

## *HIV This Week*: what scientific journals said

Welcome to the forty-fifth issue of *HIV This Week*! In this issue, we cover **HIV prevention** (abstinence-only programmes don't make the grade in the US; what we know and don't know about virus in blood and semen; how important is nonoccupational postexposure prophylaxis?), **basic science and the law** (HIV forensics: ruling in and ruling out transmission by phylogenetic analysis), **co-morbidity** (living with HIV: should you try now to quit tobacco?; psychiatric disorders among Nigerians living with HIV; using HIV health care services in the USA: it's the drug, baby), **epidemiology** (what's going on in El Salvador, Guatemala, Honduras, Nicaragua, and Panama?; molecular epidemiology in Asia: recombinants galore), **paediatric outcomes** (measles and HIV: a deadly combination in Zambia), **national responses** (25 years of public health surveillance among gay and bisexual men in the United Kingdom), **microbicides research** (keeping a coital diary in Mwanza, Tanzania: could you do it?), **injecting drug use** (who is doing what in Tehran, Iran), **men who have sex with men** (you won't believe this about bathhouse sexual risk behaviour; 61% of young men are meeting that first male sexual partner on UK internet sites), and **sexually transmitted infections** (time to stop the talk and treat them).

To find out how you can access a majority of scientific journals free of charge, please see the last page of this issue or check the *HIV This Week* blog on the UNAIDS website at <http://hivthisweek.unaids.org>.

We want to be as helpful to you as we can, so please let us know what your interests are and what you think of *HIV This Week* by sending a comment to [hivthisweek@unaids.org](mailto:hivthisweek@unaids.org) or by posting one on the *HIV This Week* blog. If you would like to recommend an article for inclusion in *HIV This Week*, please let us know.

Don't forget that you can find a wealth of information on the HIV epidemic and responses to it at <http://www.unaids.org>.

Cate Hankins  
Chief Scientific Adviser

Jolene Nakao  
Research Intern

Nicolai Lohse  
Research Officer

### **1. HIV prevention**

Underhill K, Montgomery P, Operario D. Sexual abstinence only programmes to prevent HIV infection in high income countries: systematic review. *BMJ* 2007;335:248.  
<http://www.bmj.com/cgi/reprint/335/7613/248>

A systematic review was conducted to assess the effects of sexual abstinence-only programmes for HIV prevention among participants in high-income countries. Data sources were 30 electronic databases without linguistic or geographical restrictions to February 2007, contacts with experts, hand searching, and cross referencing. Two reviewers independently applied inclusion criteria and extracted data, resolving disagreements by

consensus and referral to a third reviewer. Randomised and quasi-randomised controlled trials of abstinence-only programmes in any high-income country were included. Programmes aimed to prevent HIV only or both pregnancy and HIV. Trials evaluated biological outcomes (incidence of HIV, sexually transmitted infection, pregnancy) or behavioural outcomes (incidence or frequency of unprotected vaginal, anal, or oral sex; incidence or frequency of any vaginal, anal, or oral sex; number of partners; condom use; sexual initiation). The search identified 13 trials enrolling about 15,940 US youths. All outcomes were self-reported. Compared with various controls, no programme affected incidence of unprotected vaginal sex, number of partners, condom use, or sexual initiation. One trial observed adverse effects at short-term follow-up (sexually transmitted infections, frequency of sex) and long-term follow-up (sexually transmitted infections, pregnancy) compared with usual care, but findings were offset by trials with non-significant results. Another trial observed a protective effect on incidence of vaginal sex compared with usual care, but this was limited to short-term follow-up and countered by trials with non-significant findings. Heterogeneity prevented meta-analysis. Programmes that exclusively encourage abstinence from sex do not seem to affect the risk of HIV infection in high-income countries, as measured by self-reported biological and behavioural outcomes. **Editors' note: This methodologically rigorous search found only 13 randomised controlled trials, all in the United States. Programmes presenting abstinence as the exclusive option for HIV prevention were compared with control arms which received either no intervention, a different intervention, or a time delayed exposure to the intervention. Confirming the findings of previous reviews, it found that abstinence-only programmes for HIV prevention basically have no effect - they neither decrease nor increase sexual risk among young people in high-income countries. Although these findings cannot be generalized to low- and middle-income settings or to other high-income settings, they do give pause for reflection, given the amounts of resources being devoted to such unproven programmes.**

Kalichman SC, Di Berto G, Eaton L. Human immunodeficiency virus viral load in blood plasma and semen: review and implications of empirical findings. *Sex Transm Dis.* 2008 Jan;35(1):55-60.

