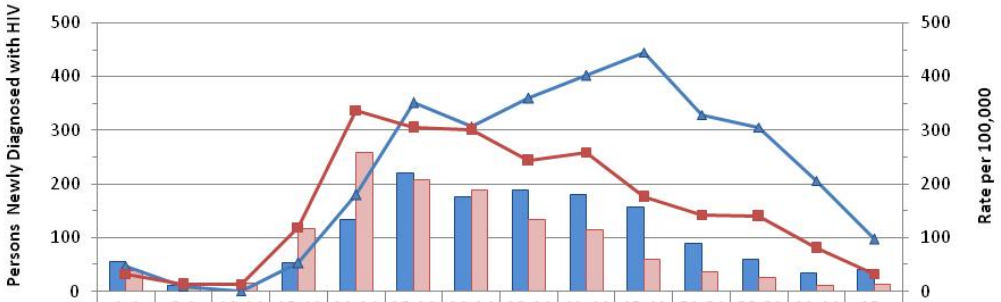
Source: Ministry of Health, Belize [13]

Notably, such trends and patterns in new HIV are known to be affected by the nature and intensity of HIV testing, differences in testing over time, and differences by sex in access to testing, as well as patterns and trends in the underlying incidence of infection in the population. Typically, women predominate among health services users and are more likely to access testing, particularly in their child-bearing years when antenatal care presents an opportunity for STI and HIV testing. Testing in private clinics may be used by men more often than women, as women are disproportionately found among those with low income, for whom there are greater financial and role-related barriers (e.g. lack of insurance through paid work, child care responsibilities) to accessing privately managed services. Free testing in the public system limits the influence of gender-bias related to the costs of accessing services.

Testing rates provided in Figure 1 are based only on tests performed within the public health system. For this reason, testing rates may underestimate tests performed on males, although the extent to which this occurs cannot be verified due to a lack of comparative data on the sex of private and public clinic patrons. Data on new HIV cases include both public and private clinic test results.

In Belize, rates of HIV testing were considerably higher among females than males early within the period (Figure 1), particularly in 2003 when the introduction of rapid testing and VCT services increased access to testing. According to the Ministry of Health, there has been a progressive decline in the access to testing in Belize since 2003 [1]. For females there was a 55% decrease in testing over the 2003-2008 period, whereas HIV testing for males decreased by only 8%. By 2006, rates of testing among females decreased to levels similar to rates among males, and by 2008 females were actually less likely than males to access testing. Despite lower rates of testing among females at this time, rates of new HIV among females exceeded rates for males, which may signal greater HIV risks among Belizean females than have been observed in the past. Nevertheless, continued surveillance and incorporating an analysis of sex disaggregated data will be important for tracking and anticipating changes in the Belizean HIV/AIDS epidemic.

Figure 2: Cumulative Rates of Newly Diagnosed HIV by Age and Sex, 2003-2008



	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Male Cases	56	11	1	53	133	220	177	189	180	158	89	59	35	40
Fem. Cases	39	15	16	117	259	208	188	134	115	59	36	25	12	13
Male Rate	47.5	8.9	0.8	52.7	179.8	350.9	307.2	359.0	401.1	444.8	328.1	305.2	206.2	96.9
Fem. Rate	33.3	12.5	14.0	118.9	336.9	303.9	300.0	243.0	258.1	175.2	142.5	139.0	80.1	32.5

Source: Ministry of Health, Belize [1. 24]

Although rates of HIV are quite similar for males and females overall, further analysis of the data by sex and age reveals some important distinctions. This analysis groups age and sex specific counts of cases and rates of new HIV for males and females over six years of data (Figure 2), in

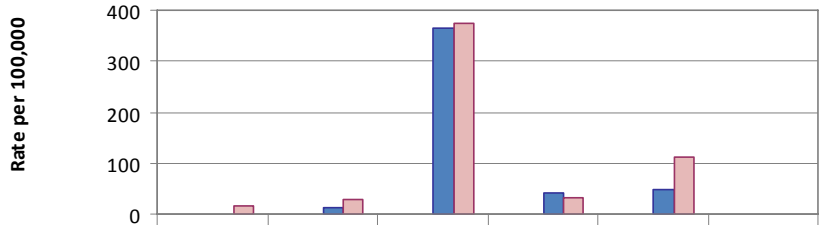
order to smooth annual fluctuations and clarify patterns. Most notably, the data show a younger distribution of newly identified HIV infection among females than among males in 2003 to 2008. The largest number of reported HIV infections were concentrated among females aged 20-24, which may reflect a greater likelihood of case identification among pregnant women through the Prevention of Mother to Child Transmission program. For women in this age group, the rate of new HIV was nearly twice the rate for men of the same age and 2.4 times greater than the rate for women overall (336.9 versus 179.8 and 139.0 per 100,000). Though rates for youth, aged 15 to 19, were relatively low, a similar sex difference in rates was already evident. Among men, the age distribution of new HIV test results is older than for women. The greatest difference occurs among individuals aged 45 to 49; men of this age were generally 2.5 times more likely to test positive for HIV than women of the same age, and 3.5 times more likely than men overall.

It is also noteworthy that HIV tests performed for pregnant women yielded a prevalence[3] of 0.92% in 2008, which had increased somewhat from 0.8% in 2006. The results indicate a growing prevalence of HIV, which naturally results from the addition of new incident cases every year. Pregnant women do not represent a group at high risk for contracting the infection, but their HIV rates help to inform estimates of HIV prevalence in the general population—a prevalence of 2.1% (1.2-3.1) in 2007—and indicate that substantially higher rates exist in concentrated pockets of the Belizean population [1], which are described later in this report.

The HIV profile of young women may represent an opportunity for early treatment, but also raises concern for risks of mother-to-child transmission, repercussions for maternal and infant health, the long-term need for treatment and associated resources for these women, as well as social, economic and other consequences of early HIV identification for women. Conversely, high rates of new HIV among older men may raise concern for whether delayed identification of HIV is occurring, with consequences for reduced opportunities for preventive care and treatment, and risks for the progression of HIV infection to AIDS, and death.

These data illustrate that the majority of Belizean males and females with newly identified HIV infection resided in the Belize district, as may be expected for the most populous region of Belize. However, rates of new infection for males and females were also much higher in the Belize district compared to all other districts; in 2008, the rate of new HIV for males in the district was three times the national rate, and women in the district had a 2.7 fold greater likelihood of being newly identified as HIV positive (Figure 3). To some extent, these results may reflect greater service access in the more urbanized district. It

Figure 3: New HIV Infections per 100,000 Population by District & Sex, Belize 2008



	Corozal	Orange Walk	Belize	Cayo	Stann Creek	Toledo
Male Cases	0	3	174	16	8	0
Female Cases	3	7	184	12	18	0
Male Rate	0.0	12.2	366.3	41.7	46.8	0.0
Female Rate	16.2	29.5	374.7	31.1	111.1	0.0

Source: Ministry of Health, Belize [1]

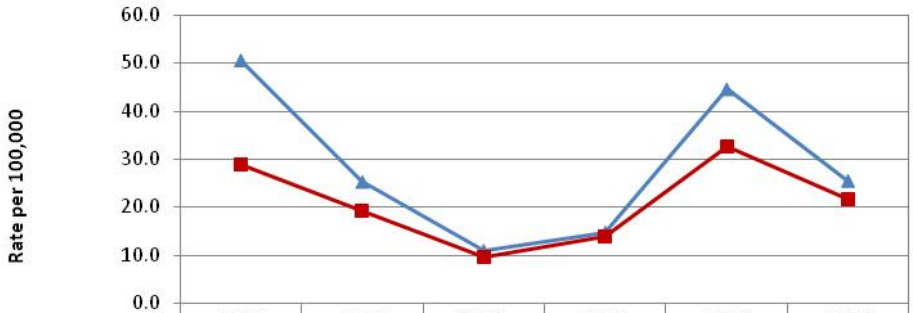
[3] An estimated prevalence rate based upon the number of HIV positive test results among all pregnant women who were tested (not among the total population of pregnant women).

may also reflect greater risks of transmission and exposure to risk factors for HIV infection in the Belize district, which has a higher population density and a more urbanized culture than other districts.

AIDS Diagnoses

Although rates of new AIDS diagnosis fluctuated from year to year, Belizean men were consistently more likely to receive an AIDS diagnosis than were women (Figure 4). Over the 2003 to 2008 period, the rate of AIDS in males averaged 30% higher than in females, having reached 79% higher in 2003. There is some evidence that women constitute an increasing proportion of those diagnosed with AIDS over the period, as females accounted for an average of 66% of AIDS cases early in the period (2003-2005), compared to 81% of cases in the latter half of the period (2006-2008). As long-term trends have seen women account for a larger, and now near equal proportion of new HIV infections, the rates of AIDS may also grow for females. Males' higher rates of AIDS are likely to reflect greater numbers of males having been exposed to HIV earlier in the course of the epidemic in Belize as compared with females. However, it may also reflect poorer outcomes for males than females, resulting from a lack of timely HIV testing, lesser access to treatment, or poorer self care.

