

# HATiP

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# Main article: Integrating HIV prevention and treatment

## Introduction

By Keith Alcorn with input from Henry Barigye, Milly Tumusiime (Uganda), Francois Venter, Theo Smart (South Africa), Chris Green (Indonesia), Ade Fakoya, Alejandra Trossero (International HIV/AIDS Alliance, UK).

In early June an international working group of HIV prevention experts called for a fundamental rethink of prevention tactics in a report sponsored by the Gates and Kaiser Foundations. The report urges a greater integration of HIV prevention activities into emerging treatment programmes.

This month's HIV & AIDS Treatment in Practice investigates how this will work in practice, and examines the reliability of one of the reports key underlying assumptions, namely the concern that the introduction of ARVs could lead to an increase in unprotected sex and an upsurge in new infections.

## What is the problem?

The report argues that the scaling up of treatment programmes offers new opportunities to encourage HIV testing and target HIV prevention according to HIV status.

However the report also warns of the potential for increased risk behaviour as a result of altered perceptions of the seriousness of HIV infection.

## What's the evidence for a harmful effect of ARVs on prevention efforts?

Much of the anxiety about the effects of ARV introduction on sexual behaviour has been generated by research conducted in gay communities in the developed world since 1996.

Some of these studies have shown an effect described by researchers as 'treatment optimism' - a belief among gay men that the effects of HIV infection are no longer as serious as they once were, and that safer sex is no longer a matter of life or death.

The largest study of this kind was a collaboration between researchers in France, Canada, Australia and the United Kingdom which analysed beliefs about treatment and sexual behaviour in 5,882 men in four cities in 2000 and 2001 well after the introduction of HAART. Whilst the study found that men who reported unprotected sex with casual partners were also more optimistic about the effects of treatment on infectivity and life expectancy, the investigators cautioned that it was impossible to tell whether treatment optimism triggered unprotected sex or whether it was being used as a rationalisation for behaviour after it had taken place.

They also highlighted big differences in attitudes between cities, with men in Canada's west coast city of Vancouver more optimistic than men in Paris or London, where considerable efforts had taken place to educate men about the limitations of HAART and its effects on sexual transmission. The investigators concluded that responses were highly localised.

Other factors may provide a stronger explanation for the changes in behaviour noted in the past decade, many experts believe.

A subset of participants in the US Multicenter AIDS Center questioned about their sexual behaviour reported high levels of

safer sex 'fatigue', but men with undetectable viral load were significantly less likely to report unprotected sex (Ostrow 2002). The factor most significantly associated with unprotected sex amongst HIV-negative gay men in this cohort was not treatment optimism, but being in a relationship with a regular partner, a key risk factor identified in almost every gay men's cohort study conducted in the developed world for the past decade.

A study of all participants in the 4,500-strong Swiss HIV Cohort found that undetectable viral load was not associated with a greater likelihood of reporting unprotected sex, but that those who had HIV-positive partners were more likely to report unprotected sex. However, the investigators note that individuals who take care of themselves by adhering to potent antiretroviral therapy are also more likely to take care of others and protect them from infection. (Wolf 2003).

Increases in rates of sexually transmitted infections have also raised concern, since these are considered to be a marker for sexual behaviour likely to transmit HIV. Large increases have been reported in London and San Francisco, for example, and in both cities the increase is correlated with an increase in unprotected sex with men of unknown HIV status (Chen 2003). In the United Kingdom a major outbreak of syphilis has been reported in the past three years, with 59% of cases reported to May 2003 occurring in men already diagnosed with HIV.

But is this growth in unprotected sex and transmission of STIs fuelled by optimism about treatment, or by changes in the 'sexual ecology' of gay communities in the mid-1990s such as greater social freedom, the maturing of a generation not exposed to the early prevention messages, the return of sex clubs and the explosion of internet services that allow rapid hook-ups with new partners?

The report points out that post-HAART prevention programmes and messages in the developed world were not adapted or changed to reflect the new situation. This has only recently been addressed, and the fact that this type of dialogue regarding introduction of ART in the developing world is taking place offers hope that the same mistakes may not be made.

## Injecting drug users

The only study to have been conducted among injecting drug users found that HIV-positive IDUs in a large US cohort were significantly more likely to believe that HAART reduced the risk of HIV transmission through sexual intercourse or sharing injecting equipment (Tun 2003).

The study also reported that those who reported 'fatigue' with safer injecting practices were significantly more likely to share injecting equipment and have unprotected sex.

