HIV, organ impairment and cancer

Introduction

As people live longer and remain in good health, thanks to antiretroviral therapy, the pattern of illness associated with HIV is changing. There is increasing recognition of the direct pathogenic effect of HIV on many organs, including kidneys, heart and liver and a rise in non-AIDS cancers.

Opportunistic infections (OIs), typically related to immunosuppression, are becoming less common. Tuberculosis is an exception and continues to be the most common OI in people living with HIV. The new concept of serious non-AIDS events (SNAs) has emerged following data from the Strategies for Management of Antiretroviral Therapy (SMART) trial and other studies.\(^1\)\(^-\)\(^4\)

SNAs (end-stage liver and kidney disease, cardiovascular disease, and non-AIDS cancers) are becoming more common in treatment programmes, especially in developed and middle-income countries. They have so far been less well characterized in resource-limited settings.

1. HIV and the Kidney

HIV-associated nephropathy (HIVAN) is common and directly related to infection of the renal cells with HIV. Previously called AIDS-related nephropathy, HIVAN is the most frequent cause of renal failure in persons living with HIV infection. As people survive longer on antiretroviral therapy (ART), renal disease has become an important contributing factor to morbidity and mortality.\(^5\)

The cellular targets are the renal glomeruli and tubular epithelium.\(^6\) The mechanism by which HIV affects the kidney is by direct viral infection within renal cells causing glomerular collapse and consequent loss of renal function.\(^7\)\(^-\)\(^8\) While ART reduces the incidence and severity of HIVAN, some antiretrovirals such as tenofovir and indinavir have been reported to be associated with renal impairment in some patients.\(^9\)

In the United States of America, HIVAN accounts for approximately 1% of new cases of end-stage renal failure with one third of cases among African Americans. Males outweigh females by 10 to 1.\(^10\) The epidemiology of the disease is not well defined in resource-limited settings.\(^11\) In a study from South Africa, HIVAN histology was present in 43% of renal biopsies performed in HIV-positive patients.\(^12\) There are limited data on HIVAN in the Asia Pacific region, (continued on Page 2)

![Figure 1: Changes in causes of death over time in Brazil](image-url)


\(^{1-4}\)\(^ ,\)\(^5\)\(^-\)\(^12\)
where awareness of chronic kidney disease is generally low among patients and physicians.\textsuperscript{13} In a single case report from Hong Kong (China), a 52-year-old man infected with HIV for six years and on ART presented with acute renal failure and nephrotic syndrome. Renal biopsy was consistent with HIVAN. The authors said that HIVAN is rare in Asian populations.\textsuperscript{14}

While HIVAN is not specific to the route of HIV transmission, 50% occurs in people who inject drugs.\textsuperscript{15} SMART trial compared intermittent versus continuous ART in diverse ethnic populations. Intermittent therapy was associated with inferior outcomes not only in terms of opportunistic disease and death but also an increased risk of fatal or non-fatal renal disease.\textsuperscript{12–13}

The clinical presentation of HIVAN is progressive renal failure, with enlarged kidneys on ultrasound and nephrotic syndrome (proteinuria, hypoalbuminemia and edema).\textsuperscript{16}

ART is effective in preventing and treating HIVAN.\textsuperscript{17} Adjunctive therapy includes angiotensin-converting enzyme (ACE) inhibitors and corticosteroids in selected patients with significant interstitial inflammation or rapid progression.\textsuperscript{16}

2. HIV and the Heart

People living with HIV are at risk of cardiovascular disease from the same factors posing risk in the general population: smoking, dyslipidemia, hypertension, obesity and diabetes. However, HIV infection itself, opportunistic infections and ART are additional risk factors. The most common cardiac manifestations of HIV are dilated cardiomyopathy, myocarditis, pulmonary hypertension, pericardial effusion, endocarditis, malignancy and drug-related cardiotoxicity.\textsuperscript{18}

