Introduction

The largest HIV epidemics in Sub-Saharan Africa have either stabilized or are showing signs of decline.1 Between 2000 and 2008, 22 Sub-Saharan Africa countries experienced declines in new HIV infections of 25% or more among young people aged 15-24 years. There were particularly notable declines in Southern African countries2, which are also the most affected by HIV.

In countries that have shown greater and more sustained declines in HIV incidence it is likely that behavior change has played an important role. Changes towards less risky sexual behavior have been observed among young men and women in the majority of the countries reporting declines in HIV incidence.3 However, the specific behavioral changes associated with these declines remain poorly understood.4 It is also difficult to understand the contribution of behavior change interventions to declining incidence since biomedical factors, such as the availability of antiretroviral therapy (ART), likely also contributed to the declines.

The news that HIV incidence in youth population is generally declining and that behavior change likely played an important role comes in the wake a failure over many years to conclusively prove the value of behavior change approaches to HIV prevention. There has been little accrual of understanding of what works under what circumstances, and in this context it is not surprising that there has been an increasing emphasis on biomedical approaches to HIV prevention, notably voluntary male medical circumcision (VMMC) and “treatment for prevention”.

In this technical brief, a case is made for understanding behavior change approaches as a necessary but insufficient approach to HIV prevention. It aims to describe how the contribution of behavior change interventions can be strengthened through a combination prevention approach that is shaped by a social ecological perspective on HIV prevention.

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1 UNAIDS Global report (2010)
2 For example, an 81% reduction in Namibia, 57% in Zimbabwe, 49% in Botswana, and between 30 and 40% in South Africa, Swaziland, Zambia, Mozambique, and Malawi.
3 Ghys et al. (2010)
4 Ghys et al. (2010)
Rationale for Strengthening Behavior Change Interventions

The limits of and necessity for behavior change interventions

A dominant emphasis for many years was the ABC (Abstain, Be faithful, Use condoms) approach. This has been surpassed in recent years, supported by the recognition that behaviors are shaped by a wide range of individual, interpersonal, cultural, religious, and other societal influences. These factors may work against attempts to bring about behavior change simply by targeting individuals and assisting them to remodel their behavior.

Recognizing this, a wide range of behavior change models have been developed or adapted for use in behavior change programs, going beyond targeting individuals in attempts to change behavior. It is now well recognized that the social and structural determinants of behavior also need to be addressed. There have been numerous approaches used, aimed at addressing contextual conditions underlying behavioral responses to HIV risk, alongside working to bring about behavior change in individuals, families, and communities.

However, even within this broader framework of thinking, behavior change approaches do not necessarily create sufficient conditions for HIV prevention to occur, although they may support HIV prevention. On their own, they do not provide a complete HIV prevention solution, as a vaccine may one day do.

Adherence is important in almost all HIV prevention approaches, including biomedical approaches that all require some level of behavior change or adaptation. If adherence is not secure, prevention gains do not translate into intended prevention outcomes. The effectiveness of prevention is greatly contingent on behavior, and the behavioral methods for encouraging adherence to chosen prevention methods must be considered a priority.

Behavior change interventions should not therefore be seen as stand-alone interventions.

Policy Guidance

A review of behavioral strategies to reduce HIV transmission makes five key points about how to make strategies that promote behavior change work better:

1. Radical and sustained behavior change is necessary in a critical mass of individuals in order to effect successful reduction in HIV transmission. Isolated, irregular, and non-programmatic efforts are unlikely to succeed, and generally have not.

2. Combination prevention is essential, must involve widespread and sustained efforts, and a mix of communication channels. A range of options must be promoted to suit different circumstances and needs, and these must be targeted to those most likely to use them, ensuring that the methods are used correctly and with due understanding of their protective efficacy.

3. Prevention programs can achieve better results than they have. There has been widespread criticism of the narrow and uneven application of the “ABC” approach. Improvements in the performance of prevention programs involve activating a range of behavioral strategies to achieve the goal of HIV infections averted. Improvement also requires focusing not just on individuals but on social systems, including couples, families, social networks, social institutions, and communities.

4. Prevention science can serve HIV prevention better. Randomized control trials have not delivered positive verdicts in most areas of prevention, yet we know that HIV infection rates have dropped in incident populations, indicating likely success, for example, in preventing infection through condom use. We do not understand our successes and it is imperative that we do.

5. There is a need to get the simple things right. The fundamentals of HIV prevention need to be agreed upon, funded, implemented, measured, and achieved. Presently, that is not the case.

It is evident that improving the effectiveness of behavior change interventions requires more than simply improving behavior change methods.

