OUTLOOK looks at HIV prevention and treatment as it explores the state of the AIDS response in 2010.

Difficult economic times call for smarter, better and more creative solutions.
The future of AIDS starts today

Michel Sidibé
Executive Director of UNAIDS

A few months ago I sat in a clinic in Lagos, Nigeria, watching Jacob’s father patiently listen to the doctor as she spoke to him about the treatment and care he should give to his son. As I listened to the heroic struggle of Jacob’s family to stay alive, I knew there must have been a way for this son and father to have avoided becoming infected with HIV in the first place.

Can we prevent the 7400 HIV infections that occur each day? Yes. But it will require nothing short of a prevention revolution.

For three decades the evidence of what works and what does not has been debated in the UN General Assembly, parliaments, community forums, places of worship, scientific forums and conferences. We enter the fourth decade with the best possible knowledge on combination prevention and treatment options to help us realize our shared vision of zero new infections.

With new infections outpacing treatment uptake by 5:2, how can we work smarter and faster to outpace HIV?

More than 80% of HIV transmission is sexual. It is clear that preventing HIV transmission is not as simple as ABC—but each proven prevention method has a pivotal role to play.

An open dialogue on sexuality—based on current realities—should be encouraged in families and communities. HIV prevalence among females between the ages of 15 and 19 in South Africa and Kenya is three times higher than among males in the same age group. In other countries, such as Botswana and the United Republic of Tanzania, it is double. In many cases the cause of these startling differences is intergenerational sex. Recognizing and addressing the factors that drive young women and men to have sex with older people is paramount. The answers can be found in fundamental development issues—access to education, employment, social security and health. When basic necessities are not met, vulnerability increases.

Unsafe sex often becomes an entry point to survival.

Of course, not all sex is transactional. Sex is a biological and human need. Social norms such as forbidding premarital sex are not necessarily practical in an age when people are waiting longer to get married. Delaying the age of first sex is an important prevention option, but we cannot rely on this alone. Young people can be empowered to manage their sexual and reproductive health needs. We can allay parental and societal fears that sexual education will lead their children to start having sex earlier. A recent analysis of 83 studies by D.B. Kirby and colleagues found that sex education does not hasten or increase sexual behaviour, but rather can delay or decrease it or increase condom and contraceptive use.

Men’s active engagement could unlock one of the main obstacles in the AIDS response. And adult male circumcision can provide the platform for change. It is heartening that the Zulu King, Goodwill Zwelithini, has revived the practice of male circumcision among young Zulu men in response to the evidence that circumcision provides a 60% protective effect. This is the power of communities.

Another entry point is to increase knowledge of HIV status among men. If men know their HIV status, they can begin conversations with their sexual partners about safe sex, pregnancy and treatment. A recent study in Malawi has shown that a home-based approach to HIV testing that provides instant test results can increase the uptake of HIV testing and counselling among all members of the family.

Outside of sub-Saharan Africa much HIV transmission takes place in the context of sex between men, sex work and drug use. Unfortunately, these behaviours are often criminalized and stigmatized. Being on the margins of society does not mean that people should have only marginal HIV prevention services. That is why I have called for the decriminalization of drug users and of adults engaged in consensual sexual behaviour. The benefits of such an approach are tremendous. The Avahan India AIDS initiative and government officials report that near universal coverage of HIV prevention services has been achieved for men who have sex with men. This is the prevention
revolution I speak of—where a narrow agenda is set aside for the greater good.

In Kolkata, India, sex workers are running cooperatives, managing health clinics and ensuring that underage girls do not enter the sex trade. They have also managed to keep HIV prevalence among sex workers low for the past two decades and are sharing their knowledge across the region.

Communities will mobilize if they have access to meaningful and effective HIV prevention and treatment services. Fewer than one in 100 injecting drug users in central Asia have access to opioid substitution therapy. We can do better. In sub-Saharan Africa only four condoms are available per year for each sexually active person. We can do better, as we are seeing in South Africa, where every person who comes forward and takes an HIV test will be offered 100 condoms.

I am still thrilled every time I hold a HIV-negative baby born to a mother living with HIV. We can virtually eliminate mother-to-child transmission and keep HIV from being at the forefront of the HIV prevention revolution.

The concept of ‘positive health, dignity and prevention’ begins with empowering people living with HIV to look after their own health and that of their loved ones. The prevention revolution means putting into practice everything we have learned in the nearly 30 years of the HIV epidemic. It means redoubling our efforts and bringing them up to scale. It means leaving no stone unturned in finding new and innovative solutions. And, most importantly, it means respecting the rights and dignity of all people, regardless of their age, gender or sexual orientation, and empowering them to protect themselves from HIV.

Saturating prevention coverage through complementary programming. Avahan has achieved a high coverage of focus populations (routine programme monitoring data).

### Injecting drug users

<table>
<thead>
<tr>
<th>District</th>
<th>35 000 est.</th>
<th>28 000 est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manipur</td>
<td>62%</td>
<td>26%</td>
</tr>
<tr>
<td>Nagaland</td>
<td>53%</td>
<td>26%</td>
</tr>
</tbody>
</table>

### Female sex workers

<table>
<thead>
<tr>
<th>State</th>
<th>65 000 est.</th>
<th>42 000 est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karnataka</td>
<td>22%</td>
<td>58%</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>29%</td>
<td>61%</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>26%</td>
<td>74%</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>38%</td>
<td>36%</td>
</tr>
</tbody>
</table>

### Injecting drug users

<table>
<thead>
<tr>
<th>State</th>
<th>40 000 est.</th>
<th>27 000 est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karnataka</td>
<td>15%</td>
<td>70%</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>19%</td>
<td>76%</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>26%</td>
<td>64%</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>24%</td>
<td>49%</td>
</tr>
</tbody>
</table>

### Government of India and others

<table>
<thead>
<tr>
<th>State</th>
<th>20 000 est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karnataka</td>
<td></td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td></td>
</tr>
<tr>
<td>Maharashtra</td>
<td></td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td></td>
</tr>
</tbody>
</table>

Percentages indicate intended coverage through establishment of services in specific geographic areas. * Includes districts with no intended coverage. Mapping and size estimation quality varies by state. Does not include rural areas. Source: Avahan and State AIDS Control Society programme data.

The future of prevention—an incorrigible optimist’s dream

We are in 2020, ten years from now.

We look back on the successes of the large-scale HIV testing campaigns of the 2010s. After South Africa showed the lead, many other countries followed. With the disappearance of social stigma, it is common place to know one’s HIV status.

Staying HIV-negative has never been easier. Communication strategies, including social networking, have reinforced HIV prevention norms, with the result that over 95% of premarital first sexual encounters are condom protected.

Whether they are HIV-positive or HIV-negative, young people today have a range of choices to avoid sexual transmission of the virus. The fourth generation of female condoms has been a fantastic success: in 2019 female condoms out-sold male condoms for the first time.

Male circumcision has been another success story. Between 2010 and 2020, all adult and adolescent males desiring circumcision in high-prevalence countries were circumcised, and baby boys are being circumcised at birth.

An important development has been the use of antiretroviral therapy to reduce the amount of virus that the immune system has to deal with and the world has seen the full benefits of treatment as prevention.

Microbicides have also been hugely successful. We now have several delivery mechanisms. The most popular is the combined contraception and microbicide ring, which can be worn internally for up to three months. The slow release of active ingredients protects against both unwanted pregnancies and HIV.

Technology has moved ahead faster than expected. The CD4 count is barely used any more for deciding when to start treatment and with new resistant-proof, low-toxicity drug therapy, maintenance is a breeze.

Research on vaccines received a boost back in 2009, when a trial in Thailand reported a modest 30% protective effect. Since then, several new trials have been launched. In each of them, the vaccine has been matched to the strain of virus that is prevalent locally.

One of the most important successes of the past ten years is that every country in the world completed a ‘modes of transmission’ analysis of its own HIV epidemic (knowing where the last 1000 infections occurred). Thanks to the adjustments that national programmes have made to address mismatches between local epidemics and the response early in the decade, countries around the world have seen the fruits of more tailored, effective combination HIV prevention programmes.

Thanks to unprecedented coordination efforts and knowledge transfer between countries, the global AIDS response is heralded as a model to tackle other challenges faced by humankind.
UNAIDS and the polling company Zogby International surveyed the world on what people think about the AIDS epidemic and response.

In this first of its kind global poll, AIDS continues to rank high on the list of the most important issues facing the world.

A sweeping new UNAIDS and Zogby International poll shows that nearly 30 years into the AIDS epidemic, region by region countries continue to rank AIDS high on the list of the most important issues facing the world.

Almost all people surveyed in sub-Saharan Africa, the Caribbean, South and South-East Asia, Latin America and East Asia say AIDS is important.

Eight out of ten people in the United States of America say it is important, and nearly nine out of ten in the Russian Federation say AIDS is important. In India about two thirds report that the AIDS epidemic is more important than other issues the world currently faces. In sub-Saharan Africa six in ten (57%) people say that the AIDS epidemic is just as important as other issues faced by the world.

Overall in the survey, AIDS leads public perception as the top health-care issue in the world, followed by safe drinking water.

Greatest achievement in the AIDS response

Public awareness about AIDS was considered the greatest achievement in the AIDS response by about one in three people (34%) overall. This was followed by implementation of other HIV prevention programmes (17.8%) and the development of new antiretroviral drugs (17.1%).

About 7.8% of respondents cited access to treatment as the greatest achievement and 7.2% say it was the prevention of mother-to-child transmission of HIV.

About 3.9% of people surveyed felt that abstinence education programmes worked. Just over 5% thought the world had been successful in distributing condoms or clean needles as part of prevention efforts.

Development of new antiretroviral treatment was seen as the greatest achievement in the USA, in eastern Europe and in central Asia. Access to treatment was most often cited by people in Latin America (11%) and the Caribbean (12%).

Funding is a major obstacle

About 62% of people in Sweden think the availability of funding/resources or the availability of affordable health care (at 58%) is keeping the world from effectively responding to AIDS. Some 60% of people in the United Kingdom also felt that lack of funding was the main obstacle.

Is health a necessity or a luxury? Overwhelmingly the general public says governments have a role in ensuring treatment for people living with HIV.

Best way to describe the AIDS issue

‘Hopeful’ say 30% in South and South-East Asia and 25% in western Europe and the Caribbean. ‘Manageable’ say one in three (34%) in Latin America and Egypt, about 29% in East Asia and 15% in Australia.

‘Tragic’ is the term chosen by three in ten people in sub-Saharan Africa (30%), eastern Europe and central Asia (29%) and a third of people surveyed in Australia (33%).

‘Getting worse’ was chosen by people in sub-Saharan Africa (31%), eastern Europe and central Asia (28%) and East Asia (25%).

Is the world responding effectively to AIDS?

A resounding ‘yes’ was heard from the Caribbean (75%) and from South and South-East Asia (53%). About one in three in Latin America and just fewer than four in ten people in sub-Saharan Africa believed that the world was responding effectively to the issue.

‘No’ was heard loudest in eastern Europe (61%), the USA (54%) and sub-Saharan Africa (50%).
Is the AIDS epidemic important?

92.1% YES!

Is the world effectively responding to AIDS?

33.6% YES
43.6% NO
22.8% NOT SURE

Which word best describes the AIDS issue?

Getting worse 19.1%
Manageable 22.6%
Successful 2.2%
Unsuccessful 4.4%
Tragic 25%
Hopeful 19.3%
Is your country responding effectively to AIDS?
Opinion was equally divided. A little over 41% thought their country was effective against the AIDS epidemic. About 63% of the Caribbean respondents said ‘yes’, while 37% said ‘no’ compared with their view of the global response. A similar pattern was seen in Africa, Asia and eastern Europe.

A majority of respondents in the USA, Australia and countries in western and central Europe felt that their country was dealing effectively with the AIDS issue.

“Are communities responding to AIDS better?” “No”, seems to be the overall perception. Very few people surveyed say their own communities are doing better than their country’s overall response. In Japan, 8% of people thought their community was doing well, with 36.9% unsure about the issue.

In most regions, perceptions about community responses rank slightly lower than perceptions of country responses. The exceptions are South and South-East Asia and Egypt, where community responses ranked higher by a few percentage points.

Obstacles keeping the world from effectively responding to HIV
Despite considering raising awareness as the most successful aspect of the AIDS response, the lack of awareness and the availability of HIV prevention services was seen as the most important obstacle by more than half of the respondents.

Equally important was the availability of resources. For example, 78.7% surveyed in Uganda ranked availability of funding as the top obstacle.

Close to half of all respondents felt that stigma and discrimination towards people living with HIV and the availability and affordability of treatment were significant barriers. The lack of trained health workers was cited by nearly four out of ten people.

Similar trends were seen when asked the same question about their country or community. For example, in France 52.9% of respondents ranked the availability of resources as the biggest obstacle in their community.