The majority of human immunodeficiency virus (HIV) infections in the world are sexually transmitted and quantities of HIV in genital fluids are an important transmission risk-determining factor. Estimating men's sexual HIV infectiousness from blood viral load hinges on the association between HIV in blood plasma and semen. This article reviews research on the association between blood plasma viral load and semen viral load as reported in 19 empirical studies (N = 1226). Findings yielded a mean correlation between blood plasma viral load and semen viral load of 0.45 (SD = 0.20, median = 0.45, range = 0.07-.64). Semen viral load was generally lower than blood plasma viral load, but this pattern was variable across studies. Co-occurring sexually transmitted infections (urethritis), nonsuppressive HIV treatments, and drug resistance account for the variability in observed correlations. HIV disease progression does not reliably influence the association between blood plasma viral load and semen viral load. Research is needed to determine the degree to which blood plasma viral load as well as semen viral load predict HIV transmission. **Editors' note: This review highlights how much we know and what more we need to know. Because an undetectable viral load significantly reduces the risk of HIV sexual**

transmission, serodiscordant couples desiring a pregnancy are advised to achieve consistent undetectable viral loads prior to attempting conception. As noted previously, for additional protection some are even using pre-exposure prophylaxis for the uninfected partner, in the absence of evidence that it is safe or adds benefit. Information on the associations between viral load in blood and viral load in semen or vaginal secretions, related probabilities of HIV transmission, and the differential concentration of antiretroviral drugs in genital secretions is emerging and will help inform individual decision-making about risk as well as drug choices for inclusion in second generation vaginal and rectal microbicides.

Poynten IM, Smith DE, Cooper DA, Kaldor JM, Grulich AE. The public health impact of widespread availability of nonoccupational postexposure prophylaxis against HIV. *HIV Med* 2007;8:374-81.

The aim of the study was to describe the use of nonoccupational postexposure prophylaxis (N-PEP) in Australia, and to estimate the number of HIV infections that its use prevented. Poynten and colleagues conducted a population-based observational cohort study of people who presented to antiretroviral prescribers in Eastern Australia, and reported a high-risk nonoccupational exposure to HIV, in 1998-2004. Prescribers collected data at baseline, 4 weeks, and 6 months. Data collected included details of HIV exposure, drug regimens, and HIV serostatus. The great majority of the 1601 participants were male (95%) and presented after male homosexual exposure (87%). Only 32% of exposures were to HIV-positive sources. Two antiretroviral drugs were prescribed after 48% of events and three or more drugs after 52% of events. The median time to receipt of NPEP was 23 h. Side effects were reported by 66% of participants. No case of N-PEP failure in an adherent individual was identified. It was estimated that 0.9-9.2 HIV infections had been prevented. This compared with a total of 1138 newly acquired HIV infections notified in the geographical area covered by the study. In Australia, N-PEP has been widely prescribed and is mainly targeted at high-risk exposures. Although there were no identified failures of N-PEP, it is likely that only a small proportion of new HIV infections in the study area were prevented. N-PEP may be a valuable preventive intervention for an individual, but it can only play a minor role in HIV prevention at the population level unless targeting can be further improved. **Editors' note: The costs and opportunity costs of devoting resources to antiretroviral post-exposure prophylaxis for a non-occupational exposure will vary by socio-economic and epidemic setting. No randomised controlled trials of N-PEP have been conducted but it is assumed that it would work on the same principle as prevention of mother-to-child transmission. Hospital emergency rooms and rape crisis centres should have starter packs for unanticipated HIV exposure, but highest priority should be given to primary prevention of HIV exposure in the first place.**

## 2. Basic Science and the Law

Bernard EJ, Azad Y, Vandamme AM, Weait M, Geretti AM. HIV forensics: pitfalls and acceptable standards in the use of phylogenetic analysis as evidence in criminal investigations of HIV transmission. *HIV Med* 2007;8:382-7.

Phylogenetic analysis - the study of the genetic relatedness between HIV strains - has recently been used in criminal prosecutions as evidence of responsibility for HIV transmission. In these trials, the expert opinion of virologists has been of critical

importance. Pitfalls of phylogenetic analysis of HIV gene sequences relate to its complexity and its findings which do not achieve the levels of certainty obtained with the forensic analysis of human DNA. Although two individuals may carry HIV strains that are closely related, these will not necessarily be unique to the two parties and could extend to other persons within the same transmission network. For forensic purposes, phylogenetic analysis of acceptable standard should be conducted under strictly controlled conditions by laboratories with relevant expertise applying rigorous methods. It is vitally important to include the right controls, which should be epidemiologically and temporally relevant to the parties under investigation. Use of inappropriate controls can exaggerate any relatedness between the virus strains of the complainant and defendant as being strikingly unique. It will be often difficult to obtain the relevant controls. If convenient but less appropriate controls are used, interpretation of the findings should be tempered accordingly. Phylogenetic analysis cannot prove that HIV transmission occurred directly between two individuals. However, it can exonerate individuals by demonstrating that the defendant carries a virus strain unrelated to that of the complainant. Expert witnesses should acknowledge the limitations of the inferences that might be made and choose the correct language in both written and verbal testimony. **Editors' note: In trying to determine in a court of law whether an HIV transmission has been intentional/purposeful transmission or reckless transmission or negligent transmission it is important first of all to establish whether transmission has occurred. Phylogenetic analysis can rule it out but is less likely to be able to rule it in with any certainty.**