5 Coates et al. (2008)
A social ecology approach to behavior change

A social ecology approach to behavior change planning and communication provides an encompassing framework that aims not only at achieving short-term behavior change outcomes, but also at changing conditions that prevail in interpersonal relationships, in communities, and in the society as a whole. These conditions, ultimately, cannot be separated, and changes at the different levels can be mutually supportive.

All HIV prevention methods require some level of decision making about their adoption, and almost all require some form of commitment to adherence. Underperformance of behavior change HIV prevention interventions reflects failures to successfully motivate or enable individuals’ decision making and commitment to prevention, rather than intrinsic failures of the promoted methods of prevention, such as condom use and changes in patterns of sexual association. It is important to understand the impact of factors that influence individual behavior, to work to undo those conditions that constrain or counteract HIV prevention behaviors, and to promote those conditions that enable HIV prevention behavior.

The social ecology approach conceives opportunities for individual behavior change as located within broader spheres of influence at the levels of social networks, communities, and the societal influences on individual agency and, ultimately, prevention behavior.

Individual behavior and attitudes

At the individual level, it is recognized that people have the ability to shape their own behavior through informed decision making. This prospect can be greatly enhanced through access to information, changes in attitude, and personal development. However, the reality is that the social and economic environments significantly influence people’s behavior.

There is a range of models for changing individual behavior with no convincing “best” approach to behavioral HIV prevention, but cutting across them all is the realization that alongside the attempts to guide people’s behaviors is the need for individuals to take stock of their circumstances. In HIV prevention, this involves people understanding their HIV exposure risks. The process of analyzing their HIV exposure risks and prevention options is the equivalent of “know your epidemic” and “know your response” at an individual level. It is important for individuals to assess the risks they are exposed to and the best available responses to match their circumstances. This is the promise of behavioral prevention.

However, since individuals are shaped by cultural and social conditions, it takes more than an individual’s analysis and intentions to bring about change. The social ecology model recognizes this and aims to support individual intentions through interventions aimed at influencing social network characteristics and community norms that shape sexual behaviors.

Social network characteristics

Interpersonal networks influence the forms of relationship and communication contexts in which behavior occurs and have a strong bearing on behavioral prevention outcomes. Individuals are constrained in their prevention behaviors by the attitudes and norms of their peers, families, and partners, who may also enable opportunities to exercise HIV prevention choices. Family conditions and poor communication within relationships can act as obstacles to HIV prevention dialogue and decision making. Similarly, interpersonal and peer group norms and pressures can create contexts of HIV risk.

Since HIV is primarily transmitted through sexual transmission, an important element of analysis is sexual networks. HIV prevention action needs to be supported at this level as well.

Change programs must be directed at the level of relationships, communication patterns between partners, peer group HIV prevention norms and attitudes, with a view to creating enabling environments to support HIV prevention.
Community-level factors

Similarly, community factors, from norms related to alcohol use to poor social cohesion and community-level conflict and poor living conditions, erode the possibilities that people may otherwise have for making and carrying to fruition decisions about HIV prevention.

Some community-level factors may derive from cultural and religious norms that inadvertently create contexts of HIV infection risk. A notable example is the acceptance in many Southern African communities of high age differentials between young women and their older partners. This is not inherently problematic, but it is one of the primary factors driving HIV infection in young women. High age differentials in relationships act as a bridge between more highly infected older populations and youth populations.

Such community-level factors need to be identified and addressed in ways that are acceptable to communities and cultures if HIV infections are to be further curtailed.

Structural influences

It has been argued that not enough has been done to allow us to recognize the important relationships between socioeconomic and structural variables associated with the incidence of HIV.6

Structural factors include environmental, social, cultural, organizational, community, economic, legal, or policy features of the environment that affect the risk of HIV infection. The general aim in addressing such factors as part of HIV prevention is to change the social, economic, legal, political, or environmental factors that determine HIV risk and vulnerability in specific contexts or that mitigate risk.7

Such factors do not easily yield to change and embarking on long-term development projects related to living standards and risk factors in impoverished communities will, in some respects, only bear fruit in the decades ahead. The global “AIDS 2030” project embodies this approach.

A recent review of systemic and structural approaches8 to HIV prevention shows why HIV prevention efforts cannot succeed in the long term without addressing the underlying drivers of HIV risk behaviors and vulnerability in different settings:

“Structural approaches represent a largely untapped, yet crucial, part of combination HIV prevention... Serious attention must be given to defining and building capacity to make that happen.”9

The developmental approach to social and structural causes of HIV susceptibility ultimately needs to overcome entrenched risk factors, such as economic inequality, gender inequality, marginalization, and lack of access to and needs for adequate housing and basic services. As important as it is to address structural issues that increase susceptibility, many of them are not likely to be addressed at a scale in keeping with the needs for immediate risk reduction.