Can the spread of HIV be stopped by 2015?
The Caribbean region is the most positive of all the regions, where 91% are optimistic that with proper use of resources the spread of HIV can be stopped. They are followed by South and South-East Asia (75%) and Latin America (63%). In sub-Saharan Africa four in ten (40%) were optimistic—for example, in Senegal 48.7% were overall optimistic that HIV could be stopped by 2015.

Respondents from western Europe, Oceania and eastern and central Europe were equally divided, with a third of each either optimistic or pessimistic. Some 44% of people surveyed in the USA were most pessimistic, while 28% were optimistic and 24% neither optimistic nor pessimistic.

About half of all respondents said they would donate money to the AIDS response. 'The rest were either unsure or said 'no'.

Contribution of the AIDS response towards other issues
Sex education tops the list, with an overall rating of six out of ten respondents (60.7%) saying the AIDS response had provided opportunities to respond to other issues.

Latin America (77%) and sub-Saharan Africa (70%) thought so too. For example, in Mexico 76.8% said that the AIDS response has helped efforts in sex education.

Nearly four in ten (37.8–40.9%) respondents also said that sex work and injecting drug use issues had received a boost from the AIDS response. About three in ten (27%) felt that homophobia and sexual violence were on the agenda due to AIDS.

Importance of HIV services being linked to other health services
An overwhelming majority, more than seven out of ten (71%), agree that HIV prevention and treatment programmes should be linked to other health services such as tuberculosis and maternal health.

Nine out of ten in the Caribbean, and more than eight out of ten in sub-Saharan Africa, East Asia and Latin America agree with the concept of bringing AIDS out of isolation.

Who should pay for treatment?
Overall about 58% of people surveyed agree that people living with HIV should receive subsidized treatment. This perception was strongest in the Caribbean, with 87% favouring subsidized treatment. Asia also agreed, with more than 70% approval of this issue.

About half in Latin America and eastern Europe want their government to subsidize treatment. Slightly fewer than half the respondents in the USA agree with subsidizing treatment for people living with HIV.

Where should the majority of the funding for HIV prevention focus?
Some 77% felt that sex workers and their clients, men who have sex with men (67%) and people who inject drugs (78%) are most at risk of HIV infection.
Is your country effectively responding to AIDS?

41.2% YES
41.9% NO
16.9% NOT SURE

Is your country effectively responding to AIDS? (Per cent who responded 'yes' by country)
Almost everyone surveyed in sub-Saharan Africa said ‘yes’ AIDS was a problem for their country. In the Caribbean eight in ten agreed, while in Latin America, seven in ten said ‘yes’.

However, when it came to funding priorities, people chose investments for young people and the general population over drug users, sex workers and men who have sex with men.

In eastern Europe and central Asia half of the people think that programmes should focus on people who inject drugs. In South and South-East Asia seven in ten, and in East Asia six in ten, say the majority of funding should focus on sex work. In the Caribbean, views are divided equally between sex work and and injecting drug use.

Is AIDS a problem in your country and community?
Almost everyone surveyed in sub-Saharan Africa said ‘yes’ AIDS was a problem for their country. In the Caribbean eight in ten agreed, while in Latin America, seven in ten said ‘yes’. The ratio of respondents in South and South-East Asia, as well as in eastern Europe, was six in ten who said AIDS was an problem in their country.

When asked if it was a problem in their community, the numbers dropped significantly. In the USA about one third (33%) felt that it was a problem in their community, while 70% thought it was a problem in their country. Similar trends were seen in most other regions of the world.

Do you worry about AIDS?
Three quarters of people surveyed in Latin America and the Caribbean and more than half in sub-Saharan Africa and South and South-East Asia are personally worried about AIDS.

Conversely, nine out of ten people in North America and nearly seven out of ten in western and central Europe do not personally worry about AIDS.

Risk of HIV infection
Aside from the Caribbean region, where six out of ten people felt they were personally at risk of acquiring HIV infection, more than three quarters of the people surveyed in other regions felt they were not at risk.

In sub-Saharan Africa 25% of people surveyed felt that they were at risk of HIV. A similar perception was held in Latin America and Egypt, as well as in eastern Europe and central Asia. People in Australia and the USA were the least worried about being at risk of acquiring HIV.

Can you protect yourself from HIV?
Individual confidence levels exceeded 75% in all the regions of the world. Nearly all people in sub-Saharan Africa, North America, South and South-East Asia, Latin America, Oceania and the Caribbean were confident about protecting themselves from HIV. About 20% of the people surveyed in eastern Europe and central Asia as well as in East Asia were unsure about their ability to protect themselves.

Working and sharing a meal with someone living with HIV
Overall about 61% of the people asked would agree to work with someone living with HIV, while 20% would not. Acceptance of people living with HIV was highest in sub-Saharan Africa and the Caribbean, where eight in ten reported positive attitudes.

In sub-Saharan Africa and Latin America nine out of ten had no reservations about sharing a meal with a person living with HIV. In Egypt, 49% said ‘no’ and 30% said ‘yes’ they would knowingly eat with someone living with HIV.

Treatment, not jail
A majority of people (65.1%) responding said that people who inject drugs should receive treatment rather than be sent to jail. In Latin America nearly nine in ten (86%) favour this option. Similarly, two thirds (67%) in eastern Europe and central Asia as well as in South and South-East Asia and more than half in East Asia prefer treatment over incarceration.

Travel restrictions
About half of all the people surveyed say there should not be travel restrictions for people living with HIV. Fewer than half of the respondents in western and central Europe, sub-Saharan Africa, South and South-East Asia and the USA said that there should be travel restrictions.

Information about the survey
Zogby International was commissioned by UNAIDS to conduct an online survey of adults with Internet access in 25 countries. A total of 11 820 respondents participated in the study. A sample of Zogby International and its partner’s online panel members was invited to participate. The study was conducted between 30 March 2010 and 21 May 2010.

The full report can be found online at unaids.org.
How differently do men and women feel about AIDS?

Which word best describes the AIDS issue?

- **MANAGEABLE**
  - 49.5% Optimistic

- **TRAGIC**
  - 43.9% Optimistic

How optimistic are you that the spread of the HIV virus can be stopped by 2015?

- 48.3% Agree
- 53.7% Agree

Countries should not impose travel restrictions against people living with HIV.

- 43% Yes
- 37.5% Yes

Do you personally worry about AIDS?

- 66.3% No
- 71.2% No

Do you feel you are at risk of contracting HIV?

- 49.5% No
- 43.9% No
Which of the following obstacles are keeping the world from an effective AIDS response?

- Availability of funding: 50.4%
- Stigma and discrimination: 48.2%
- Availability of affordable health care: 45.7%
- Availability of medical professionals: 36.2%
- Awareness about HIV prevention: 51.4%
- Availability of medicines: 47.9%

The AIDS response provides an opportunity to educate the public on other issues. Which from the following list, if any, do you think have been dealt with more effectively due to the AIDS response?

- Maternal mortality: 12.8%
- Drug use: 37.7%
- Homophobia: 26.6%
- Lower medicine prices: 22.8%
  - None: 5.2%
- Sex education: 60.6%
- Sex work: 40.3%
- Gender equality: 17.8%
  - Other: 3.3%
- Sexual violence: 28.3%
What has been the greatest achievement in the AIDS response so far?

- 34.1% HIV Awareness
- 17.8% HIV Prevention
- 17.1% Treatment Development
- 7.8% Increased Access to Treatment
- 7.2% Prevention of Mother-to-Child Transmission
- 5.4% Distribution of Condoms for Prevention
- 3.9% Abstinence Programmes
- 1.3% Distribution of Clean Needles
- 4.9% Not Sure
- 65.1% Yes
- I believe people who inject drugs should receive treatment.
- 24.1% Yes
- I believe people who inject drugs should be put in jail.

Where should resources for the AIDS response go?

- 71% HIV prevention
- 52.8% HIV treatment
- 33.6% Support to AIDS orphans
- 3.4% Other
Countries should impose travel restrictions against people living with HIV.

- Yes: 44.3%
- No: 50.4%
- Not Sure: 5.4%

Donors/taxpayers should subsidize treatment for people living with HIV for as long as they need it.

- Yes: 58.4%
- No: 33.6%
- Not Sure: 8%

Do you think it is important for HIV services to be linked to other health services—such as tuberculosis and maternal health, including during pregnancy, childbirth and after childbirth?

- Yes: 71%
- No: 14.2%
- Not Sure: 14.8%

Do you personally worry about AIDS?

- Yes: 40.6%
- No: 52.4%
- Not Sure: 7%

Do you feel at risk of contracting HIV?

- Yes: 19%
- No: 68.3%
- Not Sure: 12.6%

Would you work with someone who is living with HIV?

- Yes: 61.2%
- No: 20.1%
- Not Sure: 18.6%

Would you personally donate money to the AIDS cause?

- Yes: 46.6%
- No: 23.5%
- Not Sure: 29.9%
How optimistic or pessimistic are you that with the proper use of resources the spread of HIV can be stopped by 2015?

47.1% OPTIMISTIC
21.1% NEITHER
27% PESSIMISTIC

Can we stop the spread of HIV by 2015?  
(Per cent who responded “optimistic” by country)
<table>
<thead>
<tr>
<th>Country</th>
<th>YES</th>
<th>NO</th>
<th>NEITHER/NEUTRAL</th>
<th>NOT SURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRALIA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BELARUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRAZIL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHINA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOMINICAN REPUBLIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EGYPT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRANCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDIA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDONESIA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JAMAICA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JAPAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Each country rectangle equals 100%.

1. Is the AIDS epidemic important?
2. Is your country doing a good job against AIDS?
3. Can the world stop the spread of HIV by 2015?
4. Should people who inject drugs get treatment instead of going to jail?
5. Would you work with someone living with HIV?
6. Should donors/taxpayers subsidize treatment for people living with HIV?
7. Do you think HIV services linked to other health services are important, including during pregnancy, childbirth and after childbirth?
<table>
<thead>
<tr>
<th>Country</th>
<th>Kazakhstan</th>
<th>Latvia</th>
<th>Mexico</th>
<th>Netherlands</th>
<th>Russian Federation</th>
<th>South Africa</th>
<th>Spain</th>
<th>Sweden</th>
<th>Thailand</th>
<th>Uganda</th>
<th>Ukraine</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special Section**
IS THIS THE FUTURE OF TREATMENT?

IMAGINE TREATMENT 2.0

A radically simplified treatment platform that’s good for HIV prevention too!

Imagine an easy to use pill—low in toxicity and doesn’t lead to drug resistance.

Then imagine a drastically reduced need for costly labs—monitoring can be done at home.

Now imagine no stock-outs—a low-cost supply chain and the community ensures that pills are there when you need them.

Finally imagine that treatment is contributing greatly to the prevention effort.
The latest studies show that a reduction in new HIV infections of up to a third could be achieved globally if there is a radical overhaul of the way the world provides antiretroviral therapy and if global leaders meet their commitments of ensuring that all people in need of treatment are on it.

It's called treatment as prevention and it is one of the five pillars of the new Treatment 2.0 platform. In an effort to maximize the value of antiretroviral therapy, a radically simplified approach is needed. This includes the development of better combination treatment regimens, cheaper and simplified diagnostic tools, and a low-cost community-led approach to delivery.

Everyone wants to do things smarter, faster and better.

But the reality is that treatment today is complicated. From starting HIV treatment to maintenance, the treatment process works, but each step is cumbersome and expensive. Up to 80% of the cost of treatment isn’t for the medication but for the systems to get it to a person and to keep him or her on it. Globally, only one third of people who need treatment are on it. HIV testing is underutilized—most people still find out that they are HIV-positive when they develop clinical symptoms of AIDS. Antiretroviral therapy is not homogenous in cost, effectiveness or tolerability. And resistance can build up, making it necessary to maintain costly labs to monitor each person on treatment.

To get smarter, faster and to save more lives, the world will need to shift resources and thinking

Today, an estimated 5 million people living with HIV in low- and middle-income countries are receiving treatment, up from about 400 000 in 2003—a more than 12-fold increase in six years.

Despite progress, the global coverage of antiretroviral therapy remains low. For every two people newly on treatment, five more become newly infected. A majority of people living with HIV are unaware of their HIV status. And although easily preventable, rates of mother-to-child transmission of HIV in many countries remain high.

In many settings, HIV prevention and treatment are provided through a sophisticated delivery system requiring specialist doctors who tend to focus on HIV only. This system is often overstretched, due to an increasing number of patients, a shortage of trained medical personnel and financial constraints. Many in need of treatment live in rural settings, far from specialized care.

With competing global priorities and an economic crisis, a longer-term sustainable solution is needed to ensure that world leaders can keep their commitments to achieve the goal of universal access to HIV prevention, treatment, care and support.

The most recent World Health Organization (WHO) guidelines for antiretroviral therapy call for earlier initiation of treatment and the use of simpler, better drug regimens—recommendations that will further decrease morbidity and mortality as well as vertical and horizontal transmission. However, there is still a long way to go.

