HIV This Week: what scientific journals said

Welcome to the 64th issue of HIV This Week! In this issue, we cover couples and partners (the poor state of the evidence on couple-focused prevention; increased notifying of locatable sexual partners about HIV exposure in the US but barriers remain), tuberculosis (why it is needed and what it will take to implement selective BCG vaccination in HIV-exposed infants; barriers to HIV testing among TB patients in Jogjakarta, Indonesia), human rights (travel restrictions and the urgent action needed to address fear of foreigners; inheritance rights for HIV-positive women in Abia State, Nigeria), viral shedding (lower viral shedding levels of HIV-2 than HIV-1 in the female genital tract help explain epidemiology; implications of seminal plasma/blood plasma viral load disconnects in treated patients with undetectable blood plasma HIV-1 RNA; improve your survival and reduce transmission risks by treating your other infections while you wait for antiretroviral treatment), epidemiology (Botswana's successes and challenges; what are the blood-borne and sexually transmitted infection risks for Romas (gypsies) in Budapest), male circumcision and human papillomavirus (HPV) (male circumcision reduces high-risk HPV prevalence in young South African men; anatomic site sampling for HPV reveals where circumcision is likely protecting heterosexual men), sex work (how 30 minutes of tailored capacity building reduced sexually transmitted disease incidence by 40% among sex workers in Tijuana and Ciudad Juarez, Mexico), treatment (unplanned antiretroviral treatment interruptions and how to prevent them in Yaoundé, Cameroon; how much does your age really matter?), harm reduction (shining a light on methadone maintenance in Georgia; harm reduction in prison is not optional under universal access; cost-effectiveness estimates of Vancouver's supervised injection facility), and health care delivery (opportunities and challenges of task shifting in HIV care in sub-Saharan Africa; what is the gist of fuzzy trace theory anyway?).

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1. Couples and partners


HIV is frequently transmitted in the context of partners in a committed relationship, thus couples-focused HIV prevention interventions are a potentially promising modality for reducing infection. Burton and colleagues conducted a systematic review of studies testing whether couples-focused behavioural prevention interventions reduce HIV transmission and risk behaviour. They included studies using randomized controlled trial designs, quasi-randomized controlled trials, and nonrandomized controlled studies. They searched five electronic databases and screened 7,628 records. Six studies enrolling 1,084 index couples met inclusion criteria and were included in this review. Results across studies consistently indicated that couples-focused programmes reduced unprotected sexual intercourse and increased condom use compared with control groups. However, studies were heterogeneous in population, type of intervention, comparison groups, and outcomes measures, and so meta-analysis to calculate pooled effects was inappropriate. Although couples-focused approaches to HIV prevention appear initially promising, additional research is necessary to build a stronger theoretical and methodological basis for couples-focused HIV prevention, and future interventions must pay closer attention to same-sex couples, adolescents, and young people in relationships. Editors' note: This first ever, systematic review of couples-focused HIV prevention included studies involving heterosexual couples in five countries (Kenya, Tanzania, Zambia, Trinidad, and the USA). At this stage of the epidemic, the paucity of HIV prevention scientific literature focusing on couples is astonishing. More attention is required to the dynamic interactional forces that influence sexual risk behaviour within couples, such as gender roles, power imbalances, communication styles, childbearing intentions, and quality of relationship issues (commitment, satisfaction, and intimacy).


Among HIV-infected persons, Mackellar and colleagues evaluated use of client partner notification and health-department partner notification strategies to inform sex partners of possible HIV exposure, and prior exposure to partner counselling and referral services. They conducted a cross-sectional, observational study of 590 persons diagnosed with HIV in the prior 6 months at 51 HIV test, medical, and research providers in Chicago and Los Angeles in 2003 and 2004. Logistic regression was used to identify independent correlates of using client partner notification to notify all locatable partners. Participants reported a total of 5091 sex partners in the 6 months preceding HIV diagnosis: 1253 (24.6%) partners were locatable and not known to be HIV-positive. Of 439 participants with >/=1 locatable partners, 332 (75.6%) reported notifying 696 (55.5%) partners by client partner notification (585, 84.1%), health-department partner notification (94, 13.5%), or other means (17, 2.4%); 208 (47.4%) used client partner notification to notify all locatable partners. Independent correlates of client partner notification included having fewer locatable partners and discussing the need to notify partners with an HIV medical-care provider (black and Hispanic
participants only). Many participants reported that their HIV test or medical-care provider did not discuss the need to notify partners (48.8%, 33.7%, respectively) and did not offer health-department partner-notification services (60.8%, 52.8%). Many locatable sex partners who might benefit from being notified of potential HIV exposure are not notified. In accordance with national policies, HIV test and medical-care providers should routinely provide partner counselling and referral services to HIV-infected clients so that all locatable partners are notified and provided an opportunity to learn their HIV status. Editors’ note: Real increases appear to have occurred over the past 20 years in the proportion of newly diagnosed people in the US who notify locatable sexual partners of their risk exposure. Heterosexuals are more likely than men who have sex with men to notify all locatable partners (68% versus 55%), possibly due in part to differences in the numbers of sex partners (median [interquartile range Q1- Q3] of 2 [1-3] versus 3 [2-7]). Other barriers to overcome in both populations include concern for personal safety, having used condoms, and perceiving the partner as healthy.

