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HIV/AIDS and the Education of African Children: An Essay Review

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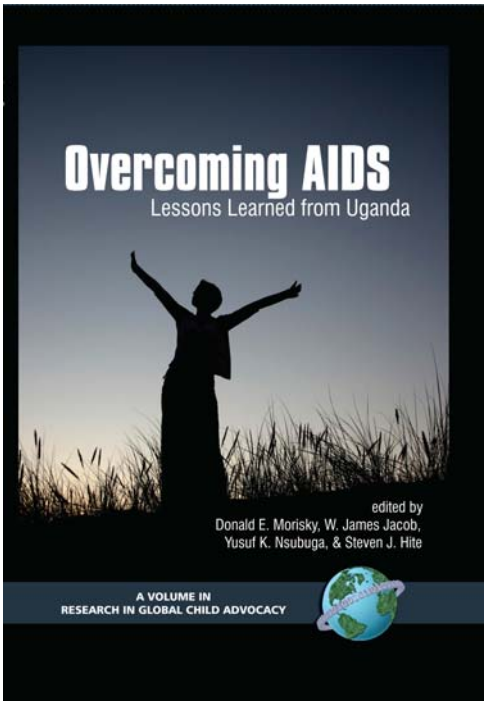
Good news out of Africa is not the norm, so when it does emerge, it is always extra welcome. After all, sub-Saharan Africa is the only developing region of the world where the average growth rate has been negative since 1965, and it is home to 24 million of the 39 million people worldwide living with HIV and AIDS. Against this grim backdrop, the edited volume, *Overcoming AIDS – Lessons Learned from Uganda*, presents a hopeful message of slowing down the death march of HIV and AIDS across Africa in at least one country on this continent.

The book is a volume in the *Research in Global Child Advocacy* series being published by Information Age Publishing, Inc., and has 13 chapters in which authors present different aspects of a country-wide mobilization against HIV/AIDS, and also try to explain the "Ugandan miracle" – the dramatic drop in HIV prevalence between the early nineties and early 21st century. This is a book about HIV/AIDS, but it is geared toward all who are interested in the education and development of children in Africa. In sub-Saharan countries like Uganda, children and youth are the subset of the population most vulnerable to HIV/AIDS. HIV infection rates tend to be highest among the 15-25 year age group; and among younger Africans, millions have lost their parents through

AIDS. The enduring theme of education as a way of self-improvement and a route out of hardship and suffering finds expression in the importance accorded in this book to the role of educational efforts in reducing the vulnerability of youth to HIV, and to "overcoming" AIDS.



AIDS was first identified in Uganda in 1982, and by 1991 most sources estimate the national HIV prevalence rate peaked at around 15 percent, and then fell to about 5 percent by the early 21st century.[1] Most authors in *Overcoming AIDS* highlight the remarkable drop in HIV prevalence in Uganda, and then explicitly or implicitly credit this success to the profusion of education and prevention efforts in the country. (Uganda is well known for popularizing the *ABC – Abstain, Be faithful, Condomise* – message through these efforts.) The book is divided into four sections: an overview of the multisectoral response to HIV/AIDS; discussion of educational programs in the formal education sector; a description of educational services provided through the nonformal sector; and an assessment of the conditions of and prospects for orphans and street children.

Donald E. Morisky

In the two chapters in the first section of this book, the authors present an image of a country mobilized and prepared to combat AIDS.[2] They argue that top-level government support and leadership were crucial to Uganda's success. Government promotes testing, counseling, and being open about one's HIV status. HIV/AIDS is much more than a health problem, and planning and implementation of education campaigns and care and support services happen at multiple levels; through the formal school system, other government departments, nongovernmental organizations, international donors, faith based organizations, and mass media. Government commitment in words and actions is the most important precursor to this multisectoral collaboration as well as to creating a climate where donor organizations are willing to be generous with funding.