HIV causes cardiovascular adverse events through direct and indirect pathways. These include direct HIV infection of endothelium and vascular smooth muscle cells, and cytokine-mediated inflammation. Indirectly, HIV causes dyslipidaemia, enhanced atheroma formation, insulin resistance, glucose intolerance and a prothrombotic state.\textsuperscript{19}

The incidence of pericarditis, with or without pericardial effusion, in patients with severe immunosuppression (CD4 count <200 cells/mm\textsuperscript{3}) not receiving ART has been reported as 11% per year.\textsuperscript{20} While there are some case reports of identified pathogens, the effusion is mostly linked to inflammation associated with advanced HIV infection. In contrast, endocarditis typically has an infectious origin and is rare except in injecting drug users.\textsuperscript{21}

3. HIV and the Liver

Liver disease is an increasing problem in people living with HIV. In those who are able to take antiretroviral therapy, the forms of liver disease have changed and their relative importance has increased.\textsuperscript{22} Liver disease is caused by HIV itself and co-infection with hepatitis B (HBV) and hepatitis C (HCV). It tends to occur more commonly in people with HIV infection due to the shared transmission routes of hepatitis B and C and opportunistic infections unique to immunosuppression, such as tuberculosis and HIV-related cholangitis. Morbidity and mortality due to liver disease have increased, coinciding with the impact of ART in reducing HIV-related mortality. The pattern of liver disease has changed from the pre-ART era when opportunistic infections and cancers predominated, to chronic viral hepatitis, HIV-related fibrosis and non-alcoholic fatty liver. End-stage liver disease has become a major cause of death in HIV and hepatitis co-infected patients.\textsuperscript{23–24} High viral loads, low CD4 cell counts and incomplete suppression of HIV Ribonucleic acid on ART are all associated with an increased risk of liver-related death.\textsuperscript{23} HIV causes liver fibrosis and fatty liver by directly infecting hepatocytes (causing cell death) and liver stellate cells (the major cell type involved in liver fibrosis).\textsuperscript{25}

The impact of HIV on the liver is inextricably linked to HBV and HCV infection. HIV infection increases the HCV viral load and the risk of cirrhosis and reduces the chance of spontaneous clearance of HCV infection.\textsuperscript{26} HIV infection reduces spontaneous HBV surface antigen clearance and accelerates progression of chronic hepatitis B.\textsuperscript{27} Both HBV and HCV can complicate the initiation of ART by causing hepatic Immune Reconstitution Inflammatory Syndrome (IRIS) soon after ART is started.

In the Multicentre AIDS Cohort study (MACS) cohort, there was a fourteen-fold increase in liver mortality rate among those with HIV/hepatitis B co-infection.\textsuperscript{28}
4. Antiretroviral-associated liver disease

Approximately one of every eight persons taking a new antiretroviral regimen develops hepatotoxicity, ranging from elevations of hepatic enzymes and hyperbilirubinemia to acute liver failure and death.\textsuperscript{29} Hepatotoxicity is more common in patients with coexisting HBV or HCV infection and may be part of generalized hypersensitivity reaction, such as that caused by Abacavir. However, the short- and long-term hepatic toxicity of ART is outweighed by its positive impact on reduction of HIV replication, restoration of immune responses and prolongation of life.\textsuperscript{22}

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<th>Liver disease</th>
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<td>HIV infection</td>
<td>Fibrosis and fatty liver</td>
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<td>HCV infection</td>
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<td>Drug induced</td>
<td>Increased antiretroviral drug toxicity</td>
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5. Non-AIDS malignancies

Invasive cervical cancer, Kaposi’s sarcoma and non-Hodgkin’s lymphoma are well known AIDS-defining cancers. However, people living with HIV (PLHIV) are at increased risk of developing non-AIDS cancers. In a recently published meta-analysis (4797 cases), PLHIV were twice as likely to develop non-AIDS defining cancers compared to HIV uninfected individuals.\textsuperscript{30} The most frequently observed were lung cancer (847 cases), Hodgkin’s lymphoma (643 cases) and anal cancer (254 cases). Malignancies linked to viral infections (human papillomavirus, hepatitis B and C and Epstein Barr virus) also are more common among PLHIV. Other risk factors such as smoking may play a role in the development of these malignancies.