Figure 4: AIDS Diagnoses by Sex, Belize 2003-2008

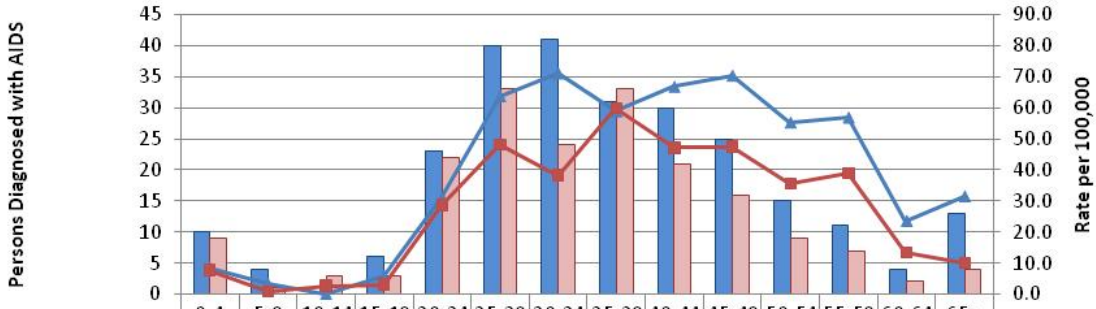


	2003	2004	2005	2006	2007	2008
Male Rate	50.61	25.23	10.85	14.69	44.60	25.48
Female Rate	28.80	19.30	9.70	13.86	32.53	21.71
Male Cases	70	36	16	22	69	41
Female Cases	39	27	14	21	51	35

Source: Ministry of Health [1. 24]

Because the AIDS statistics reflect a relatively small percentage of the general population, the analysis by sex and age produced a very small number of cases in some age categories for a given year. As was done for the HIV analysis, age and sex specific counts and rates of AIDS diagnoses for Belizean males and females were totaled for six years of data (Figure 5), in order to smooth annual fluctuations and clarify patterns. The cumulative age-sex distribution of AIDS showed that in virtually all age categories, males were more likely to be diagnosed with AIDS than were females. Rates of new AIDS diagnoses were quite similar among male and female infants, children and youth, but diverged considerably by age 25. On average, the risk of contracting AIDS was 35% higher among men than women aged 25 and older. Young women (aged 20-24) had a similar chance of contracting AIDS as their male peers, which may reflect the vulnerability of young women compared to older women. However, AIDS most often affected Belizean women and men aged 25 through 49—the most productive stage of life, and the years commonly devoted to child bearing and child rearing.

Figure 5: New AIDS Diagnoses by Sex and Age, Cumulative Counts & Rates, Belize 2003-2008

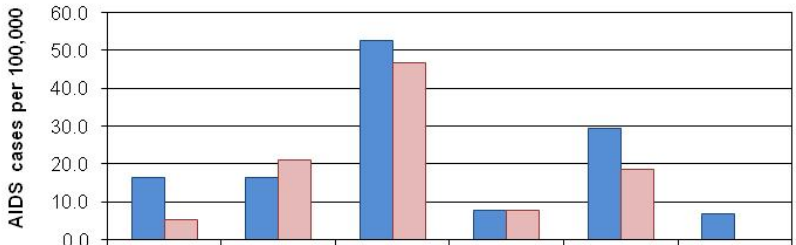


	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Male Diagnoses	10	4	0	6	23	40	41	31	30	25	15	11	4	13
Fem. Diagnoses	9	1	3	3	22	33	24	33	21	16	9	7	2	4
Male Rate	8.5	3.2	0.0	6.0	31.1	63.8	71.2	58.9	66.8	70.4	55.3	56.9	23.6	31.5
Fem. Rate	7.7	0.8	2.6	3.0	28.6	48.2	38.3	59.8	47.1	47.5	35.6	38.9	13.3	10.0

Source: Ministry of Health [1, 24]. **Note:** The number of diagnoses for each age-sex category represents 6 years of AIDS diagnoses and should not be confused with annual counts of diagnoses.

Similar to data for newly identified HIV infections, AIDS data showed that more residents were affected in the Belize district than in any other district. In 2008, approximately two thirds of all new AIDS diagnoses, in both males and females, were reported in the Belize district (Figure 6). Rates of diagnosis for males and females were twice the average rates for males and females throughout Belize. AIDS rates in other districts were less than average, though Orange Walk again displayed higher rates of AIDS diagnosis in females than males.

Figure 6: New AIDS Diagnoses by District and Sex Belize, 2008



	Corozal	Orange Walk	Belize	Cayo	Stann Creek	Toledo
Male rate	16.4	16.3	52.6	7.8	29.2	6.7
Female rate	5.4	21.1	46.8	7.8	18.5	0.0
Male cases	3	4	25	3	5	1
Female cases	1	5	23	3	3	0

Source: Ministry of Health [1]

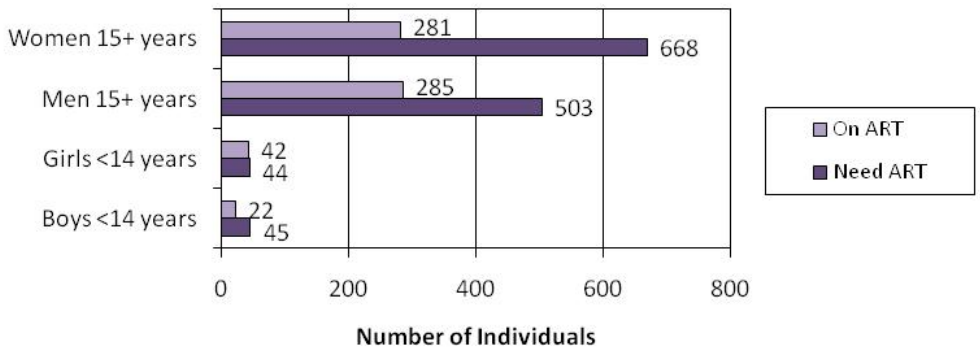
ART and ARV

Ongoing and universal access to prevention, treatment, and care for HIV/AIDS requires medicine for treatments, HIV diagnostics, and condoms, among other resources. Anti-Retroviral Therapy (ART) involves the administration of at least three different types of Anti-Retroviral drugs (ARV) known to suppress the replication of HIV. This combination of medication neither cures AIDS nor prevents most HIV transmission (i.e. lateral transmission) although it does delay disease progression, thereby improving immunity and delaying mortality. Once ART is started, it must be taken for life with nearly 100% adherence since any interruption in treatment will result in viral drug resistance, which would reduce the effectiveness of treatment, affect the progression of AIDS, and eventually lead to death. Both clinical and non-clinical factors influence whether HIV patients access ART. Adherence to treatment is particularly influenced by the social circumstance of individuals.

In 2003, the Ministry of Health introduced free ARV medications for men, women, and children meeting the medical criteria for treatment (clinical signs of AIDS and CD4 counts between 350 and 200) [25]. Following the implementation of this initiative, the number of patients requesting medication increased substantially. For instance, Spectrum estimates suggest that in 2003, 843 Belizeans were in need of ARV therapy compared with 1,260 in 2008. Both the percentage of HIV positive women receiving ARV treatment at the time of delivery of their child and the percentage of infants born to HIV positive women receiving ARV at birth increased from 88% in 2007 to over 95% in 2008. Among the 68 deliveries by women infected with HIV, 65 mothers and 63 newborns received ARV therapy after birth in 2008. However, only 59 women received ARV in the antenatal period. Perhaps greater benefits could be achieved by increased proactive engagement of women in antenatal care where they can be tested and receive the benefit of and access to ARV.

According to National AIDS Programme (NAP) data, approximately half of Belizeans in need of ART received the treatment in 2008. Women represented a larger proportion of those in need of ARV treatment and care (Figure 7). Although women aged 15 years and older represented the group with the greatest need for ART, only 42% (281 of 668 women) were on the medication compared with 57% of men (285 of 503 men) in the same age group. A different pattern emerges among boys and girls aged 14 and younger. In 2008, the number of boys and girls needing ART was nearly equal (45 vs. 44), and yet girls were more likely than boys to be receiving ART medication (95% vs. 49%). Thus, the greatest shortfall in access to treatment relative to need affects adult women, while shortfall among young people impacts boys.

Figure 7: Adults and Children On ART (NAP Data) and in Need of ART (Spectrum Estimates) by Sex, Belize, 2008



Source: Ministry of Health, Belize [1, 13]

It is important to note that women's access to ARV treatment may be influenced by their greater use of health services—associated with childbirth or care giving roles. In both cases there is an increase with service providers and testing opportunities. Women's opportunity to increased service provider access and testing opportunities is situated in the context of an opposing influence of social and economic positions in Belizean society. Women may also have a high degree of motivation to access services when the health of a fetus or infant is potentially affected by HIV, which may also have a positive influence on their adherence to treatment. However, the availability of treatment does not guarantee access to treatment. A shortfall in women's access to treatment may stem from women's limited social and economic power and entitlement to both formal and informal supports.

