

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

Welcome to the forty-sixth issue of **HIV This Week!** In this issue, we cover **human resources for health** (how Botswana has taken the bull by the horns and avoided doctor poaching; what work force would it take for everyone who needed treatment in Mozambique to get it?; why effective HIV prevention is so critical for universal access to treatment in Africa), **people living with HIV** (what cell phones could do for antiretroviral drug adherence and HIV risk reduction in Peru), **basic science** (X4 viruses and HIV progression: what is the link?; your genetic makeup predicts whether you will get skin rashes from nevirapine or efavirenz; can we make a vaccine against HIV drug resistance?), **treatment** (women at the head of the pack in Africa, Latin America, and Asia; measuring integration of prevention of mother-to-child transmission programmes with ongoing care for mothers and children in 18 resource-limited countries), **male circumcision** (direct from Zimbabwe and Uganda: the jury is still out on direct HIV benefits for women; does male circumcision protect men who have sex with men?), **sexual transmission** (are women more likely to transmit in the second half of the month?), and **serostatus disclosure** (community/home-based care programmes increase disclosure in South Africa; who, when, and how to talk with Shona children in Eastern Zimbabwe about their own status, their parents' status, and grief).

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

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### **1. Human resources for health**

Dreesch N, Nyoni J, Mokopakgosi O, Seipone K, Kalilani JA, Kaluwa O, Musowe V. Public-private options for expanding access to human resources for HIV/AIDS in Botswana. *Hum Resour Health* 2007;5:25.

In responding to the goal of rapidly increasing access to antiretroviral treatment (ART), the government of Botswana undertook a major review of its health systems options to increase access to human resources, one of the major bottlenecks preventing people from receiving

treatment. In mid-2004, a team of government and World Health Organization (WHO) staff reviewed the situation and identified a number of public sector scale up options. The team also reviewed the capacity of private practitioners to participate in the provision of antiretroviral treatment. Subsequently, the government created a mechanism to include private practitioners in rolling out antiretroviral treatment. At the end of 2006, more than 4500 patients had been transferred to the private sector for routine follow up. It was estimated that the cooperation reduced the immediate need for recruiting up to 40 medically qualified staff into the public sector over the coming years, depending on the development of the national standard for the number and duration of patient visits to a doctor per year. Thus welcome relief was brought, while at the same time not exercising a pull factor on human resources for health in the sub-Saharan region. **Editors' note: In shifting thousands of patients into the private sector for treatment, the Botswana government is using the whole health system (both public and private) to optimize available resources and outsource part of its response to demand for HIV care. This avoids both longer term public sector staffing commitments and hiring staff from neighbouring countries which would have contributed to regional shortages. Equitable access and fairness in service delivery are respected with access to antiretroviral drugs free for all patients.**

Hagopian A, Micek MA, Vio F, Gimbel-Sherr K, Montoyo P. What if we decided to take care of everyone who needed treatment? Workforce planning in Mozambique using simulation of demand for HIV/AIDS care. *Hum Resour Health*. 2008;6(1):3. Epub ahead of print.

The growing HIV epidemic in southern Africa is placing an increased strain on health systems, which are experiencing steadily rising patient loads. Health care systems are tackling the barriers to serving large populations in scaled-up operations. One of the most significant challenges in this effort is securing the health care workforce to deliver care in settings where the manpower is already in short supply. Hagopian and colleagues have produced a demand-driven staffing model using simple spreadsheet technology, based on treatment protocols for HIV-positive patients that adhere to Mozambican guidelines. The model can be adjusted for the volumes of patients at differing stages of their disease, varying provider productivity, proportion who are pregnant, attrition rates, and other variables. The model projects the need for health workers using three different kinds of goals: 1) the number of patients to be placed on antiretroviral therapy, 2) the number of HIV-positive patients to be enrolled for treatment, and 3) the number of patients to be enrolled in a treatment facility per month. The authors propose three scenarios, depending on numbers of patients enrolled. The first scenario starts with 8000 patients on antiretroviral therapy and increases that number to 58 000 at the end of three years (those were the goals for the country of Mozambique). This would require thirteen clinicians and just over ten nurses by the end of the first year, and 67 clinicians and 47 nurses at the end of the third year. A second scenario starts with 34 000 patients enrolled for care (not all of them on antiretroviral therapy), and increases to 94 000 by the end of the third year, requiring a growth in clinician staff from 18 to 28. A third scenario starts a new clinic and enrolls 200 new patients per month for three years, requiring 1.2 clinicians in year 1 and 2.2 by the end of year 3. Other clinician types in the model include nurses, social workers, pharmacists, phlebotomists, and peer counsellors. This planning tool could lead to more realistic and appropriate estimates of workforce levels required to provide high-quality HIV care in low-resource settings. **Editors' note: This modelling work calculates incremental**