The formal education sector in any country potentially provides an ideal vehicle for disseminating information about HIV, sine it provides a ready made infrastructure as well as a captive audience of students. In Uganda this sector is the second largest governmental one in terms of working population. A large work force equipped with HIV/AIDS knowledge is in a position to make an impact on millions of children. However, in the chapters dealing with the formal education sector, authors point out that Uganda's rich history of addressing HIV through educational interventions unfolded primarily at the extra-curricular level, and that efforts fully to integrate such interventions in the school curriculum have been uneven. The reasons for this may resonate with many teachers in the US, despite their different context: The free and open discussion that ideally needs to be the medium for HIV education does not fit well with a regimented and rigid education system. Teachers feel pressed for time and feel they need to concentrate on examinable subject matter. currently HIV education is not a core subject, is not being tested, thus is not a priority. Teacher training efforts do not equip teachers to step outside of the role of "instructor" and be a "change agent." In many ways the formal education system seems just too sluggish to adapt. In Chapter 5, Rosemary Nabadda and Albert James Lutalo-Bosa write: "Over 2 decades of living under the shadow of HIV/AIDS have elapsed without massive curricular innovation to effectively integrate HIV/AIDS throughout the teacher training programs" (p. 92).

W. James Jacob

In Chapters 6 to 11 the authors provide detailed descriptions of a myriad of grassroots organizations, international NGOs, faith based organizations, as well as government programs (that seem easily to navigate between formal and non-formal spheres of society) that make up HIV education in the nonformal sector. These groups can make up for the weaknesses of the formal education sector since they have much more flexibility and mobility. Great variance among Ugandans in understanding of HIV/AIDS issues and in cultural values requires malleable responses.

With detailed discussions of the scope and interconnectedness of the many educational and support interventions, this section of the book provides the reader with a rich understanding of the multisectoral mobilization of the country discussed in the first section. In these chapters we also find several claims regarding the effectiveness of prevention efforts, unfortunately these claims are often not backed up by a clear analysis of the evidence, a weakness of the book that I will discuss in more depth later.

In this section, Coutinho, Ochai, Mugume, Kavuma, and Collins evaluate Africa's largest HIV/AIDS support organization, TASO (The AIDS Support Organization), which was founded by people infected with HIV and provides medical, counseling and social support services to people with AIDS. Lynn Curtis discusses the

philosophy and reach of ProLiteracy which started out as an adult literacy provider in 1955 and now has integrated HIV education in its curriculum, teaching people about HIV as they teach them other basic education skills. Sande Ndimwibo and Julie M. Hite describe the UYAAS (Uganda Youth Anti-AIDS Organization) and point out one of its core strengths: "The direct involvement of youth is particularly powerful as UYAAS facilitates peer education strategies that encourage youth to reach out and educate other youth" (p. 186). They tie in the work of UYAAS directly with changes at the national level: "Uganda's promotion of prevention programs has resulted in an HIV prevalence decrease from 1993 to the present . . . that is more than would be expected from natural causes alone and is most prevalent among young age groups" (p. 173).

Steven J. Hite

Catharine Watson, Betty Kagaro and Beatrice Bainomugisha analyze the work of the Straight Talk Foundation that uses mass media to flood the country with HIV/AIDS education materials. National radio broadcasts and multiple newspapers - *Straight Talk*, *Young Talk*, *Teacher Talk*, and *Parent Talk* - are supplemented with support programs like local clubs and counseling phone lines. These authors seem keen causally to link the Foundation's interventions with the drop in HIV prevalence, and behavior change: "The HIV-prevention media campaigns in Uganda were instrumental in reducing HIV prevalence among young women in the 1990s" (p. 189), and "Since Straight Talk was first published in 1993, there have been many notable behavioral changes in the lives of adolescents. For example, the average age of sexual debut among adolescents has risen" (p. 205). But in discussing another national campaign, they are more cautious in their interpretation of the situation: "Although a direct causal link cannot be definitely established between the campaign to promote monogamy and partner reduction and the concomitant fall in the incidence of HIV infection, it seems likely that it was critical to the success in Uganda" (p. 192).

