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# Treatment-as-Prevention in AIDS Control: Why Communication Still Matters

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**Abstract:** Treatment-as-prevention is a term used to describe an HIV prevention method that uses antiretroviral treatment to minimize the chance of HIV transmission, with the idea that treatment can decrease the viral load of those infected to a level where transmission risk is minimal. However, for treatment-as-prevention to be a success, individuals must get tested, know their status, seek care, and adhere to their antiretroviral regimen. Communication plays a role in each of these steps, as communication can be used to create demand for health-seeking behavior and as a means to increase quality and support on the supply side, at the clinic and community level. From the demand side, communication has played a role in convincing people to get tested and obtain their results, in ensuring treatment access, linking those infected to care, and addressing stigmatizing attitudes that may prevent individuals from taking these actions. On the supply side, communication has been shown to mobilize community care and support and increase the quality of patient-provider interaction, which in turn can improve adherence. Finally, communication has played an integral role in structural issues related to treatment-as-prevention, including the assurance of adequate supplies, including HIV testing kits, anti-retrovirals, and condoms.

**Keywords:** Treatment, prevention, communication.

Public health efforts to reduce the spread of HIV/AIDS are undergoing a major shift, from the ABCs for sexual transmission (abstinence, being faithful, and condom use) and avoidance of shared injection equipment for parenteral transmission, to an increased emphasis on biomedical approaches. These include the use of antiretroviral (ARV) drugs for pre- and post-exposure prophylaxis. Treatment-as-prevention, the notion that treatment of HIV-positive individuals with ARVs radically reduces their infectiousness, with potentially large population-level implications for reductions in incidence, is increasingly being embraced as a promising approach in ending the epidemic [1-3].

Numerous investigators have argued for the potential contributions of the social and behavioral sciences for maximizing the impact of treatment-as-prevention [4-8]. Realizing the full potential of treatment-as-prevention requires achieving viral load suppression in the largest possible proportion of HIV infected individuals. This, in turn, entails several sequential requirements: the so-called "cascade of HIV care" [9]. HIV infected individuals must be identified through testing; once diagnosed, they must be linked to and retained in care that includes viral load and CD4 monitoring. When appropriate, they must be given

ARVs; they must adhere to the greatest possible extent to their ARV regimens; and those regimens must be adapted as necessary in response to side effects and inadequate viral control. Unfortunately, there are decrements at every step in this process. Not all HIV infected individuals get tested, not all of those who learn their status are linked to care, and so on [1, 9, 10]. Different impediments operate at each stage of the cascade, and one way to classify the stages in the cascade is through a supply and demand lens. The impediments to the cascade occur on both the supply and demand sides: critical infrastructure must be established and maintained to ensure an adequate supply of testing kits, medications, and human resources, while at the same time, individuals must be persuaded to get tested, to remain in care, and to adhere to ARV regimens.

In the context of the AIDS epidemic, communication is an essential part of any comprehensive program that includes both services (medical, social, psychological and spiritual) and commodities (condoms, needles and syringes). Before individuals and communities can reduce their level of risk or change their behaviors, they must first understand basic facts about HIV/AIDS, adopt key attitudes, learn the necessary skills to reduce risk of exposure and be given access to appropriate products and services. They must also perceive their environment as supporting safer behaviors, as well as supportive of seeking appropriate treatment for

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prevention, care and support. In this paper we focus on the specific roles that communication science can play in bolstering treatment-as-prevention on both the supply and demand sides and at several steps along the cascade of HIV care.

## THE DEMAND SIDE

Communication interventions can play important roles in generating demand for HIV testing. These interventions take a variety of forms (mass media, community or individually oriented), and can focus on a variety of messages about who should get tested (risk perception), why testing is important (motivation), what to expect (fear reduction) and where to find testing services (increased efficacy). Exposure to campaigns addressing these informational needs in various countries has been significantly associated with increases in HIV testing [11, 12]. Communication interventions have also played an integral role in decreasing stigma [13-15], a major barrier to testing in many countries [16, 17]. Specifically among married men or men in long-term relationships, fear of partner abandonment, loss of social status and workplace discrimination [17], for example, can all too easily deter individuals from learning their status.

