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All sessions referred to in this report may be referenced at:
- www.aids2006.org/pag
- www.kaisernetwork.org/aids2006
- www.clinicalcareoptions.com/HTV

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The International AIDS Conference is the largest global conference that brings together all stakeholders of the HIV/AIDS response. The XVI International AIDS Conference (AIDS 2006), held in Toronto, Canada, drew attention to the impressive body of scientific and community knowledge developed over the past 25 years, highlighted the dramatic increase in treatment availability over the past 10 years, underscored the burgeoning number of possible prevention tools and technologies, and examined the exponential increase in global resources to fight the epidemic. The conference theme, Time to Deliver, was a timely reminder that we now have the tools and knowledge to reverse the global pandemic, but remain tragically short of the political leadership, financial investment and trained human resources required to do so. Country and regional reviews and updates presented revealed that the international community is not on track to meet many of our promises and commitments made to fight the epidemic to date. Barriers identified in accounting for the lack of progress against international, national and local targets included stigma, discrimination, slow or inadequate utilization of evidence to inform policy, weak delivery systems, human rights violations, and the lack of commitment and accountability.

Nevertheless, the unprecedented participation at AIDS 2006 will help define a new legacy that emerged from marking the 25th anniversary of the epidemic, the 10th anniversary of highly-active antiretroviral therapy (HAART), and the five years since the 2001 United Nations General Assembly Special Session on HIV/AIDS (UNGASS) took place. That legacy includes ensuring G8 countries’ accountability for their commitment to universal access, generating critical analysis of national and global policies hindering the response, a collective recognition of controversies and key challenges, and demands for greater accountability of leadership at all levels of the global response. Conference delegates reflected both the diversity of communities at risk for HIV infection, and of the response to an epidemic which continues to outpace our efforts to contain it. Scientific inquiry and reflection on the challenges facing prevention, treatment and care have led to new insights and a deeper understanding of how we might extend the application of available tools. However, the pace of translation of research and evidence into sound policy and practice was of grave concern.

Consistent with the conference theme, and with the attention to the impact of policy on controlling the epidemic, the AIDS 2006 co-organizers agreed to commission a conference policy report. The “spirit” of this report is to synergize the massive participation, build a legacy of the conference and make ourselves – conference participants and co-organizers – accountable. Tracking key policy issues and commitments made at AIDS 2006 will underscore the fact that the conference is not a one-off event. The report provides an overview of “the world in 2006”, informs planning for AIDS 2008 in Mexico, suggests mechanisms for accountability, and provides a reference for report back on what we as a global community do to respond to the issues highlighted at AIDS 2006.

This report provides a post-conference overview. It also offers education for: new entrants into the field; those who did not participate; those looking back on evolution of knowledge, policy and practice; and young researchers who will be examining thinking on various policy issues in the field of HIV/AIDS. Further, the report identifies gaps raised from reflections and analysis of the conference by participants and the media. However, given the volume of information shared at the conference, the report is not exhaustive. Neither does it cover technical details nor scientific data as this can be referenced elsewhere. Positions on policy issues, recommendations and commitments highlighted are not necessarily the views of conference organizers, but reflect the discussions and advocacy efforts which took place as part of AIDS 2006. The co-organizers’ hope in releasing this report is to provide a useable reference for policy makers and a lobbying tool for community actors to demand accountability and promote evidence-based decision making.

The key issues discussed at the conference have been grouped around four broad themes:

- Leadership, Accountability and Financing
- Scaling Up Prevention, Testing and Treatment
- Strengthening Health Systems
- Promoting the Human Rights of At-Risk Communities

The final chapter is devoted to tracking commitments and key recommendations made at the conference with a view to follow up and report back at the XVII International AIDS Conference (AIDS 2008) in Mexico City.
Leadership, Accountability and Financing

Challenges in Political Leadership

What is the price of inaction on HIV/AIDS? Mark Heywood, from the AIDS Law Project in South Africa, observed that, “Without political leadership it will not be possible to turn the scientific discoveries that we have heard about into public health interventions that will save the lives of millions of people; so unless we find political leadership, and unless we interrogate the reasons why there is no political leadership, then our response to the AIDS epidemic will be doomed to being less effective than it could be.”

This statement was reflected by many speakers who decried the lack of political leadership on HIV/AIDS. Many AIDS 2006 participants pointed out that much of the first 25 years of the epidemic was spent developing the knowledge and tools for halting the epidemic. There was growing consensus for greater accountability in that duty does not stop with developing an antiretroviral (ARV) drug or a microbicide; it stops at the point when all actors have ensured that discoveries, tools and technologies are available to all vulnerable communities. The Political Declaration released in June 2006 following the High-Level Review of the 2001 Declaration of Commitment provided the conference community with a new reference against which challenges of accountability for delivery of duties and responsibilities of government and societal actors will be measured.

Problems in political leadership and commitment were highlighted at the Opening Session by the conference co-chair, Dr. Mark Wainberg. Dr. Wainberg made a bold statement on the Canadian Prime Minister’s decision not to attend the conference, noting that this action not only sent a message that HIV/AIDS was not a critical priority for his leadership, but also resulted in the absence of other high-level political leaders. The strong leadership and active engagement of Dr. Wainberg and the international conference chair, Dr. Helene Gayle, set a tone that facilitated the involvement of global leaders and ambassadors, including UN Special envoys, Stephen Lewis and Nafis Sadik; former US President, Bill Clinton; and Bill and Melinda Gates. In addition, the leadership of the co-chairs contributed to AIDS 2006 being seen as an important milestone in the global response to AIDS.

While some delegates identified Bill and Melinda Gates and former US President Bill Clinton as “celebrities”, several special sessions confirmed their breadth of experience and engagement with the epidemic, their personal vision, and their distinctive contributions.
to the international response. These included their unique ability to secure increased financial resources and to keep AIDS on the political agenda.

Clinton also cited the turnaround of the Chinese Government, which has moved from denial about the existence of a domestic epidemic to confronting stigma in rural areas and investing in scaling up the response. Stephen Lewis welcomed the contributions of Bill Gates, Bill Clinton, Richard Gere and other celebrities not participating in the conference, noting that, “We are drowning in celebrity leadership to compensate for the absence of political leadership.”

Speakers at many sessions emphasized the importance of basing prevention policy on evidence of what works rather than on political agendas which play to fear, prejudice and ideology. Activism against the limitations of the United States’ ABC (abstinence, be faithful, wear a condom) policy at least partially obscured the significant impact of the President’s Emergency Plan for AIDS Relief (PEPFAR) in many high-prevalence countries. PEPFAR is now spending more than US$3 billion a year into the global response to HIV/AIDS. Despite restrictive policies for prevention programmes, a number of speakers noted that the PEPFAR funding invested in treatment is far higher than that from other bilateral donors.

One of the most obvious examples of the failure of political leadership related to key drivers of the epidemic across all major regions. US policies do not support needle exchange programmes and some large countries remain hostile to the harm-reduction approach, including Russia, where opioid substitution therapy remains illegal. Policies in many countries where injecting drug use is a major driver of the epidemic continue to emphasize law-enforcement approaches to drug use. Many speakers called for governments to focus on substance use as a health issue, and to develop public health rather than law-enforcement measures to address this challenge. Research presented on the efficacy of harm-reduction approaches supported this position.

AIDS 2006 called the world’s attention to “AIDS denialism” theories that have persisted in the face of science, evidence and experience accumulated over the past 25 years. AIDS denialism is linked here with political leadership primarily because the uptake of denialist beliefs within government leadership has a devastating impact on treatment uptake and, ultimately, the death toll of AIDS. Speakers in several sessions analyzed the impact of denialists’ strong influence on government policies in South Africa. There was widespread agreement that leadership and promoters of denialism should be held accountable for any unnecessary transmission and eventual deaths resulting from their rejection of the HIV-AIDS link and for positioning ARV drugs as “poison” rather than as effective treatment for HIV infection. Speakers called for greater responsibility from the media itself to ensure accurate reporting of scientific consensus.

In reflecting on the inadequacy of progress against promises and commitments, activists called on civil society movements to re-politicize AIDS, with demands for greater accountability and the active targeting of leaders who do not deliver. This was consistent with the message from Joint United Nations Programme on HIV/AIDS (UNAIDS) Executive Director Peter Piot’s opening speech in which he stressed the need to retain AIDS exceptionalism to ensure the highest possible visibility, political commitment and protected funding.

Parliaments, Politics and AIDS

Nerissa Corazon Soon-Ruiz (House of Representatives, Philippines) defined the role of parliament as enactment and review of legislation, mobilization of resources, and providing support for constituency programmes. In addition, governments should work with civil society to monitor the fulfilment of expressed international commitments directly associated with AIDS and the many issues linked to the risks, vulnerabilities and impact of AIDS. In particular, she pointed to the 2001 UNGASS Declaration of Commitment on AIDS and the Political Declaration on HIV/AIDS adopted unanimously by the UN General Assembly in New York June 2006, which had identified specific areas that needed to be incorporated in the respective legislative agenda of member states.

Other discussions focused on a study conducted by the Institute for Democracy in South Africa’s (IDASA’s) Governance and AIDS Programme. This set out to investigate the impact of HIV/AIDS on political legitimacy, stability and governance in seven African countries (Botswana, Namibia, Malawi, South Africa,
Tanzania, Senegal and Zambia). The study focused on parliaments, political parties, electoral management bodies and electoral systems, and also examined the effect of HIV/AIDS on citizen participation, as well as how issues such as stigma and discrimination impacted on political rights.

The research illustrated that AIDS had depleted political leadership and undermined representation through illness and deaths of parliamentarians. It had also reduced political party support bases due to rapid attrition of voting-age populations and the inability to participate in the physically-demanding processes of community politics. The study found that AIDS had contributed to instability due to an overflow of “dead voters” on national registers generating perceptions of fraud. Across high-prevalence countries, recent electoral processes showed that AIDS had influenced reconfiguration of power in parliaments resulting from AIDS-induced parliamentary vacancies.

Of critical concern, IDASA found that stigma and discrimination were also pervasive in undermining the direct AIDS response, in the influence of public participation in political life, and in the ability of infected and affected policy makers to effectively engage and apply themselves to the challenges of their roles. In some cases, stigma and discrimination prevented these policy makers from showing commitment to the AIDS response for fear of losing credibility and/ or exposing their own HIV status.

Challenges in Religious Leadership

Presentations on how religious communities and leadership have been working to fulfil commitments made during the XV International AIDS Conference (AIDS 2004) in Bangkok showed that the role of faith-based organizations was largely that of providers of care and scaling up the community-based response. There was acknowledgement of the increased recognition of HIV and AIDS within Islamic communities, including an escalation of rhetoric about the epidemic in many mosques. However, religious leaders at the conference highlighted the need for a strong leadership voice from the Catholic Church and its agencies, given its global leadership position as the single largest provider of care services in the world.

Despite the Bangkok discussions, report back at Toronto showed that while there has been some progress across religious leadership of Hindu, Christian and Muslim faiths, there was concern expressed that HIV/AIDS continues to be seen as a product of sinfulness. Bishop Mark Hanson called upon the faithful to reflect on behaviour, attitudes and actions that had been complicit in the marginalization and stigmatization of people living with HIV/AIDS (PLHIV), and to begin to reframe religious tradition to drive a more fully-inclusive response. Farid Esack (South Africa) stated that full involvement of PLHIV would mean acknowledging social contexts difficult for religious leaders to articulate, including sex work and men who have sex with men. It was recognized that this may be in conflict with much religious orthodoxy and ideology, whether it be Christian, Muslim, Jewish, Hindu or Buddhist.

The discussion highlighted the powerful structures of religious institutions and the influence that religious leaders have over human life. It clearly indicated that religious leaders must deal with structures of power and rights violations that help drive the pandemic.

After the UNGASS High-Level Meeting: Political Declaration 2006

Reflections on the process and outcome of the political declaration in the lead up to the June 2006 meeting in New York revealed that despite the development of significant global consensus, government leadership had failed to deliver a statement that was strong enough or that addressed targets in some critical areas. Many activists felt that the development of the political declaration overshadowed a thorough review of implementation of the 2001 Declaration of Commitment, and was a missed opportunity to hold governments to account against delivery of agreed 2005 targets.

There was consensus from civil society groups that additional investments for advocacy were needed for organizations following up commitments in the Political Declaration at country level to enable greater and continuous participation in the processes of target setting, monitoring, and pushing their governments to account for progress or the lack thereof towards universal access.

Mark Heywood observed that weak accountability mechanisms at national and international levels related to the 2001 Declaration of Commitment were due in part to serious backsliding on the part of civil society and a lack of sustained effort to monitor progress and keep the pressure on government to
deliver. Celebrating the inclusion of a global funding target of US$20-23 billion as a platform for advocacy, Michel Sidibe (UNAIDS) emphasized the importance of creating obligations and an accountability framework for all actors, including multilateral agencies.

Global Architecture Financing

More than any previous conference, AIDS 2006 scrutinized the international financing of the epidemic. Several speakers observed that although there was justifiable celebration of the increase from US$300 million at the end of the 1990s to US$8.3 billion in 2005 for spending on the epidemic, the response was facing a diminution in funding for scale up to reach universal access globally unless the G8 promises made at Gleneagles and St. Petersburg were met.

The key messages to global leaders and policy makers were that the universal access agenda created an imperative for a dramatic funding increase to the Global Fund to Fight AIDS, Tuberculosis and Malaria, and also demanded a commitment to sustainable and predictable financing. It was felt that the current situation of year-to-year financing distracted from efforts to ensure that the money worked in delivering prevention and treatment. Long-term, sustainable and predictable financing – over the period of a decade or more – is critical to ensuring strengthened systems and capacity for scaling up of prevention and treatment programmes, including attention to adherence and prevention of the development of viral resistance. Discussions highlighted the historic precedent set by the UK government by pledging a 10-year, US$15 billion commitment to finance education programmes in the developing world as an example of how global leadership from G8 countries may set new frontiers for scaling up to universal access.

Country case studies presented by Paul Farmer (USA), Tedros Ghebreyesus (Ethiopia), and Eric Schouten (Malawi) showed the critical role that flexible financing from the Global Fund had played in rebuilding primary care infrastructure, training unprecedented numbers of community health care (extension) workers, and “horizontalizing” the vertical funding in order to promote comprehensive care. Alex Brobyk reported that increased resource flow had also had significant policy impact at country level through leveraging government funding in Russia, which rose 20 fold in 2006, increasing the involvement of community organizations even in sensitive environments, facilitating service delivery to marginalized populations, and enhancing co-ordination.

The disparities in responding to international tragedies came under scrutiny through a presentation by Timothy Christie (Canada) et al. on a study that contrasted international tsunami relief efforts and global HIV/AIDS funding. Canada’s response was cited as a telling example of political inconsistency; it pledged C$5 million in the first two weeks after the tsunami tragedy without knowing what was needed or what the strategic directions for relief efforts would be. In keeping with the trend from the international community, by January 2005, the Prime Minister of Canada announced that his country would contribute C$425 million over the next five years for a comprehensive disaster relief package. This sum, at the time, was significantly greater than the combined expenditure of what was needed to get ahead of the HIV/AIDS epidemic in Canada and what was needed for Canada to meet its equitable contribution to the Global Fund.

