

HIV This Week: what scientific journals said

Welcome to the fourteenth issue of *HIV This Week*! This issue kicks off with **prevention** (the sobering confirmation from Amsterdam that effectively addressing one mode of transmission in most-at-risk populations with dual risks leaves the job undone; and the importance of data disaggregation by age in programmes for most-at-risk populations), **vulnerability and income** (why to be circumspect with wealthier men in Cameroon), TB/HIV (the strong economic case for expanding public-private partnerships), **stigma and discrimination** (sexual stigma and sympathy among Jamaican university students), **internet sex** (2 articles on the understudied milieu of cyber sexual networking, one on heterosexual men and women, the other on Latino men), **health workforce strengthening** (countries should be thinking longer-term in their Global Fund proposals), **infant feeding** (following the guidelines in Zimbabwe), **risk assessment** (cultural rules of thumb), **young people** (self-efficacy for condom use and sexual negotiation; and the effectiveness of mass media), **HIV testing** (reasons some pregnant Mexican women decide against it) and **HIV vaccines** (modelling the impact of an eventual partially effective vaccine in women and infants in South Africa).

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 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

Charles Shey Wiysonge
Research Officer

1. Prevention

Lindenburg CE, Krol A, et al. Decline in HIV incidence and injecting, but not in sexual risk behaviour, seen in drug users in Amsterdam: a 19-year prospective cohort study. *AIDS* 2006;20:1771-75.

Lindenburg and colleagues studied temporal changes in HIV incidence, HIV transmission routes, and both injecting and sexual risk behaviour in the open Amsterdam Cohort Study among drug users. Initiated in 1985, the Amsterdam Cohort Study enabled the authors to study changes in trends since HAART became widespread in 1996. Person-time techniques were used to study the trend in HIV incidence among HIV-negative drug users. HIV transmission routes were determined using detailed standardised questionnaires. Trends in

injecting and sexual risk behaviours were evaluated with a logistic regression model adjusted for correlations between visits of the same individual. The 1315 HIV-negative individuals, of whom 93 seroconverted for HIV, yielded 6970 HIV-negative person-years of follow-up. The HIV incidence was 7 per 100 person-years in 1986 and fell so that after 1999 it varied between 0 and 0.5 per 100 person-years. The odds ratio was 15.6 (95% CI 2.6-94.6) for HIV transmission through unprotected heterosexual contact versus injecting after 1996 compared with the period before. Reports of both injecting and borrowing needles significantly declined over the period 1985-2004. Reports of sexual risk behaviour and sexually transmitted infections at follow-up visits decreased before, but not after, 1996. The authors conclude that the HIV incidence among drug users in the Amsterdam Cohort Study has declined since 1985. Accompanied by a reduction in injecting drug use and needle sharing, this decline occurred despite continued sexual risk behaviour. At present, new HIV seroconversions are related mainly to unprotected heterosexual contacts. Therefore, HIV prevention programmes for drug users should pay specific attention to the importance of safer sex practices.

Hoffmann O, Boler T, Dick B. Achieving the global goals on HIV among young people most at risk in developing countries: young sex workers, injecting drug users and men who have sex with men. *World Health Organ Tech Rep Ser* 2006;938:287-315.

Hoffmann and colleagues undertook a systematic literature review to identify programmes in low- and middle-income countries for young people in the three selected groups most at risk from HIV: young sex workers, injecting drug users, and men who have sex with men. The authors also identified programmes directed at young people in developed countries as well as programmes in low- and middle-income countries for these three population groups that did not differentiate between young people and adults. Young people 10 to 24 years of age represent a large proportion of the population most at risk of becoming infected with HIV in low- and middle-income countries. Despite this fact, well documented evaluations of programmes for these groups are scarce. However, there is evidence of effectiveness for programmes that are facility-based and use outreach to provide information and services to at-risk young people. The authors conclude that there is growing evidence from low- and middle-income countries of successful initiatives for groups most at risk from HIV, and these programmes should be widely implemented provided that they are carefully planned and monitored and have a strong evaluation component. However, there is an urgent need to disaggregate data by age in order to determine how effective these programmes are in reaching young people and to better understand the specific needs of at-risk young people as opposed to older age groups.

