Happy New Year and welcome to the twenty-third issue of *HIV This Week*! Topics include **men who have sex with men** (it’s the context, baby), **HIV prevention trial conduct** (the importance of good participatory practice in HIV vaccine trials); **stigma** (the double jeopardy whammy of ageism and HIV stigma; stigma in health care settings in China; stigma and secondary stigma among Chinese villagers), **neuropsychiatric aspects of HIV infection** (memory function as a predictor of employment; finding words), **prisons** (real risks and a false sense of security in Russian prisons; HIV prevalence in prisons worldwide), **positive prevention** (knowledge of post-exposure prophylaxis among people living with HIV in France; black African heterosexuals beat out gays in the safer sex run-off in London), **epidemiology** (triangulating data at the district level in India; molecular epidemiology tells a tale in Russia; BC recombinants now found in Taiwan), **internet sex** (bug-chasing and gift-giving: intentions don’t match behaviour - but in the healthy direction this time!), **capacity building** (building organisational capacity and integrating monitoring and evaluation), **serostatus disclosure** (studying patterns in the French Antilles and French Guyana), **reproduction** (intentions of women living with HIV in British Columbia, Canada), and **treatment** (competing priorities among Aboriginal people eligible for treatment in Western Australia; treatment naive? why you should start triple therapy with only two classes of drugs).

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](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](http://www.unaids.org).

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1. **Men who have sex with men**

Smith AM, Grierson J, Pitts M, Pattison P. Individual characteristics are less important than event characteristics in predicting protected and unprotected anal intercourse among homosexual and bisexual men in Melbourne, Australia. *Sex Transm Infect* 2006;82:474-7.

Smith and colleagues described individual, social network and encounter specific factors associated with protected anal intercourse and unprotected anal intercourse. The cross sectional survey was conducted between April and November 2002. A total of 733 sexual encounters were reported by 202 men recruited from the gay community in Melbourne,
Australia. Of the 733 sexual events most (56.3%) did not involve anal intercourse, and more involved protected anal intercourse than unprotected anal intercourse (30.6% versus 13.1%). Protected anal intercourse was more likely than no anal intercourse if the participant’s social network was mostly homosexual, the partner was an occasional or casual partner, or was HIV positive. Protected anal intercourse was less likely if sex took place at a "beat" but more likely if it took place at a sauna. Protected anal intercourse was more likely if the partner was affected by drugs or alcohol. Unprotected anal intercourse was more likely than no anal intercourse if the participant had injected drugs in the year before interview. It was less likely if the partner was occasional or casual or was HIV positive but more likely if the partner's HIV status was unknown. Unprotected anal intercourse was much more likely than no anal intercourse if the encounter took place at a "sex on premises" venue. The authors conclude that in this analysis it is the characteristics of the sexual encounter that predict whether protected anal intercourse or unprotected anal intercourse rather than no anal intercourse takes place. Editors’ note: Venues, social networks and other encounter specific factors can carry as much, if not more, weight in determining whether the sex is risky and how risky it gets.

2. HIV prevention trials


Developing an effective vaccine remains a critical long-term approach to HIV prevention. Every efficacy trial should be responsive to the concerns of participating communities because the successful development of an HIV preventive vaccine will require long-term involvement of people who have been marginalized and who distrust the government and biomedical research. Using qualitative interviews and purposive sampling, Kegeles and colleagues elicited recommendations regarding how vaccine efficacy trials should be conducted from 90 members of communities that have been disproportionately affected by HIV: injection drug users, gay men, and African Americans. The most common recommendation was for complete disclosure of all aspects of the trial. Other themes included participant and community education, who to include in trials, preventing harm, trust, community involvement, researcher attributes, and respect for participants. The authors conclude that developing positive, respectful and collaborative experiences with community members will facilitate vaccine research because negative experiences and unfavourable community reactions can greatly impede success in future trials. Editors’ note: UNAIDS is working now with the AIDS Vaccine Advocacy Coalition on the development of Good Participatory Practice guidelines for HIV prevention trials. Please let us know if you would like to comment on the draft guidelines.