The limited evidence of structural approaches contributing strongly to the reduction of HIV incidence is a major impediment to their acceptance. There have been a large range of socioeconomic support and empowerment programs aimed at bringing about HIV prevention outcomes. These include livelihoods programs, microfinance programs, and support for young women in the face of gender inequities. Overall, the stand-alone nature of such interventions reduces their capacity to address fundamental structural issues, and they have tended to demonstrate only weak prevention outcomes.10

In summary, the social ecology approach is an analytic framework that allows identification of factors that can enable and support HIV prevention at individual, social network, community, and societal levels. Conversely, it provides an analytic framework for understanding barriers to HIV prevention.

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7 Gupta et al. (2008)  
8 Gupta et al. 2008  
9 Gupta et al. (2008)  
10 Dworkin & Blankenship (2009)
Using the Social Ecology Framework in HIV Prevention Communication

“The information campaigns are not working, mainly because they are not tailored to our diversity. They do not speak to us. They are not friendly. And they do not also focus on our different cultures, our different sexual diversity or different sexual orientation, our different gender, and that is pretty basic for these campaigns to have success.”

Methods of HIV communication are often spoken of as methods of HIV prevention. But “peer education”, “mass communication”, or “community mobilization” are not in themselves HIV-prevention methods. They are rather means for introducing and promoting prevention.

The effectiveness of communication campaigns depends on whether they lead people to adopt prevention methods and behaviors. When communication is aimed at bringing about changes at all levels of the social ecology of a prevention challenge, it is likely to have mutually reinforcing effects.

The social ecology framework is helpful in identifying key areas of focus and messages for HIV prevention communication with the aim of developing agency for change at all four levels of social ecology.

Systematic and strategic communication campaigns based on the social ecology framework will involve situation analyses of opportunities for change, clear goals and objectives, segmentation of audiences as recipients of key messages, careful selection of messages based on evidence and strategic thinking, and identification of optimal and efficient communication channels based on understanding of how information may infuse into action.

11 Elizabeth Fadul (2008, p.50)
12 Understanding that audiences are not homogeneous and may need to be approached in different ways.

Behavior Change as Part of a Combination Prevention Approach

Combination HIV prevention approaches employ a suite of mutually reinforcing interventions to address the risks of HIV transmission and acquisition as thoroughly and strategically as possible.

Combination prevention is predicated on the idea that no single intervention is efficacious enough to bring an HIV epidemic under control on its own, but that the optimal set of interventions implemented with quality and to scale can significantly reduce HIV incidence.

Combination prevention recognizes three broad categories of interventions: biomedical, socio-behavioral, and structural. The key idea is that these interventions can reinforce each other — for example, socio-behavioral interventions are always needed to support adherence to and optimization of biomedical interventions.

In some respects, the combination prevention approach is similar in principle to the social ecological model. However, the social ecological is focused on understanding influences on behavior, whereas the combination prevention approach involves the interactions between behavioral, biomedical, and broader structural supports for prevention in the form of enabling legislation, policy, and service infrastructure to support HIV prevention.

13 Hankins & Zalduondo (2010)
14 Hankins & Zalduondo (2010)
Putting together an optimal package of HIV prevention services

The following are the essential elements of a combination prevention approach.15

1) Targeting

The value of evidence-informed HIV prevention programming is captured in the rallying cry, “know your epidemic, know your response.”16 This requires an understanding of: the main drivers of the epidemic; an understanding of the scale, scope, and quality of existing responses; and of available resources and opportunities.

It should be noted that in the context of changing epidemics (and, hopefully, epidemics that increasingly change due to prevention interventions) adoption of a prospective view is needed. We need to know “where the next 1,000 infections are going to happen”.17 This is more useful to prevention efforts than knowing the history of epidemics.

The current situation of HIV prevention in most countries shows misallocation of available resources to priorities. As an example, in Accra, Ghana, up to 76% of new infections in adult males (15-49) were attributed to sex work18, yet it was found that less than 1% of all resources provided were used directly to address prevention in the context of sex work. Similar inconsistencies have been shown in application of resources in other countries in the region where, for example, interventions tended to be aimed at addressing transactional sex and addressing the prevention needs of specific groups, such as truck drivers and soldiers, rather than on modes of transmission driving the generalized epidemics in these countries19.

In focusing on the modes of transmission that drive generalized epidemics it is important to note that the dynamics of generalized epidemics are such that many if not most new infections may arise in relatively low risk populations, such as married couples. Although the risk at an individual level may be relatively low, because the numbers of people in such populations are very high there may be a majority of people from such populations among the next 1,000 infections. By contrast, there may be relatively few from populations with relatively high individual risks of HIV infection, such as intravenous drug users, certainly in African countries.