The disparities in the funding of the tsunami relief efforts and the global AIDS emergency were also noted to be linked to intensive media coverage of the effects of the tsunami, which compelled an immediate international response. While the AIDS crisis had a far higher death toll and needed a more complex response, it was more difficult for people to conceptualise what was needed to solve the problem. The magnitude and immediacy of the international response to the tsunami suggested that stigma and discrimination may be contributory factors to the disparities in the international response. Christie reflected on lessons from the tsunami disaster, showing the enormous capacity for generosity and for pressuring governments to respond to human tragedies with commensurate resources. He concluded that the international response to HIV/AIDS violated fundamental principles of justice and fairness, and called for greater critical examination of the inadequate response and ethical analysis of the practices of international donors towards global HIV/AIDS funding against other international relief efforts.

Making Macro-Economic Policies Work to Increase Access to AIDS Resources

A widely-accepted assumption is that the International Monetary Fund (IMF) stops or limits low-income countries from spending money on HIV/AIDS and health. However, IMF representatives affirmed that
they were fully engaged in implementing Millennium Development Goals (MDG), with HIV-prevention and treatment programmes forming important aspects of Poverty Reduction Strategy Papers (PRSPs), which were the basis for concessional multilateral lending and debt relief. The IMF defined its role as helping countries spend money to fight AIDS more effectively while dealing with the obstacles that might stand in the way. Of note were the trade-offs that influenced decision making on government spending on HIV/AIDS. Competing priorities for national budgets and current strategic priorities, such as treatment scale up, strongly influence future government spending and might have additional implications for future trends and outcomes, such as debt, dependence, and foreign-aid volatility.

The scarcity of domestic resources for low-income countries lay at the heart of the macro-economic debate. For a given amount of domestic resources, there was a “ceiling” to what could be spent on AIDS while taking into account competing demands from, for example, infrastructure development vital for growth. While it was recognized that spending money to fight AIDS today helped people now and in the future, underpinning current scenarios in high-burden, low-income countries was the reality that aid (and AIDS) funding was unpredictable and politically conditional. Conference participants were reminded that there was no international consensus that health was the most important fiscal priority, including in recipient countries. This placed additional pressures on scaling up, with health system distortions resulting in cases where governments could not supplement wages to health workers without distorting the wage scale of other public-sector employees.

Speakers and delegates agreed that the fiscal programming must balance medium-term expenditures with revenue sources, although this was complicated. Recognizing the shortage of money from domestic resources, long-term, predictable and sustainable grant financing would generally be one of the best options that low-income countries had for scaling up towards universal access.

UNAIDS revealed that current expenditures on a fully-comprehensive response in low- and middle-income countries were still far below what was needed. Given the increased understanding of the epidemic and the resources needed for a comprehensive response, shifting from short-term crisis management to long-term strategic planning for universal access would entail implementation of key strategies, including removing the volatility of the funding stream. Presenters concluded that the international community could not – either through UNGASS or other multilateral mechanisms – ask countries to implement long-term plans that did not have long-term financing attached to them.

Trade and Regulatory Issues

Positive messages about achievements in scaling up treatment were greeted with concern from activists and some governments, such as Brazil, where the cost of providing free medicines had risen from 8% to almost 30% of the national health budget. Other middle-income countries, where drug costs had been rising steadily in proportion to health budgets, also expressed concern.

There was widespread recognition of the contribution of initiatives like the Clinton Foundation in negotiating lower prices, and the dramatic reduction in the cost of first-line regimens from around US$10,000 to $130 per person per year. However, delegates demanded a new examination of the impact of free-trade agreements, and the implementation of the Trade Related aspects of Intellectual Property Rights (TRIPS) Agreement and Public Health. A study by Gabriela Chaves (Brazil), conducted across Latin America, recommended developing public health-sensitive legislation to make use of flexibilities within the Doha Declaration. A framework developed by the study showed potential for wider application in monitoring the evolution of public health-sensitive, trade-related national legislation over time.

Discussions about the patent system and intellectual property issues were highly charged. A number of speakers called for a review of incentives for innovation, research and development if universal access was to be realized. Discussions underscored the strategic role of India as a supplier of 50% of drugs in developing countries, and addressed the importance of incorporating concessions in the Indian TRIPS-compliant Patent Amendment Act of 2005 by the unprecedented mobilization of local and international civil society. Participants also expressed concern
about the growing trend of obligations in bilateral US free-trade agreements, which could undermine the use of flexibilities within the Doha Declaration by new partnerships forged in low- and middle-income countries across Africa, Asia and Latin America.

It was noted that the pharmaceutical industry was strongly engaged in attempts to deliver medicines to resource-limited countries. However, industry practice by some companies in areas such as patent application, pricing, licensing, production of generics, and corporate responsibility towards delivering access to medicines came under scrutiny across middle- and low-income countries. Delegates also discussed the growing body of evidence on pre- and post-grant patent opposition as a potential tool to promote price reductions and improve treatment access, which required specific provisions in the national patent law. While fixed-dose combinations were welcomed, concern was expressed about the potential for the pharmaceutical industry to extend monopolies on off-patent drugs, and the delay of competitive pricing that would be gained from production of generic equivalents.

Community actors raised concerns on the difficulties of low- and middle-income countries to fully utilize flexibilities in the Doha Declaration, and specifically on issuing a compulsory license. It was also noted that while Malaysia was the first Asian country to issue a compulsory license or a Government Use Authorization following the Doha Declaration, this was not without difficulties. There were concerns about future difficulties emerging in the World Intellectual Property Organization, including the Substantive Law Treaty and obligations to ratify treaties such as the Patent Co-operation Treaty.

Ongoing initiatives and advocacy were highlighted, including the World Health Organization (WHO) pre-qualification system, price analysis, and tools to disseminate prices paid by countries for various commodities and drugs that could be referenced for negotiations. A study showed that while companies had embraced differential pricing and were clearly dealing with the question of access to medicines in Africa, affordability remained a critical issue. Also, there was limited movement in dealing with access to medicines in middle-income countries. Although often unreported, a significant driver in drug costs were tariffs, value-added tax and other import fees that could add significantly to the cost of a drug, but were also a revenue source for many low- and middle-income countries. Some participants expressed interest in increasing understanding of the significance of national tax and tariffs on drug prices and access.

Delegates recognized that improving the availability of ARVs would also entail building capacity and support to countries, especially in Africa, for streamlining the drug registration process. Systematic work by Management Sciences for Health in Namibia resulted
in a 30.6% increase in antiretroviral registration, and highlighted the importance of ensuring that antiretrovirals needed were incorporated into treatment guidelines and essential drug lists to facilitate registration and procurement by public-health systems.

In middle-income countries, scaling up brought new challenges: the cost of universal access was setting countries on a collision course with pharmaceutical companies; minorities or immigrants not covered under the law, and who might not be entitled to health care services, remained outside of official access figures; and quality restrictions and prequalification requirements excluded the procurement of locally-produced drugs. Constance Meiners (Brazil) reviewed the evidence on the impact of pharmaceutical patents on access to treatment in Brazil. While acknowledging the role of pharmaceutical patents in creating incentives for innovation, Meiners argued that the resulting monopoly was threatening the future of treatment programmes in low- and middle-income countries due to the upward pressure on ARV prices. The Brazilian treatment programme launched in the early 1990s – providing free therapy for 170,000 PLHIV – initially employed centralized procurement for improved price negotiations and local production with the import of raw materials from India and China, subsequently decreasing prices by 65%. However, virus mutation and development of drug resistance added to the continuous demand for second-line and new generations of drugs that are, to date, still on patent. A study presented revealed that in Brazil in 2003 and 2004, patented drugs comprised 80% of the budget for the programme. The initial gain in lowering prices was increasingly reversed with second-line therapy costs.

A recommendation emerging from the discussions promoted full use of flexibilities in the Doha Declaration with: greater application of compulsory licensing; careful examination of patent applications; use of parallel importing; investment in human capital; use of local (and regional) manufacturing; and mobilization of public pressure.

Enrique Vazquez (USA) presented the experiences of 10 Latin American countries in employing regional price negotiations for ARVs as a tool to improve access to and quality of pharmaceuticals. However, in several cases, the public procurement programmes paid significantly more than the negotiated price: Peru, for example, paid 4.6 times more. The reasons for this included: lack of compatibility between conditions of the negotiations with national regulation policy; intellectual property laws; drug registration; differential pricing based on gross national product; bio-equivalence; and international trade regulation. In addition, market competition was limited, with participation of only eight companies in the final agreement, and domestic companies were excluded on the basis of quality standards. Diverging views on pricing based on purchasing volumes and purchasing power of participating countries resulted in non-participation of originator companies.

The failure of regional price negotiations highlighted the need for the co-ordination of regulations and policies in low- and middle-income countries that enable: the application of strategies to improve access and quality; the negotiation of prices and technical specifications that result in actual contractual obligations; the use of international competitive bidding to leverage price and quality standards, especially for countries with small volumes; and the co-ordination of regional and national public health procurement to avoid dispersion.

In evaluating global interventions, the debate was expanded to include agricultural protection and related international trade policies as part of the solution to control HIV. Trade and its impact on treatment access will continue to be a complex and evolving problem as we move further into the post-Doha world. The main policy recommendation emerging from several sessions was the need for technical support and capacity development in low- and middle-income countries for government and civil society on the fundamentals and basics of patent law, pharmaceutical economics, policy, advocacy and collective negotiation that will impact progressively on achieving universal access.

Legal Framework

Richard Elliot of the Canadian HIV/AIDS Legal Network spoke about the growing evidence that significant HIV transmission occurred in prisons through male to male sex and risk activities including drug use and the sharing of drug injection equipment. Despite this, there were few jurisdictions with comprehensive harm reduction services. He called for a review of prison policies and practices towards a rights approach that ensured equal and adequate health care for prisoners. This included access to HIV prevention and treatment services such as voluntary testing and counselling (VCT), ARVs, condoms, sterile syringes and opioid substitution, training and education for prisoners and relevant authorities, and protection from sexual violence. Recognizing that universal access would never be achieved without human rights, and that proven HIV-prevention and treatment programmes were under attack, conference participants reflected on successful litigation against discrimination and barriers to treatment access. There was general agreement and support for the promotion of model legislation that comprehensively addressed universal access to the AIDS response, including the right to health, criminal law reform, treatment for drug dependence, and ensuring access in prisons, while also addressing stigma and discrimination.
Scaling up Prevention, Testing and Treatment

More than any previous international AIDS conference, AIDS 2006 provided a venue for detailed discussions about real-life experiences with delivery of prevention, testing, treatment and care in low- and middle-income settings. This wealth of experience helped make discussions more exploratory of challenges and lessons learned in service delivery, and more focused on specific issues in scale up, including the need to better integrate HIV/AIDS prevention and treatment programming and the response to other diseases.

Scaling up Prevention

Broadening the Range of Prevention Technologies

In their opening-night address, Bill and Melinda Gates made a forceful argument for the need for a greatly-expanded HIV-prevention effort, thus setting a predominant theme of discussion for the rest of the week. “The harsh mathematics of this epidemic proves that prevention is essential to expanding treatment,” Bill Gates said. “Treatment without prevention is simply unsustainable.” The speech covered both the importance of scaling up current prevention technology and accelerating development of new technologies, including microbicides and pre-exposure prophylaxis (PREP).

For many conference delegates and members of the media, this was the conference of prevention. In her plenary address, Gita Ramjee (South Africa) more than doubled the prevention intervention alphabet with new and existing interventions: A for abstinence, B for be faithful, C for condoms and for circumcision, D for diaphragms, E for exposure prophylaxis (both pre- and post-), F for female-initiated microbicides, G for genital tract infection control, H for HSV-2 suppressive treatment, and I for immunization (vaccines).

Several sessions highlighted the persistence of gender inequality as one of the principal drivers of the HIV/AIDS epidemic, and the imperative for interventions that are empowering to women. Melinda Gates echoed the voices of women in welcoming the progress in microbicide development, with five efficacy trials underway and 16 other candidate compounds in process for expanded safety trials. Discussions stressed that given the many situations in which women cannot negotiate sex, innovative delivery mechanisms, like vaginal rings, would allow for the gradual release of the active agent in a microbicide, and would not require women to apply the product immediately before sex. In addition, updates reviewed phase III clinical studies that tested whether cervical diaphragms would successfully protect a highly-vulnerable area of the female mucosa against HIV infection.

Male circumcision, a practice long observed in many cultures, added to the prevention legacy of AIDS 2006 with the expansion of the evidence base that male circumcision had a protective effect against HIV infection. Forty observational studies, meta analyses, ecological studies and the results of the Orange Farm randomized controlled trial in South Africa demonstrated a 60% reduction in the risk of HIV acquisition among men who had been circumcised. The trial also identified some increased risky behaviour among those in the intervention group for which a policy and programming response would be needed. It was also noted that evidence from observational studies of discordant couples showed that circumcised men were about 30% less likely to transmit HIV as well as a range of other sexually transmitted infections to their female partners. Delegates reiterated that the continued use of condoms is one of the best methods to prevent HIV infection, including in circumcised men.

A mathematical modelling study on the effect of infections prevented found that even a modest expanded male circumcision programme, targeting an additional 10% of uncircumcised males, would provide significant prevention benefits to HIV programmes in Africa. However, policy process, safety, and social, cultural and religious acceptability would remain major concerns. It was also expected that promising research results could greatly increase demand for translation into public health action despite the limited number of trained practitioners in many parts of the world. However, social scientists warned against decontextualizing circumcision from cultural, religious and political consequences without rigorous
social science research. Discussions raised the need for further research on the impact of circumcision on rectal transmission of HIV, which affected both men who have sex with men and heterosexuals.

Pre-exposure prophylaxis (PREP) clinical trials underway in Africa, Asia, Latin America and the United States investigated the potential for a daily dose of antiretrovirals to provide protection against HIV infection. Concerns about the protection of PREP trial participants and levels of community engagement in the research generated interest and controversy around ongoing investigations. Additional challenges discussed included implications of breakthrough infection with resistant viruses for future therapy options, the level of adherence required, and wider community preparedness needed for chronic medication of “healthy people”.

Delegates also discussed the increased risk of HIV acquisition posed by infection with herpes simplex virus-2 (HSV-2), the increased HIV viral load and the increased risk of transmission. Updates focused on two studies investigating the ability of acyclovir to suppress HSV-2 in the hope that it would reduce HIV transmission.

Though a safe and effective preventive vaccine would perhaps be the most powerful HIV prevention tool, progress on vaccine development has been much slower than originally hoped for. Francoise Barre-Sinoussi (France) explained that researchers faced a variety of challenges in developing HIV vaccines, including early viral integration into the host genome and the high mutation rate of the virus. Many small trials have demonstrated the safety of several candidate vaccines. Two large Phase Ib trials are now underway and could produce efficacy results within the next two years. Development of therapeutic vaccines (designed for people infected with HIV) has also been slow. To date, 15 trials have not demonstrated definitive evidence of improved outcomes from the use of a therapeutic vaccine. However, Barre-Sinoussi reported that a recent Agence Nationale de Recherches sur le SIDA (ANRS) study had found vaccinated HIV-infected patients were half as likely to initiate ARV therapy as those in the control group. Two key messages emerged: further basic research was urgently needed in immunology on HIV/AIDS pathogenesis; and that while the current vaccine candidates might not protect against infection, they might be able to protect against HIV pathogenicity and thus against development of AIDS.

