



UNAIDS Questions & Answers provide information on UNAIDS, its work and issues related to the AIDS epidemic.

Q&A II: Selected issues: prevention, care and funding

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- The Global Fund to Fight AIDS, Tuberculosis and Malaria
- The Heavily Indebted Poor Country Initiative (HIPC)
- The Multi-Country HIV/AIDS Program for Africa (MAP)

Section I: Prevention

I/1 What have been the elements of successful prevention campaigns and what are some examples where these have occurred?

HIV prevalence levels among pregnant women have declined or become relatively stable in Cambodia, Senegal, Thailand, Uganda and in parts of Ethiopia, Malawi and Zambia. UNAIDS has identified the following programmatic elements it believes have led to these developments. The elements have been highlighted and endorsed in the Declaration of Commitment on HIV/AIDS adopted by the United Nations General Assembly Special Session on HIV/AIDS in June 2001.

They are:

- National and community leadership;
- Multisectoral partnerships;
- Advocating for expanded involvement in AIDS prevention and care by all sectors of society through a national strategic plan involving alliances among government agencies, NGOs and CBOs, business, and communities;
- Focused actions with steadily expanding coverage;
- Focused actions on the vulnerability to HIV infection, covering the components of multiple vulnerable populations, especially young people;
- Development of a package of targeted information and a mix of mass media to educate and motivate behavioural change;
- Focused actions on all prevention behaviours (delaying age of first sexual activity, abstinence, faithfulness and reduction in 'risky' behaviour) ;
- Focused action on means of protection;
- Building general awareness and knowledge, especially among young people;
- Raising the awareness of youth and the general population on safer behaviour;
- Reducing discrimination against people living with HIV/AIDS and their families;
- Preparing communities to support and care for those affected;
- Implementing risk reduction programmes to make young people aware of AIDS by training in safer sex negotiation skills;
- Starting HIV prevention and care as early as possible to prevent the epidemic from spreading;
- Integrating prevention with care;
- Supporting community approaches, in addition to individual approaches;
- Creating a supportive environment in the community to encourage healthy behaviour by changing norms and making risk behaviour less socially accepted within the community.

I/2 How are prevention achievements measured?

Successes in HIV prevention have been identified and measured through monitoring and evaluation of both the epidemiology of national HIV epidemics, as well as the risk behaviours involved. For monitoring of behavioural change, tools include second-generation surveillance systems, behavioural surveillance and community surveys.

I/3 What are the components of a comprehensive HIV care package?

Comprehensive care for people living with HIV includes, but is not limited to, the following:

- Available, accessible voluntary counselling and testing services;
- Antiretroviral therapy;
- Prevention and treatment of tuberculosis and other infections;
- Prevention and treatment of HIV-related illnesses, and palliative care;
- Prevention and treatment of sexually transmitted infections;
- Prevention of further HIV transmission, through existing technologies (e.g. male and female condoms, antiretrovirals for the prevention of mother-to-child transmission, clean needles and syringes) and investment in future technologies (e.g. vaccines and microbicides) as well as behaviour change;
- Family planning;
- Good nutrition;
- Social, spiritual, psychological and peer support;
- Respect for human rights;
- Reduction of the stigma associated with HIV and AIDS.

I/4 Why is it essential to integrate HIV prevention programming and care, treatment and support?

The majority of people living with HIV in low- and middle-income countries are not aware of their HIV infection. Increased provision of treatment and care services will help motivate people to be tested. This, in turn, requires increased availability of voluntary counselling and testing services (VCT). VCT stands at the heart of prevention and treatment. Behavioural counselling and provision of condoms, clean needles and syringes must be made available to people, irrespective of their HIV status. After testing positive, people living with HIV can be offered care, treatment and support services, including ARV if necessary. Counselling and other services aimed at prevention of secondary transmission, as well as the provision of ARV to prevent mother-to-child transmission, are an essential component of follow-up services for individuals who test positive. Effective prevention programming and treatment, care and support services therefore go hand-in-hand.

I/5 What is UNAIDS' position on recently published suggestions that in hard-hit areas, HIV prevention should take priority over care?

Prevention is almost always cheaper than care irrespective of a country's development status, and particularly when therapeutic options are still dominated by first-generation drugs under patent. Prevention also has proven effective. This is why UNAIDS and its Cosponsors have always advocated for comprehensive prevention as a vital foundation for any national AIDS programme. In June 2005, the UNAIDS Programme Coordinating Board endorsed a new **HIV prevention policy paper** to intensify prevention efforts in developing countries.

Prevention and treatment serve overlapping but not identical goals. No nation's health policy strictly enforces tradeoffs between prevention and care. Many millions are HIV infected and treatment is life-saving. This is reason enough to provide treatment without hesitation.

When highly active antiretroviral therapy (HAART) prices exceeded US\$ 10,000 per patient-year and global resources for the epidemic remained paltry, treatment was flatly unaffordable. As prices fall and global funding increases, finances are rapidly ceasing to be the binding constraint. Low implementation capacity will soon be the limiting factor in many countries. There is no question that prevention efforts need to be scaled up dramatically. Cost estimates suggest that needs will increase over the years. Countries can expand prevention programmes

quickly, but not instantaneously—the same applies to treatment and care programmes.

Prevention and care efforts should not be considered as separate "add-ons"; each reinforces the other. Further, prevention and treatment involve different sectors and constituencies. It is, therefore, possible and advisable to invest in both simultaneously to achieve more than would be accomplished by investing in either alone.

Section II: Injecting drug use

The sharing of injecting drug equipment contaminated with HIV remains one of the critical activities fuelling the epidemic among drug users and beyond them in many parts of the world. To stop this form of transmission, a comprehensive package of interventions must be mounted to reach out to injecting drug users and their partners. Such a package should include "harm reduction" activities, such as information and education, needle-syringe exchange, condoms, substitution treatment and treatment of sexually transmitted infections (STIs), as well as "demand reduction" activities. Programmes must be supported by clear authorization and sufficient funding to enable them to go to scale.

II/1 What is the best way to prevent HIV transmission through injecting drug use?

HIV transmission through injecting drug use is best prevented by providing a comprehensive package of interventions and services in outreach to injecting drug users (IDUs) and their injecting or sex partners. Any single activity on its own will not work. Critical HIV prevention measures among drug users include:

- Provision of HIV information and education to drug users and their sex partners about HIV risks and about safer injecting and safer sexual practices;
- Making condoms available to drug users;
- Needle-syringe exchange programmes;
- Integration of HIV prevention and care into drug (addiction) treatment programmes;
- Provision of counselling, care and support for drug users living with HIV infection or AIDS;
- Access to treatment for sexually transmitted infections and other health care services for drug users and their partners;
- Substitution treatment.

II/2 What are "harm reduction" and "demand reduction"?

The measures described above have at times been called 'harm reduction' in that they are aimed at reducing at least one harm associated with injecting drug use, that of HIV transmission among drug users and beyond. 'Demand reduction' programmes aim to dissuade people from using drugs in the first place, i.e. to reduce the number of IDUs within the population.

Harm reduction and demand reduction programmes should be conducted together, but in ways that allow each approach to be effective. There needs to be clear government policy and legislation that authorizes each type of programme and related activities, as well as sufficient funding so that they can be carried out on a sufficiently large scale. An example of a developing country that has set up appropriate policies and laws in this field is Brazil, where they have helped achieve substantially lower HIV prevalence rates among IDUs in several cities.

II/3 Is there a risk that needle/syringe exchange programmes might "send the wrong message" and result in more injecting drug use?

The evidence does not support this view. Studies conducted in Australia, Canada, Sweden, the UK and the USA have all shown that needle/syringe exchange programmes—particularly when carried out in concert with other interventions—help reduce the sharing of injecting equipment and the transmission of HIV. There was no evidence that needle exchange programmes increased either the number of people using drugs or the frequency of injecting drug use.

When clean-needle services were offered in California in the 1990s, the percentage of new initiates into injecting drug use fell (from 3% to 1%), regular users injected less frequently, and needle-sharing decreased by more than 70%. A global review of clean-needle/syringe programmes implemented between 1988 and 1993 found that, in 29 cities with needle-exchange programmes, HIV prevalence among injecting drug users fell by an average of 5.8% a year, and the number of users did not increase. In contrast, in 52 cities lacking such programmes, HIV prevalence among injecting drug users rose by almost 6% each year.

However, research in Canada has highlighted the limitations of some needle/syringe-exchange programmes. For example, studies in Vancouver and Montreal, where cocaine injection is prevalent, have shown the importance of tailoring programmes to meet local conditions. Cocaine injectors tend to inject much more frequently than heroin injectors, and therefore require much greater quantities of sterile needles and syringes than usually provided by most needle-exchange programmes.