2. Tuberculosis


This document outlines the consensus agreement from the Union’s BCG Working Group regarding BCG vaccination in HIV-infected infants, in response to recently revised World Health Organization (WHO) guidelines, which make HIV infection in infants a full contraindication to bacille Calmette-Guérin (BCG) vaccination. BCG is one of the most widely given vaccines globally and is safe in immunocompetent individuals. Recent evidence shows that HIV-infected infants who were routinely vaccinated with BCG at birth, when asymptomatic, and who later developed AIDS, are at high risk of developing disseminated BCG disease (estimated incidence 407-1300 per 100 000). The document outlines requirements to implement selective BCG vaccination strategies in infants born to HIV-infected women and strategies to reduce the risk of vertical HIV transmission and disseminated BCG disease in infants. Editors’ note: Although BCG vaccination has a summary estimate protective effect of 73% against tuberculosis meningitis and 77% against miliary disease, there is no evidence of any BCG-induced protective effect in HIV-infected children. Furthermore, they face a higher risk of disseminated BCG disease, which is associated with all-cause mortality in excess of 75%. BCG vaccination in these children is therefore contraindicated. However, the majority of infants born to mothers living with HIV are not HIV infected. A selective BCG vaccination policy in HIV-exposed infants will require high uptake of maternal HIV testing, strengthened prevention of mother-to-child transmission services, and better integration of TB and HIV programmes.

HIV and HIV-tuberculosis (TB) co-infection are slowly increasing in Indonesia. WHO recommends HIV testing among TB patients as a key response to the dual HIV-TB epidemic. Concerns over potential negative impacts to TB control and lack of operational clarity have hindered progress. Mahendradhata and colleagues investigated the barriers and opportunities for introducing HIV testing perceived by TB patients and providers in Jogjakarta, Indonesia. They offered voluntary counselling and testing to TB patients in parallel to a HIV prevalence survey. The authors conducted in-depth interviews with 33 TB patients, 3 specialist physicians and 3 disease control managers, as well as four focus group discussions with nurses. All interviews and focus group discussions were recorded and data analysis was supported by the QSR N6® software. Patients’ and providers’ knowledge regarding HIV was poor. The main barriers perceived by patients were: burden for accessing voluntary counselling and testing and fear of knowing the test results. Stigma caused concerns among providers, but did not play much role in patients’ attitude towards voluntary counselling and testing. The main barriers perceived by providers were communication, patients feeling offended, stigmatization and additional burden. Introduction of HIV testing among TB patients in Indonesia should be accompanied by patient and provider education as well as providing conditions for effective communication. Editors’ note: Learning local stakeholders’ perspectives is key to planning and implementing services that work for people. In this setting, the length of the testing and counselling, the need to return to an external site to get test results, and the perception of not being at risk deter most TB patients from an HIV test. More effective patient–provider communication in the context of a same day, same site offer/recommendation of HIV testing to all TB patients is warranted in Indonesia, which ranks third in the world for TB burden and has low but increasing HIV prevalence.

3. Human Rights


Among the earliest and the most enduring responses to the HIV epidemic has been the imposition by governments of entry, stay, and residence restrictions for non-nationals living with HIV. Sixty-six of the 186 countries in the world for which data are available currently have some form of restriction in place. Although international human rights law allows for discrimination in the face of public health considerations, such discrimination must be the least intrusive measure required to effectively address the public health concern. HIV-related travel restrictions, by contrast, not only do not protect public health, but result in deleterious effects both at the societal level - negatively impacting HIV prevention and treatment efforts - and at the individual level, affecting, in particular, labour migrants, refugee candidates, students, and short-term travellers. Governments should repeal these laws and policies, and instead devote legislative attention and national resources to comprehensive HIV prevention, care, and treatment programmes serving citizens and non-citizens alike. Editors’ note: In the 2001 Declaration of Commitment on HIV/AIDS and in subsequent declarations, governments have committed to enact appropriate legislation to eliminate all forms of discrimination against persons living with HIV. HIV-related travel restrictions should be repealed immediately and entirely - they have no public health justification and are a human rights violation.