## Reduction in infectivity

The report also pays little attention to the magnitude of the effect that introduction of ARVs might have at the population level and the potential for blaming ongoing transmission on the introduction of HAART, rather than insufficient implementation of HAART.

A French-funded study published earlier this year reported on the results of a modelling exercise based on data from two townships near Johannesburg in South Africa (Auvert 2004).

The investigators looked at blood samples from 930 adults, 21.8% of whom were HIV-positive. They also collected information about partnerships to determine how many people were in mixed HIV status relationships and how many casual partners the participants reported in the previous year. All participants were

tested for sexually transmitted infections (which could increase the risk of HIV transmission). In order to model the risk of HIV transmission, the researchers used the following assumptions and data:

- all people with HIV who received HAART would become less infectious
- all people who received HAART would have viral loads below 400 copies/ml on treatment
- the proportion of partnerships where the serostatus of the partner could be determined and the likelihood that that partner would be receiving HAART (the balance between spousal and non-spousal partnerships per year)
- the probability of transmission at a given level of viral load derived from a Ugandan study of transmission risk

If provision of HAART was restricted to individuals with a CD4 cell count below 200 cells/mm<sup>3</sup>, the investigators calculated that the annual risk of HIV transmission would be reduced by 11.9%.

However, if everyone with HIV started treatment once their CD4 cell count fell below 350 cells/mm<sup>3</sup> or viral load rose above 55,000 copies/ml the investigators estimated that 56.3% of individuals would need to start HAART immediately, and that this would reduce the annual risk of HIV infection by 71.8%.

It is worth noting that this is the only published study to date to use real world data from a developing country to model the effects of introduction of HAART on HIV transmission, but it should be borne in mind that transmission estimates based on the HIV subtype prevalent in Uganda may not necessarily hold true for South Africa, where HIV-1 subtype C may be more easily transmitted than other HIV subtypes (accounting for the high HIV prevalence in the region).

A slightly different analysis is reported by the prevention working group, based on a model published in 2002. The analysis used data from the San Francisco gay community. The study also concluded that wider uptake of HAART would reduce HIV transmission if risk behaviour fell and that usage of HAART would have a significant impact on new HIV incidence in settings where HIV prevalence was lower than the level observed in the San Francisco gay community (30%) (Velasco-Hernandez 2002). However, where risk behaviour increases in the presence of HAART, HIV incidence will rise and the epidemic will continue to expand.

## Evidence From Africa Is Very Limited

Francois Venter, a HATIP panel member practicing medicine in South Africa says: Prevention messages were failing in large segments of the population in Southern Africa, long before the access programs. Why were they failing? The prevention scientists need to focus on this, not trying to find convenient scapegoats for their failure to provide a cohesive theory.

I am VERY cautious about the message that is fast becoming conventional wisdom: ARVs result in high-risk sex and transmission. The dynamics of sexual transmission are very poorly understood in Africa, and I find it very difficult to believe that concepts of treatment have such a profound effect on peoples behaviour.

I am really scared that after years of hard fought access to treatment, we have politicians pulling the plug on programmes, based on extremely dubious science from the prevention people.

The only studies to date of people on treatment in Africa, from Cote d'Ivoire, have shown that HIV-positive individuals receiving HAART are less likely to be having unprotected sex, and are more likely to use condoms.

A cross-sectional study of 350 individuals in stable relationships receiving treatment in Cote d'Ivoires capital Abidjan found that

unprotected sex was strongly associated with non-disclosure of HIV status to partners. 64% of men and 86% of women had disclosed their HIV status to their partners.

Thirty per cent of men and 42% of women who had disclosed their HIV status to their partners reported unprotected sex, compared to 50% of men and 60% of women who had not disclosed their HIV status. This study did not report controlling for the HIV status of partners, which may have influenced reported rates of unprotected sex (Kabore 2002).

The other factor associated with unprotected sex was the desire to conceive a child, surely a powerful argument for family-centred approaches to HIV testing and treatment, as well as the need to investigate methods of aiding conception for mixed HIV status couples in resource-limited settings.

A second cross-sectional study, which questioned 711 HIV-positive patients at eight clinics throughout Cote d'Ivoire found that 53% reported no sexual relations for at least six months, and 44% reported unprotected sex. Individuals not receiving HAART were significantly more likely to report unprotected sex (37% vs 50%,  $p=0.02$ ) (Prudhomme 2002).