**Challenges in Prevention Research and Implementation**

Although there was universal agreement that new HIV-prevention tools were needed to bring the epidemic under control, several presentations at the conference highlighted challenges that researchers face in completing prevention research. For example, Ramjee noted that high pregnancy rates among women in microbicide trials were reducing trial cohort sizes, thus lengthening the time it took to produce efficacy results. In addition, there was still no clear biological marker of protection; measurement of adherence to the product relied on self-reported data; and observed HIV incidence was still relatively high. Delegates recognized the immense impact new prevention technologies could have on prevention research. HIV-prevention clinical trials delivered with effective new and existing interventions that were likely to reduce incidence in study cohorts would result in the need for larger sample sizes and longer timeframes to test efficacy of future investigational technologies.

Discussions at the conference explored community concerns and trial ethics in HIV-prevention research, with particular reference to PREP trails. Issues identified included: compensation for trial participants in the event of physical harm due to study participation; adequate consultation with the communities involved; and the need to ensure that the baseline level of protection of trial participants was negotiated with community leaders in advance of enrolment.

**Prevention Outcomes from Wide-Scale Treatment Programmes**

AIDS 2006 was marked by growing concerns about the cost and sustainability of scaling up treatment programmes to achieve universal access and the need to explore synergistic approaches. Researchers presented data from several studies indicating that the risk of transmission among serodiscordant couples in settings where there was no access to HAART was closely linked to the viral load of the infected partner. Reduction of transmission was observed in heterosexual couples on HAART, and the policy of providing free access to HAART was associated with a significant (53%) decrease in new cases of HIV in Taiwan, while incidents of syphilis remained stable.
Julio Montaner (Canada) noted that AIDS treatment reduces viral load and infectivity of HIV-positive individuals, proposing the need to study whether scaling up free access to treatment to all those living with HIV could substantially reduce HIV transmission around the world. Montaner estimated that treatment saved at least US$2 for every dollar spent because of infections averted through reduced infectivity. Providing universal treatment access could potentially save billions of dollars over time.

**Prevention Programmes with People Living with HIV/AIDS**

Delegates were reminded that sero-discordant relationships were now a part of the fabric of society, especially in countries where the epidemic was mature. A study from Rwanda of 1,482 sero-discordant couples found that when the HIV-positive partner was not receiving antiretrovirals, negative partners were infected with HIV at a rate five times greater than if the HIV-infected partner received appropriate ARV treatment. Many other presentations underscored the growing need for HIV-prevention services to be tailored to the needs of PLHIV as part of a comprehensive effort to encourage people to access AIDS treatment.

Findings were recalled from a 2002 community-based research centre study in British Columbia: investigators found that half of positive gay men in relationships were in sero-discordant relationships, and yet available HIV services were focused on individuals dealing with sexual issues in a wider environment. In addition, studies also established that as many couples gain intimacy, the perception of risk decreases over time and unprotected sex increases.

Studies presented showed differing outcomes from “positive-prevention” programmes. In Botswana, the prevention-for-positives programme showed a 67% increase in condom use and a 58% reduction in the number of sexual partners. But in a French study, unsafe sex practices continued at relatively high rates following positive-prevention programmes. In Canada, a peer-facilitated workshop for sero-discordant couples resulted in the parties collaborating to address issues of treatment adherence, management of side effects, and the design and implementation of prevention campaigns directed at sero-discordant couples.

**Youth-Focused Prevention Programming**

Acknowledging that 50% of new infections are in young people (aged 15-24 years), delegates were reminded that the global number of young PLHIV was estimated at 21 million by the end of 2005. A review of the science on evidence-based interventions that had been published and evaluated independently found that of 150 programmes, 25 were for HIV-positive people – estimated to reach only 1% of PLHIV – and only five of these were for positive young people.

Across Asia, Africa and South America, analysis showed that HIV-positive young people faced a core set of common challenges regardless of the differences in regional, social, cultural and economic contexts: maintaining health; stopping transmission; building quality of life that deals with living with HIV; and addressing the “predictable” HIV-related stressors, such as stigma and disclosure. In responding to these challenges, policy makers and programme managers would need to recognize that effective interventions shared common components, including: addressing environmental barriers of stigma and access to services; framing the issue in order to create incentives and motivation for action; providing information; and building skills and social support for prevention among young people.

**The Importance of Gender in Infection Risk**

Several presentations emphasized the critical importance of gender sensitivity in the design and delivery of prevention programmes.

The UN special envoy on HIV/AIDS in Asia, Nafis Sadik, expressed concern for the increasing numbers of young married women being diagnosed with HIV and other sexually transmitted infections across Asia, where studies showed that 95% of Asian women had only one partner, usually her husband. Sadik cited cases in India and other Asian countries where women were stoned to death, killed or thrown out of their household or village when their positive HIV status was discovered.
A study by Karen Leiter and colleagues with Physicians for Human Rights in Botswana found that beliefs supporting gender discrimination and violence were common, and that these beliefs were a significant factor in risk for HIV infection. The researchers noted that women in Botswana were disadvantaged economically compared with men and that social norms "endorse multiple sexual partnerships for men and discourage condom use". Women’s economic dependency on men was an important factor in their inability to negotiate condom use with men. Researchers surveyed 654 women and 613 men using a survey instrument they created that asked participants to agree or disagree with 14 statements about gender discrimination, women’s rights, and the roles of women and men. The study found significant association between gender discrimination, violence and risk for HIV infection. For example, men who agreed with the statement, “A man may beat his spouse/partner if she disobeys him,” had over three times the odds of having unprotected sex than those who disagreed. Men who held three or more gender discriminatory beliefs had over three times the odds of having unprotected sex. The research team concluded that "policies that promote women’s equality are essential for HIV prevention".

While violence against women as a risk for HIV infection was discussed at AIDS 2006, some delegates criticized the conference for failing to adequately raise the perspectives of women living with HIV. Hailed as the conference of prevention, some conference participants felt that there was extensive discussion of drivers of the epidemic and vulnerability to transmission as well as treatment, but very little on care and support, especially for HIV-positive women who bear the burden of care in affected communities of low- and middle-income countries.

Addressing Social Vulnerability in HIV prevention

During the prevention plenary, Cristina Pimenta, of the Brazilian Interdisciplinary AIDS Association, discussed the role of social vulnerability in risk for acquisition of HIV, malaria and tuberculosis (TB), and the importance of considering these factors in the design of prevention programmes. Social vulnerability was defined as "diverse factors of structural inequality and exclusion" that could increase susceptibility to infection. Factors that could lead to social vulnerability included economic and social disenfranchisement, sexism, homophobia and discrimination. Pimenta warned of a trend towards the "medicalization" of prevention as a "quick technical magic solution". Rather than place our hopes for prevention in new technologies, Pimenta called for "new prevention paradigms" that took social vulnerability into account. She identified the need for prevention programmes that move "from behavioural and individual approaches and focus on collective processes ... [and that] emphasize critical reflection and collective empowerment as key to risk reduction". She called for prevention services that combat violence against women and children, homosexuals, transgendered persons and sex workers, and urged a focus on strategies that emphasize critical reflection and collective empowerment as key to risk reduction.

Access to good nutrition was often noted as an important determinant of effective HIV-treatment outcomes, but several presentations at the conference suggested food insecurity also played a role in infection risk. One study reported that in Botswana and Swaziland, rates of inconsistent condom use were 40% higher among women who experienced food insufficiency. While vulnerability studies conducted by the World Food Programme (WFP) and its partners found that AIDS affected households were more likely to borrow money for food, and over time, the loan burden impacted significantly on the household’s ability to recover after a food crisis. The policy implications emerging were that short-term food assistance at the time of crisis could help families avoid going into debt. In another study, WFP found that affected households were significantly more food-insecure than non-affected households, with food-insecurity rates increasing to 71% among AIDS affected female-headed households, resulting in adoption of strategies like selling productive assets or engagement in transactional sex.

Addressing Global Outbreaks of HIV Epidemics among Gay Men and Men who have Sex with Men (MSM)

Several speakers raised the worrying trend of a resurgence of HIV in developed countries’ MSM communities, with mounting evidence showing distinct outbreaks in MSM across developing country or low-income settings, including Senegal, Cambodia and Thailand. The epidemics were commonly happening in hidden contexts, discrimination, intense stigma, criminalization and very limited HIV surveillance or behavioural studies. The unchecked substantial increase in prevalence among MSM networks was reinforced by data from UNAIDS comparing HIV trends in the Americas between female sex workers and MSM in the same settings. While not detracting from the consensus on increased female vulnerability, the findings consistently showed a substantially more severe HIV epidemic among the Americas’ MSM observed across Argentina, Bolivia, Chile, Columbia, Ecuador, Paraguay, Peru, Uruguay and Venezuela.

In addition, mirrored against a background of low prevalence in reproductive age adults, HIV epidemic outbreaks in Asia, Africa and Latin America increasingly reflected the face of a heavily burdened marginalized population of gay men and MSM. Conference discussions reflected on structured layers of risk, vulnerability and underlying drivers...
previously reserved for exploring high prevalence epidemics faced by women in sub-Saharan Africa. On an individual level, this included behaviours such as unprotected receptive anal intercourse, genital ulcers, lack of circumcision, frequency of male partners and drug use. At the community level, drivers included sexually-transmitted infection (STI) prevalence, access to prevention services, condom availability, stigma, and ARV access. MSM behaviour was criminalized in more than half of African states. Faced with legal sanctions across many developing countries, MSM are excluded, or exclude themselves, from sexual health and welfare. At a national level, the lack of protection of human rights, homophobia, criminalization and state-sanctioned harassment, inadequate HIV surveillance, understudy of sexual cultures and behaviours driving risk, and lack of MSM-targeted sexual health education were consistently observed.

**Refining a Prevention Paradigm for National Policies and Programmes**

Concern was expressed about the overwhelming threat to treatment scale up posed by the number of new infections – observed at four million annually – and startling predictions on the number of orphans. There was wide recognition that social vulnerability, exclusion and intersection of diverse factors of inequality which manifested differently in different communities influenced the growth of the epidemic worldwide. A worrisome trend was the attention given to quick technological solutions that deflected attention away from the political barriers to implementation of proven effective approaches such as condom use and harm reduction.

Attention was called to the growing global impact of injecting drug use in driving new infections. Injecting drug use accounted for about one in every 10 new global infections and for 30% of all HIV infections outside sub-Saharan Africa. Harm reduction was critical to a comprehensive response in countries reporting HIV among injecting drug users, including prison inmates. This would involve: explicit peer-based education; sterile needle and syringe access programmes; effective and accessible drug treatment, especially substitution treatment such as methadone and buprenorphine, which also improve adherence to antiretroviral treatment; community development; and empowerment. All would be complemented by ARV treatment and HIV-prevention strategies. Identified barriers to harm reduction included the stigma of drug use, and legal frameworks not embedded in social contexts, science and human rights.

Delegates reflected on the diversity of HIV epidemics in Africa, with a focus on Southern African heartlands – the only region where HIV prevalence has reached as high as 30% in the general population – to understand what generates hyper-epidemics. David Wilson (World Bank) examined the role of acute infections and the structure of concurrent sexual partnerships, proposing that half of all infections over an eight-year period may have been acquired in the first few weeks after sero-conversion when infectiousness is most intense. From the Likoma sexual networking study in Lake Malawi, Wilson reported findings that challenged the conceptions of vulnerable groups in sustaining explosive epidemics. The study found that a fifth of the population were in mutually-faithful relationships, while two thirds were linked by one single chain of exposure over a three-year period. He noted that these sexual networks were not held together by sex workers or core transmitters, but rather by decentralized, robust, complex chains.

Historical analysis of national programmes and trends in declining HIV prevalence in generalized sexually-generated epidemics in Africa (Uganda, Kenya and Zimbabwe) and Asia (Thailand, Cambodia and South India) revealed strong policy messages. Data presented suggested a major role for a strategic look at the ABC approach – significantly B for partner reduction, A for a contributory role of a deferred sexual inception, and C for condom use in various degrees, depending on the context. It was highlighted that while the leading edge was on the dramatic growth in condom use in Thailand, the reduction in the number of men visiting sex workers was less recognized. In Africa, the predictive picture was determined largely by the decline in the numbers of partners. A model from Martha Morrison, of the University of Washington, demonstrated that relatively small changes in numbers of partners can disrupt transmission cores, translating into big differences in network densities and resulting in declines in the HIV epidemic. Concluding policy recommendations suggested that large-scale changes in risk-disposing behaviours are fundamental to changing HIV prevalence. "We have to de-norm multiple partners, unprotected sex, exploitative male relations, and predatory male behaviour. We have to create norms of male responsibility before we can have an effect with supporting interventions," Morrison said.
It was acknowledged that across Africa, homosexuality carried a high stigma. Very little was known about transmission through people who were privately homosexual and publicly heterosexual. Therefore more research was needed on how to provide prevention and care services to men who have sex with men.

AIDS 2006 provided a platform for rigorous examination of the evidence in favour of ABC in Africa. Systematic review of 10 of 436 potentially relevant articles concluded that the promotion of abstinence should be coupled with efforts to change gender attitudes, and eliminate gender-based violence and coercive sex, especially among young girls. Supported by personal experiences of several participants, it was felt that the ABC approach ignored women’s greater vulnerability determined by gender inequalities: feminization of poverty and feminization of HIV mirrored one another.

Anthropological studies showed that current social and gender context in Africa was shaped by factors such as custom, tradition, historic processes and modern trends. Systems of polygamy created the roots for sexual networking commonly seen in concurrent multiple partnerships and also legitimized inter-generational sex. Bridal wealth practices placed large amounts of rights in the hands of men, created the framework for avoidance of safe sexual practices and justification of domestic violence, and provided a reference for transactional sex. Not to be underestimated were historic processes, colonial heritage and conflict. These factors had normalized violence as a way of solving problems, with sexual violence alarmingly high across most of sub-Saharan Africa. Compounding these complex issues, modern trends of consumerism underpinned by a cash economy and labour mobility had deepened wealth differentials, creating a growing pool of men willing and able to exploit the demand for transactional sex. The lesson for the international response was to move away from prescriptive programmes to refining prevention paradigms that were strategic, long-term, holistic and contextually informed. A key recommendation was to synergize use of social, behavioural, biomedical and barrier methods, as well as community involvement and leadership and understanding of the “secret level” of people’s lives that drives the epidemic.

No room for Complacency: Researchers from Uganda presented worrying trends of increasing HIV prevalence in both males and females observed in rural cohorts in Masaka, Uganda. While several participants questioned the implications of the data for the national epidemic trends, all agreed that the findings spoke to increasing HIV risk in Uganda and reminded all actors that there was no room for complacency.

Scaling up Testing

HIV testing, the subject of sometimes heated debate in many sessions, was one of the most controversial policy issues discussed at AIDS 2006. Testing was commonly called the “gateway to treatment”, and many participants agreed that expanded access to testing was needed to scale up access to ARV therapy. The issue, however, was how expanded testing would be made available and whether this would be accompanied by pre- and post-test counselling and informed consent for the respect and protection of human rights. Questions asked included: Can HIV testing be made routine and still give people a real sense of choice in deciding whether to be tested? Will people who test positive, but do not have access to comprehensive counselling and treatment, be at increased risk of harm from sexual partners and others?