### 3. Co-morbidity

Benard A, Bonnet F, Tessier JF, Fossoux H, Dupon M, Mercie P, Ragnaud JM, Viallard JF, Dabis F, Chene G; The Groupe D'epidemiologie Clinique Du Sida En Aquitaine (GECSA). Tobacco addiction and HIV infection: toward the implementation of cessation programs. ANRS CO3 Aquitaine Cohort. *AIDS Patient Care STDS* 2007;21:458-468.

In treated HIV-positive patients, mortality is now dominated by non-AIDS-related causes in which tobacco smoking is a predominant risk factor. The implementation of tobacco smoking cessation programs is therefore warranted to increase survival but should consider the specificities of this population to be successful. All outpatients consulting in May to June 2004 within the ANRS CO3 Aquitaine Cohort of HIV-positive patients were asked to complete a self-administered questionnaire including questions about tobacco and other drug consumption, the Fagerström Test for Nicotine Dependence (FTND), a visual scale to estimate motivation to stop smoking, and the Center for Epidemiologic Studies Depression (CESD) scale. Among 509 patients included, mean age was 44 years, 74% were men, 19% were infected through injecting drug use, and 257 (51%) were regular smokers (at least one cigarette per day). Among them, 60% had a medium or strong nicotine dependence (FTND = 5), 40% were motivated to quit smoking and 70% had already tried at least once. Nicotine Dependence Scores of 5 or more were more frequently reported in the 146 smokers (62%) with depressive symptoms compared to other smokers (70% versus 48%). Fifty-five regular smokers (23%) were codependent on cannabis and 31 (12%) to alcohol. Overall, only 35 (14%) regular smokers were motivated, non-codependent, without depressive symptoms, and could be proposed a standard tobacco cessation programme. Depressive symptoms were highly prevalent in this representative population of HIV-positive patients. To be successful, smoking cessation interventions should be specifically

built to take into account depression and codependencies in addition to nicotine dependence and motivation. **Editors' note: This study highlights the importance of identifying HIV depression and licit and illicit drug dependencies that can reduce programme effectiveness before proposing a tobacco cessation programme. Not only will such programmes have high rates of failure in unselected populations but they can also reinforce feelings of low self-esteem, which then exacerbate depression and undermine self-agency to address other issues.**

Adewuya AO, Afolabi MO, Ola BA, Ogundele OA, Ajibare AO, Oladipo BF. Psychiatric disorders among the HIV-positive population in Nigeria: A control study. *J Psychosom Res* 2007;63:203-6.

This article estimates the point prevalence of psychiatric disorders in a sample of HIV-positive subjects in Nigeria in comparison with normal HIV-negative controls and evaluates the possible sociodemographic and clinical correlates of psychiatric disorders in HIV-positive subjects. HIV-positive subjects (n=88) and HIV-negative healthy controls (n=87) were assessed for their current diagnosis of DSM-IV psychiatric disorders via the Mini International Neuropsychiatric Interview. Sociodemographic and clinical details were also obtained. The prevalence of psychiatric disorders in subjects with HIV was 59.1% compared to 19.5% in subjects without HIV infection [odds ratio (OR)=5.95, 95% confidence interval (CI)=3.02-11.75]. The subjects with HIV had significantly higher prevalence of affective disorders (OR=3.58, 95% CI=1.44-8.94), anxiety disorders (OR=3.57, 95% CI=1.65-7.72), and psychotic disorders (OR=1.10, 95% CI=1.01-1.12) than healthy controls. The factors significantly associated with psychiatric disorders include poor level of social support and stage of the disease. Psychiatric disorders are common in these Nigerian subjects with HIV, and prevalence is significantly higher when compared to the healthy general population. Proactive identification and treatment of mental disorders should be integrated into HIV intervention policies in this region. **Editors' note: Psychiatric illness in people living with HIV can be present before HIV infection, can result from the psychosocial stress of having a life-threatening illness, can be related to direct effects of the virus itself on the central nervous system, can be medication-induced or can be the result of opportunistic infections. Determining the causes and addressing them is the first step to improved quality of life, better adherence to treatment, and overall survival in people living with HIV, regardless of where they live.**

Sohler NL, Wong MD, Cunningham WE, Cabral H, Drainoni ML, Cunningham CO. Type and pattern of illicit drug use and access to health care services for HIV-infected people. *AIDS Patient Care STDS*. 2007;21 Suppl 1:S68-76.