3. Stigma

Emlet CA. "You're awfully old to have this disease": experiences of stigma and ageism in adults 50 years and older living with HIV/AIDS. Gerontologist 2006;46:781-90.

Older adults living with HIV infection may be doubly stigmatized, as they are branded by both age as well as HIV status. Through semistructured interviews, Emlet examined whether older adults with HIV experience both ageism and HIV stigma and how those experiences
manifest in their lives. This was a qualitative study in which 25 in-depth interviews were completed with adults aged 50 years and older who were living with HIV. Purposive sampling was used to recruit these individuals who shared their experiences. Open coding and axial coding of interview transcripts were completed on all interviews, resulting in the development of a framework of these experiences. The majority (68%) of the respondents experienced both ageism and HIV-associated stigma. The experiences were often separate, although some interrelated stigma did occur. Nine themes emerged from the interviews, including rejection, stereotyping, fear of contagion, violations of confidentiality, and internalized ageism. All themes fell into four categories: social discrimination, institutional discrimination, anticipatory stigma, and other. The author concludes that the research identified themes that may be sources of felt as well as enacted stigma and discrimination related to both aging and HIV. This concept of double jeopardy exists in the lives of the majority of people interviewed and has relevance to the creation of appropriate intervention strategies.


Li and colleagues examined Chinese health professionals' attitudes towards patients with AIDS vs patients with hepatitis B. A representative sample of 1101 Chinese health professionals was used. Prejudicial attitudes and willingness to interact were measured based on two case vignettes. Statistical analyses revealed that health professionals had negative biases against AIDS patients and reported much less willingness to interact with AIDS patients than hepatitis B patients. Perceived risk of infection at work was also negatively associated with willingness to interact with patients with HIV, but relationships varied by profession. The authors conclude that this study underscores the importance of developing and implementing stigma reduction interventions in health care settings to address attitudinal biases and discrimination in clinical practice.


HIV-related stigma and discrimination are major barriers to the successful control of HIV. Stigma is associated with the disease as well as the behaviours that lead to infection. Cao and colleagues conducted a qualitative study to identify the reasons, sources, and types of HIV-related stigma prevalent in rural China. Eighty in-depth interviews were conducted with people living with HIV, their family members, health care providers, and uninfected villagers. Stigmatising behaviours were primarily associated with fear of HIV rather than with the route of infection. Uninfected villagers were the main source of discrimination, with health workers and family members also holding some stigmatising attitudes. A primary concern for HIV-positive villagers was protecting their families, especially their children, from discrimination. Secondary stigma also extended to un-infected members of the same village. The authors conclude that the results have been used to develop an intervention to reduce fear of casual transmission and stigma in these communities.

4. Neuropsychiatric aspects of HIV

Van Gorp and colleagues followed 118 HIV+ individuals who had taken steps to return to work to determine facilitators or barriers in returning to work. Over the two-year study period, 52% of the participants obtained employment. Memory function served as the most potent predictor of obtaining employment. Persons who were younger, did not have a diagnosis of AIDS and who had shorter periods of unemployment prior to entering the study also had better chances of finding employment during the study. After finding employment, participants reported lower levels of depression as well, an apparent result of their obtaining employment. The authors conclude that these findings indicate that memory is a key neuropsychiatric variable that is perhaps most relevant to HIV+ persons’ quest to return to work. 

Editors’ note: This study begs the question of the link between unemployment, depression and memory problems – and where best to focus attention – perhaps on all three.