workforce needs for scaling up HIV care but excludes HIV testing, prevention of mother-to-child transmission, tuberculosis treatment, home care, blood banks, mental health, antenatal care, sexually transmitted infection care and inpatient care. It is helpful nonetheless as a planning tool for down-to-earth estimates of workforce requirements and may stimulate a closer look at strategies such as cross-training and task-shifting to meet workforce needs.

Bärnighausen T, Bloom DE, Humair S. Human Resources for Treating HIV/AIDS: Needs, Capacities, and Gaps. *AIDS Patient Care STDS* 2007;21:799-812.

Despite recent international efforts to scale-up antiretroviral treatment (ART), more than 5 million people needing ART in low- and middle-income countries (LMIC) do not receive it. Limited human resources to treat HIV are one of the main constraints to achieving universal ART coverage. Bärnighausen and colleagues model the gap between needed and available human resources to treat HIV in order to quantify the challenge of achieving and sustaining universal ART coverage by 2017. The authors estimate the human resources gap in low- and middle-income countries using recently published estimates of ART coverage, HIV incidence, health-worker emigration rates, mortality rates of people needing antiretroviral treatment, and numbers of human resources needed to treat 1000 ART patients (based on review studies, 2006). The authors project the gap in human resources to treat HIV in 10 years (2017) using a simple discrete-time model with a health worker pool replenished through education and depleted through emigration/death; a population needing antiretroviral treatment replenished with a given HIV incidence rate; and higher survival rates for treated populations. The authors analyzed the effects of varying assumptions about inflows and outflows of human resources to treat HIV and the evolution of the HIV pandemic in three different regional base cases (sub-Saharan Africa, non-sub-Saharan African low- and middle-income countries, and South Africa). Current ART coverage for low- and middle-income countries is around 28%-32% and, if all things equal, it will drop to 16%-19% by 2017 with constant current production rates of human resources to treat HIV. A naive model, ignoring the increased survival probability resulting from ART, suggests that approximately the current number of human resources in ART services needs to be added every year for the next ten years to achieve universal coverage by 2017. In a model accounting for increased survival of treated patients, outcomes vary by region; sub-Saharan Africa requires two times, non-sub-Saharan African low-and-middle-income countries require 1.5 times and South Africa requires more than three times their respective current populations of human resources for HIV care to be added every year for the next 10 years to achieve universal coverage by 2017. Even if achieved by 2017, sustaining universal coverage requires further increases in human resources for HIV care until the system reaches steady state. ART coverage is sensitive to human resources inflow and emigration. The authors' model quantifies the challenge of closing the human resources for HIV care gap in low- and middle-income countries. It shows that strategies to achieve universal ART coverage must account for feedback due to higher survival probabilities of people receiving antiretroviral treatment. It suggests that universal ART coverage is unlikely to be achieved and sustained with increased inflows in human resources for HIV care alone, but will require decreased human resources outflows, substantially reduced HIV incidence, or changes in the nature or organization of care. Means to decrease emigration outflows in human resources for HIV care include scholarships for health-care education that are conditional on the recipient delivering ART in a country with high ART need for a number of years, training health workers who are not

internationally mobile, or changing recruitment policies in countries receiving health workers from the developing world. Effective organizational changes include those that reduce the number of human resources required to treat a fixed number of patients on ART. Given the large number of health workers that even optimistic assumptions suggest will be needed in ART services in the coming decades, policymakers must ensure that the flow of workers into ART programs does not jeopardize the provision of other important health services. **Editors' note: Strategies to achieve universal access to antiretroviral therapy must take into account the effects of increased patient survival when projecting human resource needs. This modelling work demonstrates why decreasing HIV incidence through effective prevention is key to ensuring that antiretroviral treatment coverage, based on the numbers in treatment compared to the number in need, does not fall tragically from current levels over the next decade. Innovative solutions to current health worker shortages are needed now both to ensure expanded access to ART and improve general health care delivery.**

## **2. People living with HIV**

Curioso WH, Kurth AE. Access, use and perceptions regarding Internet, cell phones and PDAs as a means for health promotion for people living with HIV in Peru. *BMC Med Inform Decis Mak* 2007;7:24.