Another current limitation of needle-exchange and other interventions targeting drug users is that they often miss occasional or recreational drug users. This is an increasingly important issue, especially among young people, as this population is missed by many programmes targeting self-identified injecting drug users.

Section III: HIV vaccines

A future HIV vaccine will not be a "magic bullet". But future vaccination against HIV, applied alongside prevention measures focused on safer behaviour and STI control, holds out realistic hope for ending the AIDS epidemic. HIV vaccine development is unusually challenging for reasons that relate to the virus itself, ethical considerations in the conduct of vaccine trials, and the socioeconomic context.

III/1 Will it be possible to develop a vaccine for HIV?

Scientists know that animals can be protected against HIV infection with a vaccine, but they remain uncertain as to whether that success can be extrapolated to humans. The search for an HIV vaccine therefore has to include human trials, which are costly and time-consuming.

III/2 Why is it taking so long to develop an HIV vaccine?

The peculiarities of the human immunodeficiency virus make the development of an HIV vaccine a difficult and expensive process. For most infectious diseases, a successful vaccine stimulates an effective immune response in order to protect the body and help it recover from disease. But HIV immobilizes the body's

immune responses and leaves them incapable of controlling infection or preventing disease. Furthermore, most existing vaccines contain an entire micro-organism (virus or bacterium) that has been killed or rendered harmless. In the case of HIV, however, this approach is not considered safe, and experimental HIV vaccines are based on parts of the virus to make absolutely sure that vaccination does not result in HIV infection. This makes the development of a vaccine even more challenging.

III/3 Will it be necessary to develop a vaccine for each genetic subtype of HIV?

It would clearly be desirable to have an HIV vaccine that would be effective against all subtypes of HIV. However, at present it is not known whether this will be feasible, or if different vaccines will be needed for different subtypes. That, coupled with the fact that the subtypes in developing countries differ from those prevalent in the industrialized world, makes it essential that experimental vaccines be developed simultaneously in high-income and low-income countries, and in different regions of the world.

The practical approach adopted by the majority of HIV vaccine experts exploits the development of candidate vaccines based on globally prevalent HIV strains, such as subtypes C, A and B. Those candidate vaccines are then evaluated in specially designed efficacy trials in order to measure the efficacy of the vaccine in protecting individuals against different subtypes. The UNAIDS Virus Network serves as an important source of epidemiologically relevant HIV strains and related vaccine reagents for the development of various candidate HIV vaccines, suitable for testing and eventual use on a global basis, especially in developing countries.

Sub-typing does influence vaccine testing. For example, in Thailand when molecular epidemiologists reported that the dominant subtype B had been replaced with another—subtype E—in a population of injecting drug users among whom the trial was to be conducted, the vaccine makers modified the vaccine to include two different vaccine components so as to target both subtypes.

III/4 What is the difference between Phase I, II and III trials?

Phase I tests are done on 20-40 volunteers. These tests are intended to confirm the vaccine's safety and determine whether it triggers strong enough levels of HIV-specific immune responses. Phase II tests involve hundreds of volunteers and are intended to further check vaccine safety and assess the potency of immune responses. Phase III trials are large-scale field trials involving thousands of volunteers. The aim is to gauge whether the candidate vaccine indeed protects people against HIV infection or the onset of AIDS. Moving vaccines through the three phases can last for up to four years.

III/5 Have HIV vaccines already been tested in humans?

Yes, around 30 different HIV candidate vaccines have been tested since 1987 in over 80 phase I/II clinical trials, involving more than 10 000 human volunteers free from HIV infection. Most of these trials have been conducted in the US and Europe, but some have been held in developing countries (Botswana, Brazil, China, Cuba, Haiti, Kenya, Peru, South Africa, Thailand, Trinidad and Tobago, and Uganda). The aim of Phase I/II trials is to assess candidate vaccines with regard to their safety and their immunogenicity (that is, the vaccine's ability to induce an immune response against HIV).

Only two phase III trials have been conducted to date to determine vaccine efficacy of one vaccine approach, using a recombinant rgp120 vaccine derived from the envelope of the virus and targeting at induction of protective antibody responses. These trials have been conducted in the United States (among men who have sex with men, MSM) and in Thailand (among injecting drug users, IDUs). Unfortunately, the results from these trials did not demonstrate any significant level of efficacy. On the other hand, these trials should be viewed as an important step forward, as well as an example of highly successful trials, since these trials for the first time have produced definitive answers to a number of key scientific and logistic challenges that are required to move forward the whole field of HIV vaccine development.

Large-scale Phase III efficacy trials began in June 1998 in the US, and in March 1999 in Thailand, using candidate vaccines based on gp120 (an external protein of HIV), produced by VaxGen, a US-based biotechnology company. These are the first HIV candidate vaccines to be evaluated for their efficacy in protecting humans against HIV infection or disease. Injection of this protein stimulates the production of antibodies capable of neutralizing the virus. VaxGen has developed two types of gp120 candidate vaccine. Both of them are bivalent (they contain HIV proteins from two different HIV strains). The one tested in the USA is based on two different strains of HIV subtype B, which is prevalent in the USA. Results from that trial were released in early 2003 (see below). The other contains gp120 of subtypes B and E, both of which are prevalent in Thailand, where the other efficacy trial is being conducted. That trial, which involves more than 2500 volunteers, mostly injecting drug users, is expected to provide additional valuable information about the potential efficacy of this type of candidate vaccine. Results were released in November 2003.

VaxGen is also currently conducting pre-clinical research to develop a vaccine against the most common subtype, subtype C, which accounts for approximately 50% of all new HIV infections worldwide.

A third community-based phase III trial, using a prime-boost regime (priming with a canarypox-HIV vector followed by gp 120/Vaxgen boost), started in late 2003 in Thailand with 16 000 participants, with results expected to be available by the year 2007. These trials will produce valuable information, regardless of the success or failure of the vaccine itself. That information will enable us to move ahead in the search for an effective vaccine.

Several other candidate HIV vaccines are under development and possibly to enter phase III efficacy trials in 2006 and 2007.

III/6 What type of trials are needed to see if a vaccine actually works?

Large-scale Phase III trials are the only trials that can provide information on the efficacy of protection. These are field trials conducted in populations with a relatively high incidence of naturally-occurring HIV infection (usually more than 1% per year). Half the volunteers receive the candidate vaccine and half receive a control injection. All receive HIV prevention counselling. To avoid biases in the interpretation of the results, neither the volunteers nor the investigators know who is receiving which. This is known as a double-blind controlled trial. The population, usually several thousand volunteers (depending on HIV incidence), is tracked for 2-4 years to see if fewer of the vaccinated volunteers become infected with HIV than the control volunteers.

III/7 If you need to have a certain rate of HIV infection to assess the efficacy of the vaccine, would you encourage people to be exposed to the virus?

No, that would be unethical. Populations enrolled in HIV vaccine efficacy trials should be counselled on how to avoid exposure to HIV. They are told that nobody knows if the vaccine will work, and that they should continue low-risk practices. Nevertheless, we know that 'behavioural' prevention programmes are not 100% effective and that some residual risk of HIV infection will remain. That residual level of HIV infection is what allows vaccine efficacy to be gauged.

III/8 What were the results of the first two Phase III VaxGen trials?

Preliminary results of a large-scale trial of a candidate AIDS vaccine were announced in February 2003 by VaxGen. The AIDSVAX Phase III trial was the first large-scale human trial of an HIV vaccine. The vaccine used in this trial was designed to reduce susceptibility to infection with HIV subtype B, which is prevalent in the Americas, Western Europe, Australia, and New Zealand.

The trial of the company's AIDSVAX vaccine appeared to show a protective effect among non-Caucasian populations, especially African Americans, although sample sizes were small. However, for the majority of the participants, who were Caucasians, the effect of the vaccine was minimal. Additional studies would be conducted to further clarify the data.

Although the trial vaccine was seen by some to mark a promising first step, an effective vaccine providing widespread protection is still not on the horizon. To date, eleven subtypes of HIV-1 have been identified. One of the major challenges in HIV vaccine development is to develop one or multiple vaccines effective against all major subtypes of HIV.

Results from the Phase III clinical trial in Thailand, released in November 2003, showed that the vaccine candidate did not show efficacy for either the primary or secondary endpoints. The primary endpoint for the trial was the prevention of infection by HIV, the virus that causes AIDS. The secondary endpoints concerned whether vaccination slowed the progression of the disease among those who received the vaccine but later became infected with HIV.

III/9 What are some of the other vaccine initiatives that are underway?