*Treatment 2.0 opens a new door*
PILLAR 1
Creating a better pill and diagnostics

When treatment for HIV first came around in 1996, it was a tough pill to swallow—literally. It meant on average taking 18 pills a day, of varying shapes and sizes. Some were taken with food, others on an empty stomach, and rigorous monitoring of the time of day the pill was taken was needed in order to mitigate the risk of the virus becoming resistant to the drugs.

But it worked. People called it the Lazarus effect: people near death became healthy again.

Antiretroviral therapy works by suppressing the virus and stopping it from reproducing. If the active component of the drugs is not kept constant in the body, the virus can mutate, continue to multiply, and become resistant to the drug. By adhering to a treatment regimen—for most combinations this means taking the medication at a given time of day, two to three times a day—drug levels are kept even.

The more different types of pills a person takes, the more substances the body has to accustom itself to, the higher the risk of developing side-effects. Many people living with HIV who have been on treatment can testify to the side-effects—from depression and fever to lipoatrophy (the losing of fat from certain areas of the body).

Developing resistance to a regimen is a well-founded fear—once a regimen is no longer effective, people living with HIV may have to move to a second-line of treatment.

Access to second-line treatment is still rare in most low- and low-middle income countries due to the high cost of the pills and more complex monitoring systems and supply-chain management.

Improving effectiveness and ease of use, and lowering side-effects and resistance, need to be considered in the development of new treatment options.

Some regimens already exist as fixed-dose combinations, where multiple drugs are in one pill, but options that have fewer side-effects and have less potential for long-term toxicity (dose optimization, minimal requirements for laboratory monitoring) and that are more resilient and tolerant to treatment interruptions (to minimize the development of drug resistance) are needed.

In an ideal scenario, having such a pill could do away with the current need for second- and third-line treatments.

At the same time, simpler diagnostic tools and technologies are in short supply. Pregnancy tests can be used at home. People who have diabetes can check their blood glucose level nearly anywhere. And if a mother is worried that her child has a fever she has many choices on how to check her child’s temperature. All of these diagnostics are easy to use, usually without the need for a doctor or a lab.

The same cannot be said currently for checking HIV status or CD4 and viral load testing. While robust rapid tests are more and more used for the first HIV test, monitoring CD4 counts and viral load requires expensive and time-consuming lab-based tests.

Treatment monitoring that is closer to the patient can lead to better treatment results. It can facilitate early detection and treatment of HIV and can ensure appropriate and rapid response to drug resistance, improving outcomes for people on treatment and reducing the development and spread of drug-resistant strains of the virus.

Innovation is needed to develop inexpensive point-of-care diagnostic tools like simple dip-stick tests to measure CD4 cell counts, viral load or tuberculosis infection.

What is a CD4 count?

CD4 cells are a type of lymphocyte (white blood cell). These cells are an important part of the immune system and are sometimes called ‘helper’ cells. They lead the attack against infection. The CD4 cell count is a key measure of the strength of the immune system. Because HIV targets CD4 cells specifically, the lower the count, the greater the damage HIV has done.

PILLAR 2
Treatment as prevention

Since 1991, the world has known that effective antiretroviral therapy can help to prevent HIV transmission. This has been the case for vertical transmission, for example ensuring that pregnant women living with HIV don’t pass on the virus during pregnancy or childbirth.

Recently, however, the dramatic impact of treatment on other forms of HIV transmission has become better understood. Evidence clearly shows that successful viral suppression through treatment can substantially reduce the risk of vertical, sexual and blood-borne HIV transmission.

A recent study, supervised by the University of Washington and largely funded by the Bill & Melinda Gates Foundation looked at 3400 heterosexual couples—each with one HIV-positive and one HIV-negative person—from seven countries in sub-Saharan Africa. When the HIV-positive partner was on treatment, the researchers found the HIV transmission rate was 92% lower than among couples where the person living with HIV did not receive treatment.

This study also confirmed that a significant proportion of all HIV transmission happens during the phase when people living with HIV develop increasing immune impairment (which is marked with increasing viral load and decreasing levels of CD4 counts).

Treatment can become part of a combination prevention strategy. Optimizing treatment coverage will also result in other prevention benefits, including lower rates of tuberculosis.

Treating everyone in need of treatment according to current treatment guidelines could result in a one third reduction in new infections globally.

Further research is urgently needed in order to better understand the possibilities and role of antiretroviral therapy in earlier asymptomatic phases of HIV infection.
What it’s like being on treatment

Rodrigo Pascal
Partnerships Officer, UNAIDS

I was diagnosed with HIV in 1996 while living in Santiago, Chile. At the time, there was only limited access in the country to low-quality antiretroviral regimens.

Doctors connected me with a support group for people living with HIV that met weekly at a hospital on the outskirts of Santiago. I remember at my first session feeling amazed by the helplessness of others in the group—they were in a terrible condition, wasting away, skinny, eyes wide with fear, waiting to die.

As a middle-class Chilean citizen, I could access treatment immediately. Most of the people in my support group were unable to afford the medications and had been placed on a hospital waiting list. I was angry and enraged at these blatant inequalities in access to health.

When I first started antiretroviral therapy in 1997, I took 12 to 14 pills a day. Throughout the years, I have moved from one regimen to another. In all of my years of treatment, I have never developed resistance to any one drug, but I’ve had some very strong side-effects.

When taking Sustiva, for example, which is a commonly-used antiretroviral drug, I had vivid dreams, nightmares and other psychological issues. At one time, my head became noticeably swollen and disfigured—an allergic reaction to the medication. I had to stop the drug, go back to the hospital and try a new regimen.

Another antiretroviral drug, a protease inhibitor, left me with lipodystrophy, which is a loss of fat in some parts of the body and an accumulation of fat in other areas. I could barely look at myself in the mirror; it was very bad for my self-esteem.

In 2006, after almost ten years of antiretroviral therapy, all of my coronaries were completely blocked. I had to have four bypass surgeries to survive. Given my underlying heart condition, I probably would have had heart problems many years down the road—but not at the age of 50. I am actually taking more drugs now for my heart condition than for HIV.

My current antiretroviral regimen is pretty simple. I take three pills a day: one in the morning and two in the evening. I’ve had a few minor side-effects, but, on the whole, I feel good and the treatment is working.

Mrs Lineo Mafatie
(name has been changed)
Mother of two, Lesotho

I first found out I was HIV-positive back in 2001. I didn’t know that my husband had tested positive for HIV, but I started noticing changes in his behaviour—he started staying out late, started drinking a lot. One day he told me he needed to tell me something that would hurt me a lot, something that might even kill me. Then he said: “I’m HIV-positive.”

First, I was very upset. I screamed and shouted at him. After a while, I started preparing my mind that I have to accept my test result if I get tested, so that I could live longer. We started talking about it and agreed that we would be there for each other, and we were ready to support each other, no matter what my test result was.

My husband came with me when I went for a test, and I tested positive. This was in 2001 and back then I didn’t even think about treatment. It was so expensive, I didn’t even try to find out how much it cost, as knew I would not be able to afford it.

In 2003, when the first antiretroviral therapy centre opened in Lesotho we went together to the clinic and my husband was initiated on treatment. But my CD4 count was 250—that was the first time I had my CD4 count checked—so I did not have to start my treatment yet.

At the centre they told me I had to go for check-ups every three months, which I did. It was not until 2005, when my CD4 count dropped below 200, that I started taking antiretroviral drugs. Even though I did not have any symptoms, I was what they called stage 1, I still started taking them.

In 2006, I experienced my first side-effect of one of the drugs, zidovudine. The fat on my body started redistributing itself and I got really thin on my backside, my legs and even my face. This meant I had to change one of the components of my treatment.

I take my three pills two times a day, every 12 hours. Apart from the fat distribution, I have also experienced a pain in my legs. I try to make sure that I massage them to make sure I don’t feel it so much—I need to accept it as part of the treatment. I think at this point it is better for me to try to live through whatever minor side-effects, so I don’t have to start on a second-line drug, which might have even worse side-effects than I am experiencing now.

The most difficult thing about being on treatment is adherence. Once you are on treatment and have been on treatment for some time, you get used to it, and you don’t even remember if you have taken them or not, asking yourself “did I take them today?” Now I have a pill-minder where I put the pills for every day so I can check if I have taken them or not.

I think adherence is very challenging. But treatment has also given me hope. When I first found out I was HIV-positive I thought I was going to die, and that was very difficult. So for us to have antiretroviral drugs here in Lesotho, until we find a cure, treatment gives hope.

If I was allowed to dream of the future of treatment, for something like HIV where you have to take treatment for life, I think the main thing I would want would be for the number of doses to be reduced.
Pillar 3
Stop cost being an obstacle

Despite drastic reductions in drug pricing over the past ten years, the costs of antiretroviral therapy programmes continue to rise.

The reported proportion of people on second-line regimens remains low. In 2008, a vast majority of adults (98%) and children (97%) surveyed in 43 high-burden countries were receiving first-line antiretroviral therapy regimens.

In low- and middle-income countries, the average annual cost of the most widely used first-line drug treatments was US$143 per person in 2008, a price reduction of 48% since 2004. There was an even greater price reduction in paediatric formulations, from US$436 per person per year in 2004 to US$105 in 2008. This all helped to contribute to a wider availability of treatment. Second-line regimens continue to be more expensive.

Drugs can be even more affordable—however, potential gains are highest in the area of reducing the non-drug-related costs of providing treatment. Currently these costs significantly outweigh the cost of the drugs themselves.

Cost savings can be found in every step of the process. A better, single-dose pill with decreased toxicity and that was resistant-proof would have fewer needs for treatment monitoring. This would lead to a reduced number of interactions with health-care providers—less health-care time spent on monitoring people enrolled on antiretroviral therapy programmes frees up resources to be devoted to other pressing health issues.

A decreased frequency of interaction with health-care providers also lowers out-of-pocket costs, such as transport fees, for the care seeker.

Simplified treatment and diagnostic approaches would allow for the decentralization of services from specialized health systems to primary and community health-care providers, where antiretroviral therapy administration and monitoring moves from doctors to nurses and community health-care workers.

These simplified approaches will also ensure that investments in HIV treatment directly benefit the delivery of other health programmes, as they happen through the same health-care sites and with the same health-care workers. Infrastructure investments and training benefit more efficiently the delivery of broader health services.

Decentralizing HIV treatment in Malawi

According to government sources, nearly 200 000 people living with HIV in Malawi were accessing antiretroviral therapy in 2009, up from about 10 000 in 2004. Between 2003 and 2009, the number of sites in Malawi providing antiretroviral therapy increased from nine to 377. A decentralized approach to HIV treatment and care was critical to this national success in antiretroviral therapy scale-up.

Under Malawi’s first national antiretroviral therapy guidelines of 2003, only doctors and clinical officers—based primarily at larger health facilities in urban settings—were empowered to start patients on antiretroviral therapy. Medical assistants and nurses could monitor and follow up on a patient’s progress, but were not able to prescribe treatment.

With about 85% of the population in Malawi living in rural areas, treatment access became an important issue.

“Some people had to travel 100 kilometres to be assessed if they were eligible for antiretroviral therapy,” says Professor Anthony Harries, an adviser to the Malawian government’s HIV programme from 2003 to 2008. “Though this was a free service, it meant time away from work. Those who did manage to access antiretroviral therapy had great difficulty continuing treatment because of the cost of transport.”

Malawi’s new antiretroviral therapy scale-up plan (2006–2010) included a number of strategies to bring HIV treatment closer to the primary point of care, where the majority of the population lives. Under the new guidelines, medical assistants and nurses were empowered to initiate antiretroviral therapy—from 2006 and 2008, respectively.

In partnership with the Ministry of Health and district-level medical facilities, many community-based health centres were accredited as antiretroviral therapy delivery clinics. About 88 000 people started antiretroviral therapy in 2009 alone. Of the 377 sites in Malawi in which antiretroviral therapy is now offered, more than 50% are simple health centres.

“Through this decentralized approach, we were able to reach out into the communities, where people otherwise could not access treatment,” says Dr Frank Chimbwandira, Director of the HIV/AIDS Department in Malawi’s Ministry of Health. “We were also able to improve treatment follow-up, as more people could come back and forth from the health centres to access their medication.”
Pillar 4
Improve uptake of HIV testing and linkage to care

The uptake of HIV testing and counseling and linkage to care will need to be improved drastically if the promise of treatment and treatment-centred HIV prevention approaches are to be realized.

Globally only about 40% of people living with HIV know their HIV status—the large majority of whom find out they have HIV by developing clinical AIDS, with their immune system already seriously weakened.

Stigma and discrimination remain as the foremost impediment to HIV testing utilization. For many people even seeking out HIV testing can lead to serious, even life-threatening, exposure to violence, legal action and loss of family, employment, and property. And where care, treatment and support services are unavailable, there is little incentive to take an HIV test.

However, progress is being made. South Africa is scheduled to reach 15 million people in two years. In the United Republic of Tanzania, three million people received HIV tests in six months; in Malawi 200 000 people took HIV tests in one week.

Community-based organizations, often led by people living with HIV, provide an important and effective bridge into HIV testing and a link to treatment and prevention services. Peer-based services are often more trusted than government-led services, especially by populations at higher risk, which can be fearful of government-run health-care approaches.