For women, entrenched economic and social inequality within intimate relationships can constrain their ability to access services or follow advice given to them by health care workers. For instance, some women must receive permission from their husbands or other family members to leave the home or act upon the recommendations of service providers, making it difficult to use available services if denied permission from the husband or if, in anticipation of the denial, they choose not to seek the services. The cost of transportation to ART clinics, coupled with the time lost from work or household responsibilities, in addition to the cost of childcare can also create obstacles for Belizean women seeking access to treatment.

Among Belizean women who are able to access health clinics, fear of disclosing an HIV positive diagnosis can interfere with their ability to access and adhere to treatment, or may prevent them from using alternative feeding options (other than breastfeeding) in an effort to keep their HIV status a secret. Food insecurity and poverty, more generally, present other major obstacles to adherence, since women (and men) who may be unable to provide food for their families may feel obliged to sell their ARV medication on the black market [26].

Possible barriers to men's access and adherence may include greater mobility and transience due to employment responsibilities, limited knowledge on the availability of free ARVs, less engagement in sexual and reproductive health, limited contact with health care workers and services. Another barrier may also stem from a lack of social acceptance for missing work to pursue preventative measures or attend clinic. All these barriers may contribute to higher death rates and a greater likelihood of developing viral drug resistance among men.

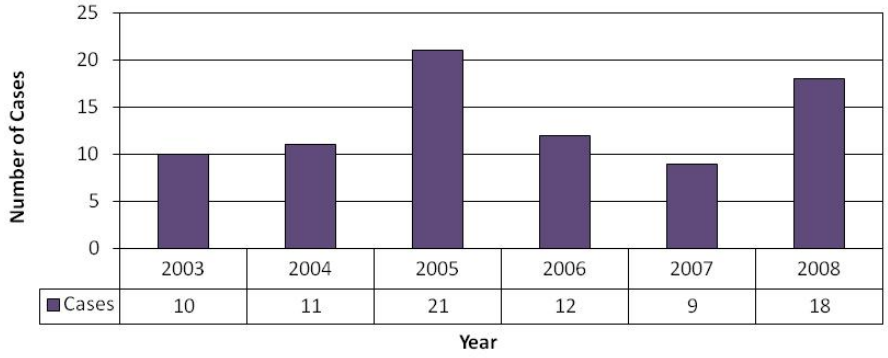
Men tend to progress from HIV to AIDS more frequently than women, and yet Spectrum estimates suggest their need for ART is much lower. In part, this discrepancy may be due to the methodological limitations associated with using assumptions about the sex distribution of the epidemic to calculate estimates for ARV need. Given that Belizean women are more likely to access testing for HIV, Spectrum estimates may calculate a greater need for ART among women, when greater need is in fact occurring among men who remain untested. In the absence of any studies documenting the experiences of accessing and adhering to ART treatment in Belize, we may not be able to anticipate or identify all relevant gender barriers. Further research would enhance our understanding of treatment access rates among youths and adults as well as treatment needs by life cycle and disaggregated by sex. Many of the gendered barriers to accessing and adhering to ART must be considered in relation to managing the interacting epidemics of TB and HIV.

TB/HIV Co-Infection

Among the first opportunistic infections to appear in HIV-infected people, tuberculosis (TB) may be one of the earliest signs of HIV infection. TB progresses faster in HIV-infected people, is more likely to be fatal if undiagnosed or left untreated, and represents the only major AIDS-related infection that poses a health risk to HIV-negative people since TB is an airborne disease [27]. HIV also increases the likelihood of reactivation, re-infection and progression of latent TB, alters the clinical presentation of TB, and compromises the response to anti-TB treatment due to frequent and adverse drug interactions with ART [27]. Some studies suggest that people with HIV/AIDS are 6 times more likely to develop active TB than HIV-negative people [28], and according to the World Health Organization (WHO), nearly 50% of people living with HIV/AIDS are expected to develop tuberculosis, of which 30% will succumb to the disease [29].

In Belize, a total of 88 cases of TB were reported in 2008, of which 18 (20%) were diagnosed among HIV-positive women and men [30]. In terms of annual trends (2003-2008), the number of co-infections diagnosed in 2008 represents the second largest peak in reported cases following a sharp increase in 2005 (Figure 8). In 2008, the rate of co-infection was highest in Stann Creek (12.0 per 100,000) followed by Belize District (11.4 per 100,000), Corozal District (2.7 per 100,000), and Orange Walk (2.0 per 100,000). Cayo District reported the lowest rate of co-infection with only 1.3 cases per 100,000 population. Toledo reported no cases in 2008.

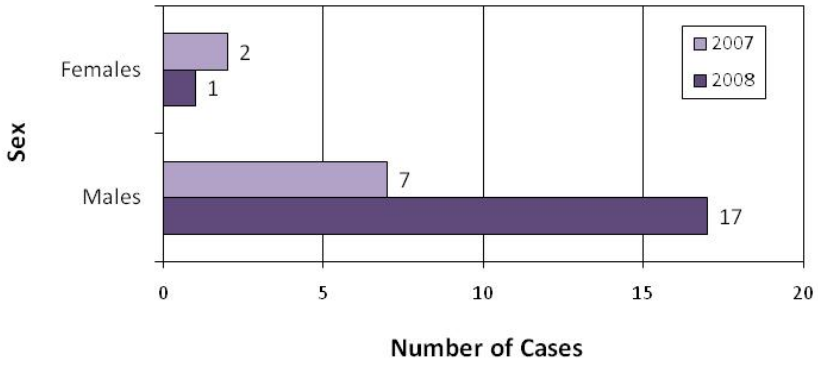
Figure 8: Newly Reported TB/HIV Co-Infection Cases, Belize, 2003-2008



Sources: Ministry of Health, Belize [13, 30]

The increasing number of TB cases among HIV positive Belizeans is particularly evident when we compare the number of cases identified among men in 2007 and 2008 (Figure 9). HIV-positive men are clearly at greater risk for contracting TB than their female counterparts, representing 94% of cases diagnosed in 2008. There were no co-infections reported among girls and boys aged 0-14, though TB does affect the most productive age group among HIV-positive individuals, with 82% of co-infections reported among men aged 15-49.

Figure 9: TB/HIV Co-Infection Cases by Sex, Belize, 2007 & 2008



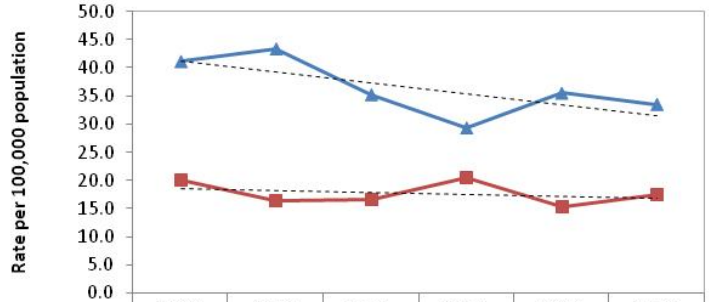
Source: Ministry of Health, Belize [13]

Given that TB is one of the few HIV/AIDS associated infections that is spread by coughing, sneezing or spitting, efforts to diagnose, prevent and treat TB have important implications for morbidity and mortality rates among people living with HIV/AIDS in Belize. Previous studies have found that ART decreases the incidence rate of new co-infection cases among HIV-positive patients, and increases the survival rate of men and women co-infected with HIV and TB [31, 32].

AIDS-Related Death

Mirroring the patterns and trends seen in the AIDS diagnoses data, some interesting differences between male and female AIDS deaths were observed. These data showed that males were much more likely to die of AIDS-related causes, than were females. In 2008, 54 male deaths were attributed to AIDS compared to 28 deaths among females (Figure 10). In fact, throughout most of the 2003 to 2008 period, males suffered twice the number of AIDS-related deaths as females. AIDS death rates showed a similar sex difference, illustrating a two-fold greater risk of death for males than females in all but one year (2006) of the reported period. However, there was a discernable decrease (nearly 20%) in the rate of AIDS deaths among males over the course of the 2003 to 2008 period.