This chapter goes further than many of the others in that it tries to examine which types of behavior changes occurred in Uganda, and what the implications of identifying behavior changes would be for prevention efforts. The authors note that abstinence really refers to delaying sexual debut by about a year (and not strictly "abstinence until marriage"), that condom use is still relatively modest, but that self reporting surveys indicate noticeable changes in behavior toward reducing numbers of sexual partners. The authors argue for more investigation of the role of partner reduction in reducing HIV prevalence, and argue strongly for not prioritizing any one of the three ABC approaches.

In Chapter 11, Jeremy Liebowitz and Stephen Noll discuss the role of religion – through faith based organizations (FBOs) - in educating youth about HIV/AIDS. FBOs are well positioned to influence HIV/AIDS education as they have extensive networks of people, institutions and infrastructure, especially in rural areas. Not only are these organizations involved in education, but also in care and support, especially for orphans. One of the drawbacks of FBOs though is that their lay members often lack training and expertise but still need to carry the burden of providing expert support; for instance members of these organizations may be called upon to do counseling without having any training in the field. Another drawback is that FBOs send out mixed messages about prevention methods. Some FBOs are supportive of condom use, whereas many others would only focus on abstinence, which may not be a realistic strategy for many Ugandans who already are sexually active. Liebowitz and Noll conclude their very balanced review of the role of FBOs by observing that ". . . it is still unclear or too early to tell to what extent FBOs have been responsible for generating real behavior change in prevention and support among youth" (p. 220).

Given the worldwide attention garnered through Uganda's ABC approach to HIV prevention; it is disappointing that a review of this approach does not have a whole chapter devoted to it. The topic is discussed by Terrance D. Olson and Richard G. Wilkins, in a chapter titled "The Family, Youth and AIDS," where they argue strongly in favor of emphasizing the A and B in the ABC approach. Since their argument captures much of the ideological and funding battle fought currently in Africa over prevention approaches, I will discuss this chapter at some length.

The authors' argument for prioritizing abstinence and fidelity is developed along the following line: The only way to reduce HIV in Africa is to change beliefs and values underlying current sexual practices. Abstinence and fidelity campaigns get to addressing issues of values. Interventions that focus on changing a single aspect of sexual behavior such as condom use do not engage people in an examination of values, since the intervention focuses on a technology.[3] If their first argument against condoms is a conceptual one, their second one is instrumental, since it relies on citing research that indicates the low success rates of interventions promoting condom use, for instance: The study showed an increase in condom use by the experimental group versus the control group (85%-57%) at the 6 month follow-up. However, by the 12 month follow-up, among sexually active youth in both groups, there was no significant difference in condom use. (p. 229) The authors judge such an outcome to be devastating for Africa, with its large numbers of HIV positive people.

Once the C in ABC has been shown to be ineffective, the authors proceed to argue in favor of A and B:

> It is time, therefore, for the world community to consider more seriously an alternative intervention ideology – just as empirically valid as the so-far

> minimally successful behavioral approaches. This intervention ideology would emphasize sexual chastity prior to marriage and sexual fidelity within marriage. (p. 235)[4]

The authors cite research that shows that abstinence and fidelity have become more widespread in Uganda, i.e., the sexual values of Ugandans have changed, and they ascribe this to a nationwide cultural change that came about through open discussions that were encouraged by the political leadership. The president and first lady's increasingly vociferous support for prioritizing abstinence in the ABC formula, they argue, is what made possible a legitimization of this approach, which helped to shift values, which in turn facilitated behavioral change toward abstinence and fidelity. While it is uncontroversial to state that Uganda's success in dealing with HIV is partially due to encouraging open discussion, and cheerleading from the leadership, the rest of this chain of events may be linked in more complex ways than Olson and Wilkins' argument suggests.