PROGRAMME MANAGER’S VIEWPOINT:
Hong Kong (China) Experience in Combating the HIV Epidemic Among Men Who Have Sex With Men

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With a local population of around 7 million people, Hong Kong (China) has remained a low HIV prevalence area since the first HIV case was diagnosed in 1984. As at end of June 2009, the accumulated total number of HIV and AIDS reported cases reached 4249 and 1071 respectively.\textsuperscript{31} Sexual transmission accounts for almost three quarters of the reported cases, while 17\% were of undetermined transmission route due to inadequate information. Injecting drug users only accounted for 6\% of the reported cases. The HIV prevalence among drugs users as reflected in the methadone clinic attendees is kept low at about 0.4\% due to the high coverage and low threshold for access of methadone treatment services provided by the 20 methadone clinics since the
early 1970s. Since the turn of the 21st century, the main challenges come from a resurging HIV epidemic among men who have sex with men (MSM), which has become apparent since 2005 in multiple sources of data.

Prior to 2005, there were only two nongovernmental organizations which ran condom distribution and outreach testing programmes for MSM in saunas and bars. One of these nongovernmental organizations documented a rise in HIV prevalence among MSM in bars and saunas from their voluntary counselling and testing service statistics, from less than 1% in 2002 to around 2.5% in 2005. In the Department of Health’s voluntary case reporting system, the number of MSM case reports also increased steeply from 28 cases in 2000 to 96 cases in 2005. Molecular studies have identified several major clusters of transmission among MSM.

In 2005 and 2006, Dr Tim Brown, senior fellow at the East West Center in Hawaii (United States of America) and also an external consultant of Hong Kong Department of Health, analyzed the epidemiological data to prepare estimates and projections for the local epidemic. He also shared the latest regional findings of rapid HIV growth among MSM around Asia, with some places having severe MSM epidemics, e.g., Bangkok. If Hong Kong (China) does not step up its HIV preventive responses among MSM, it was projected that about 30% of local MSM would be HIV-positive by 2020.32 This would translate into millions of dollars worth of antiretroviral treatment. Dr Brown also pointed out that the consistent condom use was dangerously low among MSM at around 40% for regular partners and 70% for non-regular partners. In order to turn around the rising epidemic, consistent condom use must reach 80% among MSM.

Hong Kong (China) adopted a pragmatic approach in tackling the HIV epidemic among MSM. Firstly, the Advisory Council on AIDS (ACA) identified HIV prevention among MSM as the pressing priority for action in its five-year AIDS Strategies from 2007 to 2011.33 ACA also advocated for consistent condom use to reach 80% among at-risk community groups including MSM. Testing coverage was to be scaled up with community mobilization for preventive programmes among MSM.

The Council for the AIDS Trust Fund (ATF), the biggest funding source of community projects in Hong Kong (China), also launched a Special Project Fund on 1 December 2006 to invite applications for HIV preventive projects for MSM in the community. Based on the findings of a community needs assessment, ATF laid down pre-defined areas of public health interventions such as improving condom and lubricant accessibility, promoting HIV testing, promoting sexual health services, reducing HIV risk in the context of recreational drug abuse and internet use, and empowering MSM who had recently come out, etc. This provided the MSM community the resources it needed for active engagement in the response and greatly expanded community-based efforts. Between 2006 and 2008, ATF disbursed around HK$ 13.6 million to support 42 community-based HIV prevention and research projects targeting MSM. In 2009, there are 10 nongovernmental organizations which provide HIV preventive and support services for MSM.