In developing countries, culture favours males for economic ventures more than females. There is evidence that allowing HIV-positive women inheritance rights will mitigate negative economic consequences of HIV and other related risks. This study aimed to examine the extent to which HIV-positive women have access to family resources in Abia State, Nigeria. Data collection instruments were questionnaires, focus group discussions, and interview guides using 98 HIV positive women in networks of people living with HIV. Five key informants were also interviewed to authenticate women's responses. Eighty-five (86.7%) of the women were denied rights to family resources. Thirty-eight (64.4%) of them had negative relationship with their family members for demanding their husbands' property. Because of limited financial assistance, the women took two types of risks in order to survive in the communities. Twenty-five women (25.5%) earned their livelihood by acting as hired labourers to others in the farm. More that half (55.1%) of the HIV-positive women were practicing unprotected sex. Although as many as 79.6% of the women were aware of risks of unprotected sex, 54 (55%) of them practised it. The commonest reason for taking the risk was sex partners’ dislike for condom use. The high proportion of HIV-positive women who were denied access to family resources could suggest lack of care and support. If this denial continues, the government's efforts to reduce HIV prevalence would yield no significant result. There is therefore a need for an organized community education programme that emphasizes the benefits of empowering women living positively with HIV economically.

Editors' note: Denying women living with HIV access to family resources thwarts their economic empowerment and increases sexual risk. Enactment and effective implementation of inheritance laws are needed to ensure that women can own and/or control resources such as land, housing, and livestock after the death of their husbands. Their well-being and that of their children depend on it.

4. Viral shedding


The differing magnitude of the HIV-1 and HIV-2 epidemics is likely a consequence of differing transmission rates between the two viruses. Similar to other sexually transmitted pathogens, risk of HIV-1 and HIV-2 transmission is likely associated with the presence and amount of HIV in the genital tract. Thus, understanding patterns of, and risk factors for HIV genital tract shedding is critical to effective control of HIV transmission. Hawes and colleagues evaluated HIV DNA and RNA detection in cervicovaginal specimens among 168 HIV-1 and 50 HIV-2-infected women in Senegal, West Africa. In a subset of 31 women (20 with HIV-1, 11 with HIV-2), they conducted a prospective study in which cervicovaginal specimens were taken at 3-day intervals over a 6-week period. The authors found significantly lower rates and levels of HIV-2 RNA (58% shedding; 13% with >1000 copies/ml) in the female genital tract than HIV-1 RNA (78% shedding; 40% with >1000 copies/ml) (P = 0.005 and 0.005, respectively), and shedding correlated with plasma viral load irrespective of virus type (odds ratio = 1.9, 95% confidence interval = 1.3-2.8 for each log10 increase in HIV viral RNA). Plasma viral load, not HIV type, was the strongest predictor of genital viral load. Over 80% of closely monitored women, regardless of HIV type, had at least intermittent
HIV RNA detection during every 3-day sampling over a 6-week time period. These data help in explaining the different transmission rates between HIV-1 and HIV-2 and may provide new insights regarding prevention. Editors' note: This first prospective study of closely followed women reveals that HIV shedding in untreated women is common. The lower detection rates and levels of HIV-2 RNA compared to HIV-1 RNA found in the female genital tract in the comparative part of this study may explain in part why HIV-2 transmission is limited primarily to West Africa whereas HIV-1 spread is pandemic.


Five percent of 145 HIV-1-infected men enrolled in an assisted reproductive technology programme harboured detectable HIV-1 RNA in semen, although they had no other sexually transmitted disease and their blood viral load was undetectable for at least 6 months under antiretroviral treatment. This result justifies measuring HIV-1 RNA in semen before the assisted reproductive technology process and suggests that a residual risk of transmission has to be mentioned to the patients who would like to have unprotected sexual intercourse.

Editors' note: The authors cite the Swiss Commission Fédérale's report that a seropositive person who has no other sexually transmitted disease, is under antiretroviral treatment, and has had an undetectable plasma viral load for at least 6 months does not sexually transmit HIV. The results of this study demonstrate a viral load disconnect between the plasma and semen compartments in some men. Although antiretroviral therapy is the preferred method, when accessible, to avoid HIV transmission in serodiscordant couples desiring to have a child, the authors underscore the importance of explaining that the risk is certainly low but is not null.