The results of programmes from countries as diverse as Bolivia, Botswana, China, India, the Russian Federation, Rwanda and Uganda all show the positive impact that individual engagement with community-based services has on increased HIV testing rates and increased use of HIV prevention and treatment services, as well as improved treatment adherence and prevention practices and a reduction in stigma.

We need to learn from and scale up successful models of partnership between health service providers and community-based service providers to assist in stigma reduction and increased utilization of services in particular by populations at higher risk. Many examples exist in countries, including programmes that receive support from the United States President’s Emergency Plan for AIDS Relief and the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund).

Progress is possible: percentage receiving an HIV test and test results in the 12 months preceding the survey in countries with repeat population surveys, 2003–2008

![Progress is possible: percentage receiving an HIV test and test results in the 12 months preceding the survey in countries with repeat population surveys, 2003–2008](chart.png)

Source: Demographic and Health Surveys
Pillar 5
Strengthen community mobilization

Drug users, men who have sex with men, sex workers and poor women often have little reason to trust government-provided health services. Fear of exposure of their HIV status keeps many people from seeking HIV testing and health services.

Community-based approaches to build trust, protect human rights and provide opportunities for socialization directly improve the ability of people to use HIV services and to benefit from antiretroviral therapy and prevent new infections. In fact, much of the success to date in the AIDS response is due to the unprecedented engagement of affected communities as advocates, educators and service providers.

In the late 1980s, TASO (the AIDS Support Organization) developed models for community-based support services in Uganda that were duplicated all over the world.

Grupo Pela Veda in Brazil successfully helped advocate for full antiretroviral therapy coverage in the country, which led to a 50% drop in AIDS-related deaths in one year.

Work by AIDS activists in the United States of America helped to cut the time it takes to approve new drugs for life-threatening illnesses in half, leading to the early approval and availability of highly active antiretroviral therapy in 1996, saving millions of lives.

The All-Ukranian Network of People Living with HIV managed a Global Fund grant to provide treatment access and prevention services in response to one of the world’s fastest growing HIV epidemics.

The Treatment Action Campaign in South Africa successfully confronted a government that failed to address the most destructive HIV epidemic in the world, leading to the development of treatment access programmes throughout the country and an increased commitment to HIV testing and prevention.

Simplified approaches to treatment offer unique opportunities to increase community-based delivery of outreach and support services, with direct positive effects for prevention and for lower-cost treatment.

For example, in Nepal the National Association of People Living with HIV has been supporting eight community-based organizations by providing counselling for discordant couples, condom promotion and referral for treatment, care and support services.

In China, an independent evaluation of 26 community-based organizations, all run by people living with HIV and supported

---

**China: HIV treatment**

More than doubling in enrollment after the introduction of community outreach

![Graph showing enrollment before and after intervention in different communities in China.](source: AIDS Care China, 2009. Data for ten Yunnan sites in 2008.)
by the International Treatment Preparedness Coalition (ITPC) HIV Collaborative Fund, showed that participation in support services provided by these organizations increased treatment adherence rates, brought more people into HIV testing and health services and increased CD4 cell responses to antiretroviral therapy.

A WHO evaluation of 186 community-based mobilization and service delivery projects in eastern Europe, South-East Asia and Latin America found that local-level community-based organizations led by people living with HIV are often best able to reach populations at higher risk of HIV and to get people to utilize health services effectively.

Community organizations can lead and manage access to HIV prevention, treatment, care and support, especially for populations at higher risk.

Strengthening community mobilization efforts to increase demand for HIV prevention, treatment and testing, ensure protection of human rights, advocate for equitable care, and provide community-based prevention and care support services.

Community buy-in

David Barr
Director of Development and Special Projects, International Treatment Preparedness Coalition and UNAIDS consultant

What is different?

This is a major shift in thinking. Up until now, treatment and prevention programmes have been relatively siloed. We used to think about treatment primarily as a way to reduce morbidity and mortality. Recognizing that treatment also prevents new infections provides us with new opportunities to better integrate prevention and care efforts. It requires that we recalculate the cost-effectiveness of providing treatment.

Why is community engagement critical to the success of a decentralized approach to HIV treatment and care?

Without the engagement of affected communities, it’s impossible to get the people who are most at risk into care, and to get them to utilize care effectively. Global utilization of HIV testing and counselling is dismal. Without a greater investment in community mobilization, it will be impossible to improve uptake of HIV testing and prevention and care services. This is true across the board and most poignantly true for populations at higher risk, who experience severe discrimination when they seek out health services—the rural poor, men who have sex with men, drug users, sex workers. These groups have a very good reason not to trust public health officials and public health services that their governments run.

What are some of the risks of such an approach (human rights, quality of care, etc.)?

All HIV testing and care has to be provided within a framework of human rights protection. There’s nothing in the Treatment 2.0 approach that changes that. The only way people can engage in these services is if they’re not at risk of having their human rights violated. Treatment 2.0 will improve quality of care by bringing more people into the realm of care providers and making treatment and diagnostics easier to use.

Young people need access to information about HIV.
OUTLOOK makes the case for the necessities of life.
IS HEALTH A NECESSITY OR A LUXURY?

Your gut reaction? A necessity. People should have access to health care—right?

However, the answer, based on health-care spending behaviour, seems to indicate that people treat health care as a luxury. In most countries health spending increases at the same rate as the overall economy grows. In an economist’s world, where necessity has an elasticity of 0 and luxury an elasticity of 1, health care has an income elasticity of close to 1 (see box).

So how can your gut reaction be made to mirror reality? OUTLOOK looks at the possibilities.

More health investment

In good economic times, health care investments rise. Since health care has an elasticity of close to 1, a per-capita income increase of 1% would lead to an equal increase in demand for health. And the world has seen this happen.

However, relying on a growing economy is unlikely to work across the board. Not all economies are big enough to be able to raise the resources required to meet and sustain health needs. If it had been left solely to market forces, few people would be on HIV treatment today.

Worldwide health investment will continue to be made up of a combination of international assistance and domestic investment. Today health investments in low- and middle-income countries have reached almost US$ 700 billion.

It could be said that what’s been good for the AIDS response has also been good for global health in general. Funding for the AIDS response has ensured that more money has gone into tuberculosis and malaria programmes.

Spending on HIV amounted to nearly US$ 15.6 billion in 2008. In countries where data exist, approximately 70% of the spending in low- and middle-income countries comes in the form of international assistance. The remainder is funded by national revenues and out-of-pocket spending by individuals and families.

Understand the limits of domestic spending on HIV

The Abuja Declaration recommended that countries’ spending on health should be about 15% of the government budget. But what does this really mean on the ground?

In 2008, the Democratic Republic of the Congo passed landmark legislation, declaring it a state responsibility to provide or facilitate access to HIV prevention, treatment, care and support for all of its people. UNAIDS estimates that the total resource needs for the country—where between 300 000 and 400 000 people are living with HIV—for 2010 are about US$ 330 million, about 3.8% of the total economy.

DRC’s overall economy might not be as vulnerable to economic shocks as other countries, according to World Bank indicators. The country’s economy is estimated to be US$ 9 billion. Of this, the government’s share of revenue is
about 13%, and of this it spends about US$ 3.8 million, or 0.3%, on HIV.

UNAIDS estimates that governments should allocate between 0.5% and 3% of government revenue on HIV, depending on the HIV prevalence of the country.

If the Democratic Republic of the Congo were to increase its national contribution to 0.6%, appropriate to its HIV prevalence levels, it would merely spend another US$ 2.9 million. The country would still fall short by US$ 323 million.

To meet its constitutional obligations, the country has to either tax its people more or rely on international assistance.

At the end of 2008, international assistance provided about US$ 91 million, or 96%, of the total spending on HIV in the country. If this were to be reduced, the country would have to make very difficult choices, including stopping its current treatment programme.

In 2008, domestic HIV spending in Africa was six times higher than in other parts of the world. Botswana leads the world in domestic spending on HIV as a proportion of its government revenue—over 4%. It is able to do so because the government’s share of the economy is about 35% and its relatively strong economy is less vulnerable to shocks.

And the results are real. There is more than 80% coverage for people in need of treatment and 94% of pregnant women have access to services to prevent HIV transmission to their babies. But now the question is whether Botswana will be able to sustain the current investment levels over time.

Countries such as Mozambique and Uganda spend about 1% of their government revenue on HIV, although their share of the economy is only about 13%. Both countries have a high rate of HIV prevalence and a large number of people living with HIV. And their economies are fragile. Malawi is in a similar situation, spending about 2.5% of its government revenue on HIV.

Swaziland spent around 1.7% of its revenue on its AIDS response in 2007—this is expected to rise to about 3% in the medium term. The fiscal impact of this level of HIV investment in the long term is not regarded as sustainable by the World Bank. In fact, some economists suggest that the net present values of its HIV investment far exceed what is sustainable in the long term.

Is it fair to expect countries to spend more?

In some cases the answer is yes. Large emerging economies, such as those of China, India and South Africa, still have the ability to invest more. And in doing so could free up resources for countries that have greater needs and few avenues to raise resources domestically. Take the case of South Africa—the total resource needs for 2010 are about US$ 3.2 billion, about 1.2% of its economy and 3.7% of its government revenue. In sheer size, the US$ 1 billion investment by the country is the largest ever, but is still only one third of the total need, and less than the rate of spending in other countries with similar or lower prevalence levels. The good news is that its economy had been growing at a rate of about 5% until the recent global financial crisis. If growth returns to these levels, it will have the ability to expand its investments.

China and India currently receive over US$ 245 million each year as official development assistance for HIV. Together, they account for 8% of the funds dispensed by the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund). India has increased its health budget in recent years, riding on consistent economic growth. However, it still accesses international assistance for a significant part of its AIDS response.

Middle-income countries will need to shore up their domestic investments. Countries such as Brazil, China, India, Mexico, the Russian Federation, Ukraine and Viet Nam can fully finance their AIDS responses from domestic sources. Low-income countries too must increase their investments to levels proportionate to their revenue. Half of the global resource needs for low- and middle-income countries are in 68 countries that have a national need of less than 0.5%...
Can governments meet the resource needs of the AIDS response from government revenue?

Size of the economy
Government revenue
Gap in resource need after governments increase domestic investments to optimal levels (in millions of US$)

United Republic of Tanzania
US$ 562

Botswana
US$ 108

Kenya
US$ 501

Malawi
US$ 264

Mozambique
US$ 393

United Republic of Tanzania
US$ 562

South Africa
US$ 920

Lesotho
US$ 320

D.R. Congo
US$ 1195

Zimbabwe
US$ 343

Nigeria
US$ 316

Uganda
US$ 347

Optimal levels of government investments in relation to adult HIV prevalence

Domestic spending on AIDS as a per cent of government revenue

Adult HIV prevalence
of their gross national income. These countries could fund a significant part of their national AIDS response.

But protection must be given to marginalized populations in programmes funded by domestic sources. AIDS programmes must work with sex workers, people who inject drugs, men who have sex with men and transgender people—the populations are most likely to be left out from accessing social and health services, even in countries with stronger economies. This is of particular concern in countries that do not qualify for international assistance based on economic indicators and that do not have a strong tradition of supporting civil society organizations and community groups.

**Enormous average cost variation for voluntary counselling and testing service delivery across multiple cites within countries**

Channelling out-of-pocket expenditures may be another option for increasing investments in health. Good data on how much people spend from their own incomes and savings is scarce, but various estimates place it globally at more than US$ 1 billion. However, the high cost of health care can deter people from accessing it.

Out-of-pocket expenditures push the burden of health care onto individuals and families, which can in turn make it look more like a luxury than a necessity. A social health insurance programme that is equitable can soften the impact.
especially on the poor. By distributing risk equitably across the population, the resources generated can meet the needs of those who need it most. This is particularly attractive in countries where the government’s share of the economy is not substantial.

Where the poor cannot pay for their share, the state can step in by providing coverage, either from its own resources or through international assistance. Rwanda has initiated such a scheme. Resources from the Global Fund were utilized to pay for premiums for the very poorest and for people living with HIV. Health outcomes were positive, not just for AIDS, tuberculosis and malaria, but across all health areas. Similar approaches have been attempted in Burkina Faso and Ghana.

**Taxing luxury for social good**

In recent years, several innovative schemes have been proposed to raise resources for HIV from indirect taxes. The MassiveGood project aims to raise money from the travel industry, while UNITAID gathers valuable funds from taxing airline passengers. There is talk of taxing high-value bank transactions, cell phone usage and money exchange.

Taxing petrol consumption has helped to build bridges and mass rapid transit systems. But while effective in raising money, in the end the capacity for such initiatives to succeed depends on long-term economic growth. There are limits to what society can expect to take from the economy and sustain it over time before public interest wanes.

**Making the money work further**

As international resources to respond to the AIDS epidemic grew in the early part of the last decade, there was a call to make the money work. In 2010, this has given way to a slightly modified call: make the money work further, better and smarter.