Several different perspectives on these issues were aired at a session titled Testing in the Era of Treatment. Sheila Tlou, Botswana’s Minister of Health, discussed her country’s efforts to significantly increase the number of people getting tested as AIDS treatment became more widely available. Botswana was often sited as one of the first countries to adopt a policy of “routine offer” of HIV testing in all public health programmes, which had resulted in about 90% of people in public health settings accepting the offer of a test and doubling the number of people tested nationally. Three speakers raised concerns about the Botswana programme. They noted that although there had been success in increasing testing uptake and enrolment in the country’s treatment programme, there were inadequate safeguards for ensuring ethical conduct by health practitioners. Further, lack of laws prohibiting discrimination against people living with HIV meant that people receiving positive test results were not adequately protected. The International Community
of Women Living with HIV/AIDS called for expanded voluntary counselling and testing provided by community organizations. They noted that power differentials between health care providers and many less-educated and poor women meant that routine "opt out" testing did not feel voluntary to many of these women.

Sofia Gruskin, of the François-Xavier Bagnoud Centre for Health & Human Rights at Harvard University, offered four points about the testing debate. The title "routine testing" was vague, and she questioned if in practice it meant routine "offer" or routine imposition of testing. It was important to ask why testing numbers needed to increase: was it to make it appear that governments and donors were taking effective action, or was it to increase the number of people who were receiving quality care? There was an enormous difference between a "routine offer with informed consent" and "routine testing from which you can opt out", she said. Too often, testing policies were implemented without the full involvement of affected communities. In addition, Gruskin added, it was critical to distinguish between what was written in policy and the service that was actually delivered. A critical need was for further study of effects of different testing policies on access to treatment, discrimination and other issues.

Mark Heywood said that treatment availability and treatment education, rather than changes in testing policies, were the greatest incentives for testing in South Africa. More than 511,000 people were tested for HIV through the public system in 2003 and again in 2004, compared with 247,287 in 2002. The challenge in South Africa was largely one of staff training and human resources. A 2005 study by the Health Systems Trust in South Africa found that only 41% of professional nurses in primary health care facilities had been trained in VCT. In many facilities, there was limited availability of lay counsellors to provide information and support for those tested, and to market VCT in the community. Systems for ongoing follow up of people who tested positive "were often lacking or weak". Heywood said that access to testing should be framed as a human right, but stressed that counselling was a necessity; it should not be considered a luxury. He argued that instead of bringing down counselling standards for HIV to those accepted for testing of other diseases, counselling standards for all diseases should be brought up.

At a session on HIV testing, results from Uganda showed success with home or family-based VCT. Pre- and post-test counselling with rapid HIV testing was conducted in households, where uptake of VCT from 46,525 households identified increased from 10% to
89% over a 15-month period. Botswana, Uganda and Tanzania recognized that a one-size-fits-all approach (i.e. only VCT or only provider-initiated HIV testing with opt out) would not work in high-prevalence countries working towards universal access. All three countries recommended the adoption of multiple, complementary approaches that used a number of HIV testing and counselling modalities, which addressed the needs of diverse groups in the populations most at-risk.

Scaling Up Treatment

AIDS 2006 provided a platform for the launch of new treatment guidelines and reflection on the evolution of treatment since the announcement of HAART in Vancouver 10 years previously. WHO announced that of the 6.8 million people in low- and middle-income countries who required ARV therapy, 3 by 5 (treating 3 million people by 2005) efforts had resulted in 1.65 million people receiving treatment or 24% coverage by the end of June 2006. It was reported that while access to treatment by gender corresponded proportionately to levels of infection, an unacceptable gap in access equity remained for Africans, children, infected pregnant women, injecting drug users and other communities most at risk.

Principles for guiding policy development and review of national treatment scale up towards universal access emerged from many sessions. A meta-analysis of 10 studies found that free laboratory testing did not affect patient outcome, but that free treatment was associated with a 29% to 31% increase in viral load suppression among patients. Kevin De Cock, of WHO, cited the ART-LINK study, which found 75% lower mortality after one year among people receiving free treatment. Studies have also associated the requirement to pay with non-adherence, a major risk for drug resistance. These findings added to the arguments against poor communities in high-burden countries paying for health care services, and also provided scientific evidence for policy guidance and development of services for universal access.

Discussions of HAART revealed that while mortality was lower than in historically untreated cohorts, mortality in the first month of treatment and at one year was respectively 4.3 and 3.5 times higher in low-income settings than in high-income settings. A worrying trend was the finding that 80% of deaths occur in the first four months of treatment with ARVs, the majority of whom initiate treatment with CD4 counts of <100 cells/mm. Delegates called for investigation into the reasons for high rates of early mortality in HIV treatment, and for development of preventive strategies. When to start HAART was a topical policy issue for AIDS 2006. Significant to the scale up to universal access was the observation that in most developing country programmes, the majority of patients had late-stage disease, and were receiving therapy too late to get the full benefit of ARVs. Several studies reaffirmed the significance of CD4 count thresholds with the association of better treatment outcomes at earlier intervention, the feasibility of which would depend on expansion of CD4 testing across all settings.

Treatment Strategies

Researchers presented new data from the Strategies for the Management of Anti-Retroviral Therapy (SMART) study, which indicated that the episodic use of antiretrovirals was associated with inferior outcomes in most of the sub-groups of participants, including impact on quality of life, increased risk of disease progression and death. Results presented from the Development of Antiretroviral Therapy in Africa (DART) study also showed a 2.6-fold increased risk of WHO clinical stage IV events and death in the treatment interruption arm, which had resulted in termination of the sub-study by the data and safety monitoring board. Continuous therapy showed benefit even at high CD4 counts, questioning the relevance and safety of treatment interruption as a strategy in resource-limited settings.

Discussions on treatment interruption studies noted that the studies looked only at patient outcomes. The studies did not provide cost-effectiveness or utilitarian-type analysis looking at how treatment interruption might benefit an entire population in resource-limited settings. Further, it was proposed that more information was needed to guide policy development for governments with limited resources to treat those who need therapy. Treating a fraction of the population with continuous therapy was a hard choice that acknowledged that mortality would be high in those not receiving treatment. Some conference participants believed that while less effective, intermittent treatment may enable treatment programmes to reach far more people because of
the associated cost savings. In the face of advancing standard of care in the developed world, the acceptability of treatment strategies that may promote “the greatest good for the greatest number,” will be dependent on ethical and human rights principles.

Three studies presented at the conference suggested that lopinavir/ritonavir (LPV/r) monotherapy could be effective, virologically-suppressive and a well-tolerated regimen characterized by a high genetic barrier and very low incidence of viral resistance for patients, including treatment-naive patients, who had never failed on a protease inhibitor-containing regimen. Researchers agreed that LPV/r (Kaletra) monotherapy should not yet be used in clinical practice and that further research was needed to determine which patient groups could benefit from this new treatment approach, given the risks of virologic rebound, development of resistance over longer periods of time, lack of effectiveness in suppressing viral replication within anatomic reservoirs, and wider public health implications. However, it was noted that monotherapy could have strategic relevance for resource-limited settings where broad resistance to both NRTIs and NNRTIs could arise before patients are recognized to fail, and where simplification of treatment strategy might be needed.

**New Developments in Treatment**

One of the most promising clinical presentations was on the integrase inhibitor MK-0518, (raltegravir), a drug that aimed to prevent integration of the virus's genetic information into the host cell DNA, investigated in treatment-naive patients. Results of a phase IIb study from the Aaron Diamond AIDS Research Centre noted that the drug showed excellent tolerability and potency, and did not promote drug resistance. A two-part randomized trial showed between 60% and 65% of MK-0518 recipients achieved HIV-1 RNA of <50 copies/ml by week eight, a promising and robust activity against a strong comparator, efavirenz. The rate of viral decay observed with MK-0518 indicated that current science might not have reached the limit in terms of the speed with which viral replication can be suppressed. The drug was taken twice daily and did not have negative food interactions. Researchers noted that the results from the MK-0518 integrase inhibitor study presented new options for treatment-experienced patients with multi-class resistance, who may require an agent from an entirely new class in order to construct a suppressive regimen.

Data from two clinical trials of CCR5 entry inhibitors were a welcome addition, given historical setbacks encountered in previous studies with this class. It was felt that as this class of agents progressed in clinical development, clinicians would need to become conversant with the phenomenon of dual- or mixed-tropism, and increase their understanding of the implications of this assay. Investigators found that after 24 weeks of maraviroc at a dose of 150mg, despite the lack of virologic benefit compared to placebo, it was well tolerated and there was greater increase in CD4+ cell counts. In CCR5 inhibition resistance studies, results showed that the resistant virus still made use of the CCR5 receptor for cell entry, but was able to do so with the inhibitor bound to the receptor regardless of the CCR5 inhibitor levels.

**Growing Concerns about HIV Drug Resistance**

AIDS 2006 raised the transmission of drug resistance as an issue for collective concern for programmes, given the increase in wide-scale availability of treatment. The first prospective, systematic surveillance of transmitted HIV drug resistance in Europe examined the prevalence of drug-resistant mutations in newly-diagnosed, ARV-naïve HIV-positive patients from 17 countries. It found that 9.1% of more than 1,000 people tested had a drug-resistant virus. In a sub-analysis of an international observational study of transmitted drug resistance, investigators in Cameroon reported detection of resistance in about 10% of the 133 patients studied, to members of the NNRTI, nucleoside reverse transcriptase inhibitors (NRTI) and protease inhibitor (PI) classes, including nevirapine, zidovudine, stavudine, indinavir and ritonavir. Concerns were raised that this could compromise prevention of mother-to-child transmission programmes and other treatment using commonly-prescribed combinations.

Mark Wainberg (Canada) and others observed that virtually all the data available on transmitted resistance were from patients infected with HIV subtype B, and called for expanded monitoring of transmitted resistance in areas of the world in which non-subtype B viruses were predominant. In addition, a study of how patterns of immigration to northern countries could affect the outcome was necessary. It was also noted that greater attention to "more intelligent" use of ARV drugs and monitoring was needed in resource-limited settings in order to increase earlier recognition of resistance emergence and mitigate any negative impacts of increasing transmission of drug-resistant virus.

In addition to the impact of transmitted resistance on treatment programmes, participants expressed concern about resistance patterns in patients failing initial therapy in developing countries. Given the uniform use of NRTIs and the lack of routine viral load testing, many patients failing initial therapy not only had NNRTI resistance at failure, but also extensive NRTI resistance. In addition, second-line regimens typically included two new NRTIs, and yet in many cases, cross-resistance to those agents would be a concern. There was broad agreement that it was
critical that initial therapy moved away from thymi-
dine analogs, based on both resistance and toxicity
concerns, and that there was further study on the
role of boosted PI monotherapy, given its potential
value in patients with extensive NRTI and NNRTI
resistance, as noted under Treatment Strategies
on page 17.

New Information on Adherence to Treatment Regimens

Adherence is widely recognized as an essential
ingredient to successful AIDS treatment, and sev-
eral presentations provided new information on pro-
grames to improve adherence. One study reviewed
electronic databases and conference abstracts, and
interviewed researchers and treatment advocacy
groups to compare adherence among African HIV
patients with North American patients. The team
concluded that African patients had a much higher
level of adherence at 77.1%, compared with 54.7%
among North Americans.

Stan Luchters, of the International Centre for
Reproductive Health in Kenya, led a team studying
the success of a 24-week intervention to promote
adherence to ARVs. The study evaluated the efficacy
of the Development of ARV Therapy in Africa (DART)
intervention, in which patients were observed for
24 weeks as they took their medication, followed by
monthly follow ups for 48 weeks. A control group
received standard monthly follow ups from clinic
staff. Researchers observed high levels of adher-
ence in both the DART and non-DART groups, but
found that the DART intervention had limited sus-
tained impact. The study authors also cautioned that
most patients failed to achieve the goal of greater
than 95% adherence for 12 consecutive months. The
researchers observed that "strengthening ways to
improve adherence remains of utmost importance
for large-scale ARV programmes".

Prevention of Mother-to-Child Transmission (PMTCT)

In sub-Saharan Africa, fewer than 10% of those who
need intervention to prevent mother-to-child trans-
mision of HIV currently receive it. Policy challenges
for scaling up access were defined under the new
WHO guidelines released at AIDS 2006. New aspects
of the guidelines included: treating pregnant women
with clinical stage 3 and a CD4+ cell count of <350
cells/mm; greater harmonization between treatment
programmes affecting mothers and children; addi-
tion of zidovudine prophylaxis to single-dose nevi-
rapi-ne; and treatment with zidovudine plus lamivu-
dine for mothers who receive single-dose nevirap-
ine during labour to achieve greater suppression of
viral replication during the period that nevirapine is
being eliminated from the body in order to reduce
the risk of nevirapine resistance. Delegates recog-
nized that without additional investments, the pro-
posed requirements in the new PMTCT guidelines
would pose additional challenges during implemen-
tation of scaling up to universal access in high-bur-
den countries.

Getting Treatment to Children

AIDS 2006 was criticized for having paid insufficient
attention to the issues impacting children in the epi-
demic. At the treatment plenary, Ruth Nduati, of the
University of Nairobi, gave a presentation on children
and AIDS, emphasizing that of the 680,000 children
who currently needed access to life-saving treatment,
less than 8% received it. Reports presented docu-
mented the success of AIDS treatment in children,
noting improved survival and relatively low rates of
treatment failure and drug toxicity. Nduati outlined
the barriers to paediatric diagnosis, including limited
laboratory infrastructure, lack of HIV-testing policies
for children, and the challenge of disclosure. Keeping
the mother alive was cited as one of the predictors of
outcome for affected children. Experience from the
field in the care of orphaned and vulnerable children
highlighted the lack of sanitation, clean water and
adequate nutrition.

WHO has set the goal of increasing the number of
children on ARVs to at least 10% of all those who
need it, but many children continue to go without
care. Most notably, attendees were reminded that
despite existing evidence shown under randomized
clinical trials in children of the benefits of cotrimoxa-
zole prophylaxis in reducing mortality by some 43%,
scaling up has failed to deliver. These trials took place
over a median period of 19 months for HIV-infected
children of all ages and across all CD4 counts. Nduati
said that new, simpler diagnostic tools were needed
TB and HIV Co-Infection

Delegates were reminded that of 40 million HIV infections in the world, 14 million people were co-infected with TB. Zambia was cited as an example of the emerging picture of out-of-control TB epidemics growing in high-prevalence settings. Here, TB incidence had increased five fold to more than 500 per 100,000 people. Discussions also recognized that TB was threatening ARV therapy, with programmes reporting that up to 15% of patients starting ARVs were developing TB in the first year of treatment. An impassioned account of the experiences of a health worker living with HIV illustrated the urgent need for greater integration of HIV and TB care, and the difficulties faced in diagnosing TB among HIV-positive individuals that had led to delays in initiating treatment. Helen Ayles, a TB expert working in Zambia, reinforced the message. She called for stepping up active TB screening and case finding in the multiple levels of contact in the HIV-care system (including VCT, PMTCT and HIV clinics), and for TB-preventive therapy for all persons without active TB, based on the Conchran review of 11 randomised trials that showed an overall reduction in TB of 33%. She reminded the conference that while national and international policies existed to apply this evidence on TB-preventive therapy for HIV-positive people, uptake remained poor in high-burden countries.