As noted above, one of the major factors associated with unprotected sex in Cote d'Ivoire was lack of disclosure to partners. Henry Barigye, a HATIP panel member working at the Mildmay Centre in Kampala, Uganda, says: The availability of ARVs has enabled disclosure. Disclosure has in turn helped access to VCT and subsequently therapy.

Some patients were reluctant to disclose to partners because they could not afford treatment [previously]. The problem here is that treatment has to be free or almost free in countries where about one-third still live below the poverty line.

He says that Mildmay is pursuing a family-centred approach to voluntary counselling, testing and treatment.

The whole family is taken into consideration. A person about to start treatment is advised to bring in partner(s) and children for testing and possible treatment as well. Patients are encouraged to disclose to spouses.

## Scaling up voluntary counselling and testing

The working group recommends that the offer of an HIV test should be encountered in all health care settings, in order to increase the proportion of people who know their HIV status and to identify those who need immediate treatment. How practical is this, given that only 12% of individuals who might need VCT currently have access to it, and what issues does it raise?

Chris Green, a HATIP panel member who works as a treatment educator in Indonesia, is particularly concerned about the potential for prevention and care opportunities to be lost if the process of voluntary counselling and testing is slimmed down in order to offer the test to more people.

Until HIV infection is normalised, the test must always be accompanied by pre- and post-test counselling, provided by trained counsellors. I prefer to talk about CVCT Counselling and Voluntary Confidential Testing to reflect the process and the need for confidentiality. Note that WHO now refers not to VCT but to T&C.

The WHO/UNAIDS approach is to focus on those who are symptomatic and in treatment, and to adapt pre-test counselling in these situations to that necessary 'to simply ensure informed consent, without a full education and counselling session.' (UNAIDS/WHO Policy Statement on HIV Testing (June 2004))

Chris Green at least takes issue with this approach. "In my experience, pre-test counselling is more important than post-test counselling. After the fateful word 'positive', little of what follows is heard. While post-test counselling should be an on-going process, we cannot be sure that the person concerned will take this up. Thus the main lessons must be provided during pre-test counselling."

However, while pre-test counselling does require training, counsellors do not have to come from a health care background. This is a role that can (and must) be played by the community, a fact which is accepted by the WHO. Naturally, counsellors must be provided with training, must be reimbursed for their time, and must be provided with psychological support for their very stressful task.

But he concedes that introduction of rapid tests that allow diagnosis on the same day or within minutes could change patterns of practice.

Many countries are now debating how to make HIV testing routine, arguing that 'opt in' voluntary counselling and testing allows people to avoid confronting their risk of HIV infection as well as contributing to stigma.

Current practices are also labour intensive. Molly Tumisiime, a nurse at the Mildmay Centre in Kampala points out: The patient health worker ratio is still high making it relatively unrealistic to add a service such as pre and post test counselling to the already overworked health care worker.

Increasing access to voluntary counseling and testing is essential for reaching ambitious treatment goals - WHO's 3 x 5 target and PEPFAR's target of 2 million on treatment by the end of 2008. The availability of treatment is likely to stimulate demand for testing too.

In the setting where I work, what we have noticed is that we increased voluntary counselling to a limited extent [when treatment was not available]. Its only in the past three to four months [since it became available] that we've seen a steady increase in the numbers coming forward for testing. At the moment less than 10% of HIV-infected South Africans know their HIV status - treatment and voluntary counselling and testing can build each other, said Dr Salim Abdool Karim of the University of Natal, South Africa, at the launch of the working group report.

In Khayelitsha, uptake of HIV testing rose dramatically with the introduction of HAART, from 1,000 tests conducted in 1998 to 12,000 in 2002. A 2002 survey of nine sites, including Khayelitsha in South Africa, found that Khayelitsha residents reported the highest levels of male condom use, willingness to use a female condom, willingness to have an HIV test, and desire to join an AIDS club (CADRE, 2002).

In lower prevalence settings, says Chris Green, what is needed is a much more suspicious approach by health care workers, to identify patients who have had risky behaviour. Currently doctors in this country spend around five minutes with each patient how can they possibly address this in so short a time?

He also highlights the potential for further stigmatisation, especially in low prevalence settings such as Indonesia and other South East Asian countries.

Given lack of resources, it is essential that we focus on those more likely to be infected. The downside of this is that we again are seen focussing on high-risk groups, and we exacerbate the existing stigma surrounding HIV infection. So the challenge is to address HIV-related stigma and discrimination while focussing on just those groups who are already marginalised for other reasons.