There are two ways to do this—by increasing the efficiency and the effectiveness of the HIV programmes. This means doing it better—knowing what to do, directing resources in the right direction and not wasting them, bringing down prices and containing costs.

A study conducted by the PANCEA project found that the unit cost of HIV testing varied sharply from one facility to another, even within the same country, in some countries more than ten-fold. The cost of the delivery of services often differs, depending upon the source of the money. In India, for example, the basic unit cost associated with a programme for sex workers has been set by the government. Yet many organizations spend far above the set limit—these expenditures are often underwritten by external sources, whose predictability of sustaining the funding in the long term is uncertain.

Realizing that it spent more on purchasing antiretroviral drugs locally than abroad, South Africa recently changed its policies. Lowering costs is one piece of the African health-care puzzle.

And Africa cannot afford fragmented health regulatory authorities—a single pharmaceutical plan, currently being discussed by the African Union, can simplify the access and delivery of life-saving medicines for the continent as a whole. Pooling patents could help to bring to market more effective and cheaper medicines.

Many countries have utilized the flexibilities allowed under TRIPS to access less-expensive HIV medicines. However, in recent years there has been a trend to sign trade agreements that limit their ability to do, especially with the newer generation of drugs.

Many countries have conducted assessments to identify where the last 1000 infections occurred and triangulated them with investment patterns to ascertain if the money was directed at the right places. As a result the programme priorities are shifting. A modes of transmission study in Benin found that more than 30% of all new infections occur through sex work. Yet the resources that went towards sex work programmes

---

**Elasticity**

The income elasticity of demand for any good is a measure of the relationship between a percentage change in income and the percentage change in the demand for that good. A high value for the elasticity means that demand is sensitive to income; a low value means that it is not.

An income elasticity of less than 1 will mean that demand will change by less than the percentage change of income. This is normally associated with necessities, which people will try to consume regardless of their income. Poorer people will therefore spend a larger proportion of their income on necessities than more wealthy people do.

An income elasticity greater than 1 will mean that demand will change by more than the percentage change of income. This is normally associated with luxuries, for which poorer people will tend to use a smaller proportion of their income on than more wealthy people do.

An income elasticity of 1 for health means that the percentage change in demand for health will be the same as the percentage change of income in the country concerned. On average, populations will spend a fixed proportion of their income on health, averaging around 5% in low- and middle-income countries (including public as well as private spending).
Who can bear the resource burden of the AIDS response?

The 25 countries represented in this figure require 75% of the total resources needed for the AIDS response. Around 85% of people living with HIV reside in these countries. Together these countries generate 70% of the global gross national income in low- and middle-income countries.
were only 3.5% of the total prevention spending. A similar pattern has for long been observed in Ghana. In many countries with low and concentrated epidemics, it is much easier to find resources to reach the general population or young people than for sex workers or adolescents at higher risk. Bangladesh has now found a healthy balance. The split between resources allocated to young people and populations at higher risk is nearly the same—around 40%.

Young people are not homogenous. In Asia it is estimated that 95% of infections among young people occur among adolescents at higher risk. But less than 10% of the resources spent on young people are directed towards this subset of the population.

In sub-Saharan Africa few programmes reach men and women in long-term relationships—they are perceived to be at low risk, even though a majority of infections occur in this group.

Is this acceptable? Can resources be directed more efficiently?

Another complex and much debated step is to review the efficiencies of the different programme approaches. Are HIV programmes evidence informed and the accountability for results clear?

Health-care delivery costs can be brought down through integration of tuberculosis and HIV services, bringing all mother and child care services under one roof, task shifting. Outreach to young people can become smarter and cheaper if we use social networking and SMS rather than the labour-intensive methods currently being used.

Making resource availability predictable

The most important lesson that the AIDS response has learnt in the current economic crisis is the issue of predictability. Countries cannot respond effectively to the epidemic on a fiscal-year basis. Efforts to finance AIDS programmes need to consider what is needed now and what is needed over the longer term. The foundations for a comprehensive AIDS response must be strong enough to meet the needs not just in the next 12 months but over the next 10, 20 and 30 years.

In the past 12 months several countries have reported critical stock-outs of HIV medicines due to a lack of resources and managerial inefficiencies. Clinics are turning back people who need to start treatment because they have to focus on keeping existing programmes afloat. Most countries depend on external sources to meet their treatment bill. The Global Fund alone financed half of the 4 million people on treatment in 2008, while the US Government is another major source of investments in treatment programmes. If the Global Fund is not fully funded and the donor community does not fulfil its pledges or shifts its aid policies, the lifeline of millions could be in jeopardy.

The demand for access to HIV prevention, treatment, care and support has increased manifold in recent years. In the coming years, this is expected to further increase. This has to be converted into an opportunity to increase resources for global health. Strong economic growth requires a healthy and ‘fit to work’ population. To achieve this, health must become a necessity, not a luxury.

A skewed system

South Africa spends about 8% of its gross domestic product on health, which is slightly less than Sweden’s 8.9%.

But the spending occurs in an unequal, two-tier system. Most of it is channelled into the private sector, which is where the bulk of resources are concentrated. The country was spending about 3.5% of its gross domestic product on its public health system in the mid-2000s—a smaller proportion than in considerably poorer countries, such as Honduras (4%), Lesotho (5.5%) or Colombia (5.7%).

Almost 60% of the health spend each year pays for the health care of about 7 million people, typically wealthier South Africans who belong to private medical schemes and who use the well-resourced, for-profit private health system.

Consequently, more than 23 million South Africans rely entirely on an overburdened and understaffed health system, while about 10 million people use the public sector, but occasionally pay out of their own pockets to use the private sector.

Some in South Africa are looking to a proposed national health insurance scheme as a quick way to improve health outcomes. The Health Minister believes that this has to go hand in hand with an overhaul of the public health system itself. A more equitable funding arrangement could help to speed up improvements.
Building BRICS*
As power shifts from the G8 to the G20, five countries stand out as being able to change the course of the global AIDS epidemic.

OUTLOOK explores how Brazil, India, the Russian Federation, China and South Africa could finally break the trajectory.

*Jim O’Neill of Goldman Sachs is largely credited for coining the term ‘BRICs countries’ in a 2001 paper entitled The World Needs Better Economic BRICs, about the economically-related nations of Brazil, the Russian Federation, India and China.

In 2010, a new BRICS term is used by UNAIDS to include South Africa as a part of five G20 countries that could have a profound effect on the trajectory of the global AIDS epidemic.
Brazil

Overview of HIV epidemic

Brazil has a concentrated HIV epidemic, with a 0.6% prevalence, that has remained relatively stable since 2000. Of the 630 000 people living with HIV in the country, 250 000 do not know their HIV status.

HIV is primarily spread in Brazil through injecting drug use and unprotected sex (between men, between transgender people and between sex workers and their clients). Studies carried out in ten Brazilian towns in 2008 and 2009 found HIV prevalence at 6% among injecting drug users, 13% among men who have sex with men and 5% among female sex workers.

The HIV epidemic varies considerably throughout the country, with new infections on the decline in the south-eastern and mid-west regions, but on the increase in the northern, north-eastern and southern regions between 2000 and 2008.

Free antiretroviral therapy has been available in Brazil since 1996. The government-funded programme currently has 190 000 people living with HIV enrolled, of which 35 000 were added in 2008. Around half of all HIV-positive pregnant women in the country received antiretroviral drugs to reduce the risk of HIV transmission to their babies in 2009.

In 2008, Brazil’s AIDS-related spending totalled US$ 623 million, of which 99% came from domestic public sources. While 84% of funds were spent on HIV treatment and care programmes, HIV prevention only accounted for just under 7% of total spending.

The response

Brazil’s HIV response is known for an approach based on human rights, an active civil society and the early provision of free access to antiretroviral therapy. When the first case of AIDS was identified in the country, it coincided with a strong popular movement and public dialogue around citizenship and democracy. Calls were made for the state to be a provider of health care and education.

The close partnership between the government and civil society has been fundamental to ensuring the success in protecting and promoting human rights within the AIDS response.

Brazil showed early support for evidence-informed HIV prevention, with a non-stigmatizing attitude towards populations at higher risk, including injecting drug users, men who have sex with men, transgender people and sex workers. Free condom provision has also been one of the trademarks of the Brazilian AIDS response, and the female condom has been distributed since 1998. In 2009, 466 million male condoms and two million female condoms were distributed throughout the country—the largest distribution in Brazil’s history. Despite having a condom distribution policy since the 1990s, a recent national survey has shown a decreasing use of condoms. This requires an appropriate and deep analysis in order to identify possible causes and to re-establish the observed trends over time.

The government’s focus on both HIV prevention and free access to treatment undoubtedly played a key role in reducing the severity of the country’s HIV epidemic.
**What are some recent key achievements in Brazil’s AIDS response?**

Brazil’s National AIDS Strategic Plan focuses on populations at higher risk of HIV infection. The plan outlines clear goals and indicators on how to measure progress. The AIDS response is decentralized and engages all levels of the government—federal, state and municipal—and civil society organizations, which are seen as equal partners in the response, in the decision-making process. Finally, we have achieved success in increasing the uptake of HIV testing and counselling in different settings.

**What are the greatest barriers to universal access in Brazil?**

Although Brazil has had a policy of universal access to treatment since 1996, there are still some groups that cannot access health services—transgender people, sex workers and drug users. Stigma and discrimination remain key barriers for these populations. However, it is important to note that every person living with HIV in Brazil has the right to treatment and care free of charge through the national health system. There is no waiting list to receive treatment.

**Looking ahead, what is the one thing that could make a real difference in preventing new HIV infections in Brazil?**

There is no simple answer to this question, as preventing new infections requires a broad range of integrated and combined prevention and treatment strategies, under the umbrella of the promotion of human rights. We are still missing data on HIV incidence in Brazil, which is key to ensuring that we deliver a more targeted response.

**DID YOU KNOW?**

In 2009, Brazil launched the National Plan to Promote the Citizenship and Human Rights of Lesbians, Gays, Bisexuals, Transvestites and Transsexuals and the National Human Rights Plan to combat HIV-related stigma and discrimination. Despite being known as a country in which sexual diversity is celebrated rather than stigmatized, Brazil still has hate crimes against the lesbian, gay, bisexual and transgender populations. In 2009 there were 180 documented cases of such crimes, according to a study by the organization Grupo Gay da Bahia.

---

**UNAIDS benchmark survey results: Brazil**

<table>
<thead>
<tr>
<th>Question</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is AIDS a problem within your country?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is your country effectively dealing with AIDS?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can the spread of HIV be stopped by 2015?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Should treatment be subsidized by donors/taxpayers?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injecting drug users should receive treatment?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am willing to donate to the AIDS cause?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

= per cent of “yes”
**Russian Federation**

**Overview of HIV epidemic**

The HIV epidemic in the Russian Federation is heavily concentrated among injecting drug users. According to government sources, 78% of people living with HIV in the country were infected through injecting drug use. However, sexual transmission is a growing source of infection, with some studies finding a high HIV prevalence among sex workers (6–39%) and men who have sex with men (1–9%) and the sexual partners of injecting drug users.

The number of new HIV cases continues to grow. In 2009, an estimated 58 400 new HIV infections—160 per day—were registered in the Russian Federation, up from about 44 800 in 2007.

Women in the country represent a growing share of those newly infected. In 2009, about 42% of new HIV infections were among women, up from 22% in 2001. And young people are badly hit—three quarters of all HIV infections in the Russian Federation occur among people under the age of 30.

While antiretroviral therapy access for HIV-positive people is improving—71 000 people received treatment in 2009, compared with 30 000 in 2007—these efforts are not keeping pace with the number of new infections. In 2009, for every four patients enrolled on treatment, eleven were newly infected with HIV. And with an estimated 400 000 HIV-positive people requiring antiretroviral therapy by 2015, funding trends predict that there will be a shortfall in those accessing treatment.

The Russian Government is the primary contributor of the nearly US$ 1.5 billion allocated for the country’s AIDS response for 2006–2011.

**The response**

The country is leading the way in virtually eliminating mother-to-child transmission of HIV. Of the 14 000 HIV-positive women in the Russian Federation who became pregnant in 2008, more than 95% benefited from services to prevent HIV transmission to their babies.

Sex education in the country remains a sensitive issue, and while over 92% of schools in the country conducted HIV awareness sessions in 2009, knowledge about HIV among young people remains low.

Harm reduction programmes are no longer supported by the government, and opioid substitution therapy is illegal. Priority has instead shifted to the promotion of HIV awareness and of healthy lifestyles among the general population, with an emphasis on reduction of the demand for drugs.

As the Russian government did not provide any funding this year for HIV prevention activities aimed at populations at higher risk—including injecting drug users, sex workers and men who have sex with men—civil society organizations that implement prevention programmes are increasingly facing funding difficulties.

Efforts to reach men who have sex with men with prevention services are hampered by homophobia, and sexual minorities complain that their human rights are often violated.
Breaking the trajectory

With a growing HIV epidemic through injecting drug use, the Russian Federation has a huge opportunity to make a positive impact.