2. Vulnerability and income

Kongnyuy EJ, Wiysonge CS, et al. Wealth and sexual behaviour among men in Cameroon. *BMC Int Health Hum Rights* 2006,6:11. <http://www.biomedcentral.com/1472-698X/6/11>

The 2004 Demographic and Health Survey (DHS) in Cameroon revealed a higher prevalence of HIV in richest and most educated people than their poorest and least educated compatriots. It is not certain whether the higher prevalence results partly or wholly from wealthier people adopting more unsafe sexual behaviours, surviving longer due to greater access to treatment and care, or being exposed to unsafe injections or other HIV risk factors. As unsafe sex is currently believed to be the main driver of the HIV epidemic in

sub-Saharan Africa, Kongnyuy and colleagues examined the association between wealth and sexual behaviour in Cameroon among 4409 sexually active men aged 15-59 years who participated in the DHS. When controlled for potential confounding by marital status, place of residence, religion and age, men in the richest third of the population were less likely to have used a condom in the last sex with a non-spousal non-cohabiting partner (OR 0.43, 95% CI 0.32-0.56) and more likely to have had at least two concurrent sex partners in the last 12 months (OR 1.38, 95% CI 1.12-1.19) and more than five lifetime sex partners (OR 1.97, 95% CI 1.60-2.43). However, there was no difference between the richest and poorest men in the purchase of sexual services. Regarding education, men with secondary or higher education were less likely to have used a condom in the last sex with a non-spousal non-cohabiting partner (OR 0.24, 95% CI 0.16-0.38) and more likely to have started sexual activity at age 17 years or less (OR 2.73, 95% CI 2.10-3.56) and have had more than five lifetime sexual partners (OR 2.59, 95% CI 2.02-3.31). There was no significant association between education and multiple concurrent sexual partnerships in the last 12 months or purchase of sexual services. The authors conclude that unsafe sexual behaviours may explain the higher HIV prevalence among wealthier men in the country. They add that while these findings do not suggest a redirection of HIV prevention efforts from the poor to the wealthy, they do call for efforts to ensure that HIV prevention messages get across all strata of society.

Editors' note: It is interesting that financial ability to directly purchase sexual services is not the explanation for increased HIV in wealthier men in Cameroon. Qualitative studies would help explain the assumptions these men make about their risk of HIV in non-commercial encounters but just reflecting these findings to this population may effect a change - it's within their power to protect themselves.

3. TB/HIV

Sinanovic E, Kumaranayake L. Sharing the burden of TB/HIV? Costs and financing of public-private partnerships for tuberculosis treatment in South Africa. *Trop Med Int Health* 2006;11:1466-74. <http://www.blackwell-synergy.com/doi/full/10.1111/j.1365-3156.2006.01686.x>

Sinanovic and Kumaranayake explored the economic costs and sources of financing for different public-private partnership (PPP) arrangements for tuberculosis (TB) service provision involving both workplace and non-profit private providers in South Africa. The financing required for the different models from the perspective of the provincial TB programme, provider, and the patient were considered. Two models of TB provider partnerships were evaluated, relative to sole public provision: public-private workplace (PWP) and public-private non-government (PNP). The cost analysis was undertaken from a societal perspective. Costs were collected retrospectively to consider both the financial and economic costs. Patient costs were estimated using a retrospective structured patient interview. Expansion of PPPs could potentially lead to reduced government sector financing requirements for new patients: government financing would require \$609-690 per new patient treated in the purely public model, in contrast to PNP sites which would only need to \$130-139 per patient and \$36-46 with the PWP model. Moreover, there are no patient costs associated with the treatment in the employer-based facilities and the cost to the patient supervised in the community is, on average, three times lower than in public sector facilities. The results suggest that there is a strong economic case for expanding PPP involvement in TB

treatment in the process of scaling up. The cost to the government per new patient treated could be reduced by enhanced partnership between the private and public sectors. **Editors' note: As TB continues to rise in sub-Saharan Africa and reports of the virtually untreatable XDR-TB (extremely drug resistant TB) surface worldwide the need for creative cost-effective service delivery models is ever more evident. These models would mean lower costs for both governments and patients.**