Approximately 28% of HIV-infected people in treatment in the United States report using illicit drugs. Illicit drug users have poorer course of HIV disease than non-drug users, which is thought to be due to their irregular use of HIV medical services. Sohler and colleagues examined associations between type (cocaine versus opioids) and pattern of drug use (drug use at baseline, 6-month follow-up, both periods, and nonuse) and health care utilization for a large sample of HIV-infected individuals drawn from a multisite project that evaluated the impact of medical outreach interventions for populations at risk of poor retention in HIV care. Across all types and patterns of drug use, drug users were more likely to have suboptimal ambulatory care, miss scheduled appointments, use the emergency

department, have unmet support services needs, and were less likely to take antiretroviral medications. Additionally, while people who started using drugs during the follow-up period and consistently used drugs across both periods differed from nonusers on missed appointments (odds ratio [OR] = 2.20 for starters versus nonusers, OR = 2.92 for consistent users versus nonusers), emergency department use (OR = 4.93 for starters versus nonusers, OR = 2.24 for consistent users versus nonusers), and antiretroviral medication use at follow-up (OR = 0.23 for starters versus nonusers, OR = 0.19 for consistent users versus nonusers), those who stopped using drugs after the baseline period did not differ from nonusers. The authors conclude that health care utilization is poorer for people who use illicit drugs than those who do not, and stopping drug use may facilitate improvements in health care utilization and HIV outcomes for this population. **Editors' note: Those who stopped using drugs during the follow-up period had antiretroviral adherence patterns similar to nonusers suggesting that it is drug use itself, rather than particular features of the people using them, that makes the difference. Helping people to stop drug use, to identify situations that can lead to relapse, and to build skills to avoid substance use can be combined with drug treatment options to improve overall health outcomes.**

#### 4. Epidemiology

Soto RJ, Ghee AE, Nuñez CA, Mayorga R, Tapia KA, Astete SG, Hughes JP, Buffardi AL, Holte SE, Holmes KK; and the Estudio Multicéntrico Study Team. Sentinel surveillance of sexually transmitted infection/HIV and risk behaviors in vulnerable populations in 5 Central American countries. *J Acquir Immune Defic Syndr* 2007 Sep 1;46(1):101-11.

In El Salvador, Guatemala, Honduras, Nicaragua, and Panama, Soto and colleagues recruited 2466 female sex workers (FSWs) by probabilistic or comprehensive sampling and 1418 men who have sex with men (MSM) by convenience sampling to measure sociobehavioural risk and sexually transmitted infections. For MSM, HIV seroprevalence ranged from 7.6% in Nicaragua to 15.3% in El Salvador, and estimated HIV seroincidence per 100 person-years ranged from 2.7 in Panama to 14.4 in Nicaragua; 61% reported using condoms consistently with casual male partners, 29% reported exposure to behavioural interventions, and 22% reported recent sex with male and female partners. For female sex workers, HIV seroprevalence ranged from 0.2% in Nicaragua and Panama to 9.6% in Honduras, where estimated HIV seroincidence was also highest (3.2 per 100 person-years); 77% and 72% of FSWs reported using condoms consistently with new and regular clients. Herpes simplex virus (HSV)-2 seroprevalence averaged 85.3% in FSWs and 48.2% in MSM, and syphilis seropositivity averaged 9.6% in FSWs and 8.3% in MSM. Chlamydia trachomatis and Neisseria gonorrhoeae prevalences in FSWs averaged 20.1% and 8.1%, and Trichomonas vaginalis and bacterial vaginosis prevalences averaged 11.0% and 54.8%. An ongoing HIV epidemic involves Central American MSM with potential bridging to women. In female sex workers, HSV-2 infection was associated with HIV infection (odds ratio = 11.0, 95% confidence interval: 2.9 to 7.9). For these vulnerable populations, prevention must incorporate acceptable and effective sexual health services, including improved condom access and promotion. **Editors' note: This regional epidemiologic profile of 5 countries demonstrates the extent to which HIV has found fertile soil among populations with high levels of sexually transmitted infections, including HSV-2. The negative results**

of the HSV-2 randomised controlled trial which were reported at the Retrovirus Conference this week suggest that suppressing herpes does not reduce the risk of HIV acquisition but one senses that the story is not fully told. In the meantime there is much to be done to address the health needs of MSM and sex workers in Central America.