Urgent measures are needed to reduce HIV infection among the more than 1.5 million injecting drug users in the Russian Federation. These could include outreach to drug users, needle and syringe exchange programmes, condom distribution, provision of substitution therapy, and HIV treatment and rehabilitation programmes. Concentrating prevention services on populations at higher risk could have huge pay-offs.

The growing role of sexual transmission in the country’s HIV epidemic, especially among spouses and partners of drug users, calls for a greater emphasis on prevention programmes for the general population.

The Russian Federation is a new donor country and an important scientific power. Because of its international leadership, the country could play a far greater role in promoting regional cooperation to address the HIV epidemic in eastern Europe and central Asia.

Q&A

Professor Vadim Pokrovsky
Head of the Federal AIDS Centre, Russian Federation

What are some recent key achievements in the AIDS response in the country?
All pregnant women in the country have access to HIV testing and to services for the prevention of mother-to-child transmission of HIV. As a result, the number of children born with HIV is declining. Overall, access to antiretroviral therapy in the country has grown sharply. The level of protection against HIV infection during blood transfusions is also very high.

What are the greatest barriers to universal access in the Russian Federation?
A very serious obstacle is insufficient access to information on HIV, mainly due to cuts in funding for HIV prevention activities aimed at populations at higher risk and the general population. As a result, we are seeing an increase in the number of new HIV infections.

Looking ahead, what is the one thing that could make a real difference in preventing new HIV infections in the country?
It is necessary to considerably increase financing for primary prevention, public information and education on HIV.

UNAIDS benchmark survey results: Russian Federation

<table>
<thead>
<tr>
<th>Question</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is AIDS a problem within your country?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is your country effectively dealing with AIDS?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can the spread of HIV be stopped by 2015?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Should treatment be subsidized by donors/taxpayers?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injecting drug users should receive treatment?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am willing to donate to the AIDS cause?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

= per cent of ‘yes’

DID YOU KNOW?

Despite growing rates of HIV infection among women, there has been a dramatic drop in HIV transmission from mothers to newborns—from 19% in 2000 to 6% in 2009.
India

Overview of HIV epidemic

Although India is considered a low-prevalence country, with a 0.3% prevalence, it has the world's third largest HIV burden, behind South Africa and Nigeria. Sixty per cent of the 2.2 million people living with HIV in the country are concentrated in six high-prevalence states.

India's epidemic is largely driven by sexual transmission (sex work and unprotected sex between men). Given that condom use is not optimal or consistent, men who buy sex are the primary source of India's HIV epidemic. However, injecting drug use is the main mode of HIV transmission in the northeastern part of the country.

The growth in HIV infections among women over the years is especially striking—Indian women accounted for close to 40% of people living with HIV in 2007. Stigma and discrimination towards people living with HIV and populations at higher risk, both at the community level and within the health sector itself, continue to pose a significant barrier to accessing services.

Despite these trends, signs of progress have been seen on the prevention front. HIV prevalence has steadily declined among female sex workers due to targeted programmes. And in the most heavily affected Indian states of Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu, HIV prevalence among women aged 15 to 24 attending antenatal clinics declined by 54% between 2000 and 2007.

Progress is also being made on the treatment front. Access to antiretroviral therapy rose from 32% in 2008 to 45% in 2009. The percentage of HIV-positive pregnant mothers accessing treatment is on the rise, even if very slightly—from 16% in 2008 to 17% by the end of 2009.

The response

Over the past few years, India has strengthened its AIDS response by expanding prevention, treatment and care programmes for populations at higher risk, increasing services for HIV-positive pregnant mothers and scaling up HIV testing and counselling services.

India is committed to scaling up HIV prevention efforts, with 67% of the country's national AIDS budget earmarked for prevention. Over 245 million condoms have already been distributed. Prevention programmes have been most successful in reaching sex workers—prevention services now reach more than 80% of sex workers in four heavily affected states—and greater efforts are now needed for drug users, men who have sex with men and transgender people.

In July 2009, the High Court in Delhi made a landmark announcement by overturning the country's 150-year-old statute outlawing same-sex sexual behaviour. The High Court also determined that the sodomy law blocked access to HIV services by men who have sex with men—such oppressive laws drive people underground, making it much harder to reach them with HIV prevention, treatment and care services.
Breaking the trajectory

With its strong HIV prevention platform, India can lead the region in stopping new HIV infections.

India’s declining HIV epidemic conceals the fact that HIV prevalence is on the rise among men who have sex with men, injecting drug users and transgender people. There is an opportunity to scale up prevention and treatment services for these populations in order to prevent HIV from spreading further into the general population through ‘bridge’ populations—sex worker clients, truckers and migrant workers.

An issue that generates little attention is HIV transmission among intimate partners, including spouses—a growing problem throughout the whole of Asia, including India. The largest number of new HIV infections in India occurs among married women, and more than 90% of women living with HIV became infected by their husbands or intimate sexual partners. Greater efforts in this area to identify discordant couples and to implement effective ways to reduce spousal transmission could garner big gains.

Q&A

Mr K. Chandramouli
Director General,
National AIDS Control Organization, India

What are the recent achievements in India’s AIDS response?
We are moving well in the direction of achieving our overall goal, which is to halt and reverse the HIV epidemic. The most important among our prevention strategies are programmes that provide a package of prevention services for groups at higher risk of HIV infection. As of March 2010 the number of such programmes had increased to 1311, covering 78% of female sex workers, 76% of injecting drug users and 70% of the men who have sex with men and transgender populations. India’s antiretroviral therapy programme has been increased to 270 centres; as of March 2010, more than 315 000 people were receiving free first-line treatment and more than 1100 were accessing second-line drug regimens. This has provided immense hope.

What are the barriers to universal access in India?
Tuberculosis is one of the most common opportunistic infections among people living with HIV. Only about 30% of people coinfected with HIV and tuberculosis have been detected. Of the estimated 27 million women who become pregnant every year in India, only about 14% receive HIV testing. Of the 21 000 HIV-positive mothers detected last year, only 50% were given antiretroviral prophylaxis to prevent HIV transmission from mother to child.

Among populations at higher risk of HIV infection, few people are accessing HIV counselling and testing services.

Another important issue is the provision of lifelong antiretroviral therapy for people living with HIV. Nearly 2–3% of people using first-line drug regimens may need to switch to second-line treatment after three to five years. However, as the antiretroviral therapy programme was started only in 2004–2005, and scaled up gradually, the number of people requiring second-line regimens, at present, is low.

Looking ahead, what is the one thing that could make a difference in preventing new HIV infections in India?
The spread of the HIV epidemic in India is mainly due to unprotected sex with female sex workers, sex among men who have sex with men and injecting drug use. Many men who engage in high-risk behaviours in turn infect their partners. We have to target at-risk populations by creating awareness about HIV, promoting condom use, and controlling and preventing sexually transmitted infections.

DID YOU KNOW?

Launched in 2007, India’s Red Ribbon Express is the region’s largest mass mobilization effort against HIV. The train stops at 180 stations across the country each year and is expected to reach 6.2 million people in more than 50 000 villages with critical information on HIV prevention. HIV testing and general health check-ups are provided to the villagers. Six performing teams disembark the train on a fleet of bicycles to visit dozens of villages during each station stop, staging plays and skits about preventing HIV infection and fighting HIV-related stigma and discrimination.

UNAIDS benchmark survey results: India

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is AIDS a problem within your country?</td>
<td>70%</td>
</tr>
<tr>
<td>Is your country effectively dealing with AIDS?</td>
<td>70%</td>
</tr>
<tr>
<td>Can the spread of HIV be stopped by 2015?</td>
<td>70%</td>
</tr>
<tr>
<td>Should treatment be subsidized by donors/taxpayers?</td>
<td>70%</td>
</tr>
<tr>
<td>Injecting drug users should receive treatment?</td>
<td>70%</td>
</tr>
<tr>
<td>I am willing to donate to the AIDS cause?</td>
<td>70%</td>
</tr>
</tbody>
</table>
China

Overview of HIV epidemic

Although China is estimated to have the world’s largest population of injecting drug users, heterosexual transmission has replaced injecting drug use as the main mode of HIV transmission—and homosexual transmission is increasing rapidly.

At the end of 2009, 740,000 people were living with HIV in the country, just over 30% of whom were women.

Overall, China is still experiencing a low-prevalence epidemic, with a less than 0.1% prevalence, but some provinces are experiencing serious epidemics. Five provinces with the highest HIV prevalence account for 53% of total HIV infections, while the provinces with the lowest prevalence account for less than 1% of total infections.

Challenges remain in reversing the spread of HIV. HIV testing is low, and fewer than one in three people living with HIV know their status. The coverage of antiretroviral therapy and of services to prevent mother-to-child HIV transmission remains insufficient. And the implementation of China’s Four Frees, One Care policy continues to be uneven across the country.

Despite these challenges, progress was made on various fronts in 2009. The number of pregnant women screened for HIV doubled, from just under 2 million to 4 million in 2009. And HIV prevention programmes for sex workers, men who have sex with men and injecting drug users have significantly expanded in recent years.

China has also launched a major push to expand harm reduction programmes for drug users. In south-western China, the number of annual new HIV infections slowed down by two thirds as a result of such programmes.

The response

China’s AIDS response has achieved significant results over the years. In 2003, China implemented the Four Frees, One Care policy (free HIV testing and counselling, free first-line antiretroviral therapy, free services for the prevention of mother-to-child HIV transmission, free education for AIDS orphans, and care for people living with HIV) to ensure a comprehensive response to HIV focusing on prevention, treatment and support.

With the roll-out of this policy in all 31 provinces, the number of HIV-positive adults receiving treatment has risen considerably. An estimated 65,000 people are currently on treatment in China, compared with 35,000 in 2007. However, in some provinces, more than 30% of patients on first-line regimens have experienced drug resistance.

During the past two years, China has acted against drug dealing, drug use and sex work, and has implemented a number of HIV prevention programmes for populations at higher risk, including condom promotion, methadone maintenance therapy and needle exchange.

China has also taken proactive steps to expand HIV testing. A nationwide free-of-charge HIV voluntary counselling and testing network has been put in place, with 7000 clinics set up throughout the country.

In April 2010, the Government of China lifted its long-standing travel ban for people living with HIV. This move is an important step in China’s AIDS response and sends a signal that China’s central government is serious about granting full rights to people living with HIV and addressing stigma and discrimination. President Hu Jintao’s leadership on HIV over the years has been a catalyst in moving the AIDS response forward.
What are some recent key achievements in China’s AIDS response?

More than 260,000 drug users in China at 685 clinics are now accessing methadone maintenance therapy and about 115,000 drug users are benefiting from a range of comprehensive services, including drug treatment, HIV testing and counselling, syphilis and hepatitis C testing and treatment, CD4 cell count monitoring for HIV-infected individuals, and antiretroviral therapy for AIDS patients.

Free antiretroviral therapy has been extended to over 80,000 patients in China, with nearly 64,000 people retained on first-line treatment and about 2000 on second-line drug regimens.

Men who have sex with men in 61 cities are now accessing HIV testing and counselling. Services for preventing mother-to-child transmission of HIV have expanded to 453 counties, with more than 7.7 million pregnant women now accessing HIV testing.

China’s sentinel surveillance programme has been further expanded to 1888 sites, covering eight sentinel groups.

What are the greatest barriers to universal access in China?

Stigma.

Looking ahead, what is the one thing that could make a real difference in preventing new HIV infections in China?

Encourage people to be tested for HIV as early as possible.

DID YOU KNOW?

According to the China stigma index survey, conducted among more than 2000 people living with HIV in 2009, 42% have faced severe HIV-related discrimination, 15% had been refused employment due to their HIV status and 32% said that their HIV status had been revealed to others without their permission.
South Africa

Overview of HIV epidemic

Nearly one in six people living with HIV in the world today lives in South Africa—18% of adults in the country are HIV-positive, or 5.7 million people.

According to recent national surveys, the HIV prevalence among young people (aged 15–24) in South Africa declined from just over 10% in 2005 to about 9% in 2008. However, prevalence remains disproportionately high among women—one in three women aged 15–24 is estimated to be infected with HIV. Prevalence among men is highest in the 30–34 age range, with about one in four HIV-positive.

With the largest antiretroviral therapy programme in the world, South Africa is experiencing substantial public health benefits associated with improved treatment access. In South Africa’s Western Cape Province, six-month mortality rates among patients at an HIV treatment centre fell by roughly 50% between 2001, the start of the antiretroviral therapy programme, and 2005.

More than two thirds of South Africa’s national AIDS response comes from domestic sources—the country committed US$1 billion in 2010, a 30% increase over the previous year—with the rest coming from external partners, including the US President’s Emergency Plan for AIDS Relief (PEPFAR), the Global Fund to Fight AIDS, Tuberculosis and Malaria, the UK Department for International Development (DFID) and the European Union.