At present, a whole new generation of candidate HIV vaccines are under development, in particular those based on globally prevalent HIV strains, which may be more appropriate for use in developing countries. These candidate vaccines are developed under frameworks of different national agencies in private and public sectors, including among others the US National Institute of Health (NIH), European research Institutions, the International AIDS Vaccine Initiative (IAVI) and the European Union (EU), as well as an increasing number of national HIV vaccine programmes and research institutions in developing countries. WHO, UNAIDS and the African AIDS Vaccine Programme (AAVP) are committed to supporting the developing countries in building capacity to conduct clinical trials at the highest scientific and ethical standards. The recently announced Global HIV Vaccine Enterprise sponsored by the Gates Foundation and endorsed by the G-8 countries also will provide a new and vital boost to help forge the strategic planning and global investment of resources by governments and industry that is commensurate with the intensive effort required to develop a globally accessible and affordable HIV vaccine.

III/10 What is being done to ensure that trials are conducted with the appropriate scientific and ethical standards?

In 2000, UNAIDS issued a Guidance Document on 'Ethical considerations in HIV preventive vaccine research', which was developed through an intensive process of international consultation. UNAIDS and WHO are also conducting training workshops to strengthen the capacity of developing countries to conduct ethical reviewing.

III/11 Would a successful vaccine mean we can abandon other prevention programmes?

No. A vaccine will not be a panacea, nor can it be an alternative to existing programmes for preventing HIV spread through sex, blood or drug use. Because an eventual vaccine is unlikely to be 100% effective, it will have to be used alongside wide-ranging and effective prevention programmes. In fact, once a vaccine is developed, awareness-raising and prevention efforts will need to be redoubled in order to counter the risk of complacency.

III/12 What is the role of UNAIDS and WHO in the field of vaccine development?

UNAIDS and WHO have joined efforts, creating a WHO-UNAIDS HIV Vaccine Initiative. The joint initiative does not fund trials. Its role is to provide international coordination and to build up the capacity of developing countries to conduct such trials. It also plays a useful role in setting standards. Specifically, the Initiative:

- Advocates for HIV vaccines;
- Helps developing countries prepare to conduct vaccine trials in a scientifically and ethically sound way;
- Promotes and supports the development of HIV vaccines that would be appropriate for use in developing countries;
- Supports the surveillance of different subtypes of HIV-1 in the world, particularly in developing countries;
- Prepares for the availability of, and access to, future HIV vaccines.

One of the recent activities of the WHO-UNAIDS HIV Vaccine Initiative is the Africa AIDS Vaccine Programme (AAVP), an African Network to facilitate the development and evaluation of HIV vaccines for Africa, through capacity-building and regional and international collaboration. The AAVP was officially launched at a forum conducted in South Africa in June 2002.

III/13 What is the Global HIV Vaccine Enterprise?

The Global HIV Vaccine Enterprise is expected to enhance coordination, information sharing and global collaboration amongst the world's HIV vaccine researchers in industrialized and developing countries in both private and public sectors. It will prioritize the scientific challenges that need to be addressed, coordinate product development efforts and encourage greater use of information sharing technologies. Existing resources would be better aligned and would be channeled more efficiently. Its work would also promote more effective synergies between research into new technologies and global efforts to scale up the preventive and therapeutic interventions for AIDS which already exist.

To achieve these goals, the Enterprise will develop a strategic plan for development, testing and production of HIV candidate vaccines in collaboration

with major national and international partners, as well as vaccine manufacturers. Partners in the Enterprise include the National Institute of Allergy and Infectious Diseases (NIAID) Vaccine Research Centre at the US National Institutes of Health (NIH), the European Research Institutes, the International AIDS Vaccine Initiative (IAVI), European Union and national HIV vaccine programmes and research institutions from developing countries.

WHO and UNAIDS are committed to supporting the Enterprise, by contributing to capacity building in developing countries in conducting clinical trials at the highest scientific and ethical levels, addressing issues such as future access to HIV vaccines as part of HIV prevention, treatment and care programmes.

III/14 What efforts are being made to make an HIV vaccine available once it is produced?

Usually, vaccines arrive in low- and middle-income countries many years after they have recouped their costs in high-income countries. This cannot be allowed to happen in the case of AIDS. Effective HIV vaccines need to be made rapidly available and affordable with simultaneous access in both low- and high-income countries. WHO, UNAIDS and the International AIDS Vaccine Initiative (IAVI) are already discussing strategies to ensure the rapid availability of future HIV vaccines. Many of the challenges are similar to those relating to expanding access to antiretroviral drugs. IAVI and others are proposing significant changes to existing approaches to vaccine production, licensing, pricing, purchasing and distribution.

Differential pricing, together with financial support from donors, will be necessary for low-income countries. Technical assistance and coordination by international agencies will be needed. Since vaccination will not immediately be available to everyone, costs and benefits have to be calculated to determine where the initial focus should be. Policy-makers must also decide what to do if the first available vaccines are only marginally effective or have significant side effects. WHO and UNAIDS, in collaboration with IAVI, conducted an international study to identify potential policies that will guide the introduction and use of future HIV vaccines, and obtained initial information on global and regional needs for future vaccines. This information is essential to industry, public health authorities and financial institutions.

III/15 There seems to be a lack of economic incentive for the private sector to invest in vaccine development. How can this be changed?

In general, preventive vaccines are not as financially lucrative for the pharmaceutical industry as therapeutic products, particularly drugs that patients need to take repeatedly (as for the treatment of chronic disease). This has been a problem with the development of vaccines in the past. In addition, the costs for development, evaluation, and liability are much higher for vaccines than for most other products. Because of these obstacles, WHO and UNAIDS are encouraging the pharmaceutical industry's work in this area, and are facilitating partnerships—among governments, foundations, research institutions and industry—to share the risks, costs and benefits of vaccine development.

Section IV: Microbicides

Microbicides are a form of "chemical condom" that can be self-administered and that can protect both partners from HIV infection during sexual intercourse.

The ideal product would be odourless and colourless, and therefore undetectable to a sex partner who refuses other forms of protection. As such, microbicides could increase the options for women and men who find it difficult or impossible to persuade their partners to use a condom.

Microbicides have been shown to be acceptable to women. In a recent trial, nonoxynol-9 was shown not to be effective against HIV. However, an estimated 56 new microbicide products are in various stages of development, and research efforts have been spurred by several grants from the Bill and Melinda Gates Foundation. It is difficult to say how long it will be before an effective product is available on the world market.

IV/1 Why have microbicides been heralded as a potentially powerful tool in the fight against HIV?

Microbicides are chemical substances that kill viruses and bacteria when applied vaginally or rectally before sexual intercourse. Applied inside the vagina or rectum in the form of gel, cream, suppository or film, a microbicide for HIV would prevent infection with HIV and, possibly, other sexually transmitted infections. If spermicidal, it might also be useful for birth control. The ideal product would be odourless and colourless, and therefore undetectable to partners.

IV/2 How would microbicides benefit women and others who cannot negotiate safe sex?

As a form of "chemical condom" that can be self-administered and might be undetectable to partners, microbicides could increase the options for women, men, and sex workers who find it difficult or impossible to persuade their spouses or other sex partners to use a condom. Acceptability studies in South Africa, Uganda and Zimbabwe suggest that women who seldom or never use condoms would reduce their overall risk of infection if an effective microbicide were available to them at low cost.

IV/3 What is happening with microbicide research?

There are an estimated 56 microbicide products in various stages of development, from pre-clinical stages to Phase III effectiveness trials. The US-based HIV Prevention Trials Network has decided to bring two new agents (Buffergel and Pro 2000) to Phase III clinical trials. The Population Council is conducting a Phase III trial of carrageenum in southern Africa. In addition, a European Community-sponsored consortium is bringing new microbicide concepts in Phase II trials to developing countries after having confirmed their safety in Europe. Others are also initiating Phase II/III trials, and as a result of increased attention to microbicide development from the scientific community, public sector funding agencies and a few biotechnology companies, more compounds are entering Phase II, Phase I and preclinical stages of development. The Gates Foundation has recently provided International Partnership for Microbicides (IPM) with US\$60 million and previously funded the US-based NGO CONRAD with US\$ 25 million to accelerate microbicide development. The International Working Group on Microbicides, which includes public agencies from across the world among its members, continues to promote and facilitate the development of microbicides. It is estimated that an effective product may be available on the world market in 5 to 10 years.

Section V: Condoms and safer sex

Prevention is the first line of defence against AIDS, and the correct and consistent use of condoms is a mainstay of HIV prevention approaches. Condom use to prevent HIV is most effective when it is part of a broader safer sexual behavior package that includes sexual abstinence, non-penetrative sexual practices, and reduced numbers of sexual partners.