Lau KA, Wang B, Saksena NK. Emerging trends of HIV epidemiology in Asia. *AIDS Rev.* 2007 Oct-Dec;9(4):218-29

The main molecular trait of HIV-1 is the inherent capacity to vary, recombine, and diversify, which gives it a clear edge to evade the human immune system and survive through the generation of complex molecular forms, termed recombinants. In a setting of coinfection, molecular and biological interactions between diverse HIV-1 subtypes may promote the emergence of circulating recombinant forms through the shuffling of viral genomes, which results in increased intra- and inter- host viral variation and altered biological properties. The focus of this review is on Asia, which has the highest proportion of HIV-1 recombinants circulating worldwide, with the top in South and Southeast Asia, amounting to 89% of its total HIV-1 infection. The HIV-1 strains which are spreading in this geographic area are CRF01\_AE, subtypes B and C. Given the rapid spread and active establishment of some of the recombinant forms in Asia, it is essential to understand how they differ from their parental strains, the acquisition of certain molecular traits, and their biological attributes upon recombination, which give these strains an epidemiologic edge. The current epidemic provides strong evidence that the parental subtypes are being replaced via competition with possibly more versatile HIV-1 recombinant forms. This appears to be an ongoing phenomenon and has resulted in an HIV-1 epidemic shift, with the expansion and dissemination of a wide variety of HIV-1 forms within this geographic region. **Editors' note: When two different subtypes infect the same person, either at the same time or sequentially, they can swap pieces of genetic material, forming recombinant viral strains. For example, the strain CRF01 AE is a recombinant of an A and an E subtype. Some of these recombinant strains may behave differently from either of their two "parent" strains in terms of transmissibility, disease progression potential, and sensitivity towards antiretroviral drugs. Understanding how these recombinant forms develop and spread can help predict evolution of the epidemic but it is the virus's ability to keep a step ahead of the immune system through recombination and other tricks that make vaccine development seem so daunting at times.**

## **5. Paediatric outcomes**

Moss WJ, Fisher C, Scott S, Monze M, Ryon JJ, Quinn TC, Griffin DE, Cutts FT. W. HIV type 1 infection is a risk factor for mortality in hospitalized Zambian children with measles. *15: Clin Infect Dis.* 2008 Feb 15;46(4):523-7.

Measles remains a significant cause of vaccine-preventable mortality in sub-Saharan Africa, yet few studies have investigated risk factors for measles mortality in regions of high human immunodeficiency virus type 1 (HIV-1) prevalence. Between January 1998 and July 2003, children with clinically diagnosed measles who were hospitalized at the University Teaching Hospital in Lusaka, Zambia, were enrolled in an observational study. Demographic and clinical information was recorded at enrollment and at discharge or death. Measles was confirmed by detection of antimeasles virus immunoglobulin M antibodies, and

HIV-1 infection was confirmed by detection of HIV-1 RNA. Of 1474 enrolled children, 1227 (83%) had confirmed measles and known HIV-1 infection status. Almost one-third of the HIV-1-infected children with measles were <9 months of age, the age of routine measles vaccination, compared with one-fourth of the uninfected children (P = .07). Death occurred during hospitalization in 23 (12.2%) of the HIV-1-infected children and 45 (4.3%) of the HIV-1-uninfected children (p < .001) with measles. After adjusting for age, sex, and measles vaccination status, HIV-1 infection (odds ratio, 2.5; 95% confidence interval, 1.4-4.6), < or =8 years of maternal education (odds ratio, 2.4; 95% confidence interval, 1.2-4.8), and the presence of an esquamating rash (odds ratio, 2.2, 95% confidence interval, 1.3-3.6) were significant predictors of mortality due to measles. In a region of high HIV-1 prevalence, coinfection with HIV-1 more than doubled the odds of death in hospitalized children with measles. Increased mortality among HIV-1-infected children is further evidence that greater efforts are necessary to reduce transmission of the measles virus in regions of high HIV-1 prevalence. **Editors' note: Infants born to mothers with HIV infection often have lower levels of the maternal antibodies against measles that would otherwise normally provide them protection as infants. Either fewer passively acquired antibodies are transferred across the placenta or they are lost prematurely compared with other infants. Consideration should be given to early measles immunization for all infants born to women with HIV infection. Intensified community measles vaccine campaigns will help reduce the amount of circulating measles virus thereby protecting them further.**

## 6. National responses

Dougan S, Evans BG, Macdonald N, Goldberg DJ, Gill ON, Fenton KA, Elford J. HIV in gay and bisexual men in the United Kingdom: 25 years of public health surveillance. *Epidemiol Infect* 2008 Feb;136(2):145-56.