Internet tools, cell phones, and other information and communication technologies are being used by HIV-positive people on their own initiative. Little is known about the perceptions of HIV-positive people towards these technologies in Peru. The purpose of this paper is to report on perceptions towards use of information and communication technologies as a means to support antiretroviral medication adherence and HIV transmission risk reduction. Curioso and Kurth conducted a qualitative study (in-depth interviews) among adult people living with HIV in two community-based clinics in Peru. 31 HIV-positive individuals in Lima were interviewed (n = 28 men, 3 women). They found that people living with HIV in Peru are using tools such as cell phones, and the internet (via e-mail, chat, list-serves) to support their HIV care and to make social and sexual connections. In general, they have positive perceptions about using the Internet, cell phones, and PDA for HIV health promotion interventions. The authors conclude that health promotion interventions using information and communication technology tools among people living with HIV in resource-constrained settings may be acceptable and feasible, and can build on existing patterns of use. **Editors' note: Cell phone communication infrastructure is already in place in most low-and-middle-income countries so determining whether cell phone delivered behavioural support would be effective in improving adherence to treatment and HIV risk reduction makes sense. The first step is determining whether using cell phone technology for health promotion is acceptable and culturally relevant. This seems to be the case in Lima, Peru, despite the small sample size in this study.**

## **3. Basic science**

Weiser B, Philpott S, Klimkait T, Burger H, Kitchen C, Burgisser P, Gorgievsk M, Perrin L, Piffaretti JC, Ledergerber B, the Swiss HIV Cohort Study. HIV-1 coreceptor usage and CXCR4-specific viral load predict clinical disease progression during combination antiretroviral therapy. *AIDS* 2008; 22(4):469-479.

Although combination antiretroviral therapy dramatically reduces rates of AIDS and death, a minority of patients experience clinical disease progression during treatment. Weiser and colleagues aimed to investigate whether detection of CXCR4(X4)-specific strains or quantification of X4-specific HIV-1 load predict clinical outcome. From the Swiss HIV Cohort Study, 96 participants who initiated combination antiretroviral therapy yet subsequently progressed to AIDS or death were compared with 84 contemporaneous, treated nonprogressors. A sensitive heteroduplex tracking assay was developed to quantify plasma X4 and CCR5 variants and resolve HIV-1 load into coreceptor-specific components. Measurements were analyzed as cofactors of progression in multivariable Cox models adjusted for concurrent CD4 cell count and total viral load, applying inverse probability weights to adjust for sampling bias. Patients with X4 variants at baseline displayed reduced CD4 cell responses compared with those without X4 strains (40 versus 82 cells/ $\mu$ l;  $P = 0.012$ ). The adjusted multivariable hazard ratio (HR) for clinical progression was 4.8 [95% confidence interval (CI) 2.3-10.0] for those demonstrating X4 strains at baseline. The X4-specific HIV-1 load was a similarly independent predictor, with HR values of 3.7 (95% CI, 1.2-11.3) and 5.9 (95% CI, 2.2-15.0) for baseline loads of 2.2-4.3 and  $> 4.3$  log<sub>10</sub> copies/ml, respectively, compared with  $< 2.2$  log<sub>10</sub> copies/ml. In conclusion, HIV-1 coreceptor usage and X4-specific viral loads strongly predicted disease progression during combination antiretroviral therapy, independent of and in addition to CD4 cell count or total viral load. Detection and quantification of X4 strains promise to be clinically useful biomarkers to guide patient management and study HIV-1 pathogenesis. **Editors' note: HIV-1 requires two receptors to infect cells: CD4 is the primary receptor, with chemokine receptors CCR5 and CXCR4 serving as co-receptors. CCR5 using viruses (called R5 viruses) are those most commonly transmitted between people but after years of infection CXCR4-using strains (X4 viruses) are detected in half of people living with HIV and often predict CD4 cell depletion and accelerated disease progression. This study suggests that an assay detecting a high fraction of viruses using the X4 coreceptor early in the course of infection could be clinically useful; clinical trials are now needed to evaluate whether early treatment of asymptomatic people with CD4 counts above 350 cells/ $\mu$ l who harbor X4 strains can reduce HIV-1 levels and slow disease progression.**

Vitezica, Zulma G; Milpied, Brigitte; Lonjou, Christine; Borot, Nicolas; Ledger, Terence Niel; Lefebvre, Anne; Hovnanian, Alain. HLA-DRB1\*01 associated with cutaneous hypersensitivity induced by nevirapine and efavirenz. AIDS 2008;22(4):540-541.