The Red Ribbon Centre (RRC), the HIV health promotion and technical unit of the Department of Health, appointed two liaison officers to improve collaboration and communication with the MSM community and the nongovernmental organizations engaged in MSM targeted work. A Working Group on HIV Prevention in MSM was set up in early 2006. The membership of the Working Group includes MSM service providers, MSM business and media owners, opinion leaders and academics who contributed their views to the preventive strategies, strategic information, risk communication and health promotion campaigns. RRC launched three HIV awareness and health promotion campaigns, namely “Do It Safely” (2006), “Zero Heroes” (2007) and “Syphilis Prevention Campaign in MSM” (2009). An informational website (www.21171069.com) was set up as well as an MSM hotline (2117 1069) to provide information, counselling and HIV testing.

Technical assistance was provided to ATF applicants when they made their applications on MSM projects. Capacity-building workshops were organized with assistance from overseas experts, including Dr Tim Brown of East West Center (Hawaii, United States of America), Dr Susan Kegeles of University of California, San Francisco (San Francisco, United States of America), the
Albion Street Centre (Sydney, Australia) and the AIDS Council of New South Wales (Sydney, Australia). Furthermore, WHO, UNAIDS, UNDP and the Department of Health in Hong Kong (China) held a technical consultation on the health sector response to HIV among MSM from 18 to 20 February 2009. It was an excellent opportunity for local AIDS workers and MSM community members to learn from the international delegates on best practices in the region.34

A community-based surveillance programme named PRISM was conducted in 2006 and 2008 to track the HIV epidemic in MSM. PRISM consists of both seroprevalence and behavioural surveys. A mapping exercise was performed to determine the number of MSM bars and saunas, which could subsequently be included in the survey. In both PRISMs, over 800 urine samples were collected to estimate the HIV prevalence which has increased slightly from 4.05% in 2006 to 4.31% in 2008. The proportion of MSM who had a HIV test in the past year and knew their results rose from 24% in 2006 to 36% in 2008. The level of consistent condom use among MSM with regular partners was 41% in 2006 and only rose to 45% in 2008. The level of consistent condom use among non-regular partners was 73% in 2006 and rose to 75% in 2008.

With the introduction of antiretroviral treatment, AIDS is managed as a chronic disease. In Hong Kong (China), as a general principle no person is denied of access to health care because of lack of means. The government provides affordable and accessible HIV treatment services. This is a very important public health initiative as those patients who are receiving quality treatment, care and support services will also reduce their onward HIV transmission.

In terms of creating an enabling environment, the government passed the Disability and Discrimination Ordinance to offer protection for persons living with HIV against discrimination in education and employment. It also prescribes that services and facilities are to be made available to them. Since 1996, the law has been in force and also helps to induce acceptance and achieve inclusion.

The cornerstone of success in scaling up the HIV prevention response in MSM is to develop an open and trusting partnership between the government, nongovernmental organizations, the MSM community and other related sectors. It is important to know our own epidemic and make evidence-based decisions in terms of setting AIDS policies and allocation of resources. The right proportion of resources must be channeled to scale up preventive responses such as condom accessibility and testing programmes. Communities must remain central to the response, making the provision of resources, capacity building, training and technical assistance critical elements for expanding effective HIV preventive programmes in the community. After the initial scaling up of the HIV responses, the programmes must be monitored, evaluated and refined in terms of coverage and quality. The government has responsibility for the overall coordination of the AIDS response including setting evidence-based policies, providing an enabled environment, gathering strategic information, tracking the HIV epidemic and communicating HIV risks to both affected communities and the larger public in an open and transparent manner. Best practices identified both locally and elsewhere must be shared and disseminated. And most importantly, the MSM community must buy in, take ownership of the AIDS response for its members, and become active and engaged partners in that response. Otherwise preventive efforts will be unsustainable in the long term and the epidemic will continue to grow.

