Namibian paradox: diamonds, disparity, and HIV. The unique drivers fueling the HIV epidemic in a wealthy southern African country. Extended Abstract.

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Background:

Namibia's HIV/AIDS epidemic is one of the worst in the world. Routine antenatal surveillance indicates that 20% of pregnant women are HIV positive.[1] Since 2002, prevalence appears to be leveling off following a sharp rise.[2] However, UNAIDS projections estimate that the epidemic has not yet peaked.[3] The number of new infections is expected to continue to rise over the next five years barring substantial impact of HIV prevention efforts.[4]

Why is Namibia, one of the wealthiest countries in Africa, being ravaged by AIDS? One cannot dissociate the current epidemic in Namibia from the political and economic context in which it emerged. Colonialism, apartheid rule, forced labor migration, segregation of men from their families and communities, racism and imposed poverty all made Namibia, and the Southern Africa region, ripe for HIV to spread.[5] However, the factors fueling the epidemic in Namibia now, two decades after independence, are not clearly understood.

Objective:

The purpose of this study was to identify the main behavioral factors that are currently driving the HIV epidemic in Namibia, and examine how the socio-economic context increases the vulnerability among the Namibian population.

Methods and data sources:

The conceptual framework for this study was adapted from the work of Boerma et al. and Poundstone et. al.[6] The framework outlines the determinants of sexual transmission of HIV from the individual-level to the macro socio-economic determinants.

Data from several sources were triangulated to assess which factors were most likely to contribute to the spread of HIV across the population. The following were examined to identify the main drivers of the HIV epidemic in Namibia:

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[1] Ministry of Health and Social Services, Republic of Namibia. 2006. Report of the 2006 National HIV Sentinel Survey.

[2] Ibid.

[3] Ministry of Health and Social Services, Republic of Namibia. 2008. Estimates and Projections of the Impact of HIV/AIDS in Namibia. Windhoek: MOHSS.

[4] Ibid

[5] Hunter, M., 2006. The changing political economy of sex in South Africa: The significance of unemployment and inequalities to the scale of the AIDS pandemic. Social Science and Medicine, 64:689-700

[6] Boerma T., Weir S. 2005. Integrating Demographic and Epidemiological Approaches to Research on HIV/AIDS: The Proximate-Determinants Framework. JID 2005:191 (Suppl 1) • S61. Poundstone, K., Strathdee, S., Celentano, D., 2004. The social epidemiology of Human Immunodeficienct Virus/Acquired Immunodeficiency Syndrome. Epidemiological Reviews 26:22-35.

1. The prevalence, distribution, and trends over time of proximate determinants of HIV infection within Namibia (obtained from an analysis of the Namibia DHS and other regional and local surveys).
2. Socio-demographic factors associated with HIV infection among clients who were tested for HIV in voluntary counseling and testing (VCT) facilities throughout Namibia. (obtained from analysis of this data)
3. Factors most associated with HIV infection in neighboring counties, and in other generalized epidemics for which representative HIV surveys exist.
4. The findings and conclusions of other researchers who have investigated various aspects of HIV/AIDS vulnerability in Namibia.

Original analyses on two data sets were undertaken for this study:

Demographic and Health Surveys:

Analysis of 2006 Namibia DHS was undertaken to ascertain the frequency and distribution of HIV proximate determinants, and identify those most likely to contribute to the epidemic. Trends in the proximate determinants were examined by comparing data from the last three rounds of the NDHS (1992, 2000 and 2006). Furthermore, to identify vulnerable groups within the Namibian population, the distribution of each proximate determinant was examined by various background characteristics including education, wealth, marital status, age, urban/rural residence and region. All analyses were undertaken separately for the 15-24 and 25-49 age groups. Various analyses were additionally stratified by marital status. Analyses controlled for survey design.[7]

Voluntary Counseling and Testing (VCT) clients:

Voluntary counseling and testing services, operating under the New Start name, routinely collect demographic and behavioral data from its clients and link these to HIV test results. These are the only data in Namibia that permit a direct examination of association between individual serostatus and other proximate determinants. While these data are not representative, interpreted with caution they do provide valuable insight into the determinants of HIV in the Namibian context. As of April 2008, over 100,000 individuals of all ages had been tested at these centers.[8] Multivariate logistic regression was undertaken to examine the effects of age, marital status, employment, education, condom use and multiple partnerships on the odds of being HIV positive among adult first-time clients.

Findings:

High levels of multiple and concurrent partnerships, inter-generational sex, and transactional sex are at the center of this epidemic.

Inter-generational sex exposes adolescents and young adults to partners who, by virtue of their age, are more likely to be HIV positive[9]. Among women age 15-24, 7% of single women and 26% of married women have a partner 10 or more years older (NDHS 2006). Inter-generational sex

[7] Accounting for sample weights and cluster sampling, using Stata software.

[8] New clients only were considered.

[9] As indicated by ANC surveillance data and VCT client data.

in Namibia is associated with higher levels of STIs and with having multiple partners (NDHS, 2006). These partnerships introduce the virus into the younger generation where it quickly spreads as a result of rapid partner turnover (among men), and common concurrent partnerships (NDHS, 2006; VCT data).