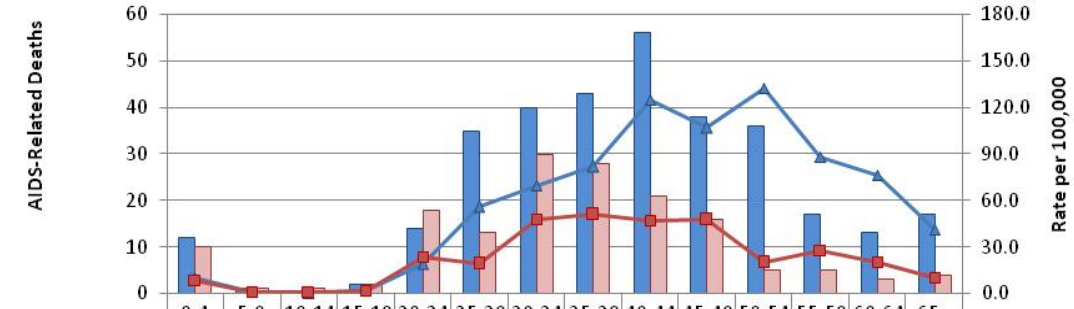
Figure 10: AIDS-Related Death Rate by Sex Belize, 2003-2008



	2003	2004	2005	2006	2007	2008
Male Rate	41.2	43.4	35.3	29.4	35.6	33.6
Female Rate	19.9	16.4	16.6	20.5	15.3	17.4
Male deaths	57	62	52	44	55	54
Female deaths	27	23	24	31	24	28

Source: Ministry of Health [1, 24]. Note: Trend lines are illustrated by dotted lines.

Figure 11: AIDS Deaths by Sex and Age, Cumulative Deaths & Rates, Belize 2003-2008



	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Male Deaths	12	1	0	2	14	35	40	43	56	38	36	17	13	17
Fem. Deaths	10	1	1	2	18	13	30	28	21	16	5	5	3	4
Male Rate	10.2	0.8	0.0	2.0	18.9	55.8	69.4	81.7	124.8	107.0	132.7	87.9	76.6	41.2
Fem. Rate	8.5	0.8	0.9	2.0	23.4	19.0	47.9	50.8	47.1	47.5	19.8	27.8	20.0	10.0

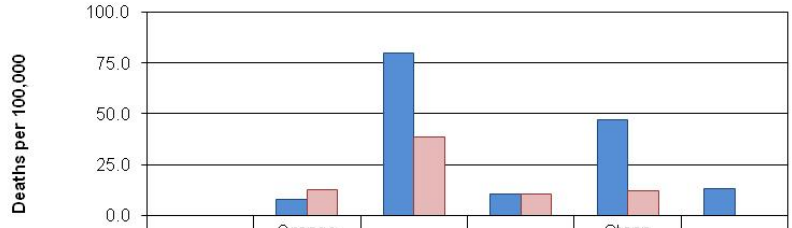
Source: Ministry of Health [1, 24]. **Note:** The number of AIDS deaths for each age-sex category represents 6 years of data and should not be confused with annual counts of deaths attributable to AIDS.

AIDS deaths affect men and women in their most productive stage of life. AIDS-related deaths during the 2003 to 2008 period were generally concentrated among women aged 20-49, among whom age-specific death rates were also highest (Figure 11). In contrast, the risk of AIDS-related death among men was elevated throughout a considerably larger age span.

Males were most likely to die of AIDS within a 25-54 age range. Death rates were particularly elevated among men aged 40-54. For example, men aged 50 to 54 still had approximately four times the rate of death attributable to AIDS than Belizean men overall (132.7 versus 33.6 per 100,000 population).

Approximately two-thirds of male and female AIDS-related deaths occurred in the Belize district (Figure 12). Overall, male and female residents of the district had over twice the risk of an AIDS-related death as compared to average AIDS-related death rates for Belizean women and men. As was observed for the total population, men in the Belize district were twice as likely as women to die from AIDS underlying causes. Although the AIDS-related death rate was lower in the Stann Creek district, the sex difference was greater, indicated by a four-fold greater risk for men. Again, women in the Orange Walk district appear vulnerable to HIV/AIDS compared to women residing in other districts, as their rate of AIDS-related deaths was almost equal to the AIDS-related death rates among their male counterparts.

Figure 12: AIDS-Related Death Rates by District & Sex, Belize, 2008



	Corozal	Orange Walk	Belize	Cayo	Stann Creek	Toledo
Male rate	0.0	8.1	80.0	10.4	46.8	13.3
Female rate	0.0	12.7	38.7	10.4	12.3	0.0
Male deaths	0	2	38	4	8	2
Female deaths	0	3	19	4	2	0

Source: Ministry of Health, Belize [1]

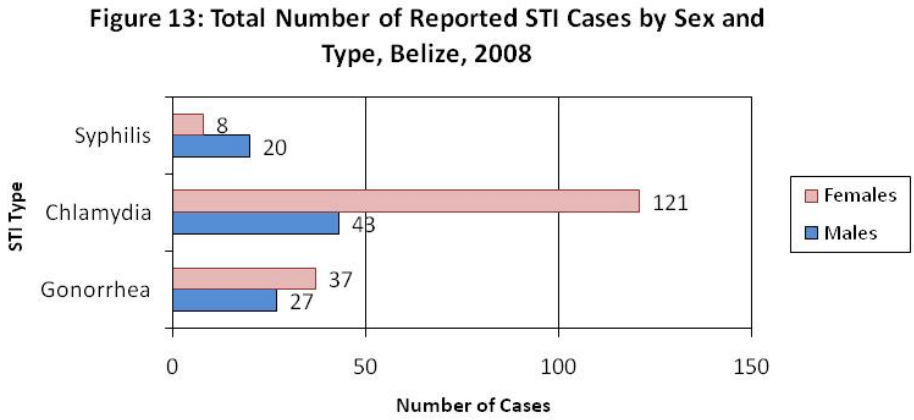
Sexually Transmitted Infections (STIs) in Belize

Sexually transmitted infections can have serious and long-term health consequences for both women and men. Left untreated, STIs can lead to infertility, ectopic pregnancies, and pelvic inflammatory disease in women, and prostatitis (swelling of the prostate gland), urethral scarring, and infertility in men [33, 34]. Genital ulcerations and inflammation caused by Chlamydia, Gonorrhea, Syphilis, and other STIs can also increase one's susceptibility to HIV infection by acting as entry points for the virus. Among men, genital ulcers caused by Chanchroid, Herpes Simplex, and Syphilis are associated with a fourfold risk of contracting HIV [35]. Similarly, women who have Chlamydia are five times more likely to contract HIV through sexual contact with an infected partner [36].

Incidence of STI

According to data recently published by CAREC [19], Chlamydia is the most commonly reported sexually transmitted infection among both women and men in Belize, followed by Gonorrhea and Syphilis (Figure 13). Of the 164 newly reported cases of Chlamydia, 74% were diagnosed among females. Women aged 20-24 years old were at the greatest risk for Chlamydia compared to men their age, and women and girls of other ages. The rate of newly reported Chlamydia infections in this group was almost double the rate for women aged 25 or older (206.1 vs. 104.9 per 100,000), and nearly three times the rate for men in the same age group (78.1 per 100,000).

Over half (57%) of the 64 newly identified cases of Gonorrhea were reported among females. As with Chlamydia, the age distribution for Gonorrhea reveals a higher infection rate among women aged 20-24. In 2008, the rate of newly reported Gonorrhea cases in this group was three times the average for all women (91.6 vs. 30.6 per 100,000). Although men's peak rate also occurred in the 20 to 24 age range (39.1 per 100,000), this amounted to less than half the rate of women in the same age category. In contrast, over 70% of the 28 newly reported syphilis cases were diagnosed among men, of which half were reported among men aged 20-24. Although both men and women in this age group accounted for a disproportionate number of cases, the rate of infection among men was more than double the rate for women (78.1 vs. 30.5 per 100,000).



Source: Caribbean Epidemiology Centre (CAREC) [20]

The greater tendency for men to become infected with syphilis can, in part, be explained by the biological vulnerabilities associated with having unprotected anal intercourse, as the nature of the sex act (receptive versus insertive) and the presence of sores, ulcers, or breaks in the tissues of the anal wall greatly increase the risk of contracting STIs and HIV. Alcohol consumption, personal attitudes of invulnerability, sex with multiple partners, attitudes towards condom use, and choice of personal lubricant (lotion, water, saliva) can further increase the risk of contracting syphilis and other STIs among MSM, and other groups of sexually active men [37].

Over the years, there have also been ongoing debates about the benefits of male circumcision on reducing men's vulnerability to STI and HIV infection. Although some international studies have concluded that male circumcision reduces HIV incidence in men and can therefore be recommended for STI and HIV prevention [38], other studies maintain that the benefits of male circumcision are minimal compared to other strategies that seek to influence men's social and cultural vulnerabilities [39].

Higher rates of reported Chlamydia and Gonorrhea among women are partially attributable to their greater likelihood of being tested and diagnosed, as women are more likely to experience STI symptoms, and tend to use health care services with greater frequency than men [40]. These figures are also indicative of the relatively high STI prevalence rate among female sex workers (32.1%). In Belize, older men pay a high premium for sex without condoms, and female sex workers who are living in poverty may be enticed to engage in such activities. There is also evidence that some FSW forgo condom use with boyfriends and clients they grow to like, or have unprotected sex with immigration and police authorities when caught without legal immigration status [37].