But many people, especially young people and young girls, do not have sufficient information about the importance of using condoms, nor are there sufficient supplies of condoms. Cost is also a major issue. UNAIDS continues to make the promotion and availability of condoms, including the female condom, a key priority.

V/1 Why is condom promotion and distribution absolutely essential in limiting the spread of HIV and AIDS?

The vast majority of HIV infections are sexually transmitted. There are only four ways to prevent sexual transmission of HIV. These are: (1) abstinence, (2) monogamous relations with an uninfected partner, (3) non-penetrative sex, and (4) consistent and correct use of male or female condoms. Studies consistently show that in every population above the age of sexual debut there are many people who are either unable or unwilling to practise abstinence, monogamy and non-penetrative sex. This leaves condoms for protecting these people and their partners.

V/2 Are condoms really effective in preventing HIV transmission?

Quality-assured condoms are the only products currently available to protect against sexual infection by HIV and other sexually transmitted infections (STIs). When used properly, condoms are a proven and effective means for preventing HIV infection in women and men.

Based on research between discordant couples (one HIV-negative and one HIV-positive), condoms have been found to be 90% effective. The vast majority of condom failures result not from leakage or permeability of the latex material, but from improper use, breakage, or slippage.

It is important to emphasize that an effectiveness of 90% for condoms does not mean HIV transmission will take place in 10% of sexual acts in which condoms are used. This means that each time a person has sex using a condom, he or she reduces their risk to acquire HIV by 90%.

V/3 What about other STIs?

The data are less complete for other STIs, but enough evidence exists to make condoms the recommended strategy for preventing gonorrhoea, chlamydia, trichomoniasis, and syphilis. Studies to establish reliably the effectiveness of condoms against specific STIs are difficult to conduct in a scientifically rigorous and ethical manner, but a number of studies are underway and more are planned. Studies have already proven the effectiveness of condoms in preventing gonorrhoea in men.

V/4 Is there any evidence that condom use is effective in reducing HIV infections in generalized epidemics?

More data is now emerging that demonstrates the effectiveness of condoms in preventing HIV transmission in generalized epidemics. A study from South Africa, published in the journal "AIDS", found that when enough young men use

condoms consistently, there is a clear protective effect for both the individual and the population at large.

V/5 Can HIV pass through a condom?

Condoms provide an impermeable barrier to viruses and to sperm barrier that indeed blocks the passage of organisms much smaller than the HIV virus. Condoms are required to undergo demanding tests, including tests for holes, before they are distributed or sold. If any holes or perforations are found, the condoms are discarded.

V/6 Don't condoms often "fail" during intercourse?

The evidence from valid studies conducted by reputable and reliable organizations is overwhelmingly that condoms provide effective protection from sexually transmitted HIV infection and other STIs, as well as unwanted pregnancy. Condom "failure" occurs on the rare occasion that a person contracts an infection or becomes pregnant despite the use of a condom. Such "failure" is very infrequent and is usually associated with condom breakage or slippage. Most slippage and breakage of condoms are caused by incorrect use, though there is an increased likelihood of breakage if the condom is past its expiry date or has been exposed to excessive heat. If condoms are to prevent HIV and STIs, they must be used correctly and consistently. Occasional use provides no more than occasional protection.

V/7 Do condoms lead to increased promiscuity?

No, condoms do not lead to increased promiscuity. Since the early 1990s, extensive research has shown that education about sexuality and access to condoms do not lead young people to begin having sex, or to have more partners. In fact, condoms, when distributed with educational materials as part of a comprehensive prevention package, have been shown to significantly lower sexual risk and activity, both among those already sexually active and those who are not.

V/8 What is the "ABC" prevention approach?

Just as combination treatment attacks HIV at different phases of virus replication, combination prevention includes various safer sex behaviour strategies that informed individuals who are in a position to decide for themselves can choose at different times in their lives to reduce their risk of exposing themselves or others to HIV (Global HIV Prevention Working Group, 2003). These are often referred to as the ABCs of combination prevention:

- **A means abstinence**—not engaging in sexual intercourse or delaying sexual initiation. Whether abstinence occurs by delaying sexual debut or by adopting a period of abstinence at a later stage, access to information and education about alternative safer sexual practices is critical to avoid HIV infection when sexual activity begins or is resumed.

- **B means being safer**—by being faithful to one's partner or reducing the number of sexual partners. The lifetime number of sexual partners is a very important predictor of HIV infection. Thus, having fewer sexual partners reduces the risk of HIV exposure. However, strategies to promote faithfulness among couples do not necessarily lead to lower incidence of HIV unless neither partner has HIV infection and both are consistently faithful.

• **C means correct and consistent condom use**—condoms reduce the risk of HIV transmission for sexually active young people, couples in which one person is HIV-positive, sex workers and their clients, and anyone engaging in sexual activity with partners who may have been at risk of HIV exposure. Research has found that if people do not have access to condoms, other prevention strategies lose much of their potential effectiveness.

A, B, and C interventions can be adapted and combined in a balanced approach that will vary by cultural context, the population addressed and the stage of the epidemic.

V/9 Why does UNAIDS promote condom use if condoms are not fool-proof?

UNAIDS is a strong advocate for condom promotion and distribution because it is a proven fact that condoms can prevent HIV infection during vaginal, anal, or oral sex. And condoms are the only existing products that can do this.

V/10 What is the "condom gap"?

UNFPA estimates that 8 billion condoms were needed in 2000 for HIV/STI prevention alone, and that, by 2015, at least 19 billion condoms will be needed. These figures exclude condoms needed for family planning purposes, and assume that the condoms would, in any case, not be used consistently.

V/11 What is being done to overcome the condom gap?

Cost is a major issue. Costs will rise from an estimated US\$ 239 million in 2000 to an estimated US\$ 557 million in 2015. This cost does not include delivery, distribution, promotion or other services.

Resources to meet demand for condoms come from domestic government sources and out-of-pocket expenditures; multilateral agencies, including the United Nations Population Fund (UNFPA) and the World Bank Multi-Country AIDS Programme (MAP); the Global Fund to fight AIDS, TB, and Malaria; the private sector (foundations, employers, international nongovernmental organisations) and bilateral donors. Donors provided 3.574 billion condoms in 2002, at a cost of US\$ 94.9 million. Condom funding peaked in 1996 when international funding of condoms was at US\$ 68 million, but it subsequently declined to US\$ 40 million annually in 1999 and 2000.

V/12 Are condoms enough?

No. It is essential that all people, including young people and women and girls, have access to the information, education and life skills that enable them to have safe and responsible sexual relations and negotiate safer sex, including condom use. This is especially important with regard to changing harmful gender norms that make men less likely to use condoms, and make women and girls less able to insist on their use.

V/13 What makes someone use a condom?

Knowledge about HIV and AIDS, easy accessibility and affordability, and social support to do so. Increasing condom accessibility and availability also increases condom use. In Brazil, there was a massive increase in the uptake of condoms when prices came down in the early 1990s. However, almost everywhere, sexually active young people (especially young women) are denied accurate

information about condoms. Researchers in Kenya report that 54% of young people do not believe that condoms protect against HIV infection.

V/14 What are the most effective ways for women to protect themselves against HIV infection during sexual intercourse?

Besides mutual fidelity between uninfected partners, correct use of a condom "from start to finish" continues to be the single most effective means for women and men to protect themselves from HIV infection through sexual intercourse. However, because of their social and cultural situations, women are often unable to insist on condom use by their male partners. This should be countered by the promotion of the following:

- Sexual health education, sexual responsibility and gender sensitivity for men/boys;
- Negotiating and life-skills for women/girls;
- Economic, social and political equality for women/girls;
- Promotion and widespread distribution of female condoms;
- Urgent development and distribution of microbicides.

V/15 What has UNAIDS done to promote the female condom?

In 1996, UNAIDS and the sole manufacturer of female condoms established a special discount price of about US\$ 0.60 per condom for use by the public sector and non-profit organizations, especially in developing countries, in order to make the female condom more easily available and affordable. As a strong advocate for the inclusion of female condoms in prevention programmes, UNAIDS, in collaboration with the manufacturer, has also made the female condom available to many developing countries to encourage its integration into existing condom programmes.

Ghana is one of the countries that has a national programme to boost female condom use, including high-level political commitment (notably, in the person of the former First Lady, Nana Konadu Agyeman Rawlings), social marketing, and distribution by both the public and private sectors. Technical assistance to country programmes is also provided by WHO and UNFPA. In addition, UNAIDS has produced and disseminated key documents and Best Practices on the introduction and integration of female condoms in countries, including the recent "The Female Condom: A Guide for Planning and Programming".