Communication interventions can also play an essential demand-side role at other steps of the HIV care cascade. A communication campaign in Uganda provided adult caregivers with critical information on accessing treatment and caring for HIV positive children [18]. In Malawi and Ethiopia, radio diaries featuring PLHAs have been used effectively to share experiences on coping with treatment challenges [14]. Additionally, enhanced patient-provider communication has shown to have positive impacts on patient health behavior, as it can result in greater patient satisfaction, adherence to treatment plans, and improved health outcomes, such as higher health status, emotional health, and symptom relief [19]. Communication interventions can increase the quality of interpersonal communication between the patient and health professional, a factor proven to be of critical importance in ART adherence from both the patient and health professional perspective [20].

At the community level, once a diagnosis of HIV/AIDS has been made and treatment has been initiated, the community takes a major responsibility in providing a continuum of care and support [21]. Communication interventions in the form of community

mobilization can encourage frequent interpersonal communication with household members as well as religious and traditional leaders, and by providing counseling to those infected and affected, community health workers invariably increase community awareness, which in turn can reduce stigma and increase the uptake of service utilization [22]. Communication interventions can play a valuable role in sensitization and subsequent involvement in HIV/AIDS awareness and education of not only health personnel, traditional healers and traditional birth attendants, but other key community members normally not involved in health issues such as political, community and religious leaders, teachers, associations, and other representatives of key grassroots community groups [23, 24].

## THE SUPPLY SIDE

Demand-generation interventions may have little effect, however, or may even be counterproductive, if they cause spikes in demand that outstrip supply. This happened recently in Malawi due to an inadequate supply of HIV testing kits [25]. Similarly, problems with the supply of ARVs have been a major impediment to treatment-as-prevention in numerous countries [26-28]. In Malawi, the dependence on one ARVs supplier has led to an absence of buffer stock, and the lack of the existence of a reliable system that has the ability to offer treatment to greater numbers of infected people has impacted ART uptake [28]. In Cote d'Ivoire, facility-level stock outs have influenced treatment discontinuation [27]. In areas where physicians are scarce – such as Mozambique, DRC, India, and Myanmar – expanded access to ARVs is further constrained because nurses and other non-physician health workers are not allowed to initiate ART [26]. In many countries (Cameroon, DRC, CAR, Guinea, Mozambique, Myanmar and Lesotho), policies do not allow for multi-month ART refills [26].

Expanding access to ARVs is dependent upon leadership at the country level. A form of communication – advocacy – comprises collective action to make resource allocations to support the expansion of medicines, testing and prevention [29]. In countries where there is poor access to health care, low spending on health, and political instability, advocacy is a critical component to guarantee the resources necessary to sufficiently address the epidemic [30]. Advocacy can play a key role in

expanding access to ARVs by facilitating or demanding the development and implementation of policies that would allow and encourage non-physicians in community health clinics to offer ART services as well as provide multi-month ART refills.

In addition, advocacy can push for targeting priority populations for scale-up, such as serodiscordant couples, MSM, pregnant women, and those with CD4 counts of less than 350 [31]. HIV advocacy can also be utilized to build the political will necessary to ensure financial, technical and human resources required for treatment-as-prevention to work [26, 28]. Brazil's success in providing free and universal ARV access, during a time when experts recommended that resource-poor countries focus on prevention instead of treatment, highlights the lead role played by state-based organizations in advocating for appropriate policies regarding medicine supply as well as the importance of constructing alliances [32].

Although considered a promising approach in ending the epidemic, treatment-as-prevention presents a number of challenges, including resource constraints, logistical hurdles, emergence of drug-resistant viral strains, adherence to therapy regimens, and risk compensation [33]. We suggest that communication is important and relevant at all stages in the continuum, and scientists, health care providers, policy makers, and communities should harness the power of communication to fully realize the individual and public health benefits of treatment-as-prevention. In this broader context, we urge the public health community to think about treatment drugs not as the magic bullet for prevention, but rather as a key component that, when combined with sound communication practices, can play a significant role in reducing new infections.

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