Given the largely prefrontostrital neuropathogenesis of HIV-associated neurobehavioural deficits, it is often presumed that HIV infection leads to greater impairment on letter versus category fluency. Iudicello and colleagues conducted a meta-analysis of the HIV verbal fluency literature (k = 37, n = 7110) to assess this hypothesis and revealed generally small effect sizes for both letter and category fluency, which increased in magnitude with advancing HIV disease severity. Across all studies, the mean effect size of category fluency was slightly larger than that of letter fluency. However, the discrepancy between category and letter fluency dissipated in a more conservative analysis of only those studies that included both tests. Thus, HIV-associated impairments in letter and category fluency are of similar magnitude, suggesting that mild word generation deficits are evident in HIV, regardless of whether traditional letter or semantic cues are used to guide the word search and retrieval process. Editors’ note: Those of us who have not studied the determinants and categories of linguistic fluency will not understand the meaning of this finding of no significant differences in letter and category fluency – but we can retain the importance of allowing people living with HIV who are having difficulty finding a word a little more time to do so.

5. HIV and prisons


Evidence highlights the prison as a high risk environment in relation to HIV and hepatitis C virus (HCV) transmission associated with injecting drug use. Sarang and colleagues undertook qualitative studies among 209 people who inject drugs in three Russian cities: Moscow (n=56), Volgograd (n=83) and Barnaul in western Siberia (n=70). Over three-quarters (77%) reported experience of police arrest related to their drug use, and 35% (55% of men) a history of imprisonment or detention. Findings emphasise the critical role that penitentiary institutions may play as a structural factor in the diffusion of HIV associated with drug injection in the Russian Federation. While drugs were perceived to be generally available in penitentiary institutions, sterile injection equipment was scarce and as a consequence routinely reused, including within large groups. Attempts to clean borrowed needles or syringes were
inadequate, and risk reduction was severely constrained by a combination of lack of injecting equipment availability and punishment for its possession. Perceptions of relative safety were also found to be associated with assumptions of HIV negativity, resulting from a perception that all prisoners are HIV tested upon entry with those found HIV positive segregated. The authors conclude that the study shows an urgent need for HIV prevention interventions in the Russian penitentiary system.


High prevalence of HIV infection and the over-representation of people who inject drugs in prisons combined with HIV risk behaviour create a crucial public-health issue for correctional institutions and, at a broader level, the communities in which they are situated. However, data relevant to this problem are limited and difficult to access. Dolan and colleagues reviewed imprisonment, HIV prevalence, and the proportion of prisoners who inject drugs in 152 low-income and middle-income countries. Information on imprisonment was obtained for 142 countries. Imprisonment rates ranged from 23 per 100,000 population in Burkina Faso to 532 per 100,000 in Belarus and Russia. Information on HIV prevalence in prisons was found for 75 countries. Prevalence was greater than 10% in prisons in 20 countries. Eight countries reported prevalence of people who inject drugs in prison of greater than 10%. HIV prevalence among prisoners who inject drugs was reported in eight countries and was greater than 10% in seven of those. Evidence of HIV transmission in prison was found for seven low-income and middle-income countries. HIV is a serious problem for many countries, especially where injection drug use occurs. The authors conclude that because of the paucity of data available, the contribution of HIV within prison settings is difficult to determine in many low-income and middle-income countries. They add that systematic collection of data to inform HIV prevention strategies in prison is urgently needed. The introduction and evaluation of HIV prevention strategies in prisons are warranted. Editors’ note: No institution outside hospitals has higher HIV prevalence around the world. Although more data are needed, the actions needed to prevent intramural transmission are well known – implementation and evaluation are urgently needed.

6. Positive prevention


Since 1998, French HIV prevention guidelines have recommended the use of HIV post-exposure prophylaxis (PEP) after unprotected sex with an HIV-positive partner. This study analysed factors associated with PEP awareness in a population of individuals living with HIV. In 2003, a face-to-face survey was conducted among people living with HIV selected from a random stratified sample of 102 French hospital departments delivering HIV care. Those who knew about PEP and those who did not were compared to identify factors related to PEP awareness in the sub-sample who reported that they had been sexually active in the prior 12 months. Among the 2,280 sexually active people living with HIV, the median age was 40 years. Women comprised 26% of the sample, 41% were homosexual men and 16% were
immigrants. Thirty percent of individuals reported not being aware of the availability of PEP. After multiple adjustment, factors associated with lack of PEP awareness were a low educational level, unemployment, older age, and CD4 cell counts <200. In addition, homosexual men showed a higher level of PEP awareness compared with the other participants, especially when compared with immigrant heterosexual men and women. Individuals who reported having unprotected sex with a non-HIV-positive steady partner also independently showed lower levels of PEP awareness. Finally, reporting having casual partners was associated with better awareness. Awareness of PEP is insufficient among people living with HIV, especially among immigrants. Programmes aimed at improving positive prevention among people living with HIV are much needed and should be promoted.