It is more than 25 years since the first case of AIDS was reported in the United Kingdom. In December 1981 a gay man was referred to a London hospital with opportunistic infections indicative of immunosuppression. National surveillance began the following year, in September 1982, with the notification of deaths and clinical reports of AIDS and Kaposi's sarcoma plus laboratory reports of opportunistic infections. Since then epidemiological surveillance systems have evolved, adapting to, and taking advantage of advances in treatments and laboratory techniques. The introduction of the HIV antibody test in 1984 led to the reporting of HIV-positive tests by laboratories and the establishment of an unlinked anonymous survey in 1990 measuring undiagnosed HIV infection among gay men attending sexual health clinics. The widespread use of highly active antiretroviral therapies (HAART) since 1996 has averted many deaths among HIV-positive gay men and has also resulted in a large reduction in AIDS cases. This led to a need for an enumeration of gay men with HIV accessing NHS treatment and care services (1995 onwards), more clinical information on HIV diagnoses for epidemiological surveillance (2000 onwards) and the routine monitoring of drug resistance (2001 onwards). Twenty-five years after the first case of AIDS was reported, gay and bisexual men remain the group at greatest risk of acquiring HIV in the United Kingdom. Latest estimates suggest that in 2004, 26,500 gay and bisexual men were living with HIV in the United Kingdom, a quarter of whom were undiagnosed. In this review, Dougan and colleagues examine how national surveillance systems have evolved over the past 25 years in response to the changing

epidemiology of HIV among gay and bisexual men in the United Kingdom as well as advances in laboratory techniques and medical treatments. The authors also reflect on how they will need to continue evolving to effectively inform health policy in the future. **Editors' note: Over a period of 25 years the United Kingdom has created one of the most advanced surveillance systems in the world to describe the evolution of the HIV epidemic among gay and bisexual men, incorporating technological advances in surveillance, laboratory testing, and treatment and care. Between 1995 and 2004 incidence in this population was stable ranging between 2 and 3.5/100 person-years, however a concerning higher incidence in older men (4.5/100 person years in men aged 35-44 years in 2004) has alerted both authorities and gay communities to the need to take stock. Qualitative research is also needed to help understand why some men continue to present for treatment at very late stages of infection.**

## **7. Microbicides Research**

Allen CF, Lees SS, Desmond NA, Der G, Chiduo B, Hambleton I, Knight L, Vallely A, Ross DA, Hayes RJ. Validity of coital diaries in a feasibility study for the Microbicides Development Programme trial among women at high risk of HIV/AIDS in Mwanza, Tanzania. *Sex Transm Infect.* 2007 Oct;83(6):490-6; discussion 496-7.

The objectives of this study were to compare coital diaries (CDs) and face-to-face interviews (FFIs) in measuring sexual behaviour among women at high risk of HIV and to assess the effect of differing levels of support from researchers on reporting in CDs and FFIs. Three groups of 50 women were randomly selected from a cohort of food and recreational facility workers participating in a microbicide trial feasibility study and received differing levels of researcher support. Minimum support involved delivering and collecting coital diaries weekly; medium support included a weekly face-to-face interviews and discussion of concerns; intensive support also included an unscheduled mid-week visit when diaries were checked and concerns addressed. All respondents participated in an exit face-to-face interview, including questions on sexual behaviour over the four-week study period and study acceptability. Sexual behaviours were generally reported more frequently in coital diaries than weekly or exit interviews. Vaginal and anal sex, male and female condom use, vaginal cleaning and lubrication, sex during menstruation and sex with irregular and regular partners were reported more frequently in coital diaries than exit interviews. In coital diaries, level of support was associated with reporting of vaginal sex and cleaning. In exit interviews, support level was associated with reporting of vaginal sex, vaginal cleaning and sex with regular, irregular and commercial partners. Women with minimum support reported least satisfaction with the research process. Women with intensive support were most likely to report that they informed someone about their study participation and that they completed diaries daily. Compared with face-to-face interviews, coital diaries resulted in higher reporting of socially stigmatised activities, and sexual behaviour reporting varied less by level of support. More researcher support enhanced study acceptability. **Editors' note: Obtaining valid and complete information about sexual exposures (and eventually product use) is critically important for microbicide studies. Participants may use product but have no risk exposure, may have risk exposure and not report product use or over-report it, etc. This study found that engagement with participants through face-to-face interviews not only increased study participant satisfaction with the research process but also was associated with talking**

about study participation with others (a potential support) and completion of daily coital diaries, a method that captured more information about stigmatised behaviours.

### 8. *Injecting drug use*

Razani N, Mohraz M, Kheirandish P, Malekinejad M, Malekafzali H, Mokri A, McFarland W, Rutherford G. HIV risk behavior among injection drug users in Tehran, Iran. *Addiction*. 2007 Sep;102(9):1472-82.