Acknowledgement

We wish to thank all those AIDS stakeholders who have contributed to combat the HIV epidemic in Hong Kong (China). A special note of thanks to Dr Tim Brown, Senior Fellow of the East West Center in Hawaii, and Dr Jaime Sin of the Secretariat of the Council of the AIDS Trust Fund for their invaluable comments on this article.
More than 4000 delegates took part in ICAAP at the Bali Convention Centre in Indonesia from 9 to 13 August 2009. The theme was Empowering People, Strengthening Network, which calls for strengthening commitment to achieving universal access and providing prevention, care, support and treatment for those who need it most. The conference also urged nations to work towards implementing the Declaration of Commitment adopted at the United Nations General Assembly Special Session on AIDS in 2001 and the Political Declaration of 2006, despite the pressures of the global economic crisis.

It is evident from the conference that some countries in the Asia Pacific region are beginning to see success in their efforts to reverse the spread of HIV, but not enough to break the trajectory of the epidemic. There is still recognition of the need to protect and enhance involvement of marginalized populations including sex workers, MSM, transgender people, injecting drug users and their intimate partners. The need to update guidelines on antiretroviral therapy was highlighted at ICAAP, including second-line therapy in resource-limited settings, the management of treatment-experienced patients, cost-effective initiation of ART, the public health approach to the management of first-line regimen failure and the need to have equitable guidelines for high-income and middle- and low-income countries. There were also calls to scale up structural interventions, including policies on decriminalization of sex workers and MSM, as well as reducing stigma and discrimination.

**WHO in Action**

The World Health Organization (WHO) technical leadership has also been highlighted in various symposia and satellite sessions. The majority of the sessions were well attended and participants appreciated the technical content. The WHO aims to ensure effective responses through the dissemination of technical guidance in the health sector response and to contribute to strengthening networks and empowering communities towards universal access to prevention, care, support and treatment. WHO Regional Offices in New Delhi and Manila contributed to the following sessions in collaboration with partners including UNICEF, Family Health International (FHI), Asia Pacific Coalition on Male Sexual Health (APCOM), UNODC, UNFPA and the Asia Pacific Network of Sex Workers (APNSW).

Symposia included:
- Recent advances in ART – Implications for programme scale up and implementation in the Asia Pacific region (WHO South East Asia and Western Pacific Regional Offices)
- Scaling up harm reduction services towards universal access in Asia: Models of good practice (UN Task Force on HIV on IDU and WHO Western Pacific Regional Office)
- Falling through the cracks: Addressing the reproductive health needs of female sex workers (APNSW, FHI, UNFPA, UNICEF and WHO South East Asia and Western Pacific Regional Offices)

Satellite sessions included:
- MSM and HIV in Asia and the Pacific: Cross-cutting issues (APCOM, FHI and WHO Western Pacific Regional Office)
- Where’s the Care? – Palliative Care as cornerstone of comprehensive HIV services in the era of ART (FHI and WHO South East Asia and Western Pacific Regional Offices)
- Linking HIV/STI Services and Reproductive, Adolescent, Maternal, Newborn and Child Health Services: Opportunities for Universal Access (UNICEF and WHO South East Asia and Western Pacific Regional Offices)
- Data sources, data uses: identify gaps in HIV data for decision-making in the Asia-Pacific region (UNICEF, UNAIDS, WHO)
The following satellite sessions were organized by WHO Headquarters:

- Addressing TB/HIV: The critical role of people living with HIV (PLHIV) and HIV service providers (UNAIDS and WHO HQ)
- Entry points for integrating gender into HIV/AIDS programmes in the health sector (WHO HQ)

WHO has disseminated numerous publications and technical resources. Two new publications were launched during the conference as follows:

- HIV Counselling Resource Package for the Asia-Pacific (UNICEF, FHI and WHO)
- Integrating gender into HIV/AIDS programmes in the health sector: Tool to improve responsiveness to women’s needs (WHO HQ)