4. Stigma and discrimination

Norman LR, Carr R, et al. Sexual stigma and sympathy: attitudes toward persons living with HIV in Jamaica. *Cult Health Sex* 2006;8:423-33.

As the number of persons living with HIV continues to increase in Jamaica, attitudes and values become more important. This study examined the attitudes of university students in Jamaica toward persons living with HIV, including homosexual men, heterosexual men, women sex workers, other women, and children. One thousand two hundred and fifty-two students were surveyed between June 2001 and February 2002 using a 193-item questionnaire measuring a variety of HIV-related knowledge, attitudinal and behavioural items. Less than half of students reported sympathetic attitudes toward homosexual men or women sex workers living with HIV while a majority reported generally sympathetic attitudes toward heterosexual men and non-sex worker women living with the disease. Predictors of sympathy varied by target group. Male students were significantly less likely to report sympathy for homosexual men than for any other group. Spirituality was associated with sympathy for homosexual men and women sex workers, but not for the remaining two groups. Findings suggest that levels of negative attitudes are high in Jamaica and warrant attention to both individual and societal-level actions and interventions. In addition, the authors conclude, messages and interventions must be targeted, recognizing both the differences in level of sympathy expressed toward different groups and predictors of sympathy across the groups. **Editors' note: Stigma is a critical barrier in the response to AIDS. There is a clear need for much better understanding in all countries of the origin and nature of stigma towards people living with HIV, and those at risk of HIV, to inform active, intensive and effective programming at every level to counter it.**

5. Internet sex

Bolding G, Davis M, et al. Heterosexual men and women who seek sex through the Internet. *Int J STD AIDS* 2006;17:530-4.

Heterosexual women (n=330), heterosexual men (n=319) and gay men (n=331) attending a London HIV-testing clinic in 2002-2003 completed a confidential self-administered questionnaire concerning their sexual behaviour and use of the internet for seeking sexual partners (response rate 70%). One-in-twenty (5%) heterosexual women and one-in-ten (10%) heterosexual men had used the internet to look for sexual partners in the previous 12 months compared with nearly half (43%) the gay men ($P<0.001$). Rates of high-risk sexual behaviour with a casual partner were elevated among those who used the internet to look for sex (compared with those who did not). However, people who looked for sex through the internet were just as likely to meet their high-risk casual partners offline as online. The authors conclude that the findings suggest high-risk heterosexual women and men are

selectively using the internet to look for sex rather than the internet per se leading to riskier sexual behaviour.

Carballo-Diequez A, Miner M, et al. Sexual negotiation, HIV-status disclosure, and sexual risk behaviour among Latino men who use the internet to seek sex with other Men. *Arch Sex Behav* 2006 Aug 25; [Epub ahead of print]

As part of a wider study of internet-using Latino men who have sex with men (MSM), Carballo-Diequez and colleagues studied the likelihood that HIV-negative (n=200) and HIV-positive (n=50) Latino MSM would engage in sexual negotiations and disclosure of their HIV status prior to their first sexual encounters with men met over the Internet. They also analyzed the sexual behaviours that followed online encounters. The results showed that both HIV-negative and positive men were significantly more likely to engage in sexual negotiation and serostatus disclosure on the internet than in person. Those who engaged in sexual negotiations were also more likely to use condoms for anal intercourse. Compared to HIV-negative MSM, HIV-positive MSM were significantly less likely to disclose their serostatus, and 41% of them acknowledged having misrepresented their serostatus to a prospective sexual partner met over the internet. Although similar proportions of HIV-positive and negative men had condom-less anal intercourse, HIV-positive MSM were more likely to report lack of intention to use condoms. Pleasure was the reason most frequently cited for lack of condom use. Cybersex was reported by only one-fifth of the sample. The authors conclude that the internet, an understudied milieu of sexual networking, may present new possibilities for the implementation of risk reduction strategies, such as the promotion of sexual negotiation prior to first in-person encounter and serostatus disclosure.