Iran faces parallel human immunodeficiency virus (HIV) and injection drug use epidemics; more than 62% of known HIV cases occur among injection drug users (IDU). Razani and colleagues conducted a formative study of IDU in Tehran to explore risk behaviour in the wake of the recent harm reduction efforts. Key informant interviews (n = 40), focus group discussions (nine groups of IDU, n = 66) and a review of existing published and unpublished literature were conducted. Participants included IDU, physicians, policy makers, police, IDU advocates and their families. IDU were diverse in gender, education, income and neighborhood of residence. Interviews were transcribed and analyzed using grounded theory. A typology of IDUs in Tehran, categorized according to self-defined networks as well as HIV risks, is presented. This categorization is based on the groups identified by IDUs, compared to those identified by other key informants, and on a secondary data review. Homeless, female, young IDU and users of a more potent form of heroin were identified as having increased risks for HIV. Participants described shortening transitions from smoked opium to injected opiates. Whereas a majority of participants considered needle sharing less common than previously, sharing continues in locations of group injection, and in states of withdrawal or severe addiction. System-wise barriers to harm reduction were discussed, and include the cost or stigma of purchasing needles from pharmacies, over-burdened clinics, irregular enforcement of laws protecting IDU and lack of efforts to address the sexual risks of IDU. This research is one of the first to describe a diversity of IDU, including women and higher socio-economic class individuals, in Tehran. While efforts in harm reduction in Iran to date have been notable, ongoing risks point to an urgent need for targeted, culturally acceptable interventions. **Editors' note: Qualitative studies such as these, in a country that has a long-standing history of opiate use, can help paint a contextual picture far beyond the numbers. Such information can provide constructive ideas for programmes that can help reduce the likelihood of transition to injecting and minimise the harm associated with opium use.**

### 9. *Men who have sex with men*

Woods WJ, Binson D, Blair J, Han L, Spielberg F, Pollack LM. Probability sample estimates of bathhouse sexual risk behavior. *J Acquir Immune Defic Syndr*. 2007 Jun 1;45(2):231-8.

Previous research links high rates of unprotected anal intercourse with men who go to bathhouses; however, the literature provides no prevalence estimates. An exit survey of a probability sample was conducted to describe the prevalence of risk activity at the bathhouse. Data are from a 2-stage probability sample of men exiting a gay bathhouse (n = 400). During their visit, 91.5% of men had oral sex and 44.2% had anal sex (11.1% reported unprotected anal intercourse and 5.5% reported unprotected receptive anal intercourse). In the prior 3 months, 85% reported having anal sex, which was more likely to be unprotected when it occurred in a private home or hotel as opposed to a public setting (P < 0.001). Moreover, having unprotected anal intercourse at home was a significant correlate

of risk during the bathhouse visit ( $P < 0.001$ ). Most men at the bathhouse engaged in oral sex rather than anal sex, and most anal sex included use of condoms. Furthermore, men were more likely to have unprotected anal intercourse in a private home than in any public setting. The bathhouse seems to have facilitated condom use when anal sex occurred on-site. **Editors' note: The findings of this study from western USA may be surprising given the associations with risk behaviour that the concept of a bathhouse may evoke. Social and safer sexual norms have been changing and some environments can reinforce and support these changes. Other environments may provide a false sense of security and may be associated with more risk than might be at first thought. Learning more about the interplay between risk and environment can assist in the design of HIV risk reduction strategies among gay men.**

Bolding G, Davis M, Hart G, Sherr L, Elford J. Where young men who have sex with men meet their first sexual partner: the role of the Internet. *AIDS Behav.* 2007 Jul;11(4):522-6.

The objective was to examine how many young men who have sex with men (MSM) meet their first sexual partner through the Internet and whether this has increased over time. In 2003, 2505 MSM surveyed on UK Internet sites completed a self-administered questionnaire. Data were analysed for 810 MSM who were under 30 years old at the time of the survey and who first had sex with another man between 1993-2002. During this period there was a significant increase in the percentage of MSM who met their first male sexual partner through the Internet (2.6-61.0%). There was a corresponding decrease in the percentage who met their first sexual partner at a gay venue (34.2-16.9%), school (23.7-1.3%), a public sex environment, through small ads or telephone chatlines (10.5-1.3%). An increasing number of young MSM appear to meet their first sexual partner through the Internet. Online sexual health interventions should be developed targeting men early in their sexual careers. **Editors' note: Self-administered questionnaires for men who are accessing the internet already may reveal higher rates of internet use for sex than in the overall population of men who have sex with men. What is of interest here is the tremendous increase in the numbers of young men who are organising their first sexual experience through the internet rather than at gay venues, at school, through newspaper ads or on telephone chat-lines. Using the internet for sexual health promotion among young gay men would be the next logical step.**

## 10. Sexually transmitted infections

White RG, Orroth KK, Glynn JR, Freeman EE, Bakker R, Habbema JD, Terris-Prestholt F, Kumaranayake L, Buve A, and Hayes RJ. Treating Curable Sexually Transmitted Infections to Prevent HIV in Africa. Still an Effective Control Strategy? *J Acquir Immune Defic Syndr* Dec 20; [Epub ahead of print].