**From Mekong to Bali: scale up of HIV/TB collaborative activities in Asia Pacific**

Prior to ICAAP, a meeting “From Mekong to Bali: scale up of HIV/TB collaborative activities in Asia Pacific” was organized by WHO in collaboration with the HIV/TB Working Group of the Stop TB Partnership from 8 to 9 August 2009. WHO staff from the Stop TB and HIV/STI units attended in the TB-HIV meeting along with 127 participants from 18 countries with high TB and HIV burdens. The meeting aimed to catalyze the implementation of collaborative HIV/TB activities in the Asia Pacific region which has more than half of the global burden of TB and 12% of the global burden of HIV. Participants shared experiences and best practices to inform plans to accelerate the implementation of nationwide collaborative HIV/TB initiatives. The meeting followed on from the first regional HIV/TB meeting held in the Mekong subregion in Ho Chi Minh City, Viet Nam, in October 2004. National TB and HIV programme managers were joined by a broad range of AIDS and TB stakeholders active in the Asia Pacific region, members of the HIV/TB Working Group, and representatives of bilateral and multilateral organizations, nongovernmental organizations, and faith-based organizations. The meeting came up with various recommendations to scale up HIV/TB initiatives. Some of the recommendations include the following:

1. Scale up provider-initiated HIV testing and counselling (PITC) to all TB patients and suspect cases and promote early and maximum uptake of co-trimoxazole preventive therapy and ART for HIV-positive TB patients to reduce mortality rates. Decentralize HIV testing and counselling and HIV care and treatment services to facilitate access to integrated HIV/TB prevention, treatment and care.

2. Develop a coherent communication strategy on the Three I’s: Intensified case finding (ICF); Isoniazid preventive therapy (IPT); and Infection control. Scale up IPT, develop and integrate infection control guidelines at all level of health care facilities, and advocate to and build the capacity of communities, patients and health care workers to create a safer TB-free living and working environment.

3. Structural adjustments to maximize collaboration between national AIDS programmes and national TB programmes.

4. Strengthen monitoring and evaluation, including improving recording and reporting of collaborative activities and HIV/TB cohort data analysis, as an urgent priority and monitor infection control practices.

5. Strengthen multisectoral responses to HIV/TB addressing de-stigmatization and decriminalization of behaviours associated with increased risk of HIV and TB.

6. Explore the benefits of integrating TB and HIV services with sexual and reproductive health.

7. Increase capacity of community groups to address HIV/TB co-infection.

8. Increase advocacy to adopt and implement the Three I’s.


The meeting report can be accessed in WHO webpage at:

http://www.stoptb.org/wg/tb_hiv/meetingsevents.asp
Excerpts from the 9th ICAAP

With over 370 oral and more than 1000 poster presentations, the 9th ICAAP covered many aspects of prevention treatment and care. This review will focus on areas of harm reduction, palliative care, access to antiretrovirals (ARVs) and linked responses.

Harm reduction and prevention targeting most-at-risk populations

The prevalence of HIV infection among injecting drug users (IDUs) reported at the conference is high, ranging from 7% in the 7th round national sero-surveillance data in Bangladesh, 30% in Pakistan to 60% in some regions of Myanmar and China. Sexual partners are also at risk. In one survey from Ha Noi, 14% of partners were reported as being HIV-positive, with a majority of those surveyed considering themselves at risk for HIV infection and believing that their partners would become violent if condom use was requested.

Harm reduction interventions for IDUs included opioid substitution therapy (OST), needle and syringe programmes, and compulsory drug treatment centres. The WHO Collaborative Study on Substitution Therapy for Opioid Dependence (28%) and 60% in some regions of Myanmar and China. Sexual partners are also at risk. In one survey from Ha Noi, 14% of partners were reported as being HIV-positive, with a majority of those surveyed considering themselves at risk for HIV infection and believing that their partners would become violent if condom use was requested.