Elford examined the sexual behaviour of gay men as well as black African heterosexual men and women living with diagnosed HIV in London, and considered the implications for HIV transmission. People living with HIV receiving treatment and care in outpatient clinics in north east London were asked to complete a confidential, self-administered questionnaire in 2004-2005. Respondents were asked about unprotected anal or vaginal intercourse in the previous 3 months, and the type (main or casual) and HIV status of their partner(s). A total of 1687 people with diagnosed HIV returned a completed questionnaire (response rate 73% of eligible clinic attenders) including 480 black African heterosexual women, 224 black African heterosexual men and 758 gay/bisexual men (464 white, 112 ethnic minority). One in five gay men with HIV (20.1%, 144/715) reported unprotected anal intercourse with a partner of unknown or discordant HIV status (usually a casual partner). This presents a risk of HIV transmission. By comparison, one in 20 (5.1%, 32/623) black African heterosexual men and women with HIV reported unprotected vaginal intercourse that presented a risk of HIV transmission; odds ratio (gay men versus black African men and women combined) 5.28, 95% confidence interval 3.52, 7.91, P < 0.001. Neither viral load nor being on HAART were significantly associated with unprotected intercourse among gay men or black African heterosexual men and women. The authors conclude that behavioural research among people with diagnosed HIV in London shows that gay men are more likely than black African heterosexual men and women to engage in sexual behaviour that presents a risk of HIV transmission.

7. Epidemiology


The HIV burden among adults in India is estimated officially by direct extrapolation of annual sentinel surveillance data from public-sector antenatal and sexually transmitted infection (STI) clinics and some high-risk groups. The validity of these extrapolations has not been systematically examined with a large sample population-based study. Dandona and colleagues sampled 13,838 people, 15-49 years old, from 66 rural and urban clusters using a stratified random method to represent adults in Guntur district in the south Indian state of Andhra Pradesh. The authors interviewed the sampled participants and obtained dried blood spots from them, and tested blood for HIV antibody, antigen and nucleic acid. They then
calculated the number of people with HIV in Guntur district based on these data, compared it with the estimate using the sentinel surveillance data and method, and analysed health services use data to understand the differences. In total 12,617 people (91.2%) gave a blood sample. Adjusted HIV prevalence was 1.72% (95% CI 1.35-2.09%); men 1.74% (1.27-2.21%), women 1.70% (1.36-2.04%); rural 1.64% (1.10-2.18%), urban 1.89% (1.39-2.39%). HIV prevalence was 2.58% and 1.20% in people in the lower and upper halves of a standard of living index (SLI). Of women who had become pregnant during the past 2 years, 21.1% had used antenatal care in large public-sector hospitals participating in sentinel surveillance. There was an over-representation of the lowest SLI quartile (44.7%) in this group, and 3.61% HIV prevalence versus 1.08% in the remaining pregnant women. HIV prevalence was higher in that group even when women were matched for the same SLI half (lower half 4.39%, upper 2.63%) than in the latter (lower 1.06%, upper 1.05%), due to referral of HIV-positive/suspected women by private practitioners to public hospitals. The sentinel surveillance method (HIV prevalence: antenatal clinic 3%, STI clinic 22.8%, female sex workers 12.8%) led to an estimate of 112,635 (4.38%) people with HIV, 15-49 years old, in Guntur district, which was 2.5 times the 45,942 (1.79%) estimate based on this population-based study. The authors conclude that the official method in India leads to a gross overestimation of the HIV burden in this district due to addition of substantial extra HIV estimates from STI clinics, the common practice of referral of HIV-positive/suspected people to public hospitals, and a preferential use of public hospitals by people in lower socioeconomic strata. India may be overestimating its HIV burden with the currently used official estimation method. Editors’ note: This kind of study can be extremely valuable in increasing the precision of estimates at local level and in helping understand the possible sources of variance at state (or province), regional and national level.