Both male and female STI patients are at greater risk of becoming HIV infected. Women and girls, however, have biological vulnerabilities to STI and HIV infection that are specific to being female. These vulnerabilities increase because the delicate tissues of the vaginal wall are prone to abrasions and sores. Adolescent girls whose reproductive systems are not yet fully developed are particularly susceptible to infection since the mucous membrane in the vagina has not yet acquired the cellular density necessary for providing an effective barrier against STIs and HIV [41]. Social, economic and political disadvantages often reduce women and girls' ability to negotiate safe sex, and can also contribute to STI and HIV susceptibility among this population.

Domestic Violence in Belize

One of the most common forms of violence perpetuated against women is abuse by their husbands or other intimate male partners. Domestic violence—also known as intimate partner abuse, wife-beating, and battering—is a cross-cultural phenomenon that transcends social, economic, and religious boundaries. Domestic violence is a serious development and public health concern in Belize. A total of 1669 cases were reported in 2008. Overall, Belizean women and girls were 4 times more likely than Belizean men and boys to report an incident of domestic violence (838.1 versus 195.8 per 100,000), with the highest rate reported among women in the 20-24 age range (2198.5 per 100,000). Among women who reported an episode of domestic violence, 8% were pregnant at the time of the incident of which 90% were in their peak reproductive years (aged 15-44).

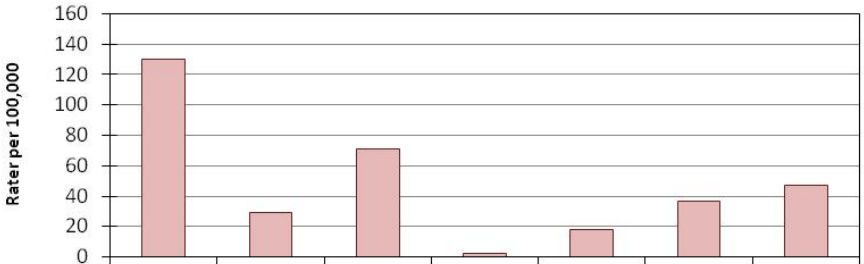
Violence against women and girls can include physical, sexual, psychological, and economic abuse. It is often called "gender-based violence" (GBV) because it evolves, in part, from women's subordinate status in society. Many cultures have beliefs, norms, and social institutions that legitimize and perpetuate violence against women and girls, and it is not uncommon for men in developing nations to believe they have the right to beat, starve, or sexually assault their wives in an effort to control their behavior [42]. Furthermore, some cultures have yet to recognize that nonphysical forms of pressure that compel girls to perform sex acts against their will are examples of sexual abuse, and that nonconsensual sex can take place within a consensual union [43]. For instance, one study conducted in Belize reported that among a sample of 384 men (15-44 years), 20% of respondents agreed that "if a woman betrays a man, he can hit her", approximately 30% agreed that "it is the man who decides what type of sexual relationship the couple should have" and nearly 65% agreed that "when a man forces his own wife to have sex with him, it is not rape" [44].

Studies continue to draw important connections between domestic violence, sexual autonomy, and reproductive health. Sexual assault greatly increases the risk of HIV transmission among women and girls, as condom use is rare and trauma to the vagina occurs frequently [45]. A history of childhood sexual abuse can also increase the risk of STI and HIV infection through its effects on high-risk sexual behavior. For example, male and female victims of childhood sexual abuse are four times more likely than people who have not been abused to work in prostitution; twice as likely to have multiple sexual partners; and more likely to engage in casual sex, all of which are risk factors for contracting HIV [46].

Incidence of Sexual Violence

Sexual violence against women and girls can include forced sex in marriage and dating relationships, rape by strangers, paid sex, sexual abuse of children, forced prostitution, human trafficking, and marriage at an early age. In Belize, a total of 151 incidents of sexual abuse were reported in 2008, representing nearly 10% of all domestic violence cases compiled by the Ministry of Health [20]. The rate of sexual abuse varied widely by district with over 130 cases per 100,000 population reported in Corozal District compared with only 2.6 cases per 100,000 population in Cayo District (Figure 14). In 2008, Toledo, Orange Walk, Stann Creek and Cayo Districts all reported rates of sexual abuse lower than the national average (46.9 per 100,000). In contrast, Belize District reported the greatest number of sexual abuse cases in 2008 and a rate nearly 1.5 times higher than the rate for the entire nation (71.4 per 100,000).

Figure 14: Incidence of Sexual Abuse by District, Belize, 2008

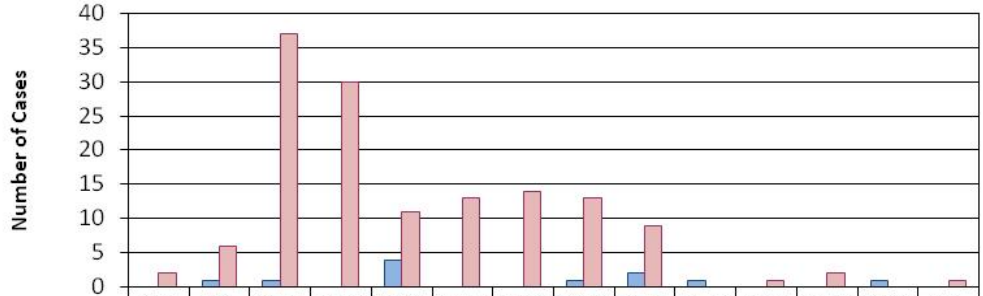


	Corozal	Orange Walk	Belize	Cayo	Stann Creek	Toledo	Total
Rate	130.4	28.9	71.4	2.6	18.0	36.5	46.9
Cases	48	14	69	2	6	11	151

Source: Ministry of Health, Belize [20]

The age-sex distribution of sexual abuse in Belize shows that in virtually all age groups, females were more likely than males to report an episode of sexual abuse (Figure 15). Belizean women and girls were nearly 12 times more likely than Belizean men and boys to report an incident of sexual abuse (86.2 versus 7.5 per 100,000), with the highest rate reported among females in the 10-14 age range (176.2 per 100,000) followed by younger women aged 15-19 (167.6 per 100,000). For adolescent girls in the 10-14 age group, the rate of sexual abuse was 39 times greater than the rate for adolescent boys of the same age (4.5 per 100,000) and twice the rate for women and girls overall. In contrast, the age distribution of sexual abuse cases among men was much older with the highest rates observed among men aged 20-24 (31.3 per 100,000) and older men aged 60-64 (31.3 per 100,000).

Figure 15: Sexual Abuse by Age and Sex, Belize, 2008



	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Male Cases	0	1	1	0	4	0	0	1	2	1	0	0	1	0
Female Cases	2	6	37	30	11	13	14	13	9	0	1	2	0	1

Source: Ministry of Health, Belize [20]

Interviews with 74 Belizean women who have suffered GBV reveal that 50% of respondents reported experiencing an act of sexual violence since the age of 15 [47]. Young adult women (20-29) were less likely to report an incident of sexual violence (29.4%) compared with nearly

two thirds of women in all other age groups. Among this sample of GBV survivors, no ethnic group appears immune to sexual violence, though the likelihood of being victimized was much lower for indigenous women (33.3%) than for Mestizo (68.2%), Creole (64.7%), and Garifuna (56.5%) respondents. Patterns of sexual violence among GBV survivors also varied widely by education levels, with 80% of uneducated women and 75% of women with university degrees reporting an incident of sexual violence compared with 56.4% of those completing primary school and 52.6% of those with a high school education.

Marital rape is a criminal code offense in Belize. Over 43% of women who experienced GBV reported an act of sexual violence committed by their husbands. Among those reporting GBV by their husbands 62.5% were pregnant at the time of the incident. Victimization patterns within consensual unions mirrored trends among women reporting an incident of sexual violence since the age of 15. Women aged 20-29 were again less likely to report being victimized (17.6%) compared with women in all other age groups. Although victimization patterns decreased minimally among women aged 30 and older, the percentage of younger women (10-19 years) reporting an incident of sexual violence committed by their husbands did not change. Findings suggest that among this sample of women, husbands were more likely than strangers, family members or friends to be perpetrators of sexual violence. The same is true for indigenous women, uneducated women, and women with university degrees, all of whom were equally as likely to report being sexually victimized by their husbands as they were to report an incidence of sexual violence since the age of 15.

In Belize, some women believe there are instances where a husband is justified in beating or sexually assaulting his wife. Commonly held justification for husbands beating or sexually assaulting wives include neglecting to care for the children, arguing with their husbands, going out without telling their spouse, refusing to have sex, or burning food. Over half of study participants who reported an incident of sexual assault committed by their husbands believed it was wrong to refuse sex in situations where they were ill, did not want to have sex, or where their husbands were intoxicated or being abusive. Justifications for sexual violence frequently evolve from gender norms about the proper roles and responsibilities of men and women. One perception commonly held is that men are typically given free reign so long as they provide for the family. In contrast, women are expected to perform housework, tend to the children, and show their husbands obedience and respect.