Abstract data presented by researchers conducting screening for isoniazid preventive therapy among PLHIV, found that many had advanced HIV disease on first screening, while others were excluded on follow up due to abnormal chest radiographs. Several practitioners confirmed that among adults receiving ARV in sub-Saharan Africa, TB was the most frequent opportunistic infection. A number of presenters described the high incidence of TB after initiation of antiretroviral therapy: 47 incident cases of TB from a well treated cohort of 403 in Senegal and 25 cases of 555 persons in Uganda, with high short-term mortality and notable recurrence of TB in the first year. All researchers agreed that improved TB screening in smear-negative individuals at initiation of antiretroviral treatment (ART), and greater collaboration between TB and HIV programmes was needed.

Diane Havlir (USA) reviewed the literature on key challenges facing TB and HIV co-infection, including when to start ART, what ART to start, TB-immune reconstitutions, ART failure, and second-line ART during TB treatment. This highlighted the need to diagnose and treat TB early in HIV-infected persons. The key issues to note for policy makers and clinical managers were the increased toxicity to TB and ART therapy, especially for those with lower CD4 counts, and earlier timing of ART in relation to the start of TB treatment. In addition, drug interactions between HIV and TB medications – including reduced NNRTI and PI levels in the presence of rifampin, an anti-TB drug with which regimens have superior outcomes for TB treatment – and the sheer pill burden that may face co-infected individuals have implications for adherence. A critical point is the phenomenon of Immune Reconstitution Syndrome (IRS) that is difficult to both diagnose and manage, especially in resource-limited and primary-level settings. The discussion further underscored the challenges, showing the persistence of drug interactions, with additional cost, toxicity and need for cold-chain facilities in using second-line ART with rifampin regimens; the cost of rifabutin - as an alternative to rifampin - was prohibitive for public-sector programmes. Key policy recommendations included definition of an urgent research agenda to broaden the evidence and increase understanding of clinical management of TB-HIV co-infection, and the need for new TB diagnostics and expansion of the arsenal of drugs.

The headline message on the need to strengthen the response to TB was made by a survey from the KwaZulu-Natal province of South Africa among 1,539 patients. Multi-drug resistant (MDR) TB was detected in 221 patients, of whom 53 had extensively drug resistant (XDR) TB, it was announced at a pre-conference consultative meeting convened by WHO and partners. Forty-four patients with XDR who were tested for HIV were co-infected, and 52 of 53 patients with XDR died with median survival of 16 days before the outcome of diagnostic confirmatory culture results were received. Continued discussions of XDR TB at several sessions heard alarm expressed at the potential for XDR to undermine national TB control programmes, the threat for XDR to spread in
communities, and the lack of adequate information on the extent of XDR across Southern Africa. Sessions called for further investigation and urgent development of policies and targeted response. Emergence of XDR underscored the need for improved diagnostic methods and treatment for management of MDR and XDR in HIV-positive people, and the need for simple strategies to improve infection control in health care settings.

**Hepatitis Co-Infection**

Hepatitis infects 350 million people worldwide, and between five and seven million of these people are co-infected with HIV. Despite this global significance, the issue of HIV and hepatitis co-infection has received limited attention to date. AIDS 2006 made progress in raising awareness through posters and abstract-driven sessions on the importance of ensuring that policy and research focuses on the impact of hepatitis C (HCV) and hepatitis B (HBV) on HIV treatment outcomes. Significantly, one study reported a 17% HBV prevalence and three-fold increase in hepatotoxicity among HIV/HBV co-infected patients in a South African ART program. According to WHO, studies indicated that 80 to 95% of adult injecting drug users (IDUs) are likely infected with HCV in affected countries, including former Soviet Republics, Poland, Italy and Spain.

Alexey Kruk (Russian Federation) presented data from a small study using pegylated-interferon and ribovirin among 12 HIV-infected former and current IDUs with recent HCV sero-conversion. A sustained virologic response was achieved at 24 weeks in 94% of subjects, a rate two to three times better than HIV/HCV co-infected patients treated during the chronic phase of HCV, and even better than a previously-published small study of acute HCV infection among HIV-negative individuals. Practitioners in the field agreed that HIV prevention and treatment policies and services must progressively take into account a possible co-infection with hepatitis among injecting drug users with HCV and in countries with high prevalence of HIV/HBV.

**Herpes Simplex Virus (HSV2) Co-Infection**

A mathematical model presented in Toronto predicted 50% of new HIV cases were directly attributed to HSV2 in regions of high HSV2 sero-prevalence. Illustrating how HSV2 might drive HIV transmission, researchers presented a model for mucosal HIV-HSV2 synergy, showing cellular mechanisms that correlated HSV2 infection that increased susceptibility to HIV infection. This in turn resulted in a cycle of HSV2 reactivation and shedding and a further increase in HIV shedding and transmission.

**Hunger and Treatment Outcomes**

Results from several studies presented added to existing knowledge on the effect of lack of proper nutrition to the progression of AIDS, showing that malnourished individuals found it harder to cope with side-effects of ARV. A multi-centred prospective study presented at the session *Nutrition and HIV*, added to the body of evidence that micronutrient supplementation could significantly improve CD4 counts in patients on ARV. A study conducted in Uganda found that many PLHIV died and others had contracted infections after discontinuing ARV treatment due to lack of food. Advocacy efforts of campaigners from several development organizations called for urgent delivery on the Political Declaration pledge of integrating food and nutritional support as part of a comprehensive response to HIV/AIDS. This added voice to the WFP estimates that about one million of the 6.4 million people who will be enrolled in ARV programmes in 2008 will need nutritional support. However, researchers emphasized that further well-designed studies were needed to inform future policy decisions.

**Key Challenges for the Future**

Reflecting on the progressive understanding of the dynamics of HIV infection and the scientific advances in treatment made over the past 25 years, Anthony Fauci (USA) highlighted the scientific challenges facing the boundaries of treatment. These included the early events in HIV infection, particularly the establishment and persistence of viral reservoirs which confound the ability to eliminate or eradicate HIV. While understanding of the future targets for new drugs had improved significantly, there were strides to be made in increasing the application of integrase inhibitors and maturation inhibitors. It was further observed that although the introduction of HAART had resulted in the virtual disappearance of the wasting syndrome, across treatment programmes in Africa and other low-income settings, effective management of TB/HIV co-infection and increased prevalence of resistant TB remained a challenge for treatment scale up.
The advent of treatment scale up in low- and middle-income countries was also a cause for concern among some public health practitioners, who worried that this would be at the expense of other equally-urgent health issues within already-weakened health systems. There was general agreement that while targets for 3 by 5 were not met, the initiative helped to change the mindset about the feasibility of delivery in resource-limited settings, exposed the potential of unused capacity in the health service to absorb numbers of patients, and changed the conversation from “there is no infrastructure; you can’t possibly scale up” to universal access by 2010.

A satellite sponsored by International Development Research Center (IDRC) highlighted some tensions faced, especially by African health systems in the move towards universal access. These include: expansion of ARV treatment services with the need to improve a range of other essential health care services; the way in which essential services were being delivered: top-down, vertical, selective health care programmes, pitched against bottom-up and more integrated health services; short-term urgent and ambitious response to the HIV epidemic at odds with long-term and cautious approaches concerned with sustainability; integrating an approach to risk management that acknowledges the potential for impact to be curtailed by poor-quality services; poor management and development of resistance; and the proliferation of global health initiatives concurrent with bilateral and multilateral financing institutions (such as the World Bank and IMF) creating competing demands on the leadership and stewardship role of Ministries of Health in overseeing development of health care systems as a whole. There was widespread recognition that these tensions exist and are underpinned by structural and systemic deficiencies.

“AIDS Exceptionalism”

In his opening presentation, Peter Piot made a case for keeping the exceptionality of AIDS high on the political agenda, and linked to the core of development policy to generate and sustain long-term investments. In contrast, Richard Horton (UK) made the point that “AIDS exceptionalism” was a “serious error” that promoted a vertical approach to scale up in the health care system, hurting those most vulnerable and undermining the potential to achieve MDG 6, given that HIV was in competition with TB, malaria and other issues. However, despite the diverging viewpoints on the positioning of AIDS in global public health, experiences from the field showcased through several country and civil society case studies showed that ARV scale up presented the international community with opportunities to use...
the interest in and resources for HIV as the leading edge for health systems development. The imperative was based on the premise that universal access to ARVs would require functioning health system components, including health workforce, financing, leadership and stewardship, laboratory systems, drugs, procurement supply management, primary care and referral systems. There was general recognition that even with the work undertaken by non-governmental organisations, the public health system would, over time, be the only system to assure the right to health.

Convergence of the Public Health Approach and Human Rights

Jim Kim (USA) recalled the vision of the late Jonathan Mann, and his work on introducing the concept of health and human rights in consideration of tensions and debates over scaling up testing. The TB movement had been successful in turning a complex treatment programme into a public health intervention that was scalable and effective. Critical analysis of scaling up policy and design of programmes revealed the need to balance individual rights with public health approaches that focused on population health and development of systems. Several speakers raised concerns about the public health approach that ignored the historical contributions of activism and community action in teaching the global health movement the importance of human rights, social justice and human solidarity. These were critical advocacy tools that had proved invaluable in getting the world to the common agenda of universal access.

However, the reality was that treatment access was at less than 25%, only one in 10 PLHIV knew their status, and epidemiological trends showed that TB control in high HIV-prevalence settings was unlikely, even for well-performing programmes. These factors caused unresolved tensions with balancing individual rights, the need for public health strategy and the significance of human rights in the gearing up to universal access. Taking cognizance of the indivisibility of rights, it was feared that an overemphasis on the right “not to know your status” would inadvertently lead to distraction from protecting the most paramount right: to live and not die of HIV/AIDS. Presenters underscored policy and strategy essential to achieving universal access aspirations, including: moving away from individualized regimens towards standardized, simplified treatment protocols; integrated and decentralized team-based service delivery models, including task shifting; and expanded community-level care and treatment support.

Kim reminded conference participants that Partners in Health’s effort to provide quality HIV services in rural Haiti – now widely considered a model – was once thought of as unrealistic. He called for a “second wave of access activism to deal with issues such as pricing of second-line drugs and the health care worker shortage”, adding that the resources needed to address the shortage of health care workers were “equal to the cost of two days of the Iraq war”.

Lessons for Integration

Integration of health services and programmes, including HIV prevention and treatment, sexual and reproductive health, and TB and Hepatitis C services, was recognized as necessary for synergy within the health system. Panellists of a session titled Getting the Balance Right – Integrating HIV Prevention and Treatment Programming insisted that it was important to move beyond a false dichotomy of prevention versus care. Rather, prevention and treatment were closely connected, and activists should insist on integration of services. Brazil was cited as an example of a country with an integrated and balanced approach. Its national AIDS programme would purchase one million condoms in 2007, although it spends the majority of its AIDS budget on treatment and care.

Several sessions highlighted the need for greater urgency in addressing the lack of adequate linkages between TB and HIV programmes in most countries; TB remains the biggest killer of PLHIV. It was noted from several presentations on pilot programmes integrating HIV and TB services, for example in India and Rwanda, that on the most basic level, TB programmes generally used a public health approach, while HIV services tended to focus on individualized care. Screening for active TB was integrated into HIV counselling and testing, and conversely TB clinics also referred individuals for HIV testing.

An observed trend from the field was that while some of the pilot work and early phase of ARV scale up was primarily hospital based, with the increased flow of resources and price reduction of first-line regimens, there has been rapid build up of ART as a primary care intervention. Diane Havlir discussed the latest research on appropriate timing for initiation of ARV with people co-infected with TB. She emphasized the need to diagnose TB early among PLHIV because early identification would help to avoid immune-reconstitution disease and drug-drug interaction problems with TB and HIV treatments. However, with up to 80% of TB patients co-infected with HIV in high-prevalence settings, optimum treatment required increasingly more individualized patient-centred approaches than traditional DOTS programmes could provide, which demanded technical expertise and additional monitoring support in clinical facilities. This was placing a strain on attempts to integrate TB- and HIV-related care because anti-retroviral treatment scale up was pushing service delivery to primary care levels while TB co-infected
patients migrated up the health care system, calling for urgent policy and implementation of TB and HIV collaborative programmes.

A session on the integration of HIV/AIDS and sexual and reproductive health services reflected on the lack of adequate attention to the needs, rights and fertility desires of PLHIV at policy, programme-design and service-delivery levels. The lack of progress in scaling up PMTCT beyond 10% of women in need was considered a clear indicator of stalling effort in this area. The International HIV/AIDS Alliance, in Ecuador, shared lessons on building community partnerships, confronting stigma and discrimination, and training and working with a sexual and reproductive health organization to respond to the needs of key populations and vulnerable groups, including men who have sex with men, sex workers and young people. In addition, there was a call for development of a research agenda to build the evidence base for policy and delivery of integrated services. A simple research framework proposed integration of four dimensions: understanding the need for integration of services in order to meet international public health goals; understanding demand at the micro level in order to respond to services that people want; increasing availability and supply; and investigating coverage and content of existing services. Fertility intentions of women and men in developing countries were strongly influenced by community and social norms around child bearing, even where they were living with HIV. With the growing numbers of people in sero-discordant relationships, including (married) men who have sex with men but do not identify openly as gay, injecting drug users, and other communities most at risk, presenters called for support for amplification of community voices demanding integration of sexual and reproductive health services.

Health Workforce Challenges

While the crisis of the health worker shortage of at least one million in Africa has been present over a number of years, and is compounded by AIDS, the issue had not been high on the agenda of the International AIDS Conferences until AIDS 2006. However, with the increase in activism, media attention, and sessions on the issue, it was hoped that AIDS 2006 would build the momentum, energy and creative thinking to push for a breaking point in the right direction.

WHO’s Teguest Guerma highlighted the plight of 57 countries with a crippling health workforce shortage. The health worker crisis was part of the vicious circle of weak health systems, inadequate coverage and packaging of HIV services, and an ailing and dying health workforce. Yet over time, fewer people were being trained and enrolled in the public health sector, with many preferring to work in the private sector. Burnout and demotivation, especially in regions where HIV prevalence was high, resulted in resignations due to the pressure of poor working conditions and low pay. Others migrated to better jobs abroad or enlisted locally with non-governmental and private sector programmes. Some 37% of South African doctors, 34% of Zimbabwean nurses, and 75% of Ghanaian doctors immigrated within a few years of completing medical school. In other countries, such as Lesotho and Malawi, the attrition rate through death of health professionals caused by HIV was even higher than the migration. In Botswana, estimates showed that 17% of the health workforce died of AIDS between 1999 and 2005. If no action was taken, this percentage was projected to reach 40% by 2010.

There was widespread recognition of the need to reframe the global human resource crisis as a “globalized” crisis where action in one part of the world had immediate and significant impact on public health in another part of the world. Disparities in in-country investments also compounded the problem. In Rwanda, for example, provinces with less than US$2 per person to spend on health lose health professionals to provinces that receive US$12 per person. This emphasized the imperative for a global framework to resolve the problem. Sub-Saharan Africa faced the greatest challenge, with 24% of the global burden of disease and only 3% of the world’s health workforce.