Harm reduction interventions for IDUs included opioid substitution therapy (OST), needle and syringe programmes, and compulsory drug treatment centres. The WHO Collaborative Study on Substitution Therapy for Opioid Dependence examined the effectiveness of OST in East Asia (China, Indonesia, Thailand), Eastern Europe (Lithuania, Poland, Ukraine), and the Middle East (Iran). The HIV sero-prevalence rate was highest in Thailand (52%), followed by Indonesia (28%) and Iran (26%), and lowest in Australia (2.6%). Treatment retention at six months was uniformly high, averaging approximately 70%. The study concluded that OST can achieve significant reduction in heroin and other opioid use, exposure risk behaviours and criminal activity across diverse countries and cultures. In Hong Kong (China), methadone clinics also were used to increase coverage of HIV testing. Twenty methadone clinics with a daily attendance over 6000 implemented a universal HIV testing programme in 2004 achieving coverage of over 80%. One abstract from Indonesia reported the costs of OST to be Rupiah 69 206 (US$ 7.57) per client visit. Other successful large-scale needle and syringe programmes integrated with OST programmes were reported from China, Indonesia and India.

Compulsory drug rehabilitation centres are a component of national anti-narcotic strategies in many countries in the Asia Pacific region and the number of centres is increasing. A report from Thailand noted that large numbers of people were detained for extended periods of time, that HIV risk behaviours were common while in detention, there was little reliable evaluation of their effectiveness in reducing rates of drug use and that this was a neglected area of research into health and human rights.

Men who buy sex constitute an important bridge for transmission of HIV to the general population. Seafarers, a highly mobile population, remain a risk group due to continuing and new risk factors. In Indonesia, a collaboration between port authorities, employers and local communities targeted seafarers, dock workers and truckers. Surveillance data indicate that 43% of high-risk men in East Java used a condom during their last commercial sex encounter and prevalence of any STIs was only 2%, representing some of the best such rates in Indonesia.

Among mobile populations (truck/bus drivers and fishermen) in northern coastal Java and north Sumatra, a non-marital partner (frequently a commercial sex worker) was reported by 45% of drivers and 34% of fishermen, with only 7% condom use. In a small cross-sectional survey of fishermen at a commercial fishing jetty in Malaysia, 40.6% reported injecting drug use. A programme of non-institutional, mobile HIV testing among truckers tested 2094 men over an 8-month period in India, with 1.86% testing positive.

Access to ARV

The impact of generic production on HIV medicine prices since 2001 has played a central role in the scale up of government treatment programmes worldwide. In Thailand, the National Access to Antiretroviral Programme for People living with HIV/AIDS (NAPHA) programme was launched in 2003, with GPOVIR (generic fixed-dose combination of stavudine, lamivudine and nevirapine) as the main first-line regimen. Survival data from Lampang Hospital in north-west Thailand demonstrated a reduction in mortality from 50/100 person years of follow up (PYO) in 1996 to 5.3/100 PYO in 2006. Barriers to
ART scale up remain in many countries. These include limited infrastructure, human resources and leadership capacity, financial constraints, geographical barriers and low uptake of counselling and testing.

However, the same access may not apply to second-line ART with a study from India reporting second-line regimens to be inaccessible, expensive and unaffordable for majority of PLHAs, and that government supply of these drugs is limited and available only in selected centres. A separate abstract from India described plans to rollout second-line ART, commencing in April 2008, to 3000 PLHAs in need. In a centre in Jakarta, Indonesia, where second-line ART was available, 86.7% of patients had viral load <500 copy/ml after 8 months (IQR 3-16 months).