Section VI: Religious organizations and the response to AIDS

UNAIDS encourages religious organizations to support effective prevention and care programmes, including the use of condoms as part of these programmes. Many do support such programmes. Though abstinence and monogamy (involving two seronegative partners) do protect against HIV transmission, statistics in every region and age group (after sexual debut) indicate that large numbers of people, including young people, do not practise abstinence or monogamy.

UNAIDS believes it is every person's right, including young people, to have access to effective education on human sexuality, health and life skills to enable that person to make informed choices and follow through on them, including abstinence and monogamy. Research has shown that such education does not result in increased sexual relations.

VI/1 What is UNAIDS' position regarding religious organizations that prohibit the use of condoms?

UNAIDS provides factual, scientific information about condoms, and encourages religious organizations and leaders to support effective prevention and care programmes. UNAIDS encourages the use of condoms as part of these programmes, and encourages religious organizations to debate and consider the use of condoms.

VI/2 How does UNAIDS view abstinence and monogamy?

UNAIDS recognizes that abstinence and monogamy (involving two seronegative partners) protects against HIV transmission. UNAIDS can also provide scientific evidence that a delayed sexual debut is a prevention measure. However, UNAIDS also recognizes that statistics in every region and age group (after sexual debut) indicate that large numbers of people, including young people, do not practise abstinence or monogamy. UNAIDS believes that it is every person's right, including young people, to have access to effective education regarding human sexuality, health and life skills to enable that person to make informed choices and follow through on them, including abstinence and monogamy. In collaboration with various organizations, UNAIDS advocates that a call for abstinence and monogamy be done in conjunction with education on human sexuality in order for people to be able to practise these approaches successfully. Research has shown that sexual health and life skills education can be a support for abstinence, monogamy and delayed sexual debut. Many religious organizations provide such education.

VI/3 What have religious organizations done in the field of AIDS so far?

Religious organizations have for two decades cared for people living with HIV in various ways, both at hospitals and in the communities. Religious organizations are also part of coping mechanisms in hard-hit communities.

VI/4 Does UNAIDS collaborate with religious organizations that are proselytizing?

UNAIDS works with all organizations that have sound HIV policies and that perform effective and ethical work in the field of AIDS.

VI/5 What is the most important work religious organizations can do to fight AIDS?

Battling stigma and discrimination against people living with HIV, helping communities eradicate such stigma and discrimination, and mobilizing communities in HIV prevention and care efforts. They can also de-emphasize labelling or blaming that lead to stigma and discrimination, and emphasize openness, acceptance, reconciliation, compassion and action: within individuals, between individuals, within communities and between communities.

VI/6 What can UNAIDS do to facilitate the work of religious organizations?

UNAIDS can broker partnerships with religious organizations and facilitate collaboration with governments and AIDS service organizations at all levels. UNAIDS can also give technical input to religious organizations as they create their action plans and strategies on AIDS.

Section VII: Mother-to-Child Transmission

The internationally agreed approach to preventing MTCT includes: (1) primary prevention of HIV among prospective parents; (2) prevention of unwanted pregnancies among HIV-positive women; (3) prevention of transmission of HIV from mother to child; and (4) the care and treatment of HIV-positive mothers in the context of mother-to-child transmission.

Reduction in prices of antiretrovirals (ARVs), simpler regimens, donations of ARVs, and increased commitment and funding for the prevention of MTCT are resulting in significant expansion of these services.

As to infant feeding, an HIV-positive woman should be counselled on infant feeding and be allowed to choose the option most feasible and safe in her circumstances. If it is not feasible or safe to feed with formula, HIV-positive women should be counselled to practise exclusive breastfeeding for the first few months of the infant's life and discontinue this when an alternative form of feeding becomes feasible.

VII/1 What can be done to prevent babies from acquiring HIV from their infected mothers?

A three-fold strategy is needed in order to prevent MTCT:

- Protecting women and girls of child-bearing age and those lactating against HIV infection;
- Avoiding unwanted pregnancies among HIV-positive women;
- Preventing the transmission of HIV from an HIV-positive mother to her infant during pregnancy, labour, delivery, and breastfeeding by providing VCT, ARV therapy, safe delivery practices, and breast milk substitutes.

VII/2 What are the antiretroviral drugs used to prevent mother-to-child transmission and how do they work?

A number of regimens, long-term and short-term, involving zidovudine alone, zidovudine and lamivudine, and nevirapine, help to prevent MTCT by decreasing viral load in the mother and through prophylaxis of the infant during and after exposure to the virus.

VII/3 Do antiretroviral drugs also prevent MTCT during breastfeeding?

Not totally. Studies conducted in breastfeeding populations have shown that the protective efficacy of the various drug regimens is diminished when babies continue to be exposed to HIV through breastfeeding. In one such study (the PETRA study), the reduction in transmission seen at 6 weeks was no longer significant at 18 months of age. This underlines the substantial risk of HIV transmission during breastfeeding which can greatly erode the short-term benefit of drugs to prevent MTCT of HIV, and the urgent need for research to improve the safety of breastfeeding for infants born to HIV-positive women. Potential strategies include modifications to the pattern and duration of breastfeeding, ARV treatment for breastfeeding mothers, prevention treatment for the baby continued through the period of breastfeeding, or a combination of these.

VII/4 What effect do short-course regimens of antiretrovirals have on the mother and infant?

The safety of preventive treatments, including zidovudine alone, zidovudine and lamivudine, and nevirapine, has been studied extensively for both breastfeeding

and non-breastfeeding populations worldwide. Information currently available does not suggest any adverse effects on the health of the mother, growth and development of infants, or the health and mortality of infants infected despite prophylaxis. The only possible risk for the mother is anaemia. However, pregnant women taking ARVs for HIV will be doing so under the supervision of the maternal health services, where screening for anaemia (and treatment, if necessary) should be routine procedures.

While resistant virus may develop quickly to antiretroviral drug regimens that do not fully suppress viral replication (such as those including lamivudine and nevirapine), evidence indicates that virus containing drug-resistant mutations decreases once the antiretroviral drugs are discontinued. Mutant virus may remain present in an individual in very low levels, which could reduce the effectiveness of future antiretroviral treatment for the mother.

VII/5 Are ARV drugs enough for successful prevention of MTCT?

No. The prevention of MTCT involves more than the provision of antiretroviral drugs. Voluntary counselling and testing are an essential part of any prevention of MTCT strategy, because VCT provides: (1) prevention information and support in order to avoid infection for childbearing women not infected; and (2) the knowledge of one's status, and referral so that positive women can access prevention of MTCT interventions. During prevention of MTCT regimens, there is further need for appropriate counselling and testing services, as well as support for mothers and infants in the taking of ARVs and on infant feeding options. Moreover, providing care and treatment for the HIV-positive mothers is not only ethically required, but also provides an incentive to access HIV prevention, care and VCT for themselves, their partners and families.

VII/6 How feasible is it to provide ARV drugs for MTCT in low-income countries?

The feasibility of providing ARVs to prevent MTCT has been increasing since 1994 when a long-course regimen using zidovudine was shown to reduce MTCT by about two-thirds in the absence of breastfeeding. At an average cost of US\$ 1000 per pregnancy, this regimen was too expensive for use in poor countries. In early 1998, studies in Thailand showed that a relatively simple drug regimen, a short one-month course of zidovudine (AZT) given to HIV-infected mothers late in pregnancy, could halve the rate of HIV transmission to their infants as long as the women also avoided breastfeeding. In Côte d'Ivoire and Burkina Faso, it was shown that, even if the women breastfed their infants, the rate of MTCT was still cut by a third. Most significantly, a 1999 study in Uganda showed that one dose of nevirapine to the mother at the onset of labour followed by another dose given to the infant after delivery was highly effective in reducing MTCT. Further studies have shown the drug regimen to be safe as well. The regimen is easy to take because it comprises a total of two doses and costs about US\$ 4. Other short-course regimens involving zidovudine, and a combination of zidovudine and another drug called lamivudine (the PETRA study), have also been shown to be effective.

VII/7 What is recommended regarding breastfeeding by HIV-positive mothers?

Up to 20% of infants born to HIV-positive mothers may acquire HIV through breastfeeding. But the use of infant formula is problematic. First, it poses risks because it means the baby is not receiving the special vitamins, nutrients and protective agents found in breast milk. Secondly the use of infant formula may

not be feasible or safe. The cost of infant formula often puts it beyond the reach of poor families in developing countries, even when the products are widely available. Many women also lack access to the knowledge, potable water and fuel needed to prepare replacement feeds safely, or simply have no time to prepare them. If used incorrectly - mixed with unsafe water, for example, or over-diluted - a breast milk substitute can cause infections, malnutrition and even death. Furthermore, if a mother chooses not to breastfeed in settings where breastfeeding is the norm, this may draw attention to her HIV status and invite discrimination, violence or abandonment by her family and community. A further factor to be considered is that a mother who does not breastfeed loses the natural contraceptive effect of the practice and is at increased risk of becoming pregnant soon after having given birth.