In Belize younger-aged women and girls or women with limited or no formal education may be less aware of their own rights. They may be less likely to question perceived male authorities. Sexual violence may in fact be perceived as justified. While education may empower Belizean women to make better and more informed choices in life, it does not protect women from violent spouses or reduce their vulnerability to sexual violence, STIs and HIV. Factors such as unstable economic conditions and imbalance in intimate partner h can 'trigger' violent responses and add to the vulnerability of women regardless of age and level of education completed.

Forced sex with an infected person is one way in which HIV and other sexually transmitted infections are spread. The biological risk during sexual violence is determined by the type of sexual contact (anal, vaginal or oral). Women who have been forced to have sex without protection or who have been raped are more likely to be at risk for HIV infection since violent sex causes more injuries to the anal and vaginal walls. The link between domestic violence and HIV susceptibility among women in Belize is evidenced by the high number of GBV survivors who received a positive diagnosis after willingly testing for HIV (25 of 60 or 42%). Among those who experienced an act of sexual violence since the age of 15, 28% were HIV positive, and nearly a quarter (24%) of women who were sexually victimized by their husbands were also diagnosed

with HIV. The links between sexual assault and other forms of domestic violence have important implications for HIV prevention and treatment, especially considering the percentage of women who were currently pregnant (11%) or not using any form of birth control (58%) at the time of the interview.

Discussion: Social Determinants, Gender, and HIV Infection in Belize

When analyzing the spread of HIV infection, it is important to consider how social, economic, and political conditions can increase HIV susceptibility, transmission, and the subsequent need for treatment and ART. It is also important to consider how these determinants interact with the gendered roles and unequal power relationships among and between women and men. In Belize, women's lack of comprehensive knowledge of HIV, women's low educational levels, violence against women, power imbalances created in situations of child sexual abuse and commercial sexual exploitation are all interrelated factors. The invisibility of the MSM population, norms of masculinity and femininity, unequal gender relations, and poverty are also interrelated factors and all contribute to the spread of HIV.

Women and HIV/AIDS

Unprotected sexual activity can result from inadequate information, barriers to accessing condoms and other methods of birth control, lack of proper and consistent use of birth control methods, low HIV risk perception, or impaired judgment. Results from a multiple indicator cluster survey conducted in 2006 reveal that of 1,675 Belizean women aged 15-24, only 40% have comprehensive knowledge about HIV transmission [48]. Comprehensive knowledge was defined as the proportion of women who knew two methods of preventing HIV and AIDS, rejected two misconceptions, and also knew that a healthy looking person could be infected. Approximately 50% of women who had heard of AIDS knew all three main methods of preventing HIV transmission through sexual contact. When asked, 73% knew that having only one faithful, uninfected partner could prevent HIV transmission; 71% knew that condom use could prevent HIV infection; and 70% were aware that abstaining from sex could prevent HIV transmission. Although 90% of women knew at least one way of reducing the likelihood of becoming HIV infected, 10% did not know any of these three methods.

High-risk sexual activity can also result from an inability to negotiate safe sex. When gender and power relations are unequal, women and girls do not have control over their sexual and reproductive health, including the negotiation of safe sexual activity. Assumptions about fidelity and exclusivity in long-standing relationships may prevent women from asking to use protection in an effort to avoid accusations of infidelity. Fears of withholding economic or welfare support, withdrawal of love and affection, and violence related to requested use of condoms or refusal of sex may also result in decisions by women not to use or pursue the use of adequate protection [37]. Younger women experience greater inequities, particularly when they partner with older men. Lack of social and economic power often leads to vulnerability, as some women are forced into sex work or form temporary partnerships to barter sex for economic survival.

The Committee on the Elimination of Discrimination against Women (CEDAW) and the National Gender Policy [49] state that women's economic empowerment is a necessary step towards achieving gender equality and equity in Belize. The Belize National Gender Policy reports that "the female labor force is more highly educated but less well paid, less likely to be employed and more likely to experience long-term unemployment than the male labor force" [49]. Current labor force statistics demonstrate that this trend continues and that women are still economically

disadvantaged compared to men [50]. In 2007, women's labor force participation rate was 41.8% compared to 77.5% of men. Women over 14 years comprised 36.2% of the labor force, but made up 55.6% of those who were unemployed. Young girls who experience barriers or who are not allowed to complete their education due to pregnancy have less opportunity for social and economic advancement as adults, and may find it difficult to take care of themselves and their children. This economic reality contributes to women's economic dependence on men and their inability to negotiate safe sex, both of which increase their risk for HIV infection.

Poverty may be considered both a cause and a consequence of HIV, since women (and men) who live in poverty may be forced into precarious economic and social lifestyles that shape their vulnerability to HIV [51]. In Belize, 25.3% of households and 33.4% of individuals were considered "poor" on the basis of their expenditure on food and non-food items. Moreover, nearly 10% of households and 13.4% were considered "extremely poor" or "indigent" because they could not afford the economic costs for their basic nutritional requirements [52]. In 2004, Toledo District had the highest poverty rate at 79%. In contrast, Belize District had the lowest poverty rate (24.8%)[14]. Belize District, however, consistently reported highest rates of infection for HIV.

Generally speaking, the young, the elderly, and female heads of households are disproportionately affected by poverty in Belize. As such, when men develop AIDS or die from AIDS-related causes, women and girls in those households come under serious economic pressure. This was the situation observed among a sample of HIV positive families interviewed for the Children and HIV study [53]. When the primary income earner is no longer able to support his family, the women and children are forced to find income generating activities that may increase their overall risk for HIV transmission such as commercial sex work. In cases where an HIV positive woman is the head of household, HIV infection creates an immediate crisis as the woman must care for herself while managing all her other social and economic responsibilities. Socio-economic support for male and female headed HIV positive families is virtually non-existent.

HIV/AIDS-related stigma and discrimination tends to compound and reinforce existing prejudices and inequalities, as women and girls are often blamed for bringing the disease into the family, regardless of whether or how they may have contracted HIV [54]. The threat of social stigma may prevent women (and men) living with HIV from revealing their status to others, and may therefore serve as an important barrier to HIV testing and treatment. In Belize, men's reactions to women seeking care or divulging their HIV positive status to others may keep women away from voluntary HIV/AIDS counseling and testing [55]. This reluctance has implications for HIV prevention in terms of controlling sexual transmission of the virus, and for efforts to reduce mother-to-child transmission.

As is the situation globally, women in Belize engage in the double or triple burden of family care and community service [50]. This includes the physical and emotional burden of caring for HIV positive dependents and family members, regardless of whether the person is a man, woman, boy or girl . In this sense, women are affected by HIV/AIDS in a multitude of ways: as people infected with HIV, as mothers of children infected, and as support systems for partners, parents, or orphans living with HIV/AIDS. When women care for others, opportunities for financial remuneration are lost. This loss has a major impact on their own independence and well-being, in addition to that of the household.

In addition to caring for HIV positive adults and children, HIV positive women have other issues to consider in terms of making strategic decisions regarding child custody. A legal will prepared

by the mother can minimize the vulnerabilities of her children and minimize family disputes regarding child custody. In some cases, the children orphaned by AIDS end up in the custody of family members that the mother did not approve. Yet, most HIV positive women do not have access to the legal system to ensure that the best interest of their children is preserved. The issue of succession planning and access to the legal system for custody matters are not visible components of care within the National HIV Response in Belize [56].

Girls, Boys, and HIV/AIDS

The high rate of new HIV infections among Belizean men and women aged 15-24 signals an urgent need to identify and respond to behaviors that contribute to the spread of HIV among younger populations in Belize. Early initiation (< 15 years) into male-male or male-female oral, vaginal, and anal sex is a well-documented risk factor for contracting HIV [57]. The early initiation of sexual activity at age 12 was found among students in selected groups of secondary schools in Belize [58]. Similarly, a recent study on sexual behavior among 1,900 young Belizeans (15-24 years) indicates that of the 947 respondents who were sexually active, 21% of male and 13.5% of female respondents already had their first sexual intercourse before they turned 15 years [59]. Another 55.9% of male and 48.9% of female respondents had their first sexual intercourse between ages 15 and 17, meaning a total of 76.9% of male and 62.4% of female respondents had sexual intercourse before they turned 18 years. Half of those who reported engaging in sexual intercourse at an early age had consumed alcohol prior to the high risk sexual encounter.