HLA typing, demographic and immunological risk factors for nevirapine and efavirenz reactions were studied in a French cohort of HIV patients. Cases with isolated rash were significantly associated with HLA-DRB1\*01 allele. No liver toxicity was observed and no association was detected with the percentage of CD4 T-cells. This study suggests that HLA-DRB1\*01 allele plays an important role in susceptibility to cutaneous reactions associated with nevirapine and efavirenz in HIV patients. **Editors' note: Being able to detect which patients are more likely to develop rashes with the first line non-nucleoside reverse transcriptase inhibitor (NNRTI) drugs nevirapine (NVP) and efavirenz (EFV) would be very useful clinically. Between 20-35% of patients on nevirapine and 32% of patients on efavirenz develop cutaneous hypersensitivity reactions within 6 weeks of treatment initiation and need to be switched to other drugs. This small study of 21 patients should be confirmed and, although its findings are promising, there is a way to go before genetic screening of human leukocyte antigen (HLA) markers to detect such**

susceptibility can be turned into a diagnostic test which would help decrease or eliminate this problem.

Boberg A, Isaguliantz M Vaccination against drug resistance in HIV infection. *Expert Rev Vaccines*. 2008;7(1):131-45.

HIV-1 resistance to currently employed antiretroviral drugs and drug-associated adverse reactions and toxicity point to a need for additional measures to control HIV-1 replication in HIV-infected patients. The immune system of HIV-infected individuals mount an immune response against the regions harboring drug-resistance mutations, sometimes stronger than that against the parental wild-type sequences. A potent cross-reactive immune response against drug-resistant pol proteins can suppress the replication of drug-escaping HIV. This suggests the possibility for a vaccination against existing and anticipated drug-resistant HIV variants. If successful, therapeutic vaccines against drug resistance would ease the therapeutic modalities and limit the spread of drug-resistant HIV. A better understanding of the complex interactions between patterns of drug-resistance mutations, immune responses against these mutations and their antigen presentation by particular human lymphocyte antigen alleles could help to tailor these vaccines after new drugs/new mutations. In this review, we describe the developments in the field of immunization against mutations conferring drug resistance and evaluate their prospects for human vaccination. **Editors' note: None of the therapeutic vaccine concepts and vaccination strategies tested thus far (subunit protein and DNA vaccines, live-vectored recombinant vaccines and various prime-boost vaccine combinations) have targeted drug-resistant HIV variants. Such a strategy would aim to induce immune pressure which would act synergistically with antiretroviral drugs. Ideally such a therapeutic vaccine would stimulate a strong cross-reactive immune response against both the wild-type and drug-escape HIV variants. Pie in the sky? Boberg and Isaguliantz think this is feasible.**

#### 4. Treatment

Braitstein P, Boule A, Nash D, Brinkhof MW, Dabis F, Laurent C, Schechter M, Tuboi SH, Sprinz E, Miotti P, Hosseinipour M, May M, Egger M, Bangsberg DR, Low N; the Antiretroviral Therapy in Lower Income Countries (ART-LINC) Study Group. Gender and the Use of Antiretroviral Treatment in Resource-Constrained Settings: Findings from a Multicenter Collaboration. *J Womens Health (Larchmt)* 2008;17(1):47-55.