Home-based and palliative care

Often neglected at large conferences, models of home-based care from many countries were reported. In Cambodia, the Khmer HIV/AIDS NGO Alliance (KHANA), working with 60 implementing partners, provides a coordinated response to scale up prevention and care, including palliative care, through 120 home-based care teams. Papua New Guinea is classified as having a generalized AIDS epidemic, with more than 64,000 people living with HIV and AIDS. The Real Involvement of People Living with HIV and AIDS (RIPA) in Madang on the northeastern coast of Papua New Guinea supports people in these communities to care for families affected by HIV through community and home-based palliative care programmes and strengthening referral services that enable PLHA to access treatment, care and support. Cambodia may be characterized as a country emerging from a generalized HIV epidemic but still with a significant impact of HIV on society. Food security and income are critical for individuals, households and communities affected by HIV and AIDS. World Vision Cambodia, in partnership with the United Nations World Food Program (WFP), provides food aid to 2558 HIV/AIDS infected and affected households, with the monthly ration of 30kg of rice, 1kg of vegetable oil and 0.50kg of salt to supplement their own capacity. As one measure of the impact of the programme, the proportion of households which had sold rice land in the last two years fell from 23% in 2003 to 12% in 2008.

In Bangkok slums, another programme run by PLWHA enables people to be cared for while living in the communities as an alternative to being admitted into hospice care. In addition to medical and psychosocial care, the programme supports quality of life essentials such as home repairs and micro-loans.

Linked responses

In response to the parallel epidemics of HIV and tuberculosis, the National AIDS and Tuberculosis Programmes, in collaboration with International Union Against Tuberculosis and Lung Disease in Myanmar, provided same-day provider-initiated HIV counselling, testing and results to all adult TB patients and the spouses/children of TB/HIV patients residing in eight pilot township health centres. Among 3544 adult TB patients in 2008, 95% were offered a HIV test, 81% were tested and 29% were found to be HIV-infected. Of the spouses/children tested, 49% were HIV-infected.

Many people in Pacific island countries (PICs) do not access HIV or sexually transmitted infection (STI) services because of perceived stigma, embarrassment and other cultural barriers. While HIV rates are mostly low, high rates of STIs and unplanned pregnancies exist. Link projects are being developed between reproductive health and HIV/STI services in several PICs. A comprehensive approach is being applied at policy, systems and service delivery levels, including youth/adolescent-friendly sexual and reproductive health services and “one-stop shops” including reproductive health, VCT, HIV/STI care and outreach to vulnerable populations. In 2007, the International Labour Organization (ILO) collaborated with UNAIDS and the Pacific Island chiefs of police to assist 13 police organizations in the Pacific to develop HIV/AIDS workplace policies. Workshops explored police HIV vulnerabilities and examined negative perceptions of police, injecting drug users, sex workers and men who have sex with men to improve understanding of the human impact of HIV-related discrimination and to reduce the negative images of PLHIV.

In a programme which crosses borders, Medicins Sans Frontieres (Belgium) provides comprehensive care to Laotian and Myanmar
minority people, including ART, information and educational material in Thai, Lao and Myanmar languages, psycho-social support and reduction of stigma and discrimination among these vulnerable groups. In Myanmar, the Private Partnership for Public Health (PPPH) has established a network of private practitioners, community-based care organizations, public hospitals, laboratories and an independent management. This model seeks to increase accountability and trust amongst partners, reinforce third party management, assure quality and empower community groups.

Faith-based organizations play an important role in the response to HIV in the region. In Indonesian Papua, three Christian denominations formed a group of 48 pastor-leaders to provide HIV knowledge within the context of the church. In a rural district of Sri Lanka, the construction of a new harbour was reported to coincide with an increase in STDs in the local and construction communities. In response, Project Vidusetha involved Buddhist and Muslim religious leaders in reproductive health education and HIV prevention methods through 38 Buddhist Sunday schools and 17 Muslim equivalents. Religious leaders combined HIV knowledge with religious concepts regarding sexuality in their teaching activities. Open discussions regarding religion and sexuality helped to spread culturally sensitive messages.

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This was formerly known as the Antiretroviral Newsletter. The aim of this biannual newsletter is to provide health workers in the Region with a brief, up-to-date summary of the latest developments in HIV prevention and in the management of HIV infection, including antiretroviral therapies and co-morbidities (or associated conditions).

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