The aim of the study was to estimate the impact of small changes in plasma levels of HIV-1 RNA on the risk of heterosexual transmission or disease progression to an AIDS-defining event or death. Modjarrad and colleagues systematically reviewed the published literature for studies that evaluated small viral load changes among antiretroviral-therapy-naive, adult populations. They modelled relative risk estimates for viral transmission and disease progression according to 0.3, 0.5, and 1.0 log10 increments of HIV load. They calculated that the likelihood of transmitting HIV by heterosexual contact increased, on average, by 20% and that the annual risk of progression to an AIDS-defining illness or related death increased by 25% with every 0.3 log10 increment in HIV RNA. A 0.5 log10 increment in HIV RNA was associated with 40% greater risk of heterosexual transmission and 44% increased risk of progression to AIDS or death. A 1.0 log10 increment in HIV RNA was associated with 100% greater risk of heterosexual transmission and 113% increased risk of progression to AIDS or death. Antiretroviral therapy continues to be unavailable or not-yet-indicated for 72% of the world's HIV-infected persons. Mounting evidence that treatment of coinfections may reduce HIV viral load, even modestly, suggests the priority of improved adjunctive care for HIV-infected persons even without antiretroviral therapy, both to slow disease progression and to reduce infectiousness. Editors' note: Tuberculosis, herpes, malaria, leishmania, and helminth infections all upregulate HIV transcription. This analysis...
suggests that aggressively and systematically treating these coinfections in people living with HIV, preventing opportunistic infections, and assuring adequate nutrition may result in small, sustained drops in plasma HIV RNA. These measures should be instituted for all people living with HIV whether they are eligible for antiretroviral treatment or not, in the interest of reducing the likelihood of HIV transmission and slowing disease progression.

5. Epidemiology


This study uses surveillance, survey, and programme data to estimate past trends and current levels of HIV in Botswana and the effects of treatment and prevention programmes. Data from sentinel surveillance at antenatal clinics and a national population survey were used to estimate the trend of adult HIV prevalence from 1980 to 2007. Using the prevalence trend, Stover and colleagues estimated the number of new adult infections, the transmission from mothers to children, the need for treatment and the effects of antiretroviral therapy and adult and child deaths. Prevalence has declined slowly in urban areas since 2000 and has remained stable in rural areas. National prevalence is estimated at 26% (25-27%) in 2007. About 330,000 (318,000-335,000) people are infected with HIV including 20,000 children. The number of new adult infections has been stable for several years at about 20,000 annually (12,000-26,000). The number of new child infections has declined from 4600 in 1999 to about 890 (810-980) today due to nearly complete coverage of an effective programme to prevent mother-to-child transmission (PMTCT). The annual number of adult deaths has declined from a peak of over 15,500 in 2003 to under 7400 (5000-11,000) today due to coverage of antiretroviral therapy that reaches over 80% in need. The need for antiretroviral therapy will increase by 60% by 2016. Botswana’s prevention of mother-to-child transmission and treatment programmes have achieved significant results in preventing new child infections and deaths among adults and children. The number of new adult infections continues at a high level. More effective prevention efforts are urgently needed.

Editors’ note: Botswana’s prevention of mother-to-child transmission programme reaches over 90% of HIV-positive women and coverage of people in need of antiretroviral treatment has increased to over 80%. Although Botswana has succeeded in stabilizing its HIV epidemic, it remains at a very high level. An estimated 24,000 people join the ranks of the treatment-eligible each year because of the high number of infections in the past. HIV prevention strategies need rethinking, particularly with respect to the continuing high level of partner concurrency, given that there is a seemingly stable number of 18,000 people newly infected per year today, all of whom will eventually require treatment.


Gyarmathy and colleagues assessed the prevalence of HIV and selected blood-borne and sexually transmitted infections among a convenience sample of 64 residents of Dzsumbuj, a predominantly Roma (Gypsy) neighbourhood in Budapest, Hungary. No cases of HIV were detected, while the prevalence of hepatitis B infection (anti-HBc) was 27% and syphilis prevalence was 2%. Romas (n = 50) were significantly more likely than non-Romas (n = 14) to
have hepatitis A antibodies (80% vs. 43%) and less likely to be hepatitis B immunized (anti-HBs only; 6% vs. 29%). Current drug injectors (n = 13) were more likely than non-injectors (n = 51) to have antibodies against hepatitis A (85% vs. 69%) and hepatitis C (85% vs. 8%). While HIV has not been introduced in this population, risk conditions for a potentially explosive HIV epidemic are present. Health care policies should focus on expanding coverage for hepatitis A and hepatitis B immunizations, and access to HIV preventive services needs to be extended to marginalized, mostly minority populations, such as the Roma in Europe. Editors’ note: Romas or gypsies, thought to comprise 5 to 10% of the population of Central and Eastern Europe, are a mobile, socially marginalised, hard-to-reach minority. This rapid assessment survey produced data that justify extending hepatitis A and hepatitis B immunization services as well as HIV preventive programmes to them now to improve health and block HIV from gaining a toehold in this disadvantaged population.