WHO launched the Treat, Train and Retain (TTR) Strategy, which targets highly-affected countries. TTR would prioritize: providing testing, counselling, prevention and treatment services to health workers (Treat); increasing the number of skilled health workers entering the workforce, while maximizing available human resources through task shifting (Train); and developing strategies to enable public
Facing the Challenge

Lessons from Malawi

Malawi has a severe human resource crisis, with more than 50% of positions in health facilities not filled. There are some districts with less than one nurse per health facility, and some districts without doctors at all. With a high HIV burden of 14% of the adult population and an annual death rate of 90,000 people, there was an urgent need to fast track scaling up treatment, AIDS 2006 heard. First-line therapy was simplified and standardized to one type of regimen for all patients. Treatment guidelines required an AIDS clinical diagnosis with no obligation for laboratory monitoring of CD4 count. This resulted in a streamlined drug supply system and a high level of standardization in case findings, regimen reporting and monitoring roll out. The programme was inclusive of all health care providers in hospitals, with special recognition of the role of lower cadres. The scale up plans to put about 45,000 patients on treatment every year, which is estimated to translate into 50% of people who needed access to ARVs becoming eligible for treatment every year. While not “universal”, the reality leaves about 1% of the adult population on treatment. In 10 years’ time, Malawi expects about 5% of the adult population to be on treatment, with at least two million contacts being made with the health centre every year.

In recognition of the need for exceptional measures if universal access is to be realized, Malawi developed a six-year human resources relief programme. It is now a US$270 million programme funded by the Global Fund, the UK’s Department for International Development (DFID) and others. This will enable expansion of training capacity by 50%, improvement of recruitment and retention, additional salaries, and temporary stop-gap measures such as engaging extra doctors and nurse tutors. While not yet a success story based on outcomes, Malawi has learnt that partnership is crucial and that human resource development is a long-term change effort. Increasing capacity for training is expected to take three to five years before results see the first “graduates” entering the health system. Planning is also supported by the ongoing analysis of HIV as part of the essential health package, monitoring numbers, costs and benefits of keeping health workers and teachers alive, and the impact of health workforce demands on other essential health services.

Lessons from Kenya

Presentations from Kenya cited lack of sufficient staff for management and care for people living with HIV/AIDS as the single most important limiting factor for treatment scale up. According to the Ministry of Health, the health workforce had declined from 50,504 workers in 1996 to 42,910 in 2001, with numbers continuing to fall. At the same time, the health system was training in an attempt to cope with new and increased pressures due to challenges posed by HIV/AIDS, including related staff attrition, increased workload, absenteeism, and evolving technical training demands. Provision of quality HIV/AIDS services was labour intensive, requiring skilled health workers. The rapid scale up of treatment had necessitated the training and re-deployment of health care workers in HIV-care services. As these services continued to expand rapidly, the number of health care workers providing comprehensive services had been outstripped by the demand. Further, decentralization of HIV treatment to the level of health care centres where staffing was normally even more precarious would require district health management teams guaranteed to support health care workers at a more peripheral level to ensure that services were not disrupted.

Kenya estimates that an investment of US$50 million each year for five years is required to have in place a health workforce able to deliver quality health care in the current context. The presenter called on developed countries to limit the hiring of health workers from developing countries; to support training of health care workers; and to provide debt relief to create additional resources to support human resource development. The speaker also called on international financial institutions to remove barriers to hiring health care workers based on macro-economic stability concerns.

Unfortunately, throughout AIDS 2006, there was limited critical analysis of evidence from national health sector programmes that would enable participants to increase their understanding of specific barriers, international advocacy action, policy and strategic direction with reference to macro-economic policies,
and health financing for addressing the health workforce crisis and other areas of strengthening health systems in high-prevalence countries. In addition, there were no clear linkages to medium-term efforts, like that of the Clinton Foundation, to show that countries like Kenya had unique opportunities of having a pool of in-country health workers, currently engaged in the private or non-governmental institutions or other livelihoods outside of the public sector, to draw from.

Proposals for Reversing the Health Workforce Crisis

A number of speakers raised the following issues as critical to addressing the health workforce crisis:

**Define the Problem:** First, there is a need to identify the critical areas of shortage, and make responsive plans for those shortages. For example, in many areas of Africa, there may be a doctor and a handful of nurses, but there is no pharmacist, who is needed to dispense essential medicines for a universal access roll-out programme.

**Task-Shifting:** It is important to change scopes of practice to make it possible for nurses to provide treatment and care – this is currently prohibited by existing legal requirements in many countries – while mobilizing lower cadres to relieve the burden from nurses. This will help to maximize the existing in-country workforce base in the public sector, even in the face of limited-resource constraints.

**Mobilize “Informal or Voluntary” Care Givers:** It is also important to mobilize the large, informal health workforce that exists in many developing countries into the formal health sector. In South Africa, it is estimated that 60,000 people are informal health care workers. On a daily basis, they provide counselling, care, and support, but receive very little or no remuneration, training or recognition in return. Their work is a precious resource, but if it is to be sustained, it needs to be costed for and treated with respect and dignity.

**Training and Production:** Innovative strategies and models of training clinical care officers, community health workers and nurses’ assistants were shared at AIDS 2006. There should be a targeted, quantified plan for the production of health care workers, not simply a vague statement that more doctors, nurses and pharmacists are required. There must also be recognition that in developing countries, the ability to produce health care workers has been gravely limited by the loss of skills and the haemorrhage of skilled teachers out of developing countries, often to developed countries. Therefore, the responsibility of training a new generation of health care workers has to be shared between the developed world and the crisis countries.

**International Dialogue and Co-operation:** General consensus was that a facilitated international dialogue and co-operation agreement was needed. Some believed that this should be legally binding in the same way that the World Trade Organization agreement on TRIPS binds countries in conduct related to the international distribution of human resources, and prescribes a set of minimum terms of remuneration in order to mitigate the pull factors to rich countries.

Lieve Fransen, representing the European Union (EU), shared the action being taken by EU member states to assess the needs for training and recruitment of health professionals. Europe’s Open Board has increased mobility of health professionals and patients. It is recognized that across Europe, countries need to manage their health resources better and plan for training. In this regard, the EU is also exploring the development of a Code of Conduct for the ethical recruitment of health workers to guard against the active recruitment of health professionals from the poorest countries. She added that the EU acknowledged that legal migration and health workers’ mobility was an individual right that could have very positive benefits for individuals, families and their home countries. Therefore, it considered the legally-binding restriction of the movement of health workers as infringing on their individual rights. However, she said that benefits depended on a well-managed mobility, which was currently not in place.

**Involve Health Care Workers:** A key principle in the AIDS response is the involvement of affected communities in developing lasting solutions. There was a call for national and international efforts to involve health care workers in all policy, strategic and programme implementation discussions. In the same way that there is international recognition of the principle of Greater Involvement of People Living with HIV/AIDS (GIPA), it was agreed that discussions would not have the most effective results if the voices of health workers and their trade unions and staff associations were excluded. Health professionals and donors should work with governments
to allocate resources in a more equitable way within countries and across crisis countries.

Answer the Call for 10-Year Investment: Conference participants underscored the urgency needed in the global response to WHO's 2006 call for a 10-year global effort for health workers. Lessons to be drawn from the international response to human resources were highlighted, including: target setting; monitoring of whether these targets are met; a global framework for action with co-ordination of international efforts beyond looking at it on an isolated national level; and a global approach to raising funds for the production, sustenance and development of a health care workforce, not only for the response to HIV/AIDS, but also for global public health and the delivery of health-related Millennium Development Goals.

Human Resources for Health as a Human Rights Issue: As a human rights activist, Mark Heywood recalled the international human rights covenants that governments had signed and that speak to the highest attainable standard of health. This standard of health must be qualified and be both a moral and legal driver for addressing the types of problems discussed. This would recognize the specific duties around public health and population health in the high-burden countries.

Health and Drug Policies, and Legal Regulation: Health legislation in many countries regulates the order of delivery of health care in the public and private sectors. Several speakers underscored the need for affected countries to review policies and legal frameworks governing health and drug regulation to enable: resource flow; training of new cadres of health workers; task shifting and description of the scope of work for community health workers; prescriptions by nurses; expanded drug management at lower levels of the health care system; and public-private partnerships in treatment scale up.

Models for Scaling up to Universal Access

AIDS 2006 contrasted with those of the past in the wealth of positive information presented about delivery of AIDS treatment. Scale up has often been a challenge, second-line therapy costs remain unacceptably high, and shortfalls in financing and human resources complicate treatment delivery. But many speakers had important successes to report and many lessons to share.

Several themes emerged from a session on how countries successfully scaled up AIDS services. These included: the need for decentralized treatment delivery in general health clinics (rather than exclusively providing services through large centralized hospitals); a willingness to move ahead with urgency instead of waiting for all of the answers about best practices; and advocacy around issues of drug pricing, funding, health care workers, and other issues relevant to scale up.

An Integrated Approach to Providing Care and Other Services

A WHO-sponsored session focused on the delivery of Integrated Management of Adult (and Childhood) Illness (IMAI), a package of treatment, prevention and support services. Presentations addressed how IMAI was implemented in different African settings. A highly-decentralized approach was used, with the aim of using existing health facilities in the community and building capacity to provide care. Specialist practitioners from larger centres often mentored staff at local sites. Interdisciplinary teams addressed staffing shortages and nurses took on primary responsibility for implementing treatment programmes at many sites. There was an emphasis on involving PLHIV and others in the community in the care team, which helped ground programmes in the reality of people's lives. Finally, external partners played important roles in all the programmes, providing funding, expertise, labour, and training services. Analysis of the IMAI programmes indicated their potential to promote scale up of AIDS-related services, although significant fiscal and human resource constraints would need to be dealt with for an effective integrated approach.

Commodity Security

AIDS 2006 recognized uninterrupted access to affordable and quality commodities as one of the challenges facing treatment scale up. Discussions showed that while the dramatic fall in prices of ARVs...
witnessed over the past 10 years had reduced the impact of price as a barrier to access, it had also exposed the range of integrated pharmaceutical and management factors that worked together to determine the “reach” or “footprint” of a given national treatment programme. Procurement, supply management, adherence and rational use of drugs were currently among the challenges creating new barriers to rapid scale up. However, cost would continue to re-emerge as a basic barrier for a treatment programme as more people shifted from the currently-cheaper first-line regimen to second-line and next-generation drugs. It was emphasized that ensuring systems built would be robust enough to take on the next wave and cycle that would follow the return to high prices of essential combination therapy and the cumulative growth in scale and geographical coverage of treatment programmes would be critical to the sustainability of universal access.

A range of commodities needed for prevention and treatment relied on health systems for delivery of the first level of care. The male condom was the cheapest way to control HIV, and it was essential to ensure quality in order to mitigate wider implications of condom failure, including intensification of resistance and opposition to condom programmes. There were growing concerns that while public procurement had been successful in making condoms a commodity and driving prices down, chasing after the cheapest price in the world may become a dangerous practice if quality was compromised. Scaling up to universal access would need health systems that could ensure storage and distribution conditions necessary for protecting the integrity and shelf life of condoms. While acceptable storage times currently stood at five years, storage in hot humid conditions had a drastic effect on condoms’ viability. The United Nations Population Fund (UNFPA) also announced that negotiations were underway with the Female Health Company for the cheaper next generation of the female condom; the outlook was to make it available to public health programmes by the end of 2006.

**Policy Considerations for National ARV Drug Supply Chains**

Lessons learned in initiating and expanding national ARV supply chains by the DELIVER programme (USA) showed that the scale-up response itself had
been the cause of substantial challenges to supply chain management for national health ministries in many resource-limited settings. This was complicated by multiple donors and procurement agencies. In many emerging and expanding national programmes in sub-Saharan Africa, Asia and Latin America, there was a significant gap between proposed ARV treatment targets and the capacity of health and supply chain systems. Product proliferation, inefficiencies and duplication added to the challenges resulting in calls for a fourth "one", i.e. strengthened centralized coordination of one procurement and supply chain between donors, procurers and implementers. A 30 item checklist for implementation of a successful supply management system was developed including customer service, product selection, quantification, logistics management information system, inventory management, procurement, financing to guide policy development and management of barriers and conflicts that may arise in the decision making process.

Simplifying Access to Laboratory Monitoring and Diagnosis

Ricardo de Souza (Universidade de Caxias du Sul, Brazil) and colleagues addressed the challenge of acute HIV infections that are often not detected with earlier generation antibody assays. They evaluated a fourth-generation antigen-antibody ELISA (FGEIA), which detected HIV antibody and p24 antigen, as an alternative to pooled nucleic acid amplification testing (NAAT) for detection of acute HIV infection. Comparable results produced against the more expensive and technologically complex HIV NAAT, positioned use of FGEIA in high-prevalence, low-resource areas to identify acute infections as part of a comprehensive prevention strategy. Reminding delegates that acute HIV infections (first two to three months) are estimated by some researchers to account for as much as half of all HIV transmission, and represent up to 10% of detectable infections presenting for HIV testing, de Souza emphasized that real-time recognition of acute infections created opportunities for highly targeted treatment, prevention and surveillance activities.

Gonzalez (Rwanda) et al looked at the need for simple, cheap and reliable testing of infants born to HIV-positive mothers in Rwanda. They found that dried blood spot samples (DBS), collected on filter paper, could be used to provide infant diagnosis by HIV proviral DNA or RNA PCR testing. The results of a pilot study showed correlation between DBS and plasma results, both a sensitive and specific method for accurate diagnosis of HIV infection in infants. This led to national implementation of the DBS methodology, currently used in at least 11 field locations in Rwanda for diagnosis of infection in newborns and infants. However, participants questioned the utility of a test done in a central laboratory rather at the point of care, and expressed concern about the potential for cross contamination.

The potential usefulness of total lymphocyte counts (TLCs) alone, or combined with haemoglobin or body mass index, for determining ART was reported by David Moore (Uganda). Discussions questioned its application as a clinical decision-making tool in sub-Saharan countries with high rates of malaria and other infections, given that the TLCs as a tool did not consistently predict low CD4 counts and failed to identify a significant percentage of those with CD4 counts under 200.

These results and other less expensive options presented for viral load and CD4 monitoring presented at AIDS 2006 demonstrated that affordable, accurate and technologically accessible methods can be developed and implemented for HIV laboratory diagnosis and monitoring in resource poor settings. This is a critical policy consideration for achieving universal access to care in low- and middle-income countries.
Promoting Human Rights of At-Risk Communities

There is wide recognition that ability to scale up HIV/AIDS prevention, treatment and care towards universal access will not be successful without attention to human rights. Human rights consist of more than just freedom from discrimination; rather it involves a full range of civil, political, economic, social and cultural rights.

South Africa’s Treatment Action Campaign (TAC) builds its activism on human rights enshrined in the national constitutional framework, which ensures socio-economic rights, access to health care, housing, education, and respect, regardless of sexual preference. Sipho Mthathi (South Africa) described how the TAC’s constitutional rights approach and litigation had revolutionized policy development with landmark changes, including enabling PLHIV to have the right to access to treatment and care. A global search conducted by WHO found 71 cases of litigation against governments in low- and middle-income countries on access to essential drugs as part of the fulfilment of the right to health. Of these, 59 were successful; 50 of these were from Latin America, and the others from South Africa, India and Thailand.