## Opportunities for intervention

As Henry Barigye points out, models for doing this, and for many of the other interventions needed to integrate prevention and treatment, are still lacking.

Uganda's experience of integrating HIV prevention into care is limited. This is because there has been limited access and emphasis hitherto has been put on increasing access. Until recently only about 10,000-20,000 people were estimated to be on ARVs and the major reason for poor adherence was financial. Now with free ARVs coming in we are yet to find ways of integrating prevention into care.

The working group report highlights a range of interventions that need to be considered in programme planning and delivery:

- Clinic appointments and services should be structured to ensure that prevention interventions discussion of safer sex and reinforcement of information about treatment and transmission, discussion of contraceptive methods, provision of condoms or clean needles and syringes can take place whenever a patient visits the clinic.
- Health care workers need to receive training to do these things and to talk about sensitive topics.
- Community adherence support should reinforce information about the effects of treatment on transmission, and discuss prevention issues more generally.
- Prevention needs to be integrated into reproductive health/family planning services, into STI treatment services and into TB treatment programmes.
- Integration of treatment services with existing needle exchange and harm reduction programmes, especially where outreach work is able to locate the most hard to reach drug users.
- Youth-friendly treatment and prevention services like those pioneered by South Africa's loveLife programme, using outreach into local communities to draw young people into services.
- Prevention programmes have a key role to play in explaining the availability, benefits and limitations of treatment, and in marketing voluntary counseling and testing as the gateway to treatment. Once individuals have been engaged by VCT services, HIV-negative individuals can be counseled on how to avoid infection and HIV-positive people can be referred to treatment and care services including peer support groups, which can play a significant role in prevention (see below).
- Health services which address the needs of women for protection from partner violence and which take into account the economic status of women, who are often sole breadwinners and household carers.

The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) reports that participation in its PMTCT clinics has increased, due in part to concerted efforts to make clinic attendance more attractive to women. Where transportation, child care, and other support services are provided, women often come to view the clinic as a refuge from the day-to-day pressures associated with caregiving. Several EGPAF sites now participate in the MTCT-Plus initiative, which offers HIV-infected women access to ART and primary care. Safer sex counseling is integrated in all EGPAF sites.

## Prevention for HIV-positive people

The International HIV/AIDS Alliance has published a background paper on prevention strategies for people with HIV/AIDS, Positive Prevention, which looks at the key strategies that can be used in



prevention activities focusing on HIV-positive people. In addition to the proposals already discussed in this article, they include:

- facilitating peer support groups and training people with HIV as outreach workers
- reinforcing positive prevention through home based care activities
- addressing gender-based violence related to HIV
- involving people with HIV in decision-making about positive prevention and design of programme activities
- advocacy for positive prevention and access to treatment
- legal reforms to reduce stigmatization and isolation of people with HIV, remove legal and socially sanctioned obstacles to harm reduction, condom use and sex between men.

The report Positive Prevention contains many useful examples and case histories of prevention activities, and is available for download in PDF form from the [International HIV/AIDS Alliance website](#).

Select Publications & Resources, then select Technical Support, and scroll down to `Focused prevention`. Please note that the report is 1.2mb in size and will take a long time to download over a dial-up internet connection. You may order a print copy of the report by clicking on `Ordering Alliance publications` in the Publications and Resources section, and then filling in the order form.

A guidelines document for health care workers and community-based organisations based on the Positive Prevention report is due to be published by WHO within the next few months.

## Conclusion: Editor's Comment

One of the key components in the introduction of treatment is community education. Experience from South Africa shows clearly that if this is done well, the introduction of treatment has positive benefits for prevention.

Investment in community treatment preparedness is likely to be one of the most important prevention investments that can be made as countries scale up. Treatment preparedness includes explaining what ARVs can and can't do, as well as establishing mechanisms for peer support that will eventually allow people living with HIV to play a pivotal role in prevention activities. It also includes education of people on treatment, for example through `treatment supporters` who encourage and monitor adherence. Treatment supporters and other community health workers can be important prevention workers, for their role is to maintain the trust and health of people with HIV.

However there are limits to behavioural interventions and it is important that investments into microbicide and vaccine research continues, without being forced to compete with treatment for investment.

## Resources

[HIV prevention in the era of expanded treatment access: a report by the Global HIV Prevention Working Group.](#)

[UNAIDS/WHO Policy Statement on HIV Testing \(June 2004\)](#)

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