6. Health workforce strengthening

Drager S, Gedik G et al. Health workforce issues and the Global Fund to fight AIDS, Tuberculosis and Malaria: an analytical review. *Hum Resour Health* 2006;4:23.

<http://www.human-resources-health.com/content/4/1/23>

Recent studies have shown evidence of a direct and positive causal link between the number of health workers and health outcomes. Several studies have identified an adequate health workforce as one of the key ingredients to achieving improved health outcomes. Global health initiatives are faced with human resources issues as a major, system-wide constraint. This article explores how the Global Fund addresses the challenges of a health workforce bottleneck to the successful implementation of priority disease programmes. Possibilities for investment in human resources in the Global Fund's policy documents and guidelines are reviewed. This is followed by an in-depth study of 35 Global Fund proposals from five African countries: Ethiopia, Ghana, Kenya, Malawi and Tanzania. The discussion presents specific human resources interventions that can be found in proposals. Finally, the comments on human resources interventions in the Global Fund's Technical Review Panel and the budget allocation for human resources for health were examined. Policy documents and guidelines of the Global Fund foster taking account of human resources constraints in recipient countries and interventions to address them. However, the review of actual proposals clearly shows that countries do not often take advantage of their opportunities and focus mainly on short-term, in-service training in their human resources components. The comments of the Technical Review Panel on proposed health system-strengthening interventions reveal a struggle between the Global Fund's goal to fight the three targeted diseases, on the one

hand, and the need to strengthen health systems as a prerequisite for success, on the other. The authors conclude that in realizing the opportunities the Global Fund provides for human resources interventions, countries should go beyond short-term objectives and link their activities to a long-term development of their human resources for health. **Editors' note: This analysis should receive attention at the Global Fund board and is a definite heads-up for countries preparing for the next round.**

7. Infant feeding

Orne-Gliemann J, Mukotekwa T, et al. Community-based assessment of infant feeding practices within a programme for prevention of mother-to-child HIV transmission in rural Zimbabwe. *Public Health Nutr* 2006;9:563-69.

Orne-Gliemann and colleagues describe the infant feeding practices and attitudes of women who used prevention of mother-to-child transmission of HIV (PMTCT) services in rural Zimbabwe. They conducted a cross-sectional study including structured interviews and focus group discussions between June 2003 and February 2004 in Murambinda Mission Hospital (Buhera District, Manicaland Province), the first site offering PMTCT services in rural Zimbabwe. The interviews targeted HIV-infected and HIV-negative women who received prenatal HIV counselling and testing and minimal infant feeding counselling, and who delivered between 15 August 2001 and 15 February 2003. Focus groups were conducted among young and elderly men and women. Overall, 71 HIV-infected and 93 HIV-negative mothers were interviewed in clinics or at home. Most infants (97%) had ever been breast-fed. HIV-negative mothers introduced fluids/foods other than breast milk significantly sooner than HIV-infected mothers (median 4.0 vs. 6.0 months, $P=0.005$). Infants born to HIV-negative mothers were weaned significantly later than HIV-exposed infants (median 19.0 vs. 6.0 months, $P<0.0001$). More than 90% of mothers reported that breast-feeding their infant was a personal decision, a third of whom also mentioned having taken into account health workers' messages. The authors conclude that the HIV-infected mothers interviewed were gradually implementing infant feeding practices recommended in the context of HIV. Increased infant feeding support capacity in resource-limited rural populations is required, i.e. training of counselling staff, decentralised follow-up and weaning support.

8. Risk assessment

Bailey A, Hutter I. Cultural heuristics in risk assessment of HIV. *Cult Health Sex* 2006;8:465-77.