6. Male circumcision and human papilloma virus


A causal association links high-risk human papillomavirus and cervical cancer, which is a major public health problem. The objective of the present study was to investigate the association between male circumcision and the prevalence of high-risk human papillomavirus among young men. Auvert and colleagues used data from a male circumcision trial conducted in Orange Farm, South Africa, among men aged 18-24 years. Urethral swab samples were collected during a period of 262 consecutive days from participants in the intervention (circumcised) and control (uncircumcised) groups who were reporting for a scheduled follow-up visit. Swab samples were analyzed using polymerase chain reaction. High-risk human papillomavirus prevalence rates were assessed using univariate and multivariate log Poisson regression. In an intention-to-treat analysis, the prevalences of high-risk human papillomavirus among the intervention and control groups were 14.8% (94/637) and 22.3% (140/627), respectively, with a prevalence rate ratio of 0.66 (0.51-0.86). Controlling for propensity score and confounders (ethnic group, age, education, sexual behaviour [including condom use], marital status, and human immunodeficiency virus status) had no effect on the results. This is the first randomized controlled trial to show a reduction in the prevalence of urethral high-risk human papillomavirus infection after male circumcision. This finding explains why women with circumcised partners are at a lower risk of cervical cancer than other women. Editors’ note: With around 10% of all women worldwide having human papillomavirus (HPV) infection and 99.7% of all cervical cancers containing high-risk HPV, the finding that male circumcision reduces the prevalence of high-risk HPV in men is good news for women. No sampling was done before circumcision so it is not possible to draw conclusions about comparative high-risk HPV incidence in men who became circumcised versus those that did not. However, since HPV prevalence rises with age in men, the differences seen here are likely a good proxy of HPV incidence.

Male circumcision may lower men’s risk of human papillomavirus infection and reduce transmission to sex partners. Reported associations between circumcision and human papillomavirus infection in men have been inconsistent. Four hundred sixty-three men in 2 US cities were tested at 6 anogenital sites and in semen for 37 types of human papillomavirus. Men were eligible if they reported sex with a woman within the past year, no history of genital warts or penile or anal cancer, and no current diagnosis of a sexually transmitted infection. Participants completed a self-administered questionnaire. Circumcision status was assessed by the study clinician. Logistic regression was used to examine associations between circumcision and human papillomavirus detection at each site and in semen, with adjustment for potential confounders. Seventy-four men (16.0%) were uncircumcised. Adjusted odds ratios for any human papillomavirus genotype and circumcision were 0.53 (95% confidence interval [CI], 0.28-0.99) for any anatomic site/specimen, 0.17 (95% CI, 0.05-0.56) for the urethra, 0.44 (95% CI, 0.23-0.82) for the glans/corona, and 0.53 (95% CI, 0.28-0.99) for the penile shaft. Adjusted odds ratios were <1.0 but not statistically significant for the scrotum, semen, anal canal, and perianal area. Circumcision may be protective against human papillomavirus infection of the urethra, glans/corona, and penile shaft. Editors’ note: This is the first study to report associations between human papillomavirus (HPV) infection and circumcision at multiple, individually sampled, internal and external anogenital sites and semen. Circumcised heterosexual men were significantly less likely to have any HPV at key sites after adjusting for known HPV-related risk factors (smoking, lifetime number of sexual partners, and use of condoms for vaginal sex during the previous 3 months).

In addition to further studies of HPV detection and persistence in relation to circumcision status, it is time to assess the cost-effectiveness of male circumcision for preventing HPV disease, as has been done for its role in reducing HIV acquisition in men.

7. Sex work


Patterson and colleagues examined the efficacy of a brief behavioural intervention to promote condom use among female sex workers in Tijuana and Ciudad Juarez, Mexico. They randomized 924 female sex workers 18 years or older without known HIV infection living in Tijuana and Ciudad Juarez who had recently had unprotected sex with clients to a 30-minute behavioural intervention or a didactic control condition. At baseline and 6 months, women underwent interviews and testing for HIV, syphilis, gonorrhea, and chlamydia. The authors observed a 40% decline in cumulative sexually transmitted illness incidence (P=.049) in the intervention group. Incidence density for the intervention versus control groups was 13.8 versus 24.92 per 100 person-years for sexually transmitted illnesses combined (P=.034) and 0 versus 2.01 per 100 person-years for HIV (P<.001). There were concomitant increases in the number and percentage of protected sex acts and decreases in the number of unprotected sex acts with clients (P<.05). This brief behavioural intervention shows promise in reducing HIV and sexually transmitted illness risk behaviours among female sex workers and may be transferable to other resource-constrained settings. Editors’ note: Although the control group received an educational intervention adapted from bi-national counselling guidelines, a comparative brief behavioural activity integrating motivational
interviewing and principles of behaviour change produced significant differences in HIV incidence, overall sexually transmitted disease incidence, and unprotected sex with male clients. Sex workers responded to an approach focused on their personal situations with each woman actively identifying barriers to safer sex in her own life and designing potential solutions. This culturally and individually tailored activity has potential implications for sex workers in other resource-constrained settings—it doesn’t take much time and it works, at least for 6 months.