Given these dilemmas, recent consultations held by the UN Interagency Task Team concluded that an HIV-positive mother should be counselled on the risks and benefits of different infant feeding options and should be guided in selecting the most suitable option for her situation. The ideal option is the one that is most acceptable, feasible, affordable, sustainable and safe in her particular context. If one of these conditions is not met with regard to formula feeding, the woman should be counselled to practise exclusive breastfeeding for the first few months. The final decision should be the woman's, and she should be supported in her choice.

For HIV-positive women who choose to breastfeed, exclusive breastfeeding (as opposed to "mixed feeding"-breastfeeding mixed with bottle feeding of water or formula, or providing other foods) is recommended for the first months of an infant's life, and should be discontinued once an alternative form of feeding becomes feasible. This is because mixed feeding may increase the risk of HIV infection. Indirect evidence suggests that keeping the period of transition from exclusive breastfeeding to alternative feeding as short as possible may reduce that risk. Unfortunately, the best duration for this is not yet known and may vary according to the infant's age and/or the environment.

Section VIII: HIV Testing

VIII/1 What are the benefits of HIV Testing?

Knowledge of HIV status is the gateway to AIDS treatment and has documented prevention benefits; however, the current reach of HIV testing services is poor and uptake is often low, largely because of fear of stigma and discrimination. The cornerstones of HIV testing scale-up include strengthened protection from stigma and discrimination as well as assured access to integrated prevention, treatment and care services. Public health strategies to increase knowledge of HIV status and human rights protection are mutually reinforcing and should be integrated for greatest effect in reducing HIV transmission and improving the quality of life of people living with HIV.

VIII/2 What is UNAIDS' position on HIV Testing?

UNAIDS promotes expanded access to both client-initiated and provider-initiated voluntary, confidential HIV testing, conducted with informed consent and accompanied by counselling for both HIV-positive and HIV-negative individuals. With respect to provider-initiated testing, in all settings, individuals retain the right to refuse testing, i.e. to 'opt out' of a routine offer of testing. All testing needs to be accompanied by referral to medical and psychosocial services for those who receive a positive test result and by community education and legal

and policy reform to counter stigma and discrimination. [UNAIDS policy statement on HIV testing](#).

Section IX: Care, Treatment and Support

Vastly increased access to comprehensive HIV care and support, including ARVs and treatment for HIV-related opportunistic infections, is a global priority. More affordable medicines will catalyze strengthened health care delivery systems. Better health care delivery systems will provide greater capacity to deliver affordable medical technology.

UNAIDS and its Cosponsors are working closely with governments, civil society, people living with HIV and the pharmaceutical industry, to expand dramatically the provision of HIV-related treatment in resource-poor settings. WHO has declared that lack of HIV treatment in developing countries is a global public health emergency.

IX/1 What is the current status of HIV therapy?

The use of ARVs in combinations of three or more drugs has dramatically reduced AIDS-related morbidity and mortality since 1996 in countries where they are widely accessible. While not a cure for AIDS, combination ARV therapy has enabled HIV-positive people to live longer, healthier, more productive lives by reducing viremia (the amount of HIV in the blood) and increasing the number of CD4+ cells (white blood cells that are central to the effective functioning of the immune system).

ARV treatment regimens must be adhered to closely. Dosing requirements, number of pills per dose, and dietary restrictions are some of the factors that may inhibit an individual's ability to take these medications regularly and as prescribed. Failure to maintain adherence can result in treatment failure and the emergence of drug-resistant HIV. Short-term toxicities, such as nausea, diarrhoea, central nervous system side effects and rash, must be closely monitored during the early stages of treatment. Long-term complications, such as body shape changes, elevations in blood lipids, peripheral neuropathy, diabetes, and kidney and liver function abnormalities may also occur.

Until recently, the high cost of the medicines, inadequate health care infrastructure and lack of financing has prevented wide use of combination ARV treatment in low- and middle-income countries. However, increased political and economic commitment in recent years, stimulated by people living with HIV, civil society and other partners, has opened the scope for dramatic expansion of access to HIV therapy.

Twelve ARV medicines have been included in the WHO Essential Medicines List following careful analysis of current evidence of ARV efficacy in developing countries which shows that these medicines can be used effectively and safely in poor settings. The long-sought inclusion of ARVs in WHO's Essential Medicines List will encourage governments in hard-hit countries to further expand the distribution of these vital drugs to those who need them.

IX/2 How many people are receiving ARV therapy?

As of June 2005, an estimated 1 million people had access to ARV therapy. Out of these 1 million people, 700,000 were living in low and middle-income countries. This means that about nine out of every ten people in low and middle-income

countries who need treatment, predominantly in sub-Saharan Africa, are not receiving it.

Table 1. Estimated number of people receiving ARV therapy, people needing ARV therapy, and percentage coverage in low- and middle-income countries according to region, June 2005

Geographical region	Estimated number of people receiving ARV therapy, June 2005 (low estimate–high estimate) a	Estimated number of people 0–49 years old needing ARV therapy, 2005b	ARV therapy coverage, June 2005 (%)c	Estimated number of people receiving ARV therapy, December 2004 (low estimate–high estimate)a
Sub-Saharan Africa	500 000 [425 000–575 000]	4 700 000	11%	310 000 [270 000–350 000]
Latin America and the Caribbean	290 000 [270 000–310 000]	465 000	62%	275 000 [260 000–290 000]
East, South and South-East Asia	155 000 [125 000–185 000]	1 100 000	14%	100 000 [85 000–115 000]
Europe and Central Asia	20 000 [18 000–22 000]	160 000	13%	15 000 [13 000–17 000]
North Africa and the Middle East	4 000 [2 000–6 000]	75 000	5%	4 000 [2 000–6 000]
Total	970 000 [840 000–1 100 000]	6.5 million	15%	700 000 [630 000–780 000]

Note: some numbers do not add up due to rounding.

a A few countries report the number of children younger than 15 years of age receiving ARV therapy, and they have been included in this table.

b The figure presented is the midpoint of the low and high estimates of the number of people needing ARV therapy.

c This is a best coverage estimate based on the midpoints of the number of people receiving ARV therapy and the estimated need for ARV therapy.

IX/3 What are the barriers to increased access to HIV-related treatments in low- and middle-income countries?

The primary barriers to increased access to ARV therapy and treatments for HIV-related opportunistic infections are high costs, lack of sufficient financing, weak health infrastructures, lack of diagnostics and monitoring equipment, and insufficient numbers and inappropriate distribution of trained health care providers.

IX/4 Are the UNAIDS Secretariat and Cosponsors working with generic companies?

Yes, they are. WHO and the UNAIDS Secretariat promote the engagement of both generic and research-based pharmaceutical companies in the response to AIDS. WHO and UNAIDS co-hosted meetings in 2002 and 2003 with chief and senior executives of key generic manufacturers of HIV-related medicines to engage the generic pharmaceutical industry more intensively in the response to the epidemic. A number of generic companies, in addition to research and development-based pharmaceuticals, have submitted applications and have been

reviewed by the quality assessment project (known as "pre-qualification") undertaken by WHO, with support from UNICEF and the UNAIDS Secretariat. Products from both branded and generic manufacturers have met the international standards used by WHO in its "prequalification" exercise (the results of the quality assessments are available at: http://www.who.int/vaccines-access/quality/un_prequalified/prequalification_system.htm)

Generic drugs, diagnostics and other commodities have also been included in the published mapping of sources and prices of HIV-related medications undertaken by WHO, UNICEF, Médecins Sans Frontières and the UNAIDS Secretariat. Representatives of the generic pharmaceutical industry, along with research-based companies, have participated in the Contact Group on Accelerating Access to AIDS-related care.

IX/5 What is UNAIDS's position regarding the exporting of generic drugs (including ARVs)?

UNAIDS supports the engagement of a broad range of partners in the response to the AIDS epidemic. Large volumes of antiretroviral medicines will be required to scale up access to treatment, and both research-based and generic manufacturers must be engaged. For this reason, UNAIDS welcomes the legislative reforms taking place in Canada to allow that country's generic suppliers to export HIV medicines to developing countries that do not have their own manufacturing capacity. UNAIDS also supports generic competition as one way of reducing the cost of HIV-related medicines and of increasing access to HIV care and treatment.