Behaviour change models in HIV prevention tend to consider that risky sexual behaviours reflect risk assessments and that by changing risk assessments behaviour can be changed. Risk assessment is however culturally constructed. Individuals use heuristics or bounded cognitive devices derived from broader cultural meaning systems to rationalize uncertainty. In this study Bailey and Hutter identified some of the cultural heuristics used by migrant men in Goa, India to assess their risk of HIV infection from different sexual partners. Data derives from a series of in-depth interviews and a locally informed survey. Cultural heuristics identified include visual heuristics, heuristics of gender roles, vigilance and trust. The paper argues that, for more culturally informed HIV behaviour change interventions, knowledge of cultural heuristics is essential. **Editors' note: Heuristics (a good word to impress your**

friends with, pronounced 'hyu-RIS-tik', from the Greek 'heuriskein' meaning 'to discover') are basically rules of thumb. We clearly need to know more about the specific heuristics used by people to guide their risk assessments - yet another reason for engaging people in programme design rather than 'intervening'.

9. Young people

Sayles JN, Pettifor A, et al. Factors associated with self-efficacy for condom use and sexual negotiation among South African youth. *J Acquir Immune Defic Syndr* 2006 Aug 31[Epub ahead of print]

Sayles and colleagues assessed factors associated with high self-efficacy for sexual negotiation and condom use in a sample of South African youth. They used the Reproductive Health and HIV Research Unit National Youth Survey which examined a nationally representative sample of 7409 sexually active South African youth aged 15 to 24 years. Among female respondents (n = 3890), factors associated with high self-efficacy in the adjusted model were knowing how to avoid HIV (OR 2.30, 95% CI 1.05-5.00), having spoken with someone other than a parent or guardian about HIV (OR 1.46, 95% CI 1.01-2.10), and having life goals (OR 1.28, 95% CI 1.10-1.48). Not using condoms during their first sexual encounter (OR 0.61, 95% CI 0.50-0.76), a history of unwanted sex (OR 0.66, 95% CI 0.51-0.86), and believing that condom use implies distrust in one's partner (OR 0.57, 95% CI 0.51-0.86) were factors associated with low self-efficacy among female respondents. Male respondents (n = 3519) with high self-efficacy were more likely to take HIV seriously (OR 4.03, 95% CI 1.55-10.52), to believe they are not at risk for HIV (OR 1.38, 95% CI 1.12-1.70), to report that getting condoms is easy (OR 1.85, 95% CI 1.23-2.77), and to have life goals (OR 1.30, 95% CI 1.10-1.54). Not using condoms during their first sexual experience (OR 0.51, 95% CI 0.39-0.67), a history of having unwanted sex (OR 0.47, 95% CI 0.34-0.64), believing condom use is a sign of not trusting one's partner (OR 0.63, 95% CI 0.46-0.87), and refusing to be friends with HIV-infected persons (OR 0.52, 95% CI 0.32-0.85) were factors associated with low self-efficacy among male respondents in the fully adjusted model. In conclusion, the authors used the social cognitive model to identify factors associated with self-efficacy for condom use and sexual negotiation. Many of these factors are modifiable and suggest potential ways to improve self-efficacy and reduce HIV sexual risk behaviour in South African youth. **Editors note: Having life goals was associated with high self-efficacy for sexual negotiation and condom use for both sexes - building on this could very well make condoms more attractive - as in 'get a life, use a condom'.**

Bertrand JT, Anhang R. The effectiveness of mass media in changing HIV-related behaviour among young people in developing countries. *World Health Organ Tech Rep Ser* 2006;938:205-41.

Bertrand and colleagues reviewed the strength of the evidence for the effects of three types of mass media interventions (radio only, radio with supporting media, or radio and television with supporting media) on HIV-related behaviour among young people in low- and middle-income countries and assessed whether these interventions reach the threshold of evidence needed to recommend widespread implementation. The authors conducted a systematic review of studies that evaluated mass media interventions and were published or released between 1990 and 2004. Studies were included if they evaluated a mass media campaign that had the main objective of providing information about HIV or sexual health.