A rapidly advancing epidemic of HIV-1 infection has been documented among people who inject drugs in Russia. The Northwestern Federal District was the first of the seven Russian Federal Districts involved in a drug-related HIV epidemic through an outbreak in Kaliningrad in 1996. The Northwestern Federal District has a high HIV prevalence rate having reached 252 per 100,000 by the end of 2003, exceeding the Russian average (180) by 1.4 times. The epidemic peaked in 2001. Since then the annual number of new cases has decreased, probably reflecting saturation among at least some IDU populations. However, at the same time, the heterosexual spread of HIV has become more prominent. To study the genetic epidemiology of HIV-1, Smolskaya and colleagues collected samples from 150 individuals covering a wide geographical area and different transmission groups in the Northwestern Federal District. Phylogenetic analysis revealed that an Eastern European subtype A HIV-1 strain similar to those reported earlier among people who inject drugs in other regions of Russia accounted for 80% of HIV-1 infections and was the predominant subtype in six out of seven administrative territories studied both among people who inject drugs and heterosexually infected persons. As an exception to the dominant role of the Eastern European subtype A strain, the CRF03-AB strain was found to be dominant in the city of Cherepovets located in the north central European Russian territory of Vologda Oblast. The authors conclude that this is the first report of the CRF03-AB strain causing an outbreak outside the Kaliningrad region.

In Taiwan, sexual transmission is responsible for most HIV-1 infections with two dominant subtypes, subtype B and CRF01_AE, distributing among homosexual and heterosexual groups, respectively. Recently, injecting drug use has become an emerging route of HIV-1 transmission and contributed to a significant increase of HIV-1 infection. To characterize the HIV isolates responsible for the outbreak among people who inject drugs, Chang and colleagues performed phylogenetic analysis to analyse the protease/RT sequences amplified from HIV-1-infected people who inject drugs at National Taiwan University Hospital and Taipei City STD Control Center. CRF07_BC, which is circulating in northern China, was demonstrated to account for the majority of HIV-1 infection in people who inject drugs in the past 2 years. Although these Taiwanese CRF07_BC sequences shared the same breakpoint positions as those described in the CRF07_BC reference sequences, they formed a unique cluster in the phylogenetic tree, suggesting they originated from a founder virus. This finding was further supported by the relative low genetic diversity and unique sequence features. These results demonstrated the emergence of CRF07_BC and its association with the HIV-1 outbreak among people who inject drugs between 2004 and 2005 in Taiwan. The authors conclude that this finding not only helps us to have a better understanding of the HIV evolution in Asia, but also has important implications for vaccine design in the future.

8. Internet sex


"Bug chasing" and "gift giving" are colloquial terms used by some men who have sex with men to describe intentional unprotected anal sex ("barebacking") with the goal of spreading HIV. There is little large-scale descriptive research that has investigated the prevalence of this phenomenon. This study analyzed the internet profiles of MSM who self-identified as bug chasers or gift givers (n=1,228) on a single US-based barebacking-centred web site in the fall of 2004. Most men (79%) were white, and most (70%) lived in the US. Six categories of bug chasing and gift giving were identified based on the HIV serostatus of men and the desired serostatus of partners they wanted to meet. Only a small portion of men were genuinely seeking partners of discordant serostatus: 1.1% of HIV-positive men and 21.3% of HIV-negative men. A larger portion was ambivalent about their partners HIV serostatus: 72% of HIV-positive men and 35% of HIV-negative men. Having identified online as a bug chaser or gift giver did not consistently correspond to behavioural intentions, as 24% of HIV-positive men and 36% of HIV-negative men were specifically seeking partners of the same serostatus. The authors conclude that their data suggest bug chasing and gift giving do exist; however a sizable portion of both bug chasers and gift givers were not intent on spreading HIV.

