

Reporting Manual on HIV/AIDS



June 2007



Dear Journalist,

We are pleased to present you with this reporting manual on HIV/AIDS. It has been designed for journalists who are covering the global epidemic for the first time and for those who have covered it previously. The Kaiser Family Foundation undertook this project as part of its continuing commitment to supporting good journalism and to combating HIV/AIDS through public education and awareness.

The material in this updated edition covers a broad range of subjects including the unique challenges of reporting on HIV/AIDS, treatment and prevention strategies, key figures in the struggle against HIV/AIDS and global efforts to finance the campaign against HIV/AIDS. The epidemic is not only a battle against a virus. It can also be a battle about ideas, cultural taboos, stigma and discrimination. For that reason, we have included information about the political and social aspects of the epidemic and provide journalists with guidance about navigating these issues effectively. Additionally, there is information about malaria and tuberculosis.

Much of this material has been written by experts on HIV/AIDS and communications on the staff of the Kaiser Family Foundation. Some elements have been provided by outside organizations and we are grateful to them. KFF, along with the assistance of local reporters, also has produced several country-specific and region-specific manuals. These can be found at www.kff.org/hivaids/ReportingGuides.cfm.

The general reporting manual, which is frequently updated online, should be viewed as a reference guide. More in-depth sources of information on HIV/AIDS can be found at www.kff.org/hivaids/index.cfm, www.globalhealthreporting.org and www.globalhealthfacts.org. A link to animated material designed for television can be found at www.kff.org/mediafellows/toolshivreporting.cfm.

Kaiser has always believed that journalists have a significant role to play in informing the public and public policy officials. We hope this reporting guide will contribute to that process.

Sincerely,

A handwritten signature in black ink, appearing to read "Drew Altman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Drew Altman
President and CEO
Kaiser Family Foundation

TABLE OF CONTENTS

The Challenges of Reporting on HIV/AIDS	1
Ethics Guidelines	3
Frequently Asked Questions About Covering HIV/AIDS	5
Understanding and Reporting on HIV/AIDS Data	7
HIV/AIDS Information on the Internet	11
Acronyms	13
Glossary	15
HIV/AIDS Timeline	25
Frequently Asked Questions About HIV/AIDS	30
HIV Prevention	33
Opportunistic Infections	35
Guide to Drug Development and Approval	39
Important Terms in ARV Therapy	41
FDA-Approved ARV Therapy	42
Global Goals and Financial Commitments	46
Select Key Figures	48
Tuberculosis (TB)	58
Tuberculosis (TB) Glossary	60
Malaria	62
Malaria Glossary	65
Resource List	67

THE CHALLENGES OF REPORTING ON HIV/AIDS

Reporting on HIV/AIDS—and the many ways the epidemic can touch the life of an individual as well as a country and the world—is extremely rewarding for a journalist. It is also extremely challenging. AIDS is a complex medical syndrome intertwined with issues of stigma, discrimination, sex, fear, ignorance, denial and death. Mia Milan, a senior resident advisor in Kenya to Internews adds that HIV/AIDS “has taken on a life of its own, a life that depends upon a multitude of vested interests linked to power, prestige, religion and money.” Because reporting on HIV/AIDS ultimately deals with matters of life and death, and because many people will form their understanding of HIV/AIDS through the media, the story must be approached with clarity, precision and sensitivity.

In 1992, a seminal book on AIDS was published. *AIDS in the World* contains an essay written by journalist Phyllida Brown that remains relevant today. She writes, “AIDS has become the first global health story. Like no other health story before it, AIDS spans all cultures and societies, in industrialized and developing countries alike. Yet for all its importance as a story, AIDS carries with it another obligation—thrusting onto the media the often unwanted and ambiguous role of educator for an audience that, by and large, relies on the press for nearly all it knows about AIDS.”