More young male than female respondents reported having multiple partners, which may be attributed to social expectations of monogamy for women but not for men. Of significance was the low level of HIV risk perception among males and females with multiple sex partners. A total of 41% of males and females reported having no risk of HIV infection, 43.9% reported having some risk, though only 12.1% reported having a high risk perception. The study also found significant gender differences in HIV related attitudes and in condom use. Fewer females than males reported always using a condom, putting the females at risk of HIV even though they may have sexual intercourse with only one partner. Of those who were sexually active, 62.5% did not always use a condom during sexual activity. Of those who used condoms (37.5% of sexually active respondents), more than half or 57% accessed condoms from a supermarket, 24.2% from a pharmacy, 3.5% from a government clinic or health center, and 3% from a friend or a neighbor, which demonstrates that sexually active male and female youth and young adults are not accessing condoms from public sector facilities.

A 2004 report by UNICEF states that the commercial sexual exploitation of children (CSEC) is widely acknowledged to occur within the tourism industry, the seasonal agricultural sector, the urban population, and the more impoverished areas of Belize [60]. A 2006 study on the commercial sexual exploitation of children in Belize concluded that CSEC was seen to be culturally acceptable rather than a specific crime against children [61]. Although both men and women are CSEC client exploiters, older men tend to exploit younger women, often adolescent girls in greater numbers. The pattern of having more HIV cases among younger women and older men may arise from this culturally accepted gender norm.

The study identified 30 victims of CSEC (21 girls and 9 boys). All victims were under 18 years and engaged primarily in sexual activity in exchange for food, cash or gift items. None of these victims had completed secondary school. Poverty, broken homes, alcohol abuse and forced sexual activity at a young age were common factors that led these children to become victims of CSEC, and therefore also increased their risk of HIV transmission. Approximately 10 (33%) of the respondents in the same study reported having at least one forced sexual activity before engaging

in CSEC. Both male and female respondents participated in high risk sexual activity by not using condoms. Among the thirty respondents, 10 had children, seven reported having had at least one STI and one young woman revealed she was HIV positive.

In 2007, The Ministry of Human Development and Social Transformation reported 265 cases of sexual abuse in the Belize District. The vast majority of cases were reported among girls. Sexual abuse significantly increases their vulnerability to HIV infection. The fact that boys are sexually abused is also a critical gender issue. The sexual abuse of boys was confirmed in a study done in 2004, which demonstrated that of 384 male respondents, 6.3% stated that they had been forced to engage in a sexual act as children [44]. Studies on MSM and the commercial sexual exploitation of children in Belize also indicate that the sexual abuse of boys requires urgent attention, in addition to responses for women and girls [61]. Strategies for responding to sexually abused boys and girls must therefore take into account the gender and age-specific needs of that population.

Men and HIV/AIDS

Even though the rate of HIV infection for Belizean men and women is almost equal, men are more likely than women to be diagnosed with AIDS. This suggests that men are being diagnosed late in the infection or seeking health care services during the more progressed disease state of AIDS, a trend which may be influenced by men's perceptions of health services and their patterns of accessing health care. In one study, approximately half of the male respondents stated that "health services are for women and girls" [44]. Furthermore, only 30% reported ever using health services and another 45% said that they had never used health services for any purpose. Some participants indicated that "they do not go to the hospital unless they are sick" and rationalized this behavior by stating that "because men are more active physically it serves as preventative care for them and they are less likely to become ill" [44].

Some men who access health services and who have the financial resources may prefer to do so abroad to preserve their privacy and confidentiality. In the study identified above, men regularly sought health care advice and services from pharmacists as a first line of intervention [44]. They go to health care providers, clinics or hospitals only as a last resort when their health has deteriorated. Health care providers who were interviewed concurred with many of the opinions shared by male respondents. Health care providers also expressed concern that sexual and reproductive health services in the public sector focused primarily on maternal and child health. The findings described raise some serious questions about whether men's sexual and reproductive health needs are being fully met in Belize.

According to a report published by UNAIDS, there are three main socio-cultural factors that contribute to HIV infection among men and their partners [62]. First, for social and cultural reasons, men usually occupy more powerful positions in relation to their intimate female partners. This gives them more control over how, when, and where to have sex and whether or not condoms will be used. For instance, one study determined that less than half of male respondents agreed that "it would be brazen if my woman asked me to use a condom" and "that a woman who carries condoms in her purse is *easy* and has sex with many men" [63]. This shows men's negative perception of women who are empowered to negotiate and practice safe sex with their partners. The findings of this study are supported by two surveys that explored HIV knowledge, attitudes and practices which were conducted in six private sector enterprises in Belize [64, 65].

Research conducted on men's participation in reproductive health programs in Belize concluded that "there is a difference in the perception of what is expected in the sexual and reproductive health roles of men as sexual partners and fathers and how they, in fact, live these roles" [64].

One perspective frequently reported by male respondents is that "men need to have more sexual relations than women". This belief may account for why young men frequently report having more sexual partners than young women [44]. Respondents also divulged that most men are not faithful to their partners, and that infidelity occurs more frequently among younger men than older men. They saw women as being nurturing and more likely to stay in one relationship. They thought that young women involved with older men were the ones most likely to cheat on their men. Furthermore, the study found that "most men do not have any reason to cheat on their women except that they wish to appear as a sweet man (charmer) in the eyes of their friends and the community."

Second, dominant images of masculinity tend to emphasize sexual prowess, encourage men to have multiple sexual partners, legitimize the use of violence against women, and therefore put men (and their partners) who adhere to these celebrated notions of masculinity at risk for HIV infection. Younger men whose masculine identity may be less developed can face tremendous pressure to be sexually active, and may be less likely to seek information about how to protect themselves and their partners. Fear of appearing inexperienced may influence the decision not to seek information. A perception that sensation during sex with condoms is reduced may result in decisions not to use condoms. An early introduction to commercial sex workers—a practice that is reportedly encouraged in Cayo district—may also put younger men at greater risk for contracting HIV [37].

For many men (and women), it can be difficult to talk about sex, reveal one's HIV status, and openly advocate abstinence, faithfulness and condom use without breaking local taboos or losing prestige in the community. For instance, some men may be afraid of revealing an HIV-positive diagnosis "because they fear losing their jobs and being rejected by their social group, or because they feel guilty towards their regular partner" [62]. For men who believe they must fulfill the traditional role of being the provider, losing employment or failing to provide for the family can produce a sense of anger or disempowerment. In an effort to overcome feelings of inadequacy, men may resort to drugs and alcohol or engage in violent behavior, both of which increase their own and their partner's risk of HIV infection. Although employment opportunities may help restore self-esteem, certain occupations require men to migrate or be mobile (e.g. truck driving), meaning couples are likely to live apart for substantial periods of time. Loneliness may motivate these men to have unprotected sex with other women (or men) or to seek the companionship of sex workers, further placing themselves, their wives, or sexual partners at risk for contracting HIV. In Belize, 10% of the adult population is estimated to be migrant (e.g. truck driving, agricultural work, construction) among which the estimated HIV prevalence rate is 0.7% [13].

There is evidence that some heterosexual men engage in sexual practices with other men for pleasure, transactional reasons, under compulsion, in the absence of available women, or for a combination of reasons. Although HIV infection is more easily passed from men to women, there are biological factors which can increase men's vulnerability. Unprotected anal sex combined with a lack of lubrication and friction can cause abrasions which can become entry points for the virus. The receptive partner in anal sexual intercourse is therefore more vulnerable to infection than the insertive partner. Whether forced or consensual, receptive anal sex increases vulnerability of boys, men and women.

Data from the Caribbean and Latin America indicate that 1% to 8% of adult males are MSM, with an HIV prevalence rate of 12% to 15% [13]. In Belize, the Ministry of Health estimates the population of MSM in Belize to be between 3,000 and 4,000, with a prevalence rate of 1% to 16% [13]. The Belize HIV Epidemiological Profile further estimates that 50% of MSM in Belize also have a regular female partner. Field logs of sexual behavior among a sample of 200 MSM

prepared by the United Belize Advocacy Movement (UNIBAM) also support this estimate, indicating that 42.5% of respondents identified as "gay", 47.5% as "bisexual", 5% as "straight", and 1% as "hustlers" or male sex workers (MSW)[4][66].

According to UNIBAM, the MSM population remains "invisible to the national health system and hence hamper the ability of the system to make decisions in resource distribution and service delivery to reach the population" [66]. One factor contributing to the invisibility of this population is the reluctance of men to disclose their MSM status when taking an HIV test. Among a sample of 103 MSM who were tested for HIV, only 22.6% indicated an honest disclosure of sexual orientation to health workers. The study recorded issues of sexual abuse, domestic violence, community violence and lack of recognition of the sexual rights of young persons as key gender-related issues that create vulnerabilities for HIV infection among MSM. Because of the invisibility of the MSM population within the health and social systems, these gender-related issues often go unrecognized and unaddressed.