9. Capacity building

HIV prevention organisations are increasingly adopting more intensive and evidence-based strategies with the goal of protecting targeted populations from HIV infection or transmission. Thus, capacity building has moved to the forefront as a set of activities necessary to enable HIV prevention organizations to plan, implement, monitor, and evaluate prevention programs and services. Cost-effective approaches to the provision of capacity building assistance traditionally use strategies that compromise efficaciousness and more intensive approaches can be cost prohibitive. In addition, traditional approaches treat programme planning and implementation and programme monitoring and evaluation as two separate entities, even though they are interdependent aspects of an efficient and effective service delivery system. Nu’man and colleagues describe a framework for building sustainable organisational capacity that combines high- and low-intensity approaches; integrates programme planning, monitoring, and evaluation; and focuses on building understanding of the value of appropriate organisational change. The authors used the described framework over a 3-year period with 52 community-based organisations funded by the Centers for Disease Control and Prevention (CDC) and organizations funded by CDC-funded health departments. The authors describe lessons learned and make recommendations for building long-term sustainability, organisational change at various levels, and the need to develop standardised indicators to measure changes in organisational capacity.

10. Serostatus disclosure


Bouillon and colleagues determined the rate, patterns and predictors of HIV disclosure in the French Antilles and French Guiana. The authors conducted a cross-sectional survey among a 15% random sample (n=398) of the hospital caseload in hospitals providing HIV care. Determinants of disclosure to a steady partner and other members of the individual’s social network were analysed using logistic regression. From the time of diagnosis, 84.6% of those in a couple (n=173) disclosed their HIV-positive status to their steady partner, 55.6% disclosed to others, and 30.3% did not tell their status to anyone. Disclosure within a steady partnership was less likely among non-French individuals (Haitians: OR 0.11, 95% CI 0.02-0.72; other nationalities: OR 0.13, 95% CI 0.02-0.68); and among those diagnosed with HIV after 1997 (OR 0.21, 95% CI 0.05-0.86). Determinants of disclosure to others were found to be sex (women: OR 2.04, 95% CI 1.24-3.36), age at diagnosis (≥ 50 versus < 30 years: OR 0.42, 95% CI 0.19-0.90), nationality (Haitians versus French: OR 0.39, 95% CI 0.19-0.77), transmission route (non-sexual versus sexual: OR 3.38, 95% CI 1.12-10.23) and hospital inpatients (hospitalized versus non-hospitalized patients: OR 1.98, 95% CI 1.17-3.37). After disclosing, social and emotional support from confidants was common and discrimination was infrequent. The authors conclude that one third of people living with HIV had kept their HIV status secret. Programmes targeting the general population and social institutions, and support for people living with HIV by healthcare staff are needed to improve the situation. Editors' note: In this study, although 85% of those with steady partners had disclosed, overall a third of people diagnosed with HIV had not disclosed. Women, younger people, French nationals, hospital inpatients or those infected through non-sexual transmission routes were more likely to disclose. Studying the determinants of disclosure in a given
setting is important in determining which people may need additional counselling and support to experience the beneficial aspects of disclosure.

11. HIV and reproduction


Ogilvie and colleagues examined the fertility intentions and reproductive health issues of women living with HIV in a broad-based sample in British Columbia, Canada. Between November 2003 and December 2004, the authors invited women with HIV at all HIV clinics and AIDS service organizations in the province of British Columbia, Canada, to complete the survey instrument ‘Contraceptive Decisions of HIV-positive Women’. Logistic regression analysis was conducted to calculate adjusted odds ratios to identify factors that may be significant predictors of the intention of women living with HIV to have children. Of the 230 surveys completed, 182 women (79.1%) were of reproductive age (≤ 44 years), and 25.8% of women living with HIV indicated an intention to have children. In multivariate modelling, non-aboriginal ethnicity, younger age and having a regular partner were associated with an increased likelihood of reporting the intention to have children in the future. The authors conclude that women who were HIV-positive in their study described an intention to have children at levels approaching those among the general population and regardless of their clinical HIV status. Public policy planners and health practitioners need to consider and plan for the implications of increased numbers of women with HIV who may choose to have children.