Evidence regarding the effectiveness of sexually transmitted infection (STI) treatment for HIV prevention in Africa is equivocal, leading some policy makers to question whether it should continue to be promoted for HIV control. White and colleagues explore whether treating curable STIs remains a cost-effective HIV control strategy in Africa. The model STDSIM was fitted to the characteristics of 4 populations in East and West Africa. Over the simulated HIV epidemics, the population-attributable fractions (PAFs) of incident HIV attributable to STIs, the impact of syndromic STI management on HIV incidence, and the cost per HIV infection averted were evaluated and compared with an estimate of lifetime HIV treatment costs (US \$3500). Throughout the HIV epidemics in all cities, the total

population-attributable fractions for all STIs remained high, with 50% of HIV transmission attributed to STIs. The PAF for herpes simplex virus type 2 increased during the epidemics, whereas the PAF for curable STIs and the relative impact of syndromic management decreased. The models showed that the absolute impact of syndromic management remains high in generalized epidemics, and it remained cost-saving in 3 of the 4 populations in which the cost per HIV infection averted ranged between US \$321 and \$1665. Curable STI interventions may remain cost-saving in populations with generalized HIV epidemics, particularly in populations with high-risk behaviours or low male circumcision rates. **Editors' note: In the end, after the results of randomised controlled trials have been discussed and debated, and all is said and done, treatment and control of curable sexually transmitted infections should be a priority for its own sake - and it can reduce HIV transmission, particularly early on in HIV epidemics. Modelling impact and costs can inform optimal resource allocation.**

That was *HIV This Week*, signing off.

---

### **Editors' notes on journal access**

#### ***For readers in all countries:***

All abstracts in *HIV This Week* are freely available on the Web.

You can access a majority of scientific journals free of charge no matter where you are located, but for some journals you do need a subscription to access the full text of an article. Some journals are free to readers in all countries either through ScienceDirect or through the journal's own website.

For articles available through ScienceDirect, you should follow the link <http://www.sciencedirect.com/> to the ScienceDirect website. Then, type in the title of the journal for which you are searching.

Some journals are open access, available to readers in all countries: American Medical Association journals (<http://pubs.ama-assn.org/>), American Society of Clinical Oncology (2 journals), Australian Medical Association (1 journal), BioMed Central journals (<http://www.biomedcentral.com/>), BMJ journals (<http://journals.bmj.com/>), Canadian Medical Association (1 journal), Nature Publishing Group journals (<http://www.nature.com/>), Public Library of Science journal (<http://medicine.plosjournals.org/>) and Science (1 journal).

Other journals offer free access to full-text articles after a certain period of time (see lists at High Wire Press <http://highwire.stanford.edu/lists/freeart.dtl> and PubMed Central <http://www.pubmedcentral.nih.gov/>).

#### ***For residents of low- and middle-income countries: the Health InterNetwork Access to Research Initiative (HINARI)***

HINARI, set up by the World Health Organisation (WHO) and major publishers, enables readers in low- and middle-income countries to gain access to one of the world's largest collections of biomedical and health literature. Over 3400 journal titles are now available to

health institutions in 113 countries, benefiting many thousands of health workers and researchers, and in turn, contributing to improved world health. More information on the HINARI programme and eligible countries is available at <http://www.who.int/hinari/en/>, e-mail: [hinari@who.int](mailto:hinari@who.int).

Local, not-for-profit institutions in low- and middle- income countries may register for access to the journals through HINARI. Institutions in countries with GNP per capita below \$1000 are eligible for free access. Institutions in countries with GNP per capita \$1000-\$3000 pay a fee of \$1000 per year/institution.

***For employees of UNAIDS or WHO:***

If you work for WHO or UNAIDS in Geneva, you can access a number of journals by going to the WHO library. You can also see the full list of journals you can access freely on the web (including usernames and passwords) by going to the WHO Library website, accessible through the home page of WHO intranet <https://intranet.who.int/> under Information Resources. If you work for UNAIDS, *HIV This Week* is also available on the intranet at the link <https://intranet.unaids.org/HIVThisWeek/2007/index.htm>.