However, at a session convened by the United Nations Development Programme (UNDP), it was argued that without a fundamental shift in conceptualization of HIV/AIDS and human rights – which ensured that dealing with the epidemic effectively demanded the promotion of human rights and use of political power to ensure the rights of all marginalized groups and human populations were protected – contradictions against positive lessons gained over the past 25 years would persist. The evidence continued to show the feminization of the epidemic and violations of the rights of women and girls. The lack of strategies to deal with the interface of culture and religion persisted.

At 25 years into the epidemic, the vulnerability of specific most-at-risk groups, including gay men, men who have sex with men, sex workers and injecting drug users, is recognized. Yet in many parts of the world, these populations are largely criminalized by current policies and legal frameworks.

Renewed Focus on Gay Men and Men who have Sex with Men

AIDS 2006 focused more attention on the HIV-prevention needs of gay men and MSM than many recent international conferences. At a satellite session on HIV Prevention among MSM, Gary Dowsett (Australia) presented reflections on the historical evolution of the terminology. The term men who have sex with men grew out of early recognition in the west in the 1980s that there were men who were having sex with men that were not defined within gay communities. Researchers registered this as identity practice dissonance, where the practice of anal intercourse with men and other behaviours put men at increased risk of HIV infection. While sexual identity was a cultural construct rather than a science, and was therefore problematic, because in both western and developing countries, people functioned sexually beyond sexual identities. In dealing with emerging epidemics among MSM, the term reflected from the stigmas against gay men in the earliest days of the epidemic. However, it also served to sustain the homophobic way of thinking that still runs through the epidemic after 25 years.

In order to underscore the advocacy and rights significance of the discussion, Dowsett highlighted the resulting poor positioning of gay cultures within the discourse that followed the MSM categorization. Unfortunately, the adoption and greater comfort around the MSM acronym over time started to move the emphasis away from gay men, while enabling the response to take into account the people engaging in particularly risk practices, without worrying about sexual identity. However, while MSM allowed internalization of the way sex between men was organized in different cultural settings, outside of the concept of “sexual identity” or “gay”, it bypassed stigma associated with all men who have sex with men and with gay men particularly. Importantly, the focus on practices alone through MSM terminology stunted the growth in understanding of sexual activity and rapid social change, sexual violence against men, gendered orientation of sexual desire among men (not referenced to women), transactional sex and the heavy influence of circumstance and institutions (including prisons, boarding schools and military camps), as well as the concept of peripheral pleasures in sexual repertoire that would increase understanding of which men might engage in certain practices.

Several speakers noted that more research was needed to define the diversity of MSM. The blanket definition of MSM across all cultures did not adequately recognize the level of empowerment of gay-identified men and the impact of social, cultural, ideological, political and legal environments on sexual identities and practices of men – especially
in contexts where stigma was high – and how this affected the ability to access services. One recent study, led by Carlos Cáceres in collaboration with researchers and health advocates in more than 10 countries, attempted to present a global overview of MSM and HIV. Their study compiled epidemiological data from eight global regions. It found high rates of HIV prevalence, unsafe sexual behaviour and inadequate levels of condom use among MSM in many countries, indicating an urgent need for additional resources to expand HIV-prevention services targeting MSM.

Other researchers presented similar findings. In Southeast Asia, serious HIV epidemics existed among MSM in Thailand and Cambodia, and new epidemics were developing in Vietnam and Laos. In Morocco, MSM in many cities reported high rates of unsafe sex and limited delivery of appropriate prevention interventions by cultural and legal constraints. In the US, the annual infection rate among MSM was between 1.9% and 2.9%. At current rates, more than half of all black gay men in the US would be HIV-positive by the time they reached 35. A New Zealand study found that a high percentage of Maori MSM were victims of sexual abuse, often by older Caucasian men. There was increasing HIV prevalence in the Maori MSM community and a need for culturally-appropriate sexual-assault intervention programmes for this group. Research among MSM in Thailand also revealed a high rate of sexual coercion with condoms used in only 40% of coercive events.

One innovative approach to reaching MSM was through the Internet. The Men’s INTer net sex study found that MSM living with HIV and AIDS who used the Internet to find sex were at significantly greater risk of infecting others with HIV due to unsafe sex practices and compulsive risk behaviour. However, there were also attempts at sero-selection to minimize risk. Programmes in many cities were now using the Internet to encourage safer practices among MSM, provide them with information on safer sex, and offer prevention and treatment services.

In many parts of the world, including the Caribbean, there was rampant homophobia derived from the criminal code, and the construction of moral values from religion and culture. Except for seven countries in the Caribbean, the only country in the Americas with a sodomy law is Nicaragua, with a penalty of up to three years; compare this to St. Lucia, where conviction may lead to 25 years’ imprisonment. This is despite widespread acknowledgement that anti-MSM prejudice and stigma inhibits adequate public health approaches. A proposed solution was for the international response to champion decriminalization of homosexuality through mobilization of public debates, engagement of political leadership and promotion of rights for gay men and MSM through change of the social environment and legislation.

Injecting Drug Users

Worldwide, 13 million people are estimated to be injecting drug users. Contrasting with popular assumptions, 10 million of these live in developing countries. Injecting drug use is the main driver of epidemics in the regions of the former Soviet Union and other parts of Asia, accounting for the explosive HIV epidemics.

Criminalization: Despite WHO naming drug addiction as an illness, criminalization of injecting drug use and violation of the rights of drug users continues across the world. National policy challenges include the approach of governments that treat drug users themselves as illicit commodities to be controlled and contained. Punitive interventions include mass incarceration, forced institutionalization and registration. Against available evidence for harm-reduction strategies and international human rights principles, treatment for drug use includes: putting people in cages and shaving their heads (parts of India), placing them in labour camps (Vietnam), and imprisoning them in the name of detoxification (China). There is a need for more comprehensive documentation of the processes and outcomes of how legislation and law enforcement interacts with public health.

Global Policy: Data from the United Nations Office on Drugs and Crime (UNODC) showed that opium production in Afghanistan and other drug-producing countries continues to grow. This calls for a reflection of the global environment to prevent the spread of HIV among vulnerable populations. The growing HIV epidemic among drug users is partially due to drug policies that are inconsistent with public health goals. Kasia Malinowska, of the Open Society Institute, said the International Narcotics Control Board (INCB)
regulation had a negative impact on policy evolution in developing countries, necessary for the response. INCB 1961 regulations, which were clearly pre-global HIV, classified methadone as a schedule one drug with no medicinal purpose. Despite the changes in the realities of HIV- and drug use-driven epidemics, methadone continues to be classified in this way. This is taken seriously by developing countries that are unwilling or hesitant to introduce methadone substitution therapy.

**Gender:** Gender was identified as presenting additional burdens and barriers for female injecting drug users to access services. The overwhelming presence of men at treatment programmes makes it difficult for women to take part. Other impediments experienced by women include stigma, burdensome administrative procedures with registration and residency requirements, and lack of treatment centres where women can be admitted with their children.

**Sexual Health:** AIDS 2006 acknowledged that despite progress in defining effective harm-reduction programmes – the debate is over – and the evidence that a secondary wave of sexual transmission shadowed the use of unclean needles, sexual health of drug users globally was not addressed under standard needle exchange and substitution programmes. In addition, it was commonly found that sex work and drug use were heavily interactive, with many sex workers using drugs in order to deal with the harsh realities of the lifestyle, and many drug users using sex work as a way of supporting drug use.

**Access to Prevention and Treatment:** Discrimination of IDUs severely undermines their right to treatment, with fatal outcomes. In places where drug users make up the majority of those infected, they are clearly the minority of those on ARVs. In Russia, coverage for drug users is between 1% and 2%. Methadone, which is on the essential drug list for substitution therapy, is still illegal.

**Minority Populations**

The indigenous people of AIDS 2006’s host country, Canada, were visibly represented at the conference, and called attention to the disproportionate impact the HIV/AIDS epidemic has on diverse communities of indigenous populations around the world. Aboriginal Canadians account for 3% of Canada’s population, 9% of new HIV infections in the country, and are generally infected at a younger age than non-Aboriginal Canadians. Several conference sessions highlighted the historical epidemic drivers, including economic inequality and societal discrimination, which make Aboriginal Canadians vulnerable to poverty and injecting drug use, and afford limited access to, or use of health care services. These factors in turn make them more susceptible to AIDS.

Phill Wilson (USA), founder of the Black AIDS Institute, speaking at a satellite meeting entitled The Way Forward: The State of AIDS in Black America, noted with concern that AIDS in the United States was currently “a black disease”. With African Americans accounting for more than half of newly diagnosed cases and two-thirds of new cases in women in the USA, Wilson cited failure of leadership among traditional black American institutions as contributing to the HIV epidemic in African Americans.

Chris Beyrer (USA) analyzed data from several studies, which showed that while there was evidence of declines in US epidemics among injecting drug users and heterosexual populations, the MSM epidemic, particularly among African Americans, was worsening. Data from further analysis exploring risks and underlying drivers showed high rates of sexually-transmitted infections, particularly syphilis. African American MSM were less often HIV tested, and less likely to know their status, reflecting socioeconomic factors including limited access to quality health care. Of note was the lack of evidence supporting assumptions on some of the underlying drivers of vulnerability among African American MSM. Unsupported factors included the assumption that African American MSM had more high risk sex, more drug use, and were less gay-identified with more likelihood of engaging in risky behaviour. However, there was sufficient data to underscore the positive role of sexual networks and incarceration in this population. While the epidemic was substantially less severe in the United Kingdom than in the United States, comparative data showed similar trends of disproportionate impact among the black diaspora.
Migrants, Mobile Populations and Refugees

Laurie Garrett, of the Council on Foreign Relations, called attention to the interaction between HIV/AIDS and migrants, refugees and mobile populations. Although there was a lack of rigorous data, regional epidemiological studies showed that in many African and Asian countries, refugees were moving from lower-prevalence (conflict-affected) areas to higher-prevalence areas. Paul Spiegel (Office of the United Nations High Commissioner for Refugees (UNHCR)) pointed out factors compounding vulnerability, including interaction with host communities, surrounding prevalence, location, phase of emergency or conflict, duration of conflict and existence of a refugee camp.

While international guidelines and strategic collaborative initiatives like the Sphere Project exist, UNAIDS and UNHCR analysis of national strategic plans and Global Fund proposals showed that more than 50% of plans examined did not integrate refugees or displaced persons. One of the challenges faced by UNHCR as a protection agency for refugees was the requirement by six countries, including Canada and Australia, for mandatory HIV testing before resettlement. This was considered discriminatory and a human rights violation. There might be up to a six-month gap between testing and resettlement, and yet during that time, ARVs were not provided and confidentiality not protected. In addition, entry might be prohibited by some countries, and in some cases, women faced an increased risk of violence, with some seeking shelter in safe houses.

Stigma and Discrimination

AIDS 2006 was unique in the scale of individual vulnerable groups mobilized and represented at the conference. There was a strong youth presence, MSM pre-conference, and sessions on sex-work, prisoners, mobility and migration. The conference recognized that stigma and discrimination was a cross-cutting issue, which over the past 25 years had persistently created crippling barriers to effective prevention, treatment, care and mitigation. AIDS 2006 generated momentum and brought together new thinking on the action needed in looking ahead to the next 25 years. Jason Wessenaar (South Africa) said stigma could “be experienced internally [self-stigma] or externally [as in discrimination]. Internal stigma can lead to [a] person’s unwillingness to seek help or to access resources. External stigma can lead to discrimination based on one’s perceived or actual HIV status or on one’s association with someone else with perceived or actual HIV-positive status.”

Research carried out in Tanzania found that 63.1% of women and 49.6% of men living with HIV had experienced stigma in the previous year. George Alleyne (UN Special Envoy for HIV/AIDS in the Caribbean) added that stigma against PLHIV was compounded on top of pre-existing societal stigma identified with social constructs or “out groups”, including women.

A study conducted in India showed that two thirds of all staff (doctors, nurses, and counsellors) fell into the market stigma category. Worrying findings included beliefs that HIV could be transmitted by casual contact leading to sub-optimal care or denial of care. A study examining health care practices towards HIV-positive patients in Nigeria found that of the health care workers sampled, 66% had observed the refusal of care, and 43% had observed refusal of access to hospital admission. Studies conducted in Zambia and Vietnam found health care workers were heavily influenced by the discrimination seen in communities. While Botswana had reported a reduction in stigma with the introduction of the national ARV programme, there was growing evidence of stigma in health care settings, including denial of care. Those who had experienced stigma were also more likely to miss HIV clinic appointments and lapse in adherence to their medication. Further, PLHIV might not seek treatment or delay going to doctors due to real or perceived discrimination against them.

The Zambian study found that stigma was further compounded by value-based judgments, where 84% of health care workers sampled believed that diagnosis of HIV was associated with negative images such as prostitution and marital infidelity. Forty-seven percent personally felt that HIV was something to be ashamed of, and 60% preferred not to be tested for fear of knowing if they were HIV infected. Faith-based organizations and churches were critical partners, given that faith-based institutions provided up to 50% of the health care services in some developing countries, and HIV stigma was layered onto religious ideology. A member of the audience pointed out that, unfortunately, in many cases, the churches were the ones that promoted stigma and discrimination. Susie Maclean, of the International HIV/AIDS Alliance, highlighted that layering of stigma against specific groups was especially severe, driven by homophobia, misogyny, and social exclusion of drug users.

Sharing his personal journey, Anuar Luna elaborated the consequences of internal stigma commonly experienced by PLHIV. He explained that “internal stigma refers to self-perceived stigma or the internal manifestations of accepted stigma or of negative social perceptions transformed into such things as shame, anxiety, hurt, and fear of being discriminated against”. The phenomenon of internal stigma grew out of and was affected by the social cultural environment created by society, for example, towards sexuality and ill health. The negative impact of internal stigma on universal access could not be underestimated. Consequences included: fear of being
tested; fear of being seen in HIV-related facilities; loss of adherence to treatment; loss of opportunity to receive adequate treatment even when it was available; fear of side effects and being discovered if side effects increased visibility of HIV status; and fear and shame to talk with health service providers on sexual health issues. While internal stigma could create a more visible barrier to treatment access for those who knew or suspected their status, with less than 10% of people tested, internal stigma also had implications for all processes of the response, including policy formulation and prevention. Internal stigma represented an obstacle for HIV visibility, the lack of which in the community was an obstacle for access. In turn, internal stigma reinforced all the elements linked with stigma.

In calling for *Time to Deliver*, Mandeep Dhaliwal, of the Lawyers Collective, said, “Unless sufficient monetary investment is made in stigma as an issue in its own right, all interventions will fail.” The take-home message from Toronto was that all actors must start to incorporate stigma reduction in all existing activities in their own organizations or institutions, regardless of how long they have been working in HIV/AIDS. These activities should involve groups experiencing stigma and those whose practices have significant impact on the response, including professional organizations of health care workers, while ensuring that strategies are in place to raise awareness and address self stigma. Actors named as critical to the efforts to reduce stigma included policy makers, police representatives, and members of the justice system, media and affected communities.

**Women’s Rights**

**Where is the Money?:** AIDS 2006 profiled HIV/AIDS and women’s rights issues at the highest possible level. A multi-country study conducted by the Association of Women in Development (AWID) on financing related to women and HIV/AIDS showed that across several large donor agencies, there was a decrease in funding directed at implementing women’s rights programmes because of a move towards ‘gender mainstreaming’ in policy discourse. Speakers called for a shift in development funding to place money in the hands of women and for more global AIDS funding to be directed at the underlying drivers of the epidemic.