8. Treatment


This study’s objective was to identify correlates of self-reported antiretroviral treatment interruptions among people living with HIV in Cameroon. Analyses were based on data collected in the national survey EVAL (ANRS 12-116) among 533 ART-treated people living with HIV in Yaoundé, the capital city of Cameroon, and its neighbourhood. Logistic regression models were used to identify factors associated with self-reported antiretroviral treatment interruptions longer than two consecutive days during the previous 4 weeks. Antiretroviral treatment interruptions were reported by 68 patients (12.8%). After adjustment for gender, education, and household income, characteristics independently associated with interruptions were pharmacy stock shortages [OR (95%CI): 3.25 (1.78-5.90)], binge drinking [2.87 (1.39-5.91)], and the number of self-reported slimming symptoms [1.23 (1.02-1.48)]. In poor-resource settings where access to second and third-line regimens is still limited, food supply programmes and interventions to minimise antiretroviral treatment shortage may reduce the risk of antiretroviral treatment interruptions. Editors’ note: Supply chain management to reduce pharmacy stock shortages and prevention of hazardous alcohol use can help reduce the frequency of the more-than-two-days antiretroviral treatment interruptions that are associated with risk of viral resistance. Food supply programmes are a critical adjunct in the first 6 months of antiretroviral treatment to prevent malnutrition related to advanced HIV disease at treatment initiation and to address the poor social conditions that may undermine adherence.


The prevalence of HIV infection in older patients (≥50 years) is increasing due to highly active antiretroviral therapy, and new HIV infections in older patients. Some earlier studies suggest that older patients respond differently to highly active antiretroviral therapy than younger patients. The objective of this study is to compare the effectiveness of highly active antiretroviral therapy in older and younger HIV patients by conducting a retrospective analysis of an observational clinical cohort. Virologic and immunologic response, progression to AIDS, and mortality were compared between 670 younger patients (<40 years) and 149 older patients (≥50 years) by t-test, Kaplan-Meier methods, and multivariate Cox proportional hazards analysis. Compared with younger patients, older patients were more likely to be on non-nucleoside reverse transcriptase inhibitors based versus protease inhibitor based regimens (42 vs. 29%, P < 0.01). Time to HIV-1 RNA virologic suppression was less in older than in younger patients (3.2 vs. 4.4 months, P < 0.01). Immunologic response did
Older patients had fewer AIDS-defining opportunistic infections (22 vs. 31%, \(P < 0.01\)), but higher mortality (36 vs. 27%, \(P = 0.04\)) and shorter survival (25th percentile survivor function 36.2 vs. 58.5 months, \(P = 0.02\)) than younger patients. Older age was associated with more rapid virologic suppression [adjusted hazard ratio = 1.33 (1.09-1.63)] and earlier mortality [adjusted hazard ratio = 1.56 (1.14-2.14)]. Non-nucleoside reverse transcriptase inhibitors based regimens were associated with more rapid virologic suppression [adjusted hazard ratio = 1.22 (1.03-1.44)]. Time to virologic suppression after highly active antiretroviral therapy initiation was shorter in older patients, although CD4 response did not differ by age. Older patients had fewer opportunistic infections, but survival was shorter. The authors' data suggest a need to better understand causes of mortality in older patients.

Editors’ note: Multiple studies reported worse HIV outcomes among older compared to younger patients before the advent of antiretroviral treatment. This study contributes to the body of conflicting literature on the comparative effect of antiretroviral treatment by age. Its findings are interesting but the sample size is small, the high proportion of patients of minority race and injecting drug use status may limit generalisability, adherence data were available for only a limited number of patients, and the older age group included those infected recently as well as those who have aged with AIDS. Nonetheless, age-specific treatment recommendations to start older patients on antiretroviral treatment at higher CD4 counts may be warranted given their shorter survival time despite good immunologic responses.