The response

On 29 October 2009, the South African President, Jacob Zuma, called on national leaders to use evidence-informed approaches to address the country’s HIV epidemic. In a landmark speech, President Zuma outlined ambitious targets in the country’s AIDS response, including cutting the rate of new HIV infections in half and expanding treatment programmes to cover 80% of those in need by 2011.

“People must be armed with information,” said President Zuma, in an address to the National Council of Provinces. “Knowledge will help us to confront denialism and the stigma attached to the epidemic.”

President Zuma’s speech represented a fundamental break from the policies of his predecessor, Thabo Mbeki, who questioned the causal link between HIV and AIDS and the critical role of antiretroviral therapy in treating the disease.

In April 2010, President Zuma translated words into action, launching a historic campaign that could alter the face of the epidemic—in South Africa and globally. The campaign aims to test 15 million people for HIV by 2011, up from 2.5 million in 2009—a sixfold increase in just two years. Some 1.5 million people will receive antiretroviral therapy by June 2011, up from about 1 million in 2009.

During the campaign launch, many South African leaders were tested for HIV—including the President, government ministers and other senior government officials—which helped to inspire thousands of people across the country to take an HIV test. In no other country has national leadership led by example so openly.

HIV testing provides a critical entry point for conversations around a range of difficult issues, including sexuality, violence against women and intergenerational sex. During the campaign, each individual tested for HIV will receive 100 condoms, opening a new dialogue about HIV prevention and safer sex across communities.
Breaking the trajectory

It is investing significantly in the HIV prevention agenda by ensuring free and routine HIV counselling and testing for all South Africans. Through testing and counselling, consistent condom use will be promoted. Medical male circumcision is being expanded at the provincial level, starting with KwaZulu-Natal, which has the highest HIV prevalence in the country.

As more mothers learn their HIV status and have increased access to antiretroviral drugs, HIV transmission rates are expected to drop considerably. With more effective combinations of antiretroviral drugs, South Africa could move towards the virtual elimination of mother-to-child transmission.

The combination of prevention and treatment programmes on a national scale could have a positive impact on the HIV trajectory. The scale-up goal for antiretroviral therapy alone will try to reach at least 1.5 million people by June 2011.

Given that close to 50% of maternal deaths in South Africa are HIV-related, there is also an immediate need to integrate maternal child health and HIV programmes to save mothers and their babies.

On the global level, South Africa is a champion in the AIDS response. Momentum can continue to build as lessons learned in addressing the country’s epidemic are shared regionally and globally.

What are some recent key achievements in South Africa’s AIDS response?

On World AIDS Day 2009, President Zuma announced that South Africa would accelerate the national response to HIV by increasing HIV testing uptake and adopting new World Health Organization guidelines to reduce mother-to-child transmission of HIV, by mitigating the impact of concurrent HIV and tuberculosis infection and by improving the antiretroviral therapy regimen. The prevention agenda has been strengthened in order to reduce the number of people in need of treatment in the long term. South Africa already has the largest antiretroviral therapy programme in the world. The shift to HIV prevention and the target of voluntarily testing 15 million people by June 2011 is ambitious.

The budget allocation for health has been increased in order to support implementation and to complement political commitment. Private–public partnerships have been strengthened, with the largest pharmacy chain offering free HIV testing and counselling to the public. A truly multisectoral response is emerging that involves, among others, South Africa’s prisons, the army, universities, civil society and the public service. Each province has taken responsibility to scale up the HIV response and the testing campaign is now moving to the district level.

Looking ahead, what is the one thing that could make a real difference in preventing new HIV infections in South Africa?

HIV testing on a national scale—including counselling on risk reduction and lifestyle change—supported by community awareness and behaviour change should bring about a reduction in new infections. The majority of people will test HIV-negative and will be encouraged to stay negative through behaviour change. This combination of prevention activities and improved access to treatment is what will turn the tide for South Africa.

What are the greatest barriers to universal access in South Africa?

The greatest barriers are a low uptake of HIV counselling and testing, weak integration of tuberculosis–HIV services and poor access to antiretroviral therapy. More efficacious regimens to prevent mother-to-child transmission are also needed.

DID YOU KNOW?

According to a national survey of more than 7000 adults in South Africa, pervasive social norms encourage both concurrent partnerships and a rapid turnover of sexual partners, with little peer support for commitment to a single partner. Only 21% of survey respondents said “sticking to one partner and being faithful” could prevent HIV transmission and only 5% identified reducing the number of sexual partners as a sound HIV prevention strategy.
One of the most ambitious and quickest scale-ups of an AIDS response ever is finally under way in South Africa, a country where more than 5 million people are living with HIV. In March 2010, the country’s cabinet approved a plan to test one third of the population for HIV by the end of next year, to halve the rate of new HIV infections and to provide antiretroviral therapy to 80% of people who need the treatment.

“We asked for leadership from our government, and now we have it,” says one of the country’s most prominent figures living with HIV, Justice Edwin Cameron of South Africa’s Constitutional Court.

The government has dramatically increased its funding for HIV. This year it will invest more than US$ 1 billion in its AIDS response—a third more than ever before.

“It’s the first time one country has scaled up so quickly, to so many people,” says UNAIDS Executive Director Mr Michel Sidibé.

President Jacob Zuma’s government has also launched a massive male circumcision campaign. Studies in Kenya, South Africa and Uganda show that male circumcision can reduce men’s risk of HIV by up to 60%, and there are
2008, the time for action was at hand. The new world had made it clear that the ‘AIDS crisis’ was real. The Zulu king Goodwill Zwelithini, declared that the Zulu people need to ‘rise to the occasion’ for a ‘sea-change in our HIV status’ (see box).

In April, President Zuma became the first South African Head of State to publicly undergo an HIV test and disclose his status (he was HIV-negative). But most other South Africans still do not know their HIV status.

“It’s quite a shame that many of us don’t know our status,” Health Minister Aaron Motsoaledi said in Johannesburg in April. “We have got our heads dug in the sand very deep.”

The aim is to test 15 million more South Africans by 2012, each of whom will also be given 100 condoms.

The government now follows a policy of routinely offering HIV tests to all people who use the public health system. Hundreds of pharmacies are also offering free tests, using government-supplied kits.

“This is a sea-change in our HIV/AIDS response,” says Dr Alan Whiteside, director of the Health, Economics and HIV/AIDS Research Division at the University of KwaZulu-Natal. “Sadly,” he adds, “time has been lost and resources will be limited—our choices will be tough.”

Beyond denial
The failure to prevent the epidemic’s rapid growth in the 1990s and delays in implementing a treatment programme in the early 2000s saw deaths in South Africa double between 1997 and 2005. Questioning of the link between HIV and AIDS by senior government officials in the past, and distrust of antiretroviral strategies that their female partners might also face reduced risks of infection.

In the hardest-hit province, KwaZulu-Natal, the plan is to circumcise 2.5 million men. Last year, the Zulu king, Goodwill Zwelithini, declared that the tradition of circumcision (suspended in the nineteenth century) should be revived among his subjects.

“Let this be the start of an era of openness, of taking personal responsibility, and of working together in unity to prevent HIV infections and to deal with its impact,” President Zuma urged his compatriots on World AIDS Day last December.

Former Deputy Minister of Health, Nozizwe Madlala-Routledge, believes the biggest challenge now is to build “a groundswell of sustained effort to prevent new infections”.

Going forward
These efforts are potentially huge steps towards curbing South Africa’s epidemic, which remains the world’s largest. Some 17% of all HIV-infected people in the world live in South Africa, a country with a mere 0.7% of the world’s population (see box).

In 2008, there were 5.7 million South Africans living with HIV. More than 250 000 South Africans died of AIDS-related diseases in the same year. And almost 2 million children have lost one or both parents to the epidemic.

In April, President Zuma became the first South African Head of State to publicly undergo an HIV test and disclose his status (he was HIV-negative). But most other South Africans still do not know their HIV status.

“Beyond denial
The failure to prevent the epidemic’s rapid growth in the 1990s and delays in implementing a treatment programme in the early 2000s saw deaths in South Africa double between 1997 and 2005. Questioning of the link between HIV and AIDS by senior government officials in the past, and distrust of antiretroviral strategies that their female partners might also face reduced risks of infection.

In the hardest-hit province, KwaZulu-Natal, the plan is to circumcise 2.5 million men. Last year, the Zulu king, Goodwill Zwelithini, declared that the tradition of circumcision (suspended in the nineteenth century) should be revived among his subjects.

“Let this be the start of an era of openness, of taking personal responsibility, and of working together in unity to prevent HIV infections and to deal with its impact,” President Zuma urged his compatriots on World AIDS Day last December.

Former Deputy Minister of Health, Nozizwe Madlala-Routledge, believes the biggest challenge now is to build “a groundswell of sustained effort to prevent new infections”.

Going forward
These efforts are potentially huge steps towards curbing South Africa’s epidemic, which remains the world’s largest. Some 17% of all HIV-infected people in the world live in South Africa, a country with a mere 0.7% of the world’s population (see box).

In 2008, there were 5.7 million South Africans living with HIV. More than 250 000 South Africans died of AIDS-related diseases in the same year. And almost 2 million children have lost one or both parents to the epidemic.

In April, President Zuma became the first South African Head of State to publicly undergo an HIV test and disclose his status (he was HIV-negative). But most other South Africans still do not know their HIV status.

“It’s quite a shame that many of us don’t know our status,” Health Minister Aaron Motsoaledi said in Johannesburg in April. “We have got our heads dug in the sand very deep.”

The aim is to test 15 million more South Africans by 2012, each of whom will also be given 100 condoms.

The government now follows a policy of routinely offering HIV tests to all people who use the public health system. Hundreds of pharmacies are also offering free tests, using government-supplied kits.

“This is a sea-change in our HIV/AIDS response,” says Dr Alan Whiteside, director of the Health, Economics and HIV/AIDS Research Division at the University of KwaZulu-Natal. “Sadly,” he adds, “time has been lost and resources will be limited—our choices will be tough.”

Beyond denial
The failure to prevent the epidemic’s rapid growth in the 1990s and delays in implementing a treatment programme in the early 2000s saw deaths in South Africa double between 1997 and 2005. Questioning of the link between HIV and AIDS by senior government officials in the past, and distrust of antiretroviral
drugs, stalled the HIV response in South Africa. “If we had acted more than a decade ago, we might not have been in this situation where we are,” says Minister Motsoaledi.

A 2008 Harvard University study estimated that some 330 000 premature deaths could have been prevented if the country had acted sooner to bring antiretroviral drugs to people with AIDS-related illnesses and to HIV-positive pregnant women.

In 2005–2006, more than 290 000 people were dying annually of AIDS-related diseases. The rising trend in deaths is slowly reversing, thanks to what has become the world’s largest antiretroviral drug programme.

**Saving lives**

When South Africa’s public antiretroviral therapy programme began in 2004, fewer than 30 000 South Africans were getting the drugs they needed—almost of them were in the private health system.

Within two years, some 230 000 people had started antiretroviral therapy, a number that more than doubled again by 2008. By then, the majority of those patients were being treated for free in the public health system.

Getting antiretroviral therapy to all who need it is a mammoth undertaking. The best estimate is that about 570 000 people were receiving antiretroviral therapy in 2008. About 1.5 million people needed treatment in that year, but the government says that it will provide antiretroviral therapy to 80% of those who need it in 2012.

Until early 2010, antiretroviral drugs were dispensed through only about 400 accredited health centres. The plan is to bring ten times as many public health clinics and centres into the antiretroviral therapy programme. In April alone, more than 500 additional health facilities began dispensing AIDS drugs.

Decentralizing the treatment programme also holds great promise. A recent study in townships in Cape Town and Johannesburg showed that handing more responsibility to nurses and other medical staff leads to treatment outcomes that are as good as when only doctors manage drug provision.

The AIDS response got a further boost last December when President Zuma announced that tuberculosis and HIV would be treated under one roof. Patients with both conditions are to receive antiretroviral therapy if their CD4 counts are 350 or less.

Previously, patients referred from tuberculosis clinics often had to travel to distant health facilities authorized to dispense antiretroviral drugs. That system was weak, costly and time-consuming, and involved much duplication of testing and record-keeping.

The benefits of integration are clear. In 2007, only about 20% of patients on therapy in Cape Town’s Khayelitsha township, for example, had been referred from tuberculosis clinics; by late 2009, that figure had grown to almost 70%.

A big challenge now is to cope with the increasing numbers of patients being diagnosed with drug-resistant tuberculosis.

Retired health workers are being enlisted to help staff with these new initiatives. The Health Minister has sent appeals to thousands of non-practising doctors, nurses and pharmacists. By early April about 4000 retired staff had indicated that they wished to help out.

**Keeping the momentum**

Testing 15 million people in two years is a daunting target, but observers believe it can be done. In the United Republic of Tanzania, 3 million people received HIV tests in six months, while in Malawi 200 000 people were tested in one week.

For the first time, the country’s rich array of civil society structures (from religious organizations to youth and sports clubs to social networks) are participating in the testing drive.

The campaign is using cell phone messages to direct people to their nearest HIV testing station. Some corporations are using raffle tickets, food and other incentives to encourage workers to take HIV tests.