Braitstein and colleagues aimed to compare the gender distribution of HIV-infected adults receiving highly active antiretroviral treatment (HAART) in resource-constrained settings with estimates of the gender distribution of HIV infection; and to describe the clinical characteristics of women and men receiving HAART. The Antiretroviral Therapy in Lower-Income Countries, ART-LINC Collaboration is a network of clinics providing HAART in Africa, Latin America, and Asia. The authors compared UNAIDS data on the gender distribution of HIV infection with the proportions of women and men receiving HAART in the ART-LINC Collaboration. Twenty-nine centers in 13 countries participated. Among 33,164 individuals, 19,989 (60.3%) were women. Proportions of women receiving HAART in ART-LINC centers were similar to, or higher than, UNAIDS estimates of the proportions of HIV-infected women in all but two centers. There were fewer women receiving HAART than expected from UNAIDS data in one center in Uganda and one center in India. Taking into account heterogeneity across cohorts, women were younger than men, less likely to have advanced HIV infection, and more likely to be anaemic at HAART initiation. The authors conclude that,

women in resource-constrained settings are not necessarily disadvantaged in their access to HAART. More attention needs to be paid to ensuring that HIV-infected men are seeking care and starting HAART. **Editors' note: It is only through the collection of sex-disaggregated data that assessments can be made of the comparative participation of women and men in the benefits of antiretroviral scale-up. This 13 country study found a similar preponderance of women on antiretroviral treatment as has been reported in Southern Africa. One explanation is that women are accessing health services more frequently than men, particularly sexual and reproductive health services where HIV testing may be more likely to be offered.**

Ginsburg AS, Hoblitzelle CW, Sripipatana TL, Wilfert CM. Provision of care following prevention of mother-to-child HIV transmission services in resource-limited settings. *AIDS* 2007;21:2529-32.

The objective of the study was to evaluate the provision of care for mother and child after institution of prevention of mother-to-child transmission (PMTCT) of HIV services. As part of an effort to improve services, Ginsburg and colleagues undertook a review of the multicountry PMTCT program. Review of key indicators from the PMTCT database and reporting practices from January 2005 to June 2006 throughout 18 resource-limited countries. 1 066 606 pregnant women were counselled and tested, and 102 336 tested HIV-positive. Antiretroviral prophylaxis was dispensed to 81 384 mothers and 52 342 HIV-exposed infants. From available reporting, 1388 pregnant women were dispensed antiretroviral drugs for treatment and 9060 children received cotrimoxazole prophylaxis at 6 weeks. In conclusion, PMTCT services are integrated into maternal-child health services but adult and paediatric care and treatment programmes often function independently, without coordination or linkages. Integrating care into maternal-child health services and linking mother's HIV status to child are necessary for HIV-infected mothers and HIV-exposed children to receive appropriate follow-up and treatment. **Editors' note: HIV-infected mothers and their HIV-exposed infants can be lost to follow up if antenatal services offering prevention of mother-to-child transmission programmes are not linked to HIV care and treatment services. Monitoring the percentage of HIV-exposed infants on cotrimoxazole at 6 weeks of age when diagnostic HIV DNA polymerase chain reaction (PCR) testing may be offered, at first immunization visit, and at the time of weaning from breastfeeding around 6 months of age would provide an indication of infant follow-up. Likewise, it is important to monitor the numbers of women in need of treatment that are started on antiretroviral treatment in pregnancy or who have higher CD4 counts and are referred for follow-up post pregnancy and are counselled about contraceptive choices. To prevent unplanned pregnancy, counselling about contraceptive choices post-partum should be standard for all women, regardless of serostatus.**

## **5. Male Circumcision**

Turner AN, Morrison CS, Padian NS, Kaufman JS, Salata RA, Chipato T, Mmiro FA, Mugerwa RD, Behets FM, Miller WC. Men's circumcision status and women's risk of HIV acquisition in Zimbabwe and Uganda. *AIDS* 2007;21:1779-89.

Turner and colleagues aimed to assess whether male circumcision of the primary sex partner was associated with women's risk of HIV. Data were analyzed from 4417 Ugandan and Zimbabwean women participating in a prospective study of hormonal contraception and HIV acquisition. Most were recruited from family planning clinics; some in Uganda were referred