9. Harm Reduction


The geopolitical uniqueness of the regional socioeconomic situation and the existence of territories outside the control of the national government have facilitated the spread of drug use in Georgia. A special problem is injection of opiates, in particular heroin and Subutex (buprenorphine). It has been established that among registered HIV infected individuals the main route of transmission is injecting drug use. Although the prevalence of HIV among people who inject drugs is only 1-3%, the high number of injecting drug users and the high prevalence of hepatitis C in this population creates high risk of dramatic spread of HIV in Georgia. Beginning at the end of 2005, the Global Fund to fight HIV/AIDS, Tuberculosis and Malaria supported methadone substitution programmes in Georgia. At present, three programmes are functioning. At the same time, they involve 230 patients altogether. The studies carried out by the Research Institute on Addiction, with the aim to control the efficacy of pilot programmes have revealed a dramatic improvement of psychophysical state of patients, with very high rate of re-socialization and decriminalization, and significant diminishment of drug-related risky behaviour. Obtained results indicate high efficiency of methadone substitution programmes in Georgia, as an important tool both for treatment of opioid dependence and harm reduction. In order to obtain a more significant impact on public health, substitution therapy programmes have to be further expanded. Editors’ note: Drug use in Georgia, an important drug transit route from Asia to Europe, escalated in the early 1990s following the breakdown of the Soviet Union, and ensuing unemployment and social pessimism. Despite economic development and crime reduction, drug use has not decreased. The Georgian parliament
passed a law in 2002 permitting substitution therapy. This report of improved health and psychosocial patient outcomes from Georgia’s first methadone substitution programme should spur expansion of the programme there and set an example for other Eastern European countries.


The high prevalence of HIV infection and drug dependence among prisoners, combined with the reuse of non-sterile injecting drug equipment, make prisons a high-risk environment for the transmission of HIV. Ultimately, this contributes to HIV epidemics in the communities to which prisoners return on their release. Jürgens and colleagues reviewed the effectiveness of interventions to reduce injecting drug use risk behaviours and, consequently, HIV transmission in prisons. Many studies reported high levels of injecting drug use in prisons and HIV transmission has been documented. There is increasing evidence of what prison systems can do to prevent HIV transmission related to injecting drug use. In particular, needle and syringe programmes and opioid substitution therapies have proven effective at reducing HIV risk behaviours in a wide range of prison environments, without resulting in negative consequences for the health of prison staff or prisoners. The introduction of these programmes in countries with an existing or emergent epidemic of HIV infection among injecting drug users is therefore warranted, as part of comprehensive programmes to address HIV in prisons. Editors’ note: Although most prisoners living with HIV contract their infections before imprisonment, the risk of acquiring HIV in prison through use of contaminated injecting equipment is high. Prisoners have the right to receive health care, including preventive measures, equivalent to that available in the community. Furthermore, national commitments to universal access to prevention, treatment, care, and support cannot be achieved without introducing and rapidly expanding comprehensive HIV programmes in prisons. Thus, implementation of evidence-informed HIV programming in prisons is an essential component of any national AIDS programme.


The cost-effectiveness of Canada’s only supervised injection facility has not been rigorously evaluated. Bayoumi and colleagues estimated the impact of the facility on survival, rates of HIV and hepatitis C virus infection, referral to methadone maintenance treatment, and associated costs. They simulated the population of Vancouver, British Columbia, including injection drug users and persons infected with HIV and hepatitis C virus. The model used a time horizon of 10 years and the perspective of the health care system. They compared the situation of the supervised injection facility with one that had no facility but that had other interventions, such as needle-exchange programmes. The effects considered were decreased needle reuse, increased use of safe injection practices and increased referral to methadone maintenance treatment. Outcomes included life-years gained, costs, and incremental cost-effectiveness ratios discounted at 5% per year. Focusing on the base assumption of decreased needle reuse as the only effect of the supervised injection facility, they found that the facility was associated with an incremental net savings of almost $14 million and 920 life-years gained over 10 years. When the authors also considered the health effect of increased use of safe injection practices, the incremental net savings increased to more than $20 million and the number of life-years gained to 1070. Further increases were estimated...
when they considered all 3 health benefits: the incremental net savings was more than $18 million and the number of life-years gained 1175. Results were sensitive to assumptions related to injection frequency, the risk of HIV transmission through needle sharing, the frequency of safe injection practices among users of the facility, the costs of HIV-related care and of operating the facility, and the proportion of users who inject in the facility. Vancouver's supervised injection site is associated with improved health and cost savings, even with conservative estimates of efficacy. Editors' note: Supervised injecting facilities or SIFs provide a hygienic, safe environment for people to inject their previously obtained illicit drugs under supervision. SIFs reduce overdose mortality, decrease public injecting and discarding of syringes, and increase referrals to social and health services. This computer simulation estimates considerable cost savings and improved health outcomes comparing a supervised injecting facility to standard needle exchange and methadone maintenance treatment. Findings such as these, combined with results from acceptability, feasibility, and anticipated impact studies, support evidence-informed decision-making about the introduction and continued functioning of such programmes.