My concern with the authors' interpretation of the abstinence research, is that on close reading of this research the best current empirical evidence shows that the largest sexual behavior change in Uganda has been a reduction in sexual partners. It is not unreasonable to think that such a behavior change could have had an impact on reducing HIV. However, it is unreasonable to argue that prioritizing "A" in educational campaigns is the cause of such behavior change. Olson and Wilkins make it clear that what they are promoting through values-based programs is *abstinence until marriage*, and thereafter *fidelity to the spouse throughout marriage*. In this regard they are in tune with what President Museveni proclaimed in a 1992 speech: ". . . I have been emphasizing a return to our time-tested cultural practice which emphasized fidelity and condemned premarital and extramarital sex" (p. 234).[5]

When they say (p. 241) something like: ". . . there is proof that values-based programs *do* work," we expect that what they mean is that A and B interventions lead to abstinence until marriage and fidelity throughout marriage. However, the "proof" they refer to is evidence for something entirely different. The authors largely draw from one study (Stoneburner and Low-Beer, 2004) published in *Science*. Stoneburner and Low-Beer investigated behavioral changes in Uganda, compared those with behavioral changes in other African countries that did not see a drop in prevalence, saw what was unique about Uganda, and then attempted to link these behavioral changes to the drop in prevalence in Uganda. A careful reading of Stoneburner and Low shows that they do not advocate abstinence over other B and C. In fact, they do not even claim that abstinence till marriage and fidelity to one partner (the types of A and B promoted in this chapter) explain Uganda's HIV reduction. They very cautiously suggest that a reduction of casual sex (largely because of a general reduction in sexual partners and secondarily because of

abstinence among urban males – not defined as abstinence until marriage) is the reason for the change.

At the heart of the ABC approach is the frustrating fact that the A, B, and C concepts can be interpreted to mean different things.[6] Such lack of conceptual clarity may sometimes be a good thing in that it allows informed and empowered individuals to be flexible and make personally relevant decisions within an externally imposed framework. But on the other hand it can also obfuscate funding decisions, complicate proper evaluations, and put people at risk of contracting HIV. If the outcome measure for an abstinence intervention is abstinence until marriage, no-one can claim that there is evidence for success, since no one has done a properly designed longitudinal study that follows children from an abstinence intervention until they actually get married. If the outcome measure is delayed sexual debut, success may be claimed, since there is evidence that abstinence messages could help children who are not yet sexually active to delay their first sexual experience. However, this is evidence of success for delaying sexual debut, or for abstinence for a specified period, not abstinence until marriage. If the authors consider a condom intervention that has no effect after 12 months as disastrous, why are abstinence interventions, that often do not show abstinence for longer than 12 months after the intervention, not considered disastrous? The danger in prioritizing A over anything else is that once the effect of the intervention wears off, people do not have any other tools in hand to protect themselves. An approach that balances A, B, and C will at least equip people with knowledge of strategies to use once they stop being abstinent.

In emphasizing the *Be faithful* component of ABC, largely through arguing for strengthening the institution of the family, Olson and Wilkins overlook the potential dangers of a narrow interpretation of the B. For many Ugandan women the family is not a safe haven. And lifetime fidelity to a spouse is meaningless as an HIV prevention measure unless the spouse is, and stays HIV negative. Over the last few years it has become clear that HIV infection rates for monogamous married women in Africa are extremely high, and in some communities women have come to see divorce as an HIV prevention strategy.

I believe that (within a worldview of freedom of speech and freedom of belief) there is nothing wrong with promoting abstinence until marriage or lifetime monogamy explicitly as part of a value system, or as part of a religious or cultural practice shared among community members. However, trying to use scientific evidence to back up such values when such evidence is not readily forthcoming, is problematic.

In the final section of *Overcoming AIDS*, we shift gears from HIV education to a situational analysis of a very vulnerable subset of children affected by AIDS. The authors examine the conditions and prospects of orphans and street children whose parents have died of AIDS. Smith and Ogojoi describe how street children in Uganda are being affected by poverty and AIDS and how these two factors affect each other. In

Chapter 14, Christopher B. Meek and W. Joshua Rew compare the situation of orphans in Uganda and South Africa. This chapter provides an excellent analysis of the historical context in each of these countries that created the conditions for HIV to become rampant. It is estimated that there are 1.7 million orphans in Uganda, out of a population of 26.7 million, and a large part of the chapter is devoted to a disaggregation of statistics. Meek and Rew tease out the causes of orphanhood (in northern Uganda war is still an important cause, whereas in South Africa AIDS is the major cause); the regional distribution of orphans in both countries; as well as information about whether orphans had lost both parents, or only one, and which one. Having good data on orphans puts governments and other agencies in a position where they can plan for these young citizens (for instance, it is important to know whether a child has lost either a father or mother, or both, since the implications of each is different: losing a father often means losing a family's source of income, losing a mother often means losing a primary caretaker and nurturer.) Meek and Rew show how Uganda has been engaged in a concerted effort to improve the situation of these orphans, while the South African government has no policy, no plan, no institutions, and no budget for orphans, which are projected to constitute 20% of all children by 2010.