The *Declaration of Commitment* unanimously endorsed by Member States at the UN General Assembly Special Session on HIV/AIDS emphasizes the importance of cooperation in strengthening pharmaceutical policies and practices, including those applicable to generic drugs. The WHO *Medicines Strategy* includes promotion of generic competition.

IX/6 Does UNAIDS support FDC's (Fixed Drug Combinations)?

Yes. Triple combination antiretroviral therapy has long been the standard for treating HIV infection. The pharmaceutical industry is contributing to simplifying treatment regimens through developing and manufacturing fixed-dose combination formulations. Fixed-dose combinations permit all three individual molecules to be taken in one tablet, capsule or, in the future, a solution which is of special importance to children.

Three fixed-dose combinations, one each from Indian generics producers Cipla and Ranbaxy, and one from GlaxoSmithKline, have been approved by the WHO pre-qualification quality assessment programme. The generic fixed-dose combinations provide a WHO recommended, first-line regimen. Patents for individual components are often held by different originator companies, and the research-based industry is exploring multi-company arrangements to allow their products under patent to be combined or packaged together in blister packs. Fixed-dose combination antiretrovirals offer a number of possible advantages. They can:

- increase patient adherence to treatment;
- delay the development of resistance;
- lower the total cost, including production, storage, transport, dispensing and other health system costs;

- reduce the risk of medication errors by prescribers, dispensers and patients them-selves;
- simplify supply-system functioning and increase security; and
- facilitate patient counselling and education, and reduce waiting time for patients.

IX/7 Which countries are now offering universal coverage for ARV treatment?

Many countries, including those with high HIV prevalence or with emerging epidemics in large populations, have already been mobilizing in response to the HIV treatment gap. Several countries in Latin America and the Caribbean now offer universal coverage for antiretroviral treatment, including Argentina, Barbados, Chile, Costa Rica, Cuba, Mexico and Uruguay. Bahamas and Guyana are advancing towards universal access. Brazil is engaged in a South-South cooperation programme with Bolivia and Paraguay to achieve universal access in those countries. Other countries that have made substantial progress include Botswana and Senegal. However, Brazil remains the only country with a large population to achieve universal access to AIDS treatment.

IX/8 What is UNAIDS's position regarding the decisions of some pharmaceutical companies to relax certain drug patents in some regions of the world?

Decisions by some research-based pharmaceutical companies not to enforce their patent rights in some regions of the world should be commended as an example of the kind of flexibility that could foster greater access to affordable HIV medicines through imports and local production of less expensive medicines. Voluntary licensing is another traditional mechanism that can contribute to greater affordability of medicines of importance to people living with HIV.

IX/9 Why is it important to ensure the continuation of major research and development of HIV-related medicines?

Innovation of new and improved HIV-related treatments, diagnostics and monitoring technology is essential to the fight against AIDS. Currently available treatments are not a cure, and drug resistance is a threat to continued success with these treatments. Continuing development of simplified treatment regimens, as well as medicines with fewer instances of side effects, will improve patient adherence to the regimens and, in turn, reduce the development of drug resistance. In sub-Saharan Africa, many more countries say they intend to set up their own production facilities. These include Ethiopia, Kenya, Mozambique, Nigeria, Tanzania, Uganda and Zambia. South Africa already launched its first antiretroviral drug in August 2003. All have plans to start manufacturing generics some-time during 2004–2005 (Dummett, 2003).

IX/10 What is being done to facilitate technology transfer between low- and middle-income countries and to control the quality of drugs?

UNAIDS encourages 'South-to-South' cooperation to expand drug access. In October 2002, WHO and the UNAIDS Secretariat brought together generic manufacturers of HIV-related medicines based primarily in developing countries to exchange lessons and views on how they can contribute further to expanding access to these medicines in low- and middle-income countries. In April 2001, India and South Africa signed a declaration of intent to cooperate in a variety of health fields, including technology transfer and import of drugs. Thailand, with considerable experience in generics production, has signed a similar agreement

with Ghana. Brazil also has supported technology transfers to other developing countries.

IX/11 What is UNAIDS' position on intellectual property and compulsory licensing?

The UNAIDS Secretariat fully supports patent protection as an incentive for innovative research and development of new AIDS drugs and, hopefully, the discovery of HIV vaccines. In the absence of a cure and/or a vaccine, and in view of the serious risk of resistance to existing ARV therapies, innovation is crucial.

At the same time, intellectual property rights must be considered in the context of other social interests, such as the human right concerning health. Patents provide exclusive control over the protected product, which can impede affordability and access to medicines for people living with HIV in resource-limited countries or otherwise without the means to pay.

In 2001, UNAIDS called for a 'new deal' with industry to ensure that new forms of HIV treatment are made available on a far greater scale to HIV-positive people in low- and middle-income countries as to those in high-income countries. This requires multiple approaches, including differential pricing, regional procurement to secure price-reductions through large-volume purchases, licensing agreements between patent-holding companies and manufacturers in resource-limited countries, reinforcement of health safeguards in trade agreements (including compulsory licensing), and new private and public funding mechanisms to help pay for treatment in poor countries.

IX/12 What is UNAIDS' position on international trade rules, compulsory licensing and access to HIV medicines?

International trade agreements and policies can affect access to goods and services that are crucial to HIV prevention, care and impact mitigation. These goods and services include condoms (male and female), AIDS drugs and other pharmaceutical products (such as HIV testing equipment, materials and services), and products and services to ensure the safety of blood transfusions. The most important international trade agreement concerning access to HIV-related medicines and products is the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS). While setting out minimum norms (e.g., 20-year patent term) with which WTO members must comply, the TRIPS Agreement provides governments with flexibility (e.g., compulsory licensing) to protect the public health of their citizens and improve access to affordable medicines. The WTO Ministerial Declaration on TRIPS and Public Health (the Doha Declaration of 2001) reaffirmed this flexibility.

IX/13 What are some of the approaches countries are using to help fund access to care and treatment?

A number of different approaches are being used to help fund access to care and treatment in low- and middle-income countries. These include universal, free-of-charge access to treatment programmes through the public sector (the approach used by Brazil and a number of other Latin American countries), direct government subsidies to patients (the approach used by Chile, Côte d'Ivoire, Gabon, Mali, Romania, Senegal and Trinidad and Tobago), and out-of-pocket purchasing by patients after large-volume purchases at reduced prices by governments (the approach being used by Uganda). It is clear, however, that the vast majority of people living with HIV and in need of treatment will not be able to afford to cover the costs of their care. Countries that have maximised

treatment access have done so through universal access. In the Brazilian model, for example, HIV treatment is free. HIV care will need to be provided at a price that is proportionate to local purchasing power – and for many people, in many communities, in many countries, that means HIV care and treatment must be free.

IX/14 Why is psychosocial support so essential to effective care, treatment and support?

Counselling, spiritual support, support for disclosing one's HIV-positive status and for engaging in safer sex and safer injecting drug use, end-of-life and bereavement support, peer support, and practical economic assistance are all part of psychosocial support for people living with HIV. Psychosocial support helps to mitigate the devastating impact of AIDS on people's lives.

Psychosocial support is also essential to the success of ARV treatment. A number of studies have shown that psychological problems, such as depression, reduce people's ability to adhere to complex ARV regimens.

IX/15 Why is improved nutrition essential to effective care, treatment and support?

For much of the world's population living with HIV, the need for food remains an overwhelming priority. People living with HIV need substantial nutritional inputs (up to 50% more protein) to fortify their compromised immune systems. Those suffering from hunger, famine and/or nutritional deficits are more likely to fall ill with opportunistic infections and less likely to be able to recover from them. Malnutrition is also one of the major clinical manifestations of HIV disease. Where drought conditions exist, access to clean water is reduced, further increasing the risk of infection for adults, children and infants, particularly those on formula feeding. Clean water supplies and adequate food must be part of an overall HIV treatment, care and support package.

IX/16 What is the role of traditional healers and pharmacists in HIV care, support and treatment?

Many people in resource-limited settings rely on traditional healers or pharmacists for their health care needs. Effective partnerships between formal health care systems and traditional healers and pharmacists have been shown to significantly improve HIV treatment, care and support. Collaboration with and education of traditional healers can also help dispel the many myths that prevail about the causes of HIV, as well as counter spurious claims about "miracle AIDS cures".

Section X: Resources

X/1 How much is needed for HIV prevention and care programmes in low- and middle-income countries?