Once an understanding of prevention priorities is obtained it is necessary to match these against the existing approaches to HIV prevention and to understand what gaps need to be filled.

Sometimes gaps are located in population groups that are distributed in specific localities. For example, it has been convincingly shown that there is a strong relationship between urbanization and HIV prevalence in Africa, and that urban informal settlements are significantly more affected than other settlement types.20 This means that the locality of urban informal settlements must be targeted in order to locate new infections.

Other gaps may not be location specific. For example, the generally overlooked opportunity to promote prevention in HIV serodiscordant couples requires a different form of targeting. Questions related to targeting are more challenging, and there needs to be consideration given to the way of locating and reaching serodiscordant couples.

On the basis of understanding opportunities for targeting populations most likely to be represented among incident infections, the selection of a combination of methods and approaches can proceed.

2) Selection

The key point here is that the selection of methods is based on understanding the value of particular methods in addressing particular HIV transmission dynamics. Some methods have been proven to be effective in some settings and with particular populations but not in other settings. The tools must be chosen for the task at hand.

For each mode of transmission there is a range of specific methods that may be more or less appropriate under particular circumstances. Combinations of prevention approaches are inevitably needed.

The range of methods in the prevention toolbox is great and could include: post-exposure prophylaxis by administration of antiretroviral medicines following exposure to HIV; promotion of voluntary male medical circumcision (VMMC); use of condoms; provider-initiated HIV counseling and testing; education about particular HIV exposure risks and prevention options; provision of reproductive health counseling to women living with HIV; comprehensive health services for people living with HIV in keeping with the ideal of “positive health, dignity, prevention” (PHDP) approach; and interventions aimed at changing community norms around stigma, concurrent sexual partnerships, or age-disparate sexual relationships.

The point is that the selection must suit the circumstances, context, and mode of transmission. Following the social ecology framework, interventions may be targeted at individuals, social networks, communities, or social and systemic conditions leading to HIV susceptibility. Specific intervention elements may involve biomedical procedures, behavior change programs, or structural changes in the form of provision of new services and development of enabling legislation.

15 Pepfar (2011)
16 Wilson & Halperin (2008)
17 Piot (2008)
18 Cote et al. (2004)
20 Shaikh et al. (2006); Garcia-Calleja et al. (2006); Asamoah-Odei et al. (2004); Rehle et al. (2010)
3) Delivery

Having developed a HIV prevention package that is fit for the purpose, the task of delivery of interventions needs to be scaled up such that it may have population-level impact. There needs to be a specific understanding developed about how the different components complement and reinforce each other.

The quality and fidelity of interventions needs to be ensured. Prevention opportunities may fail to fulfill the conditions of change necessary for effectiveness. For example, there is a growing body of literature suggesting that HIV counseling and testing represents a missed opportunity for HIV prevention because of the conditions under which the procedure is often conducted and the poor quality of prevention counseling. Close monitoring of implementation of quality is important if methods of prevention are to make their intended contributions; that is, to ensure that they are effective enough to reach desired outcomes.

It is important in this context that it is the suite of prevention services that is monitored. This is challenging because the different elements of combination prevention interventions may be sequenced such that they are not all implemented at the same time. For example, the combination of interventions required prior to, during, and for many months after childbirth are all important in securing prevention of mother-to-child transmission. The idea in implementing combination prevention approaches is to ensure that the entire package of services is efficacious, and then to ensure that the services are rendered such that the “package” works.

Challenges and Recommendations

The challenge of strengthening behavior change interventions involves understanding behavior change approaches as part of a more encompassing combination prevention approach, and developing an appreciation that behavior change needs to be analyzed and addressed using a social ecology framework.

The challenges of achieving this are not to be underestimated. The approach calls for higher levels of collaboration between partners providing separate service components than has likely been the case in the past.

Ultimately, the approach needs to be grounded at the local level. At the country level, it is feasible to generate an understanding of the general packages of combined prevention services needed to address particular modes of transmission. Once these are agreed upon as national “combination HIV prevention packages”, it is viable for local service deliverers to adapt delivery to suit the local conditions. This will likely require tailoring combination prevention packages to suit the constellation of service providers and local needs.

It might be expected that when the wide range of prevention methods are seen as complementary, with each serving particular needs in the complex challenge of interventions, questions will cease about the questionable value of behavior change interventions. It might also be expected that adoption of the approach of combination prevention within a broad social ecology framework will relegate to the past apparent schisms between proponents of behavioral approaches, those believing that biomedical interventions are all that work, and those seeking developmental solutions to HIV epidemics.
References