**Legal Protection:** Discussions of the vulnerability of women and girls in sub-Saharan Africa and Asia spoke to the context where sexual violence is endemic, highlighted the gender power imbalance embedded in marital structures, and the lag of legal frameworks in addressing social cultural practices that increase HIV/AIDS consequences for women across both regions. AIDS 2006 deepened discussions focused on the gender dynamics of the epi-
demic, which resulted in significant attention placed on old issues like the burdens of grandmothers, voluntarism, and burdens of care on women and girls. A number of speakers demanded property rights, access to education and livelihoods including food security, and other legal and human rights protections required to reduce women’s vulnerability.

Trafficking: The renewed attention to women’s rights also highlighted the established link between HIV infection and trafficking concentrated in the Asia region, which creates widening circles of vulnerability for children and women across borders and regions. Findings presented from Nepal showed that while HIV among sex workers was around 17%, it rose to 72% for women who had been trafficked to India for prostitution and who were younger than 18 years. The age at which girls were trafficked was falling from 14-16 years to 10-14 years, with the growing belief in some communities that sex with younger children would cure customers of HIV. Trafficked women and children were not able to negotiate safe sex, were usually classified as illegal immigrants, and were excluded from basic services, including education and rights protection. With the illegal status, they were unable to seek assistance or redress for fear of prosecution. Trafficked girls were less likely to be beneficiaries of sex work empowerment and intervention services due to bondage, poor working conditions and language barriers. Studies had shown that children and women taken to brothels were most likely to become infected in their first six months there.

The moving personal testimony of a trafficking survivor underscored the need to urgently give voice to the gross violations of human rights largely hidden from view. Stigma remains a barrier for survivors to return home, integrate into society or access services, including care and treatment. Integrated regional and inter-country co-operation is required, which addresses a protective legal framework and strategies to create an enabling environment for social change and investment in services to provide empowerment, and physical and psychological protection to vulnerable communities and victims of trafficking.

Sex Workers: Speakers at a panel on sex workers, HIV and human rights discussed human rights violations suffered by sex workers around the world. “The State” was cited as the primary violator of sex workers’ human rights perpetuated in the form of violence, police raids, arrests, extortion, and rape. Criticism was raised against research processes involving sex workers, who felt used as guinea pigs contributing to scientific development and the wealth of drug companies. However, lessons from India brought hope in the ability to realize a rights-based approach through organized networks and a holistic approach that defines sex workers beyond concerns with HIV alone, to protecting their rights as women (and mothers, daughters and wives) in sex work.

Street Children: The plight of street children was also highlighted with the finding that in Russia, HIV infection rates among these children were at 60% and in Nepal at 40%. The situation is complicated by drug use among children, with limited policy guidance on how to implement harm-reduction strategies for minors, especially where the law explicitly states that you need to be 18 or have a parent’s permission to receive substitution treatment.
Tracking Commitments and Key Recommendations

"We commit US$500 million to the Global Fund" – Bill and Melinda Gates, Gates Foundation (USA) at AIDS 2006

High-Level Session on Leadership – Time to Deliver for Women and Girls

Ministers from 20 countries and leaders representing development partners, civil society, networks of women living with HIV, faith-based groups and the business community committed to ensuring that national targets included specific goals to empower women and remove the obstacles that prevented so many women and girls from accessing HIV prevention, treatment, and care and support services.

The High-Level Session delegates called on fellow leaders to:

Action 1: Increase funding for AIDS programmes for women.
Action 2: Increase meaningful participation of women where AIDS policies are decided.
Action 3: Increase access for all women to services.
Action 4: Ensure the rights of women are fully reflected in legislation, and that such legislation is enforced effectively.
Action 5: Empower women through scaling up efforts to secure women’s livelihoods.

Time to Deliver Commitments Made to Youth

An innovation of the powerful youth presence of AIDS 2006 was to document commitments from visitors to the Youth Commitments Desk at the Youth Pavilion in the Global Village. The mobilization strategy involved encouraging conference participants during presentations, speeches, in conversation, and while networking to articulate how they will work in partnership with youth to improve the situation of youth-focused HIV/AIDS policies and programmes. Commitments will be followed up post conference via existing global youth networks; a full list is available on the conference website.

The conference policy report highlights examples of strategic youth-focused commitments for centralized follow up.

"For AIDS 2008 in Mexico, I commit to double the number of young people" – Julio Frenk, Minister of Health (Mexico), at AIDS 2006

"I will scale up HIV prevention with most-at-risk young people" – Rick Olsen, Project Officer, HIV & Young People at UNICEF (United States), at AIDS 2006

"I will keep a focus on vulnerable youth in our regional work" – Mariam Claeson, Co-ordinator of South Asia, World Bank, at AIDS 2006

Advancing a Global Agenda for Gay Men and Men who have Sex with Men

Linking marginalization of MSM to the conference theme of Time to Deliver, MSM pre-conference chair, Joseph O’Reilly (UK) of the International HIV/AIDS Alliance, invited participants to develop a permanent global networking mechanism on MSM and HIV leading up to the XVII International AIDS Conference in Mexico City in 2008. Noting that only 11% of MSM worldwide had access to HIV/AIDS prevention services, Peter Tatchell (UK) affirmed that the global struggle for lesbian, gay, bisexual and transgendered (LGBT) people’s human rights was central to the struggle against HIV. Several speakers recognized that realizing the universal access agenda for LGBT would not only entail scaling up services, but also dealing with the related human rights abuses, homophobia in low- and middle-income countries, prejudice and violence.

The policy recommendation emerging from other discussions was the importance of deconstruction and disaggregation of MSM for more targeted, moderated prevention approaches, responsive to the diversities of sexual cultures and sexual opportunities amongst men.

Translation of Evidence from Research and Practice into Action

In keeping with the history of the International AIDS Conference, scientists, leaders and community actors presented evidence from research and lessons from the field, calling for translation into policy and action that will impact on the epidemic in affected communities. At the opening session, Helene Gayle (USA) reminded participants that 25 years into the epidemic, the world had the means to deliver more resources, more knowledge and more political commitments. She added that more needed to be done in applying what we know and in expanding our solutions using the evidence from basic, clinical, social and prevention research presented at the conference.
Several speakers highlighted evidence that had been presented at previous conferences, but has to date not translated into significant uptake or impact where it is most needed. Key examples for urgent action include:

**Harm Reduction**: Alex Wodak (Australia) highlighted scientific evidence on harm reduction, adding that it was abundant, consistent and compelling. Harm reduction had averted HIV epidemics among injecting drug users in some countries, and brought existing epidemics under control in others. The debate was over.

**Cotrimoxazole Prophylaxis**: Ruth Nduati reviewed life-saving interventions for HIV-exposed children, drawing attention to cotrimoxazole prophylaxis. She emphasized that it has been shown under randomized clinical trials in children to reduce mortality by about 43%. She added that it was a widely-available cheap drug, on essential drug lists, and yet it was not scaled up widely for use in HIV-exposed children.

**TB-Preventive Therapy**: Helen Ayles expressed concern that despite the evidence from the review of 11 randomized trials in HIV-positive individuals who showed a significant reduction in TB among those taking preventive therapy, and the existence of international policies for over 10 years, uptake of implementation of TB-preventive therapy had been very poor in high-burden countries.

**Commitments in the Political Declaration**

The theme of *Time to Deliver* and the timing of the review of the UNGASS High-Level Session on HIV/AIDS only a few weeks before AIDS 2006 strengthened the push for the platform of the International AIDS Conference to be used more effectively as an accountability mechanism for the global AIDS response.

Several sessions and speakers highlighted the significance of the commitments contained in the May 2006 Political Declaration, specifically the urgent need to scale up to universal access by 2010. This in turn generated further discussion on funding commitments needed from world leaders like the G8, as well as the inadequate address of the most-at-risk communities in the Political Declaration. At-risk communities were highly visible at the conference, including sex workers, gay men, men who have sex with men, recovering injecting drug users and young people. Advocacy activities called for concerted policy action, recognition of communities’ special vulnerabilities, redress of marginalization from accessing services, and protection of human rights of key populations including sex workers, gay men, men who have sex with men, transgender populations, indigenous groups and injecting drug users.

“There is a need to hardwire the Political Declaration to a means to measure and follow up. Overall we can move forward, but we have to do a number of things we haven’t done up to now. We have to make political declarations part of a political agenda that is dynamic and ongoing and make ownership and coordination better. We have to move our rhetoric to action” - Stephen Wallace, Canadian International Development Agency at AIDS 2006.

**Advocacy and Activism at AIDS 2006**

Advocacy and activism highlighted the health workforce crisis and the challenges faced by grandmothers in caring for orphans and shouldering the growing burdens of the impact of HIV/AIDS on their communities. This report provides community activists with a snapshot of all these efforts so that reflection and report back at the next conference can take stock of progress and outcomes from collective action.

**Health Workforce Crisis**

"Unsafe working conditions, low salaries and lack of bio-safety measures have led to a significant brain drain in developing countries. Addressing this requires a joint effort on the part of the international community. It is time we worked together to deliver on this.” – Dr. Pedro Cahn, President, International AIDS Society, at AIDS 2006

"Open your purses, we need more Nurses”; "Doctors want to Stay” – Slogans on posters

**Grandmothers’ Gathering**

“As grandmothers from Africa and Canada, we were drawn together ... by our similarities: our deep love and undying devotion to our children and grandchildren;
our profound concern about the havoc that HIV/AIDS has inflicted on the continent of Africa, and in particular on its women and its children; and our understanding that we have within us everything needed to surmount seemingly insurmountable obstacles. In the short-term, we do not need a great deal, but we do need enough: enough to safeguard the health of our grandchildren and of ourselves; enough to put food in their mouths, roofs over their heads and clothes on their backs; enough to place them in school and keep them there long enough to secure their futures. For ourselves, we need training, because the skills we learned while raising our children did not prepare us for parenting grandchildren who are bereaved, impoverished, confused and extremely vulnerable. We need the assurance that when help is sent, it goes beyond the cities and reaches the villages where we live. In the long term, we need security. We need regular incomes and economic independence in order to erase forever our constant worry about how and whether our families will survive. We grandmothers deserve hope. Our children, like all children, deserve a future. We will not raise children for the grave…"

Excerpt from the Grandmothers’ Gathering Toronto Statement, at AIDS 2006.

Priorities in a National Policy Framework

Stigma and Discrimination

"I think we’ve got to continue to fight stigma. We’ve got to continue to stop people from being scared of knowing their status and stop them from being afraid of being tested. If there is an aggressive effort against stigma and an absolute guarantee you’ll have the medicine... then we could have more people know their status and I think more people would be willing to do whatever is necessary not to infect others.” – Bill Clinton, Former President, USA.

"Unless sufficient monetary investment is made in stigma as an issue in its own right, all interventions will fail.” - Mandeep Dhaliwal, the Lawyers Collective.

"Fourth One” – Coordination of Procurement and Supply Management

In many emerging and expanding national programmes in sub-Saharan Africa, Asia and Latin America, there was a significant gap between proposed ARV treatment targets and the capacity of health and supply chain systems. This was complicated and highly politicized by the multiplicity of donors, procurement agencies and product proliferation. Conference participants called for a “fourth one”: a centralized mechanism for coordinating procurement and supply chain management between donors, procurers and implementers.

Integration of Services

Integration of health services and programmes, including HIV prevention and treatment, sexual and reproductive health, and TB and Hepatitis C services, were recognized as necessary for synergy within the health system.

There was a call for harmonizing drug policies with human rights principles and public health goals. Lessons from the field underscored the need to ensure that services for injecting drug users were comprehensive and integrated, taking into account gender dynamics, sexual health, harm reduction, substitution therapy, and equitable access to HIV prevention, testing and treatment.

In addition, there was a call for development of a research agenda to build the evidence base for policy and expanded delivery of integrated services.

Leveraging the International AIDS Conference Platform

There is increasing recognition that the International AIDS Conference provides a platform for announcing new policy guidelines, progress reports and strategies by normative agencies of the co-sponsoring organizations of UNAIDS. Significantly, at AIDS 2006, WHO presented the progress report on 3 by 5, launched the TTR strategy and presented new treatment guidelines. For example, WHO announced new guidelines for treatment of HIV/AIDS in children, and called the elimination of mother-to-child transmission an attainable goal. The World Bank convened consultations on HIV/AIDS strategy for Africa, while UNICEF profiled its global campaign on Children and AIDS. The collective process of tracking commitments will also follow up progress on the key initiatives that leveraged the conference platform. In addition, initiatives for follow up included
strategic pre-conferences and satellites organized by key actors to focus thinking around priorities for the target communities. These included pre-conferences for the religious community, MSM and children.

Several speakers and participants identified issues not adequately addressed at AIDS 2006, which therefore may also not have been covered by this report, but are highlighted in recognition of their strategic importance in the international response or their relevance to the process of the International AIDS Conference. These include:

- Children
- African representation in main conference sessions
- Care and support
- PLHIV (some groups were concerned that the programme gave more space to celebrities than to PLHIV)
- Representation in main conference sessions of the perspectives of women living with HIV
- Transgendered people
- International relations and issues of human security
- The rise of religious ideology and fundamentalism

and consequent impacts on policy and practice in the context of HIV/AIDS

- Distinctive or special issues faced by low-prevalence countries
- Sexuality (not adequately covered under the discussions of sexual transmission)
- Monitoring and analysis of treatment roll out beyond strategies for scaling up, including: community experiences with ARV roll out; ongoing health system impacts such as internal shifts of points of contact with health systems for people living with HIV/AIDS; equity of access; degree of "crowding out" the existing range of aspects of HIV care which are not ARV and other primary level activities; building a culture of enquiry to inform policy and practice from clinical outcomes; and social management of ARV uptake.
Conclusion

This report attempts to convey the breadth of discussion that took place at AIDS 2006 in Toronto. The conference policy report has attempted to provide an overview of discussions in a number of key areas, together with proposals made toward addressing the key challenges facing the global response to HIV/AIDS. Attention has been paid to highlighting progress and outcomes of evidence-based policy and programme development, as well as identifying and exploring burning policy issues, both global and regional, where there are opportunities to influence the agenda for future action.

The authors recognize that while it is not exhaustive, it provides a balanced reference to the diversity of issues and topics covered at the conference. It is hoped that the report will be used as a tool for tracking progress and mapping post conference actions responding to key challenges discussed. The forthcoming conference in Mexico 2008 will reflect on the outcomes against some of the issues profiled under the key themes and follow up on commitments made by a selection of speakers and organizations.

The IAS, the AIDS 2006 Toronto Local Host, and conference co-organizers the Canadian AIDS Society, UNAIDS, International Council of AIDS Service Organizations (ICASO), International Community of Women Living with HIV/AIDS (ICW) and The Global Network of People Living with HIV/AIDS (GNP+) wish to thank all participants, community actors, researchers, leaders, members of the media, donors, sponsors and all who contributed through the many discussions that took place at AIDS 2006, and for the inputs received during the production of this Conference Policy Report.
Disclaimer

The information in this report reflects the diversity of opinions expressed at AIDS 2006. It does not necessarily represent official policy of any of the organizers or co-organizers.

All sessions referred to in this report may be referenced at:
- www.aids2006.org/pag
- www.kaisernetwork.org/aids2006
- www.clinicalcareoptions.com/HTV

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