The testing campaign will cost South Africa an estimated US$ 200 million. But if it succeeds in helping to increase treatment uptake and reduce new infections, the long-term benefits would be huge.

The dramatic expansion of South Africa’s AIDS response has drawn great praise. But it is an open secret that the country’s health system currently functions poorly and is highly unequal.

“We are over the hump of denialism,” says Justice Cameron. “But ahead are the glum problems of capacity, resources, personnel and individual fears—all the problems that were there from the outset.”

Growth in South Africa’s antiretroviral therapy programme was rapid in 2008, but slowed significantly in 2009, says Mr Mark Heywood of the AIDS Law Project in Johannesburg. Hitches in budgeting and financial management were among the problems, along with weak monitoring and evaluation of treatment programmes.

National and provincial health ministries are under great pressure to keep up with the growing demand for antiretroviral therapy. In 2009, several provinces overran their health budgets and there were reports of stock-outs of antiretroviral and other drugs in seven of the country’s nine provinces.

“We are aware that the health system is not working well, we can’t hide it,” admits the Health Minister. “Some call it a collapse, others call it a crisis.” He lists “human resource capacity, and supply and logistical problems” among the priority challenges.

Management skills, monitoring and evaluation systems, as well as commodity supply and supply management systems, must be improved, says the head of the revitalized National AIDS Council, Dr Nono Simelela.

Also in short supply, she says, are “bottom-up approaches to planning” and stronger “community involvement and participation” in the AIDS response. The National AIDS Council is working to broaden community and civil society involvement, but it will take time to overcome the animosity and suspicions that, until quite recently, clouded relations with the government.

**A long haul**

For an epidemic as large as South Africa’s, a treatment programme that puts, and keeps, at least 80% of patients...
in need on antiretroviral drugs can be sustained only if new HIV infections are drastically reduced and drug prices come down.

“At this rate, it’s not sustainable if we are going to increase the number of people who must be on antiretroviral drugs,” says Minister Motsoaledi.

“Common sense should tell us that we need to prevent and stop this disease from spreading.”

There are glimmers of good news on that front.

Infection rates among young South Africans seem to be slowing. National HIV surveys show a substantial decrease between 2005 and 2008 in HIV incidence among teenagers. Unfortunately, the same is not evident among older South Africans.

Condom use, however, has increased dramatically. When surveyed in 2009, about 70% of South Africans said they used a condom the last time they had ‘casual’ sex, compared with between 30% and 40% in 2003.

Researchers have identified that having multiple sexual partners and unprotected sex between younger women and older men are major drivers of the HIV epidemic in South Africa and its neighbours, but it is proving tough to get that message across.

South Africa’s third national HIV survey found that the percentage of young women (aged 15 to 19 years) with partners at least five years older than them rose from 19% in 2005 to 28% in 2008. The percentage of young men (aged 15 to 24 years) with more than one sexual partner in the previous year rose from 27% to 31%.

Oddly, accurate knowledge about how HIV is transmitted seemed to be low in all age groups. Researchers say participants in the survey found it hard to grasp the link between multiple partners and higher HIV risk.

Protecting mothers and their babies
Breakthroughs are also expected in programmes to prevent HIV transmission from mothers to their newborn babies. Government policy now stipulates that all infants born to HIV-infected mothers must receive the anti-HIV drug nevirapine from birth to six weeks (previously infants received AZT for one to four weeks). Treatment for HIV-positive pregnant women will start as soon as their CD4 counts drop below 350.

Dr Hoosen Coovadia, professor of AIDS research at the University of KwaZulu-Natal, calls it a change in policy “just short of 360 degrees”.

The government also plans to treat all HIV-positive babies, a move that could improve the survival rates of children in South Africa, one of only 12 countries in the world where child mortality has worsened since the 1990s. All children younger than one year will now get treatment if they test HIV-positive.

Wider use of ‘dual therapy’ offers great promise. In KwaZulu-Natal Province, HIV transmission from mothers to their newborn babies was slashed by almost two thirds (to 7%) when dual therapy was used. (Dual therapy involves giving HIV-positive pregnant women AZT from 28 weeks into their pregnancy, as well as a single dose of nevirapine during labour.)

“The study has shown that an HIV-free generation is both achievable and within our reach,” says Ms Sibongile

The epidemic in outline
Still the epicentre of the global AIDS epidemic, South Africa’s biggest challenge is to drastically reduce the rate of new infections.

Speaking last December, President Zuma compared the struggle against HIV with the struggle against apartheid.

“At another moment in our history, in another context, the liberation movement observed that the time comes in the life of any nation when there remain only two choices: submit or fight,” he said. “That time has now come in our struggle to overcome AIDS.”

The epidemic’s scale and intensity is startling. It is estimated that at least 350 000 adults and around 59 000 children were infected with HIV in 2009. Nearly 1000 South Africans die every day of AIDS-related diseases. An estimated 1.5 million adults and 106 000 children needed antiretroviral drugs in 2009.

HIV infection levels among pregnant women in 2006–2008 remained at 29%, indicating an epidemic that has stabilized, but at extraordinarily high levels. Overall, one in three women aged 20 to 34 years is HIV-positive, as is one in four men aged 25 to 49 years, according to the country’s most recent national HIV survey. Most of them do not know that they are infected.

The epidemic has spread unevenly across the country. The percentage of adults living with HIV is more than twice as high in KwaZulu-Natal Province than in Western Cape Province, for example, and disparities between districts are even wider. In some, upwards of 40% of pregnant women test HIV-positive, while in others HIV prevalence is as low as 5%.
### Treatment vs need in South Africa


### Causes of death in South Africa

* Except for 2009, the total deaths reflect registered deaths. South Africa’s death registration system is believed to be more than 90% complete. This means that actual total deaths are likely 10% more than indicated. The 2009 figures are projections, based on previous trends and death certificates received up to mid-year. Source: Statistics SA (2009) Mid-year population estimates 2009, Statistical Release P0302, July, Statistics SA, Pretoria. Available at http://www.statssa.gov.za/publications/P0302/P03022009.pdf.
Zunu, head of the province's health department.

But weaknesses in the current programme have to be overcome to reap the full benefits. More than two thirds of women are only tested late in their pregnancies, often well after dual therapy should have started.

**Pay the bills**

This boosted response has major cost implications. Earlier treatment, for example, means that more people will need to take antiretroviral drugs, and for longer.

This year, the government is spending a third more on its response than in 2009. The increase came when President Zuma, shocked after being briefed on the latest HIV infection and AIDS-related death rates, expanded the budget to ensure that the AIDS response got sufficient funding.

But President Zuma believes more money and savings are needed to turn the epidemic around.

“The amount of resources dedicated to prevention, treatment and care has increased, but it is not enough. Much more needs to be done. We need extraordinary measures to reverse the trends we are seeing in the health profile of our people,” he told South Africans on World AIDS Day last year.

There are opportunities for savings too. South Africa pays much more for antiretroviral drugs (up to 60% more in some cases) than do other African countries. “This is going to stop,” the Health Minister vowed in April.

Most of the drugs are sourced from local pharmaceutical corporations. The government plans to open its next antiretroviral drug tender to global competition in an effort to force prices down.

Officials believe that renewed efforts can secure the price reductions needed to enable affordable mass provision of anti-HIV drugs, including second-line drugs. Ms Madlala-Routledge believes that an “international effort to reduce the price of drugs” should be on the agenda again.

“We badly need the political will to enable compulsory licensing for the production of patented drugs, as allowed in the Doha and TRIPS agreements,” says the former Deputy Health Minister.

The commitment to bring the AIDS epidemic to an end has never been stronger in South Africa. But there is a lot of hard work ahead.

Procurement and supply management have to be strengthened further, for example, and back-up arrangements are needed to prevent drug stock-outs (see box). Referral and monitoring systems have to improve in order that treatment adherence and patient retention can be tracked more accurately. But the biggest challenge is to drastically slow the spread of HIV. The efforts to halve the rate of new infections over the next few years will test the mettle of this young democracy and its leaders.

---

**Double-blow: tuberculosis and HIV**

More than a quarter of all people with tuberculosis globally live in South Africa. High rates of drug resistance and HIV coinfecation are aggravating the tuberculosis epidemic: nearly three in four (73%) new tuberculosis infections are among people who are also infected with HIV.

The tuberculosis epidemic dates back more than a century. It peaked in the 1960s, receded somewhat and then erupted again, this time alongside the HIV epidemic. Between 1986 and 2006, rates of tuberculosis case notifications quadrupled. According to the World Health Organization (WHO), annual tuberculosis incidence in South Africa in 2006 was in the region of 940 per 100 000 people.

New tuberculosis cases more than doubled between 2001 and 2007, when 382 000 cases were recorded. The tuberculosis epidemic is extraordinarily intense in parts of the country—notably KwaZulu-Natal, where case notification rates exceeded 1000 per 100 000 in 2006.

The introduction in the mid-1990s of the DOTS (directly observed treatment, short course) strategy made treatment potentially more effective. Implementation, though, fell short, while the AIDS epidemic also sabotaged potential gains.

Between 1997 and 2005, as the DOTS strategy was being implemented, the annual number of people dying of tuberculosis in South Africa increased by more than 300%. Renewed treatment efforts improved the tuberculosis cure rate to about 63% in 2006, which is still some way off WHO’s 85% target.

Earlier poor implementation of tuberculosis control programmes and low cure rates have led to the spread of tuberculosis drug resistance, which is now a major handicap that also threatens to undermine the AIDS response. Outbreaks of extensively drug-resistant tuberculosis have been reported in each of the nine provinces since 2006, when 53 such cases were first detected at a rural KwaZulu-Natal hospital.

The AIDS epidemic is exacerbating these deadly complications, but the roots are in the poor management and implementation of tuberculosis control programmes over the years. Like the AIDS response, South Africa’s tuberculosis programme offers huge opportunities for improvement.
South Africa is at a historic junction in its AIDS response. With some 5.7 million people living with HIV, the government’s political will is shifting. On 24 April, a nationwide HIV testing and counselling campaign was launched with the goal of testing 15 million people and of expanding antiretroviral therapy to ensure that 80% of those in need had access to it by 2011.

This move was celebrated around the world as a turning point not only for South Africa but for the whole southern African region.

OUTLOOK asks the people of Johannesburg whether they have seen a change in the attitude towards HIV in the past year in South Africa?

Mr Gqabi Njokweni
Film student
The government has invested a lot in trying to raise awareness about HIV. A lot more people know about HIV and how to prevent it. More people understand—unlike the older generations, who knew about it but didn’t understand how to prevent or treat it. Information is more accessible today than before.

Ms Nomahlubi Mthimkhulu
Street-stall owner
I think the response has improved, there are ARVs available now, people are more aware. Most people I know, know about HIV. But I have not seen any striking improvement, so things could still be better; for instance, there could be more about HIV in schools, like incorporating HIV in the curriculum at a younger age.

Ms Fikile Kunene
Receptionist
I don’t think much has changed in the last year. There are still problems with ARV [antiretroviral drugs] stock-outs, especially in the rural areas. But the current government is trying; it seems they’re doing something, certainly more than before.

Ms Larissa Nathoo
Interior designer
I think the response to AIDS in South Africa has been stagnant. I think there needs to be more awareness of HIV, because a lot of people are getting infected every day.
Mr Bongani Julius Mavundla
Market research executive
I think things are getting better. There are more condoms and ARVs available. There is more talking about HIV, even the President talks about it now!

Mr Boston Tshabuse
Security guard and president of a community development organization
I think the response to AIDS involves everybody. I’m the president of a community development organization in Soweto and we educate people about HIV. I see more people getting involved at the community level. The more we speak about AIDS, the less people are afraid of it. Things are changing, slowly, but they’re changing.

Ms Meme Mpuru
Designer
People have become very de-sensitized to HIV. You see many campaigns and posters, but people just ignore them now. It has been drummed in too much. We need a fresh approach. Nothing new is happening in terms of the response to HIV.

Ms Henriette Lehman
Nutritionist
AIDS affects different segments of society in different ways, but in South Africa poverty makes the situation worse. There has been a lot done in the past five years, even more in the past year in terms of educating people about AIDS. There are more campaigns, there is more activism. The key is to educate people, as this helps confront the AIDS epidemic.

Ms Annette Primo
Receptionist
AIDS education is a movement from darkness to light. More needs to be done in schools to educate children; too many of our children are still affected by the pandemic. The reality of AIDS obliges people to think about sex as a possible death trap: your choices bear consequences. I think more has been done in terms of the response in the last year or so, there is more access to ARVs, there is more activism and the government is more serious about tackling AIDS. There is no more ‘hiding’ from the issue, there is more open debate.

Mr Yesheen Maharaj
Interior design student
We need to make people more aware—there hasn’t been sufficient awareness, and this is evident because lots of young people are having unprotected sex and getting infected.

Mr Pridepeter Malunga
Dog walker
I think things are getting better, the government is giving more money to tackle AIDS, and they are asking people to get tested for HIV. They’re trying hard to make things better.