Newly revised estimates for effective prevention and care programmes in low- and middle-income countries indicate that US\$ 14.9 billion will be needed annually by 2006. Financial resource needs will continue to increase significantly so that by 2008 some US\$ 22 billion a year will be needed to successfully combat AIDS, including around US\$ 11.4 billion for prevention, US\$ 5.3 billion for care and treatment, US\$ 2.7 billion for orphan support and US\$ 1.8 billion for programme costs and 0.9% for human resources. For treatment and care, about

55% of these resources will be needed in sub-Saharan Africa, 20% in Asia and the Pacific, 17% in Latin America and the Caribbean, 7% in Eastern Europe and 1% in North Africa and the Near East.

It is estimated that US\$ 6.1 billion was available for AIDS activities from all sources in 2004. For 2005, 2006, and 2007, projections have been made, based on past trends and currently known pledges and commitments, that amount to US\$ 8.3 billion, US\$ 8.9 billion and US\$10 billion respectively. It appears that there is a funding gap between resources available and those needed of at least US\$18 billion from 2005 to 2007. However, this is likely to be a significant underestimate. Determining the gap between resources available and resource needed is not a matter of simple subtraction.

X/2 How were these figures calculated?

These figures have been developed using the latest available information and with the invaluable input from a newly established Resource Needs Steering Committee and Technical Working Group which are made up of international economists and AIDS experts from donor and developing countries, civil society, United Nations agencies and other international organizations.

Based on real information from countries about the costs of specific programmes, an overall funding amount is calculated in order to achieve a specified coverage of services - how many people will actually get the service. What is new about these estimates, is that they not only cover the costs of delivering a prevention or treatment intervention, they also include the costs of hiring new health and prevention staff, refurbishing existing clinics and hospital, and building new ones.

UNAIDS has been producing resource needs estimates since 2001. Since that time there has been increased access to relevant data, a continuous improvement in the methodologies and new thinking about what comprises a comprehensive package of interventions to turn back the epidemic. Acknowledging that the estimation process has intrinsic limitations, at present these constitute the best available assessment of global needs for AIDS and a rational basis for further discussion about AIDS funding in the international arena.

X/3 Do these estimates include every aspect of a successful AIDS response?

These latest resource needs estimates are based on improved costing data from countries, expand the coverage of services and include selected investments in increasing human resources (primarily physicians and nurses), providing incentives to recruit and retain staff, refurbishing hospitals and health centres and building new health centres.

These estimates do not include the costs of all health care providers needed for a comprehensive treatment and care package, such as nurse practitioners, clinical officers, counsellors, laboratory technicians, and adherence supporters. These estimates provide only limited coverage for universal precautions and support for orphans outside of sub-Saharan Africa. These estimates do not include the costs of vulnerability reduction, such as keeping young people in school, improving the status of women, and combating poverty.

X/4 How much is being spent on AIDS in high-income countries?

UNAIDS does not yet have sufficient information on AIDS expenditure in high-income countries. Data are available for HIV/AIDS official development assistance from Development Assistance Countries (DAC), multilateral institutions, international NGOs and foundations for the benefit of low- and middle-income countries. Data are also available for in-country AIDS expenditure by governments and national NGOs in low- and middle-income countries.

X/5 The Global Fund to Fight AIDS, Tuberculosis and Malaria

The Global Fund to Fight AIDS, TB and Malaria is a new financing mechanism established in 2002 as a public-private partnership. Its aim is to rapidly mobilize significant additional resources for the fight against the three diseases in developing countries. The Fund mobilizes and disburses funds to governments, communities, and NGOs. Details of the purpose, scope, and operations of the Fund, as well as the principles underlying its operation, are set out in a Framework Document available on the Global Fund's website at <http://www.theglobalfund.org/en/>. The website also maintains up-to-date information on the status of proposals submitted for funding.

X/6 What is UNAIDS' role in the Global Fund?

The mission of UNAIDS is to lead, strengthen and support an expanded response to the AIDS pandemic aimed at prevention, care and support, reduced vulnerability, and alleviation of impact. The Global Fund complements the work of UNAIDS by providing financial resources to strengthen the response to the epidemic.

In its role as the leading advocate for worldwide action against AIDS, UNAIDS is a principal partner in countries' efforts to access the Global Fund's resources.

UNAIDS is the key provider of strategic leadership, knowledge, policy advice and technical expertise on AIDS to the Global Fund. It makes use of its extensive network of partners to strengthen national capacity and expand civil society and community participation in the response to AIDS. It provides country-level support to the Global Fund, especially to the Country Coordination Mechanisms, through its ten Cosponsors and other partners. UNAIDS and the Global Fund have developed a Memorandum of Understanding in order to strengthen their partnership.

The UN system has provided support for the Fund since its inception. In April 2001, at the summit in Abuja of the then Organization for African Unity, the UN Secretary-General called for a global fund to fight AIDS. Soon after, in June 2001, world leaders unanimously endorsed the concept of the Fund at the UN General Assembly Special Session on HIV/AIDS. Although the Fund does not fall under the UN umbrella, it works closely with the UN and all its partners. The UN Secretary-General, Kofi Annan, is the Patron of the Fund.

X/7 How much funding has the Global Fund allocated to AIDS? What proportion for scaling up access to treatment?

As of September, 2005 the total amount allocated by the Global Fund for grants targeting HIV/AIDS stand as follows: US\$ 2.3 billion worth of grant funding has been approved for the first two years of grants (Phase 1), and US\$5.3 billion total over five years (phases 1 and 2). Over five years, 1.85 million people are projected to receive antiretroviral treatment, 62 million people will be provided with voluntary counselling and testing according to current projections. AIDS

accounts for 54 percent of Global Fund resource distribution after five rounds of grants, compared with 29 percent for malaria, 16 percent for tuberculosis, and 1 percent approved for a new category of grants targeting Health Systems Strengthening (HSS). Forty-nine percent of grant expenditures have been allocated for procurement of drugs and commodities. As of August, 2005, 220,000 people had been placed on ARVs through Global Fund grants, and grants targeting AIDS had been approved in 96 countries.

X/8 The Multi-Country HIV/AIDS Program for Africa

The Multi-Country HIV/AIDS Program (MAP) for Africa came into effect in 2001 and is managed by the World Bank. It involves large, zero-interest loans that are largely channelled as grants to communities and civil society with an emphasis on increasing access to HIV prevention, care, and support, and mitigating the impact of the epidemic. It supports country programmes, as well as subregional and cross-border initiatives.

X/9 What is the Multi-Country HIV/AIDS Program (MAP) for Africa?

Managed by the World Bank, the Multi-Country HIV/AIDS Program for Africa was launched in September 2000. MAP made an initial amount of US\$500 million, in flexible and rapid funding, available to African countries to assist in scaling up national AIDS efforts. The Bank approved an additional US\$500 million in IDA financing in 2002 for the second stage of the MAP. A similar MAP 'umbrella program', the Multi-Country HIV/AIDS Prevention and Control Adaptable Lending Program (APL) for the Caribbean Region, committing US\$155 million, was approved in June 2001.

The MAP makes funding available to African countries to assist in scaling up national AIDS efforts. The funds are committed to individual AIDS projects developed by countries, using standard IDA credit agreements. MAP funds are available to any African country that meets simple eligibility criteria (including eligibility for IDA credits):

- Satisfactory evidence of a strategic approach to AIDS, developed in a participatory way;
- Establishment of a high-level AIDS coordinating body, with broad representation of key stakeholders from all sectors, including people living with HIV;
- Government commitment to quick implementation arrangements, including channelling grant funds for AIDS activities directly to communities, civil society, and the private sector; and
- Agreement by the government to use multiple implementation agencies, especially community-based and nongovernmental organizations (CBOs/NGOs).

The overall development objective of the MAP is to dramatically increase access to HIV prevention, care, and treatment programmes, with emphasis on vulnerable groups (such as youth, women of childbearing age, and other groups at high risk). The specific development objectives of each individual country project, as stated in the national strategic plans, will provide the basis for this programme and be agreed upon at the time of appraisal of the national projects. A key feature of the MAP is direct support to community organizations, NGOs, and the private sector for local AIDS initiatives.

X/10 How has it been implemented so far?

The World Bank has approved US\$ 1 billion in grants or interest-free loans to support AIDS programmes in sub-Saharan Africa.

In the Caribbean, the Bank has started a similar initiative in which US\$ 155 million will be disbursed in the form of five-year loans. By January 2004, more than US\$ 85 million had been committed to five countries, of which nearly US\$ 10.5 million had been disbursed (World Bank, 2003). In 2003, the World Bank approved a US \$100 million loan to Brazil for responding to AIDS and sexually transmitted infections, bringing the Bank's commitment to Brazil's epidemic to US\$ 430 million.

By January 2004, US\$ 822.3 million had been committed to 24 countries in the region; US\$ 170.6 million had been disbursed. The Programme has committed a further US\$ 16.6 million to sub-regional and cross-border projects.