from higher-risk settings such as sexually transmitted disease clinics. Using Cox proportional hazards models, time to HIV acquisition was compared for women with circumcised or uncircumcised primary partners. Possible misclassification of male circumcision was assessed using sensitivity analysis. At baseline, 74% reported uncircumcised primary partners, 22% had circumcised partners, and 4% had partners of unknown circumcision status. Median follow-up was 23 months, during which 210 women acquired HIV (167, 34, and 9 women whose primary partners were uncircumcised, circumcised, or of unknown circumcision status, respectively). Although unadjusted analyses indicated that women with circumcised partners had lower HIV risk than those with uncircumcised partners, the protective effect disappeared after adjustment for other risk factors [hazard ratio (HR), 1.03; 95% confidence interval (CI), 0.69-1.53]. Subgroup analyses suggested a non-significant protective effect of male circumcision on HIV acquisition among Ugandan women referred from higher-risk settings: adjusted HR 0.16 (95% CI, 0.02-1.25) but little effect in Ugandans (HR, 1.33; 95% CI, 0.72-2.47) or Zimbabweans (HR, 1.12; 95% CI, 0.65-1.91) from family planning clinics. In conclusion, after adjustment, male circumcision was not significantly associated with women's HIV risk. The potential protection offered by male circumcision for women recruited from high-risk settings warrants further investigation.

**Editors' note: Although an earlier Uganda study demonstrated that HIV-positive men who were circumcised were less likely to transmit HIV to their regular partners, this study found no such effect. It attempted to look at HIV acquisition in women enrolled in a hormonal contraceptive study by circumcision status of partners (as reported by the women). That the serostatus of male partners was not always known (the paper does not report the % of women who knew their partners' HIV status), that circumcision status was not confirmed by visual inspection, and that the study was not designed to answer this question in the first place should be noted. Finding out whether male circumcision, which reduces the risk of HIV acquisition in men by 60%, has HIV-related benefits for women is a burning question. Women whose partners are circumcised are less likely to develop cancer of the cervix, a major killer in low-and-middle-income countries, but learning whether there are additional benefits, beyond the eventual drop in HIV prevalence among males, remains a key research challenge.**

Fankem SL, Wiysonge CS, Hankins CA. Male circumcision and the risk of HIV infection in men who have sex with men. *Int J Epidemiol* 2007 Oct 19; Epub ahead of print.

Fankem and colleagues undertook a systematic review to describe the association between male circumcision and HIV acquisition in men who have sex with men. The findings were consistent between the two studies which met the inclusion criteria, with a pooled odds ratio of 0.49 (95% CI 0.32-0.73), suggesting a strong association between male circumcision and lower HIV among men who have sex with men. The observational nature of the studies included in this systematic review raised the possibility that the observed effect might be due to confounding factors not measured (and therefore not controlled for) in the studies, rather than being the result of a biological effect of male circumcision. In addition, ascertainment bias can be a problem in any study of male circumcision based on self-report because in some settings self-report has been found to have poor sensitivity and specificity for ascertaining real circumcision status. There is need for randomized controlled trials to find out if circumcised men who have sex with men are both at lower risk of HIV acquisition themselves and, if infected, less likely to transmit HIV than uncircumcised men who have sex with men. **Editors' note: If there is a direct benefit for male circumcision among men**

who have sex with men, it will likely be for the insertive partner, if we extrapolate from the results of randomized controlled trials among heterosexual men. Finding men who have sex with men who are exclusively insertive during sex may be a challenge in some settings. A recent study in South America found that as much as 40% of men who have sex with men were both exclusively insertive and interested in participating in a clinical trial evaluating male circumcision for HIV risk reduction.

## 6. *Sexual transmission*

Benki S, Mostad SB, Richardson BA, Mandaliya K, Kreiss JK, Overbaugh J. Increased Levels of HIV-1-Infected Cells in Endocervical Secretions After the Luteinizing Hormone Surge. *J Acquir Immune Defic Syndr*. 2008 Jan 17; Epub ahead of print.

Levels of HIV-1 RNA in endocervical specimens fluctuate with the menstrual cycle, suggesting that cell-free HIV-1 levels may vary during the cycle, which could influence infectivity. Here, Benki and colleagues examined daily changes in endocervical HIV-1-infected cells during 1 cycle. There were significant positive associations between the number of days from the luteinizing hormone surge and the number of HIV-1 DNA copies/swab ( $P = 0.001$ ) and the number of total cells/swab ( $P < 0.001$ ) in endocervical specimens. These data suggest that sampling of cell-associated endocervical HIV-1 increases after the periovulatory period, which could result in increased exposure to HIV-1-infected cells during sexual contact. **Editors' note: This quantitative analysis of endocervical HIV-1-infected cell levels during the menstrual cycle is a first. Although there is a possibility that the differences seen could be due to changes in the level of endocervical secretions during the menstrual cycle rather than a direct effect of hormonal changes in the luteal phase (second half of the menstrual cycle), the finding that cell-free and cell-associated virus increase as menses is approaching is clear. It is therefore likely that pre-menopausal women are more infectious following the luteinising hormone surge which occurs around ovulation.**