With regard to HIV information, the study reported that although 68.7% were aware of free HIV testing services, only 33.9% had accessed this service, testing for HIV in a public clinic or VCT center. Over one quarter (26.1%) of MSM respondents in the study tested for HIV in private clinics only, 31.3% had not received an HIV test and 8.7% were not sexually active or did not want to get parental consent to obtain an HIV test. The pattern of testing showed that MSM engage in cross-district testing and test in private clinics within Belize and outside the country. Of the 115 respondents, a majority (67%) knew someone who was HIV positive. A total of 78.3% reported wearing condoms consistently, 18.3% reported not wearing condoms consistently, and 3.5% did not have information about condoms or had not yet engaged in sexual intercourse. Additional contributing risk factors for HIV transmission among MSM and their partners included a greater tendency for respondents to have sex under the influence of alcohol (58%) and an inclination towards keeping their HIV status secret in the event they test positive (62.5%).

The importance of understanding the relationship between HIV and MSM was identified at the 2001 United Nations General Assembly Special Session on HIV/AIDS. Although it is well documented that MSM face a significantly higher risk of HIV infection than the general population, MSM continue to represent a highly marginalized and neglected group in terms of HIV/AIDS prevention and reporting [17]. Men who are identified as MSM(perceived or factual) often face rejection from family and friends, eviction by landlords, violence from neighbors, expulsion from academic institutions, hostility from health services, and a general sense of stigmatization in the community. All these factors may contribute to the MSM invisiblility and difficulty to reach them with condoms, lubricants, and awareness information on safer sex practices [44, 17].

Conclusions

Although epidemiological research has long established a link between individual sex and risk for HIV infection, a gender-based analysis of HIV/AIDS in Belize reveals important information about the role played by gender in determining individual vulnerability to HIV. Socio-cultural

[4] The report does not account for the remaining 4% of the sample. This may represent the proportion of the sample who did not respond to the question.

norms about masculinity and femininity, and the unequal power relations between men, women, boys and girls that arise from those norms, interact with various biological and physical risk factors associated with HIV to produce vulnerabilities that differ for males and females in different age groups, ethnic backgrounds, and geographical locations.

As the number of Belizeans living with HIV continues to increase, there is an urgent need for gender to be mainstreamed into the national HIV response to ensure that programs and services are developed and implemented based on the differential needs of men, women, boys and girls. The importance of developing gender-sensitive guidelines is evidenced by the success of HIV/AIDS programs and policies that acknowledge gender differences, address the gender-specific concerns of men and women, and reduce gender inequalities [67]. The following recommendations are intended for national HIV stakeholders including, government ministries, civil society, the donor community and the United Nations System. It is important to recognize that the National AIDS Commission must provide the vision, leadership and actions required to ensure that the national HIV response is truly gender responsive.

Recommendations:

- The Belize Health Information System has the capacity to provide much needed STI and HIV data to effectively describe the gendered dimensions of the epidemic in Belize. Collection systems that provide data on the social and economic determinants of HIV are important, as are processes for data collection and analysis within social sector ministries such as the Ministry of Human Development and Social Transformation and the Ministry of Education. The social and economic determinants are critical to understanding the complexities of poverty, social protection and HIV vulnerability.

- Collaboration among relevant and related organizations should occur to conduct HIV related socio-economic assessments on an ongoing basis to examine the differential impact of HIV on females and males. Close attention must be paid to the specificities of people living with HIV, including how their age, income, ethnicity, education and other appropriate variables interact to produce different vulnerabilities to HIV infection.

- Ensure that the national monitoring and evaluation plan for the National HIV Response develop quantitative and qualitative indicators to assess the impact of gender specific interventions.

- Budget and allocate an adequate share of HIV resources to gender-focused activities across sectors. Monitor and track the utilization of these funds.

- Invite the UN to facilitate the integration of gender into existing monitoring and evaluation tools, frameworks and processes. Where necessary, the UN should also support the development of monitoring and evaluation tools in the context of gender and HIV.

- Strengthen action on intersecting issue of HIV and gender inequality at the national level. In addition to the development of specific gender activities, take account of gender as a cross-cutting issue in all areas of AIDS strategy and action plans.

- Evidence of early sexual activity point to a need to focus on the sexual and reproductive needs of adolescent young men and women, including those who are HIV infected. The

integration of HIV into sexual and reproductive health services should be scaled up with emphasis on ensuring the active participation of men, and adolescents.

- Sexual and reproductive health services for men, with emphasis on HIV and STI should be scaled up. The orientation of health services to further encourage and meet the needs of men, particularly accessing HIV prevention, care and treatment are important.

- Investments in HIV prevention, mitigation and support must include significant investments in child protection and women's empowerment programs. There is a need for greater integration of efforts between the National AIDS Commission, National Committee for Families and Children, the National Women's Commission and the Women's Issues Network.

- HIV must not be addressed outside the context of gender relations and gender-based violence as these create and exacerbate the vulnerabilities for women, girls and boys. Programs linking HIV and violence against women and young girls should be integrated. One such program is the integration or provision of HIV testing for women and young girls who experience violence.

- The National AIDS Commission must work intensively to make sound arguments for increasing current investments in social protection and poverty reduction in Belize. There is a need to ensure that these programs are strategic and gender responsive. Such programs need to address the social determinants of HIV and impact on the fundamental issues that make women, men, girls and boys vulnerable to HIV infection.

- Multiple agents should advocate at multiple levels for the poverty reduction plan to include strategies for both boys and girls to enter and complete secondary school. This is important since formal schooling is where most young men and women get accurate information about the modes of transmission and prevention of HIV and AIDS and by extension can increase their earning potential later in life.

- The national strategic and operational plan should be gender sensitive, and seek to integrate gender into HIV prevention, care and treatment programs. Prevention programs should embrace and address gender and biological factors that put men, women, boys, girls, MSM, and other sexual diverse groups at risk for HIV.

- Training should be provided for HIV program managers and officers on gender mainstreaming and gender related issues and human rights. This will allow for the integration of HIV into national HIV programs and services including care and treatment programs.

- HIV planners are encouraged to utilize gender planning tools that help to address the gendered dimensions of HIV and sexual and reproductive health issues. This would include the need to address the social as well as the biological factors that predispose women and girls to HIV. Such tools require recognition that women and girls need to learn negotiation and decision-making skills and to become aware of the links between HIV and gender-based violence.

- Use gender-equitable messages in community-wide social marketing campaigns to promote condom use.

- Adopt innovative programming with demonstrated effectiveness and which actively engages and empowers youth. Innovative programming include as community-based drama and peer education about HIV and violence.

- Make condoms readily available in locations where men typically congregate (e.g barber-shops, football & basket ball games, gyms, etc.).

- Multiple agents at multiple levels should encourage boys and girls to examine notions of gender and sexuality in an effort to reduce early initiation into sexual activity.

- Multiple agents at multiple levels should communicate messages about the risks associated with early initiation into sexual activity, unprotected sexuality, early marriage and childbearing.

- Conduct research to better understand the social and biological pathways to HIV transmission in the migrant and highly mobile/transient population of Belize in order to target prevention efforts. Factors to consider include: epidemiological data lacking on HIV/AIDS in, the substantial size of this group, vulnerability to HIV infection, potential influence on the spread of HIV/AIDS across regions and between nations, and difficulty to reach migrant and mobile groups. A multi-sectoral approach is necessary.

- The rate of HIV positive women's access to family planning and other sexual and reproductive services needs to be monitored so that services can be adjusted to increase their effectiveness. HIV positive women who decide to engage in family planning need support in choosing the most effective method for their individual circumstances. This may or may not include consistent condom use (male condoms) since this requires active participation by men. The Maternal and Child Health Program (MCH) in Belize understands these challenges and is working diligently to increase women's access to sexual and reproductive health services, including access to family planning commodities such as male and female condoms and injectables. The MCH program also offers substitute milk as an alternative feeding method for mothers who are HIV infected.

- Belizeans should be encouraged to make the family environment a place where boys are taught by example and practice to respect women and to speak about their sexuality. Attitudes, beliefs and values in Belizean culture affect boys' and men's sexual behavior.

- Leaders at the national and local level should teach men to honor their masculinity at various stages of their life cycle through caring for their health (including sexual and reproductive) caring for their partners' and children's health.

- Identify and promote positive images of masculinity and male behavior: men as fathers caring for the family, and men with a sense of responsibility and reliability towards themselves, their children, and their partners.

- Educational, health, and social programs must reach pre adolescent, young and mid adolescents as well as older adolescents. Information, skills, services, and supplies (condoms, contraceptives) must be made available at relevant stages for adolescents to negotiate their own protection from unwanted and/or unsafe sexual practices. This must

be through a rights-based approach, including respect for the rights of others and the importance of abstinence at this stage of the life cycle.

- Targeted HIV programs for MSM and their male and female partners is an important aspect of scaling up the National HIV Response in Belize. Availability and accessibility of sexual lubricants as part of an HIV prevention strategy should be considered.

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