News reports containing factual mistakes or more subtle errors, such as those that perpetuate stereotypes, can have damaging consequences for those being covered. Conversely, powerfully prepared reports can inform, raise awareness and, on occasion, lead to change where change is needed. Below is the beginning of a discussion in this manual about covering HIV/AIDS effectively:

Language: Language is a particularly tricky area of HIV/AIDS reporting for many reasons. Complex medical terms or concepts written more simply for general audiences could be incorrectly communicated. Journalists may use words which unintentionally perpetuate stereotypes or convey cultural biases. For example, “prostitute” has a negative connotation. It does not accurately describe situations in which a woman exchanges sex for money either because she is forced to or she has no other economic opportunity. A good alternative is “sex worker.” What is important here is to be aware of the issues that surround common terms and their usage. Many organizations have developed suggested alternative words which can be useful.

Sources: Reporting on HIV/AIDS can be filled with landmines. It is essential reporters develop a network of reliable sources who can provide guidance and information. UNAIDS has local representatives around the globe, who can give reporters excellent data and information on emerging trends. It is also valuable to establish relationships with organizations that represent people who are HIV-positive. Advocates at these organizations can usually open doors to important figures in the community, identify recent trends in the local epidemic and make reporters aware of such things as the sensitive language issues that are described above. Sources always have their own agendas, and it is important for reporters to understand what these agendas are, before accepting help and information.

Pictures and Video: Print, web and television reporters have an obvious need for pictures and video. However, revealing the identities of people with HIV/AIDS can have serious negative consequences. Reporters should thoroughly discuss this ahead of time with those they plan to interview to make certain they are informed and comfortable about having pictures or video shot. Discussions with editors about the potential necessity of shielding someone’s identity also are useful, including how

that may impact the story and whether keeping someone in shadows perpetuates stigma against those with HIV/AIDS. Under no circumstance should reporters 'ambush' interview subjects with a camera in hand without giving them time to consider the ramifications of being publicly identified. Radio reporters should be mindful of these same guidelines as audio recordings can reveal a person's identity.

Medical Reporting: Medical reporting presents a truly unique set of challenges and opportunities for reporters who do not have a science background. Reporters can get tripped up on terminology, and can get taken in by exaggerated claims of medical breakthroughs and by researchers who have financial stakes in the outcome of particular studies. *Science* magazine reporter Jon Cohen says his rule of thumb is, "extraordinary claims require extraordinary proof." Establishing reliable contacts in the AIDS medical community, who have no particular agenda and are willing to serve as sounding boards, is extremely valuable.

In the following pages, reporters will find additional material, such as ethics guidelines and a guide to understanding technical studies, which we hope provides the tools to meet the challenges of covering HIV/AIDS. Additionally, the Kaiser Family Foundation created and manages the website www.globalhealthreporting.org which provides links to more than a dozen other helpful HIV/AIDS reporting manuals from around the world. The webpage can be found at www.globalhealthreporting.org/reporting.asp?id=18.

This was written by the Kaiser Family Foundation's Jackie Judd, who was a reporter for 30 years.

REFERENCES AND RESOURCES

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Mann, Jonathan, Daniel Tarantola, and Thomas W. Netter, eds. 1992. *AIDS in the World*. Harvard University Press.

ETHICS GUIDELINES

This material was developed for and endorsed by the Southern Africa Editors' Forum: www.journaids.org/docs/SAEF_ethical_principles.pdf. We are grateful for permission to reprint this material.

HIV and AIDS is a story of critical importance that should be covered by journalists with imagination, initiative and sensitivity to gender and the larger social forces driving the epidemic.

The story requires reporting of the highest ethical standards. The Southern African Editors' Forum (SAEF) and the Media Institute of Southern Africa (MISA) endorsed these principles to provide guidance to media councils, training institutions and media companies, as well as individual editors and journalists. The principles are not cast in stone but should be revised over time and in response to the unfolding epidemic.