In comparing the "recovery" of orphans in Uganda with the "catastrophe" of orphans in South Africa, this last chapter brings us full circle back to a major point that was made in the first chapter of the book: Good and responsible leadership is the first step necessary in order for a combination of HIV education and support services to work.

Overcoming AIDS - Lessons Learned from Uganda provides a comprehensive picture of services, interventions, discussions and policies in Uganda. It is an excellent reference for anyone with more than a superficial interest in HIV/AIDS in Uganda. In addition to the wealth of information in the chapters, the references at the end of each chapter are very comprehensive, and very current. Usually the bulk of the reference material on education in sub-Saharan Africa is found in reports and publications of international development agencies like UNESCO and the World Bank, and it is a welcome change to find so many references in this book to recent original and empirical studies.

However, despite the comprehensiveness of the information, the book lacks a synthesis to explicate its title and give us a coherent overview of how Uganda is "overcoming" AIDS. In the introductory chapter the editors state that: "The chapters presented in this book describe and discuss the specifics of the major factors contributing to the successful decline of HIV/AIDS in Uganda" (p. 2). Unfortunately the introductory chapter does not tie together the various chapters in a way that will help guide the reader as to understand how to weigh the different "major factors," or even choose between them where chapters provide conflicting information. The editors argue that the chapters in the book identify ". . .how Ugandan youths have overcome

HIV/AIDS in this nation and set a standard for success" (p. 2), but we are left with no clear sense of which aspects of the multisectoral mobilization of the country have been most significant in "overcoming AIDS," and which "lessons" can be applied to other African countries. (Many other African countries also have massive education campaigns, but not the same results as Uganda).

This is not to argue against the usefulness of a text that provides rich descriptions of interventions – for instance, surely there are lessons to learn from Uganda's mass media campaign for any other country wanting to embark on such a campaign or improve their existing outreach. For such a circumscribed purpose case studies or examples of best practices can be very helpful. However, when causal claims are made or implied about a dramatic nationwide decline in HIV, we need a synthesis that will provide a general account of what made this country unique in this aspect.

The book also has two serious analytical shortcomings: it misses a critical analysis of Ugandan prevalence figures, and it lacks conceptual clarity about the relationship between HIV education programs and policies, and changes in HIV prevalence. Critics of the official Ugandan figures have noted that prevalence figures are often selected that present the most dramatic picture of HIV reduction (that there has been a reduction in HIV is not disputed, the extent of this reduction is). This is exactly what the editors did in their introduction by presenting the prevalence figure for pregnant women as an average for the country. Other critics have suggested that prevalence going down is much less significant than incidence going down, and that the drop in HIV prevalence in Uganda may largely be explained by the fact that many HIV positive people have died, and thus there is a smaller percentage of the population that is HIV positive.[7]

Looking critically at the prevalence figures is more than just pedantic quibbling about misinterpreting of statistics. It has serious implications for policy. A simplistic acceptance of the official version of the drop in prevalence has placed Uganda in a position where it attracts a lot of international funding, since it is "obvious" that it is doing something that "works," and is seen as a safe investment. This kind of complacency runs the risk of not evaluating programs and interventions adequately. It also means that lessons from Uganda may uncritically be exported to other African countries before it is understood how well they really worked, and how generalizable the success may be.