12. Treatment


Newman and colleagues examined the barriers and incentives to HIV treatment uptake among Aboriginal people in Western Australia. In-depth, semi-structured interviews were conducted between February and September 2003 with 20 Aboriginal people who were HIV-positive; almost half the total number of Aboriginal people known to be living with HIV in Western Australia at that time. Despite having access to treatments in both urban and rural areas, only 11 of the 20 participants were on antiretroviral treatment at the time of interview. Four of the women had been prescribed treatment during pregnancy only. The main barriers to treatment uptake were fear of disclosure and discrimination, heavy alcohol consumption and poverty. The incentives were pregnancy and access to services whose approach can be described as broad-based and holistic, i.e. supporting people in the context of their everyday lives by providing psychosocial and welfare support as well as healthcare. The authors conclude that for many Aboriginal people, maintaining social relationships, everyday routines and the respect of friends, families and community is a greater priority than individual health per se. Treatment regimens must be tailored to fit the logistical, social and cultural context of everyday life, and be delivered within the context of broad-based health services, in order to be feasible and sustainable.

Long-term data from randomised trials on the consequences of treatment with a protease inhibitor (PI), non-nucleoside reverse transcriptase inhibitor (NNRTI), or both are lacking. MacArthur and colleagues report results from the FIRST trial, which compared initial treatment strategies for clinical, immunological, and virological outcomes. Between 1999 and 2002, 1397 ART-naive patients, presenting at 18 clinical trial units with 80 research sites in the USA, were randomly assigned in a ratio of 1:1:1 to a protease inhibitor (PI) strategy (PI plus nucleoside reverse transcriptase inhibitor [NRTI]; n=470), a non-nucleoside reverse transcriptase inhibitor (NNRTI) strategy (NNRTI plus NRTI; n=463), or a three-class strategy (PI plus NNRTI plus NRTI; n=464). Primary endpoints were a composite of an AIDS-defining event, death, or CD4 cell count decline to less than 200 cells per mm3 for the PI versus NNRTI comparison, and average change in CD4 cell count at or after 32 months for the three-class versus combined two-class comparison. Analyses were by intention-to-treat. A total of 388 participants developed the composite endpoint, 302 developed AIDS or died, and 188 died. NNRTI versus PI hazard ratios (HRs) for the composite endpoint, for AIDS or death, for death, and for virological failure were 1.02 (95% CI 0.79-1.31), 1.07 (0.80-1.41), 0.95 (0.66-1.37), and 0.66 (0.56-0.78), respectively. 1196 patients were assessed for the three-class versus combined two-class primary endpoint. Mean change in CD4 cell count at or after 32 months was +234 cells per mm3 and +227 cells per mm3 for the three-class and the combined two-class strategies (p=0.62), respectively. HRs (three-class vs combined two-class) for AIDS or death and virological failure were 1.15 (0.91-1.45) and 0.87 (0.75-1.00), respectively. HRs (three-class vs combined two-class) for AIDS or death were similar for participants with baseline CD4 cell counts of 200 cells per mm3 or less and of more than 200 cells per mm3 (p=0.38 for interaction), and for participants with baseline HIV RNA concentrations less than 100 000 copies per mL and 100,000 copies per mL or more (p=0.26 for interaction). Participants assigned the three-class strategy were significantly more likely to discontinue treatment because of toxic effects than were those assigned to the two-class strategies (HR 1.58; p<0.0001). The authors conclude that initial treatment with either an NNRTI-based regimen or a PI-based regimen, but not both together, is a good strategy for long-term antiretroviral management in treatment-naive patients with HIV.

Editors’ note: The take home message is to start treatment naïve patients on an antiretroviral combination drawn from two classes not three; there are equivalent clinical benefits and fewer side effects.

That was HIV This Week, signing off.

Editors’ notes on journal access

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