Multiple partnerships are contributing to the rapid spread of HIV throughout the country. In 2006, 16% of sexually active[10] men and 3% of sexually active women reported more than one partner over the previous 12 months (NDHS 2006).[11] Having multiple partners is not common, nor a major risk factor for HIV among women (NDHS 2006; VCT data). However, the widespread practice, among men, of maintaining multiple relationships is contributing to the high levels of HIV infection among young women (NDHS 2006; VCT data).

The risk for women stems from their choice of partner rather from their own behavior (VCT data). Only 27% of women aged 15-49 reported more than two partners in their lifetime (NDHS 2006), and multiple partnerships was not a risk factor for HIV infection among female VCT clients (VCT data).

Marriage rates in Namibia are among lowest in the world,[12] and keep dropping (NDHS 1992-2006). As many as 25% of both women and men age 35-49 have never been married or cohabitated as if married (NDHS, 2006). As marriage rates have dropped in Namibia, transactional sex has come to replace the traditional economic arrangements that existed within formal marital and familial units. Women's marital independence has not been matched with new income generating opportunities, and many remain economically dependent on men. In this context of poverty and limited employment opportunities, sexual intercourse has become a commodity freely traded for goods and services. Evidence from several studies indicates that transactional sex is common and expected in many sectors of Namibia.[13] Transactional sex is contributing to the spread of HIV by promoting high partner turnover, fueling inter-generational sex, and limiting women's sexual and contraceptive decision-making.

When these inter-generational and multiple partnerships occur in a context, such as Namibia, where condom-use is inconsistent, circumcision rare, STIs under-diagnosed and under-treated, perceptions of risk are remarkably low, and approximately 1 in 5 adults is already infected with HIV, the results are a devastating epidemic (NDHS 2006).

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[10] "Sexually active" refers to individuals who report having any sexual intercourse in the 12 months preceding the survey.

[11] Various other local surveys confirm high levels of multiple partnerships among men.

[12] UNICEF, 2005. Early Marriage: A Harmful Traditional Practice. New York, NY: United Nations Children's Fund (UNICEF)

[13] UNICEF 2006, Mufune, P., 2003. Changing patterns of sexuality in northern Namibia: implications for the transmission of HIV/AIDS. Culture, Health and Sexuality, 5(5):425-438LeBeau, D. and P. Mufune, 2001. The influence of poverty on the epidemiology of HIV/AIDS and its subsequent reinforcement of poverty among economically marginalized families in northern Namibia. Conference paper: Southern African Universities Social Science Conference. UNICEF, 2006

High levels of population mobility further accelerate the spread of HIV.[14] Namibia's reliance on the mining and fishing industry, as well as on seasonal agricultural production, requires regular population displacement.[15] Frequent population movement encourages the maintenance of multiple and concurrent partnerships.[16] Infections are passed on rapidly through a chain of interconnected sexual networks that are often distributed over various regions of the country. Multiple and concurrent relationships are common throughout Namibia in rural and urban areas (NDHS 2006), and the epidemic has spread to most remote areas of the country (VCT data, ANC surveillance data).

Namibia is the country with most wealth inequality in the world, with a Gini-coefficient of 0.6.[17] The majority of resources are concentrated in the hands of a small group of individuals, who become sought after sexual partners. In Namibia, wealthy, employed and educated men are most likely to report numerous partners (NDHS, 2006).

The evidence strongly suggests that young women are at highest risk of acquiring HIV. UNAIDS projections estimate that nearly half (44%) of new infections over the next 5 years will occur among 15-24 year olds and 77% of these will occur in young women.[18] These women are infected early in their sexual life by their first or second partner (VCT data, NDHS 2006; UNICEF 2006).

Conclusions:

The epidemic is driven by a complex interweaving of factors that include migration, extreme wealth disparities, ideas about marriage and sexual partnerships, and gender inequality. Inter-generational sex, transactional sex and migration ensure that HIV cuts across generations, across class and across the country. Namibia's unique history, geography, and political economy have created a particularly volatile situation. While efforts aimed at changing behaviors are necessary, closer attention to the underlying factors fomenting them is urgently needed.

[14] SDAC – Report of the expert think tank meeting on HIV Prevention in High-Prevalence Countries in Southern Africa. Held in Maseru, Lesotho, May 2006.; IOM, 2005. HIV/AIDS, Population Mobility and Migration in Southern Africa. Defining a Research and Policy Agenda; Keulder C. and D. LeBeau, 2006. Ships, trucks and clubs: The dynamics of HIV risk behaviour in Walvis Bay. IPPR Briefing Paper No.36. Windhoek: Institute for Public Policy Research. Lurie, M.; Williams, B.; Zuma, K.; Mkaya-Mwamburi, D.; et al. 2003. Who infects whom? HIV-1 concordance and discordance among migrant and non-migrant couples in South Africa. AIDS. 17(15):2245-2252

[15] Ministry of Health and Social Services, Republic of Namibia. 2007. United Nations General Assembly Special Session (UNGASS) Country Report.

[16] See reference 14.

[17] UNDP 2007. Human Development Report, 2007; Levine, S. 2007. Trends in Human Development and Human Poverty in Namibia: Background paper to the Namibia Human Development Report. United Nations Development Programme (UNDP).

[18] MOHSS, 2008. Op Cit. See reference 3.