The high profile of the ABC campaign in tandem with the high profile of the "Ugandan miracle" can create the impression that these two are simplistically causally linked. And in an atmosphere where there is much enthusiasm for an emphasis on abstinence interventions, this linkage might slide even further into an assumption of a causal link between abstinence interventions specifically, and nationwide reduction in HIV. In fact, if the "Ugandan miracle" is at least partially manufactured, it may be the case that causality goes in the opposite direction and that the manufactured miracle

invigorated supporters of abstinence education into sincerely thinking their approach works well, or more cynically, provided them with an opportunity to get more funding. President Bush and administration officials frequently have cited Uganda as evidence that abstinence and fidelity, rather than condom use are effective in curbing the spread of HIV. There is some concern among professionals in the HIV/AIDS field that because Uganda has become the darling of socially conservative funders, and the darling of the Bush administration and the President's Emergency Plan for AIDS Relief (PEPFAR), this has put pressure on groups in Uganda to prioritize the A in ABC.[8]

A second analytical shortcoming in this book is that it does not discuss potential reasons for behavioral change other than education campaigns and interventions. In Africa, HIV is spread mainly through sex; and changing individual sexual behavior is the only way to reduce HIV prevalence and incidence. Behavior can be influenced through interventions where individuals learn more about HIV and how it is spread, and then consciously choose certain behaviors, e.g. using condoms when having sex. Enough studies have emerged from Africa over the last decade convincingly to show that individuals exposed to educational information about HIV and AIDS improve their knowledge of the disease, and even though to a much less dramatic extent, it seems that individuals exposed to behavioral modification information, will change their behavior.[9] The leap from generally very small effects in behavior modification at the individual level to reduced HIV prevalence at the population level cannot be made without careful collection and analysis of relevant and representative data. This book unfortunately does not demonstrate such analysis, neither does it provide enough caveats about the extent of the potential influence of educational interventions.

Sexual behavior can also be influenced by structural matters where conscious individual decisions do not need to come into play. For instance, individual mobility makes people more vulnerable to becoming infected and spreading HIV, as has been shown through analysis of HIV spread along trucking routes in Africa. On the other hand, being in school makes children less vulnerable, simply because when children are in school, they are less likely to be having sex than when they are not. Despite the fact that the book often obliquely refers to socio-economic conditions and political change in Uganda, it neglects to mention how such conditions may influence sexual behavior, and thus prevalence of HIV in the country.

Since the late eighties Uganda has seen a political transformation with increasing good governance, poverty reduction, advancement for women, and primary school enrollment. In a very rough and quick attempt to examine the relation of some structural conditions to HIV prevalence, I used the World Bank World Development Indicator dataset (almost 600 development indicators and time-series data from 1960 for over 200 countries) to look at economic and gender indicators for Uganda over the period of the drop in HIV prevalence (early 90s to early 21st century). I compared this with Zambia, a country where HIV prevalence remained more or less stable (at roughly

17%) during the same time. The only relevant indicators for which data were available for both countries for the same years were GDP, GDP per capita, and school enrollment figures. During the time period in question, GDP per capita in Zambia stayed the same or dropped somewhat, while in Uganda there was a steady increase. In Uganda enrollment for girls increased very noticably, while in Zambia it remained stable (although enrollment figures for girls in Zambia have consistently been about as high as the Ugandan figures are now).

This quick dabble in a dataset is not to imply that there is a simple linear relationship between various structural variables and HIV trends, but it does suggest that it may be useful to see what else was happening at the same time as the society consciously mobilized against AIDS. In Africa the relationship between poverty and HIV is not straightforward: some of the highest infection rates in Africa are found in countries with highest GDP, for example South Africa, which has led some researchers to suggest that income inequality rather than an average low income correlates with high HIV prevalence rates, or that HIV is much more prevalent among more affluent Africans rather than being mainly a disease of the very poorest as is often assumed. It is interesting to note that Uganda is one of the African countries lower on the scale of income inequality, and this gap has been decreasing steadily since the late eighties.