## 7. *Serostatus disclosure*

Ncama BP. Acceptance and disclosure of HIV status through an integrated community/home-based care program in South Africa. *Int Nurs Rev* 2007;54(4):391-7

This was a comparative study of acceptance and disclosure of the HIV status among people living with HIV (PLHIV) served by an integrated community/home-based care programme and those who are not in any home-based care programme. One of the major challenges in HIV care in developing countries is acceptance and disclosure of a positive HIV status by PLHIV. Denial and non-disclosure of HIV status hinders prevention efforts as well as access to treatment, care and support for these people. Quantitative data were collected in 2004 from a group of PLHIV served by the integrated community/home-based care programme and a group that was not receiving any community/home-based care. Data were compared between the two groups in terms of acceptance and disclosure of HIV status. The integrated community/home-based care programme was effective in improving acceptance and disclosure of the HIV-positive status by PLHIV. People living with HIV in the integrated community/home-based care programme did not find disclosure of their status difficult, and had disclosed their positive HIV status to more people than those who were not in any programme. PLHIV in the integrated community/home-based care programme not only disclosed their positive HIV status within their family network and households, but also disclosed to the community in general, sports group, religious groups and other social

networks. Ncama and colleagues conclude that community/home-based care programmes can serve as catalysts for acceptance and disclosure of a positive HIV status by people living with HIV. **Editors' note: Home-based care services such as this one can foster an individual's acceptance of his/her HIV status. Disclosure of one's HIV status, which is linked to acceptance of an HIV-positive diagnosis, is the first step in accessing family and community support. The more that people can come to terms with and disclose their HIV status, the more likely it is that their community's awareness, openness, and understanding about HIV will increase, particularly in the context of access to care and treatment for those in need.**

De Baets AJ, Sifovo S, Parsons R, Pazvakavambwa IE. HIV disclosure and discussions about grief with Shona children: A comparison between health care workers and community members in Eastern Zimbabwe. *Soc Sci Med* 2008; 66: 479-491.

Research in HIV-related counselling for African children has concentrated on urban tertiary hospitals, but most children have their first health care encounter at a rural primary health care centre. This study investigated perceptions about the acceptability of disclosing the parents' or child's HIV status to a child and talking about grief with children, as well as the preferred time, type, and setting for HIV disclosure. An anonymous survey was taken from 64 primary health care workers and 131 community members from rural Eastern Zimbabwe. The results expressed a high need and desire for such communications and should be interpreted against a background of high perceived confidence to talk about grief with adults and a high degree of familiarity with child bereavement and foster care. The participants preferred that partial disclosure occurs from the age of 10.8 (+/-4.2) years and full disclosure from the age of 14.4 (+/-4.5) years. Compared to community members, health care workers were significantly more open to full disclosure and disclosure at a younger age but were slightly less open to discussing grief. The different preferred combinations of persons to initiate such communications included a health care worker in up to 56% of the responses and a family member in up to 52%. The most commonly preferred family members were father's sister (up to 37%) and grandmother (up to 40%) rather than the partner (up to 15%). Southern African family dynamics may hinder a mother initiating HIV disclosure and discussions about grief, even though she is traditionally present during HIV diagnosis, counselling, and health education. A more culturally adapted approach than the standard Western 'couple approach' may thus be required. Consequently, counselling training models may need to be adapted. Further research into empowering mothers to involve significant members from the extended family may be highly beneficial. **Editors' note: The high acceptability of disclosure to children of their own and/or their parents' serostatus and the perceived need for open communication about grief seen in this study contrasts with assumptions that there is great stigma in rural communities. Accommodating cultural sensitivities means that health care workers should ask the parents to bring the most appropriate family member to attend the child's counselling sessions, unless parents prefer to initiate HIV disclosure and discussions about grief with their own children without any assistance - one third preferred this option in this study.**

That was *HIV this week*, signing off.

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*Editors' notes on journal access:*

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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/>  
Email: [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 homepage 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>.