To be eligible for inclusion studies had to use a pre-intervention versus post-intervention design or an intervention versus control design or analyse cross-sectional data comparing those who had been exposed to the campaign with those who had not been exposed. Studies also had to comprehensively report quantitative data for most outcomes. Of the 15 programmes identified, 11 were from Africa, 2 from Latin America, 1 from Asia, and 1 from multiple countries. One programme used radio only, 6 used radio with supporting media, and 8 others used television and radio with supporting media. The data support the effectiveness of mass media interventions to increase the knowledge of HIV transmission, to improve self-efficacy in condom use, to influence some social norms, to increase the amount of interpersonal communication, to increase condom use and to boost awareness of health providers. Fewer significant effects were found for improving self-efficacy in terms of abstinence, delaying the age of first sexual experience or decreasing the number of sexual partners. The authors conclude that mass media programmes can influence HIV-related outcomes among young people, although not on every variable or in every campaign. Campaigns that include television require the highest threshold of evidence, yet they also yield the strongest evidence of effects. This suggests that comprehensive mass media programmes are valuable. **Editors' note: Figuring out what mass media can and cannot achieve in specific contexts is important. Decision-makers often like the visibility of mass media campaigns but the effects may not be all they envisage.**

10. HIV testing

Romero-Gutierrez G, Delgado-Macias AA, et al. Mexican women's reasons for accepting or declining HIV antibody testing in pregnancy. *Midwifery* 2006 Aug 21[Epub ahead of print] <http://www.sciencedirect.com/>

Romero-Gutierrez and colleagues determined pregnant women's reasons for accepting or declining the HIV test in Leon, Mexico, in a cross-sectional study using a face-to-face questionnaire. 1009 of 1184 (85.2%) women accepted the HIV test. The main reason for accepting was the feeling that the test could be beneficial to their babies (45.1%). The two main reasons for women rejecting the HIV test were the belief that their husbands did not have sexual intercourse with other women (32.6%) and lack of permission from their husbands for the test (23.5%). None of the women tested positive for HIV. The authors conclude that the reasons for accepting the HIV test were similar to those reported in developed countries. The acceptance rate for HIV testing in pregnant women could be improved by counselling men on the value of their wives being tested in pregnancy.

11. HIV vaccines

Amirfar S, Hollenberg JP, Karim SS. Modeling the Impact of a Partially Effective HIV Vaccine on HIV Infection and Death Among Women and Infants in South Africa. *J Acquir Immune Defic Syndr* 2006 Aug 31; [Epub ahead of print]

Amirfar assessed the potential impact over 10 years of a partially effective HIV vaccine in a cohort of 15-year-old adolescent girls in South Africa in terms of HIV infections and deaths prevented in mothers and infants. They constructed a computer simulation using a population of all 15-year-old adolescent girls in South Africa followed for 10 years. A partially effective vaccine was introduced into this population, with the ability to reduce the HIV incidence rates of the adolescents and vertical transmission to their infants through birth and breast-

feeding. At the end of this 10 year period, the number of HIV infections and death prevented in adolescents and infants was analyzed. Using a 5% HIV incidence rate, a 50% effective vaccine decreases the number of HIV cases among adolescents by 57,653 (28.7%) and the number of cases among infants by 13,765 (28.9%) over 10 years. In addition, assuming a vaccine cost of \$20 per dose, the vaccination programme can save approximately \$120 million for the South African government over 10 years. The authors conclude that a partially effective HIV vaccine could play an important role in HIV prevention in adolescents and infants in South Africa irrespective of other public policy implementations. **Editors' note: Thousands of people worldwide are working toward an HIV vaccine. Let's plan on seeing these types of effects in evidence in our lifetimes.**

That was *HIV This Week*, signing off.

Editors' notes on journal access

For readers in all countries:

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