Uganda now has almost universal primary school enrollment, and more than double the number of children than who were in primary school in the early nineties. Given this dramatic advance made during the nineties (after the reduction or elimination of school fees) especially for girls, and given that it is now very well established that keeping girls in Africa in schools yield many substantial positive externalities, it is disappointing that the book does not explicitly investigate the potential links between this structural change and declining HIV prevalence in Uganda. Once again the relationship between female enrollment and HIV rates is not a simplistic linear one; though the evidence weighs heavily in favor of school being a protective factor against HIV infection. However, at the same time that enrollment for girls increased substantially, Ugandan women also made other strides (for example lowering unemployment) in moving toward gender equality, and it is well documented that women who are more empowered are less vulnerable to HIV.

It may be unfair to expect that one book could have covered all these different aspects of Uganda's battle with AIDS. However, some overall contextualization of the education interventions, for instance in the introductory chapter, would have gone a long way toward providing a more nuanced interpretation of the "Ugandan miracle."

Endnotes

[1] A variety of prevalence figures appear in the various chapters of the book, depending on the source and subpopulation authors are using. However, regardless of the actual

figures, the trend is one of a decline of close to 70%. During the same time period mentioned here, prevalence among pregnant women peaked at about 30% and may have fallen to as low as 7%. Prevalence figures from Uganda have regularly been misrepresented, for instance, the peak prevalence figure for pregnant women has been used - for dramatic effect - as the average for the whole population. Such a misrepresentation can make it seem as if almost one third of the population was infected in the early nineties. Unfortunately the editors of this book start off their introduction (p. 1) by using the distorted statistic: "There are numerous factors that have contributed to the remarkable success of reducing the prevalence of AIDS from over 30% to its present rate of approximately 7%."

[2] I chose my words deliberately. During the early stages of the epidemic in the 1980s, President Yoweri Museweni (in power 1986 - current) toured the country and reminded citizens that it was their patriotic duty to fight AIDS. This message seems not to have been lost on Ugandans.

[3] The authors do not make it clear enough why they don't perceive values as having an influence over peoples' willingness to use condoms or not.

[4] It is not entirely clear what the authors mean here by "just as empirically valid." I am tempted to interpret this statement as a Freudian slip indicating a sentiment that A and B approaches are as minimally effective as C approaches, but need to be promoted anyway for ideological reasons.

[5] In fairness to Museveni it is necessary to note that later on in the same speech he did state that condoms have a role to play in HIV prevention.

[6] For a very useful overview of how two different funding agencies, PEPFAR and USAIDS, interpret and fund A and B and C interventions, see http://www.avert.org/abc-hiv.htm

[7] Prevalence refers to the proportion of a population that is infected with HIV, whereas incidence refers to the number of new HIV infections in a given period. Ideally, in order to show that HIV infection is slowing down in a country, one would want to show that it is experiencing fewer and fewer new infections. Justin Parkhurst (2002) argues that the "Ugandan miracle" can partially be explained through deaths of HIV positive people. However, other African countries also have high death rates associated with AIDS, but do not have the same drop in prevalence as Uganda, suggesting that there may be something unique at work in Uganda

[8] In defense of PEPFAR I need to clear up a common misconception that the bulk of PEPFAR money goes to abstinence interventions (even though it is probably true that the bulk of sentiments goes to the A in ABC). The allocation of money in the PEPFAR budget often is not explained adequately in the popular press, with the result of misrepresenting the requirements of the Fund. I have come across reports in the mass media that state that one third of the PEPFAR budget needs to be spent on abstinence education, or that funding for abstinence education is being increased when in fact that can only happen when the whole budget is increased. The budget for PEPFAR is $15 billion over 5 years, to be distributed in 120 countries; with 55% for the treatment of individuals with HIV/AIDS, 15% for the palliative care of individuals with HIV/AIDS, 20% for HIV/AIDS prevention (of which at least 33% is to be spent on abstinence until marriage programs, the other 66% on B and C), 10% for helping orphans and vulnerable children. Thus a fairly modest 6.6% of the total budget is for abstinence programs.

[9] Particularly which types of behavioral interventions are most successful in Africa is not entirely clear yet, though it is a research question currently being investigated by many individual scholars and world public health bodies. See Bertrandi, O'Reilly, Denison, Anhang, & Sweat (2006); O'Reilly, Medley, Dennison, & Sweat (2006).

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