10. Health care delivery


Sub-Saharan Africa is facing a crisis in human health resources due to a critical shortage of health workers. The shortage is compounded by a high burden of infectious diseases; emigration of trained professionals; difficult working conditions, and low motivation. In particular, the burden of HIV has led to the concept of task shifting being increasingly promoted as a way of rapidly expanding human resource capacity. This refers to the delegation of medical and health service responsibilities from higher to lower cadres of health staff, in some cases non-professionals. This paper, drawing on Médecins Sans Frontières’ experience of scaling-up antiretroviral treatment in three sub-Saharan African countries (Malawi, South Africa and Lesotho) and supplemented by a review of the literature, highlights the main opportunities and challenges posed by task shifting and proposes specific actions to tackle the challenges. The opportunities include: increasing access to life-saving treatment; improving the workforce skills mix and health-system efficiency; enhancing the role of the community; cost advantages and reducing attrition; and international ‘brain drain’. The challenges include: maintaining quality and safety; addressing professional and institutional resistance; sustaining motivation and performance; and preventing deaths of health workers from HIV. Task shifting should not undermine the primary objective of improving patient benefits and public health outcomes. Editors' note: Given that an estimated 2.4 million doctors and nurses are needed to meet the Millennium Development Goals, it is no surprise that increasing attention has turned to task shifting, a concept dating back decades. This excellent review provides examples to highlight the opportunities and challenges of task shifting in HIV care in sub-Saharan Africa. It lays out the main operational research priorities (quality, safety, acceptability, cost, management, and impact) to obtain data for decision-making to improve task shifting outcomes iteratively.

The tenets of fuzzy trace theory are summarized with respect to their relevance to health and medical decision making. Illustrations are given for HIV prevention, cardiovascular disease, surgical risk, genetic risk, and cancer prevention and control. A core idea of fuzzy trace theory is that people rely on the gist of information, its bottom-line meaning, as opposed to verbatim details in judgment and decision making. This idea explains why precise information (e.g., about risk) is not necessarily effective in encouraging prevention behaviours or in supporting medical decision making. People can get the facts right, and still not derive the proper meaning, which is key to informed decision making. Getting the gist is not sufficient, however. Retrieval (e.g., of health-related values) and processing interference brought on by thinking about nested or overlapping classes (e.g., in ratio concepts, such as probability) are also important. Theory-based interventions that work (and why they work) are presented, ranging from specific techniques aimed at enhancing representation, retrieval, and processing to a comprehensive intervention that integrates these components.

Editors’ note: An interesting read, this paper presents fuzzy trace theory assumptions of how health information is mentally represented, retrieved, and processed in decision-making and subsequent behaviour. Verbatim facts (including graphs, numbers, pictures, literal information, etc.) are less likely to influence judgment and decision-making than are gist representations (subjective, qualitative interpretations of information based on emotion, education, culture, previous experience, worldview, and level of development). Risk reduction interventions based on fuzzy trace theory build capacity for automatic responses to contextual cues that signal risk (rather than deliberative thinking), retrieval of core values and principles relevant in risky contexts, and their application to make healthy decisions. Do you get the gist?

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

A number of journals are free to readers in all countries through ScienceDirect (http://www.sciencedirect.com/). Examples of open access journals are BioMed Central journals (http://www.biomedcentral.com/) and Public Library of Science (PLoS) journals (http://medicine.plosjournals.org/).

Open Science Directory (http://www.openscencedirectory.net/) is a global search tool open access journals and journals in special programmes for developing countries.

For residents of low- and middle-income countries:

The Health InterNetwork Access to Research Initiative (HINARI), set up by the World Health Organisation (WHO) together with major publishers, enables readers at health institutions in low- and
middle-income countries to gain access to one of the world’s largest collections of biomedical and health literature. Over 6200 journal titles are now available to health institutions in 108 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/. 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 $1250 are eligible for free access. Institutions in countries with GNP per capita $1250-$3000 pay a fee of $1000 per year/institution.

There is also free access to journals published online with the assistance of HighWire Press. This link: http://highwire.stanford.edu/lists/devecon.dtl will automatically detect if your internet connection is from a developing country and give you free access to their journals.

For employees of UNAIDS or WHO:

If you work for WHO or UNAIDS in Geneva, you can access a number of journals available from the WHO library by going to the WHO intranet https://intranet.who.int/. If you work for UNAIDS outside Geneva you can access the WHO intranet through remote.unaids.org. When you have entered your UNAIDS username and password, click on ”intranet” - ”WHO”. On the WHO intranet homepage, click on ”information resources” - ”WHO library” - ”online information resources” - ”online journals (GIFT)” - ”A to Z list” and you will see the list of accessible journals.