- Accuracy is critical, since important personal and policy decisions may be influenced by media reports. Journalists should be particularly careful to get scientific and statistical information right. Facts should be painstakingly checked, using credible *sources* to interpret information, verify facts and make statistics and science accessible and relevant to wide audiences. Sources should be named as often as possible. Stories should be written in context.
- Misconceptions should be debunked, and any claims of cures or treatments should be reported with due care. Journalists should look at all stories critically.
- Clarity means being prepared to discuss sex, cultural practices and other sensitive issues respectfully but openly. Care should be taken to ensure language, cultural norms and traditional practices relating to, for example, inheritance and sex are understood and accurately reported taking into account universal human rights.
- Balance means giving due weight to the story, and covering all aspects, including medical, social, political, economic and other issues. Balance also means highlighting positive stories where appropriate, without underplaying the fact that HIV and AIDS is a serious crisis.
- Journalists should hold all decision-makers to account in their handling of the pandemic, from government to the pharmaceutical industry and advocacy groups. They should be engaged with, but not captive to, any interest group.
- Journalists should ensure that the voices and images of people living with and affected by HIV and AIDS are heard and seen. The human face of the pandemic should be shown. They should take care that the voices heard are diverse, and include those of women and men, vulnerable and marginalised people.
- Journalists should respect the rights of people with HIV and AIDS. Vulnerable people should be treated with particular care. Journalists should seek informed consent before intruding on anyone's privacy. They should seek to understand the possible consequences for individuals who participate in their report, and to ensure those individuals are clear about the consequences. Only in cases of overwhelming public interest can somebody's HIV status be reported against their wishes or should journalists hide their professional identity.

- Journalists should be aware of and seek out the gender dimensions of all aspects of the pandemic, from prevention to treatment and care, as this will add to the depth and context, as well as reveal new areas for reporting.
- Particular care should be taken in dealing with children. They experience the most extreme consequences of the epidemic, and their rights to privacy should be afforded even greater protection. They should only be identified if the public interest is overwhelming, and then only if no harm to them is foreseeable and they and any parents or guardians have given informed consent. Children have the right to participate in decisions affecting their lives. They also have the right to be heard, and journalists should ensure that the particular concerns they face are covered.
- Discrimination, prejudice and stigma are very harmful, and journalists should avoid fuelling them. Particular care should be taken not to use language, or images, that reinforce stereotypes

SUGGESTED RESOURCE

The Kaiser Family Foundation's Global Health Reporting website provides links to many reporting manuals which include ethics guidelines. http://www.globalhealthreporting.org/reporting.asp?id=18#reporting_manuals

FREQUENTLY ASKED QUESTIONS ABOUT COVERING HIV/AIDS

Is there really a difference between reporting that someone has AIDS or is HIV-positive?

Yes, there can be a difference. HIV-positive means someone is infected with HIV, the virus that causes AIDS, but it does not necessarily mean they have progressed to an AIDS diagnosis. It is possible an HIV-positive person will not be showing any symptoms. Someone who has an AIDS diagnosis has a severely weakened immune system and typically does show symptoms. Depending on your story, it may be important to be clear about this distinction.

Who do I turn to for the most reliable numbers related to the epidemic?

There is a great deal of confusion, and sometimes controversy, about HIV/AIDS statistics. It can be difficult to find and interpret statistics, since there are so many challenges to conducting disease surveillance. One reason for that is most people with HIV do not know they are infected. Before using any statistics, be absolutely certain you understand what they mean, who collected them, how they were collected and over what period of time. If you find numbers that contradict each other, go back to your sources and ask them to explain the contradiction. UNAIDS is the best place to start for obtaining global and country-level HIV/AIDS data. You may also want to check directly with your country's health agency. There is more information on this in *Understanding and Reporting on HIV/AIDS Data*.

How important is confidentiality in reporting on HIV/AIDS?

The identity of a person with HIV/AIDS should not be disclosed without the explicit permission of that person. In many countries a person publicly identified as being HIV-positive or as having AIDS will be shunned and stigmatized and may even face violence—in the home, the community and at work. If a person agrees to be identified, it is a reporter's responsibility to make sure he or she understands the potential consequences of that decision. There is more information on this in *Ethics Guidelines*.

What are the common stereotypes that slip into HIV/AIDS reporting?

People with HIV/AIDS are a diverse population and your reporting should reflect that. The goal, of course, is to be objective and factual. Stay away from making value judgments and from reinforcing the stigma that many people with HIV already face. A common stereotype involves what types of people become infected including the common confusion between "risk group" and "risk behavior"—that is, assuming someone who is in a certain group engages in risky behavior. For example, many men who have sex with men practice safer sex and have a single partner. So, they are not at a significantly greater risk than the general population.

What words do I want to be cautious about using in the context of HIV/AIDS?

It is important to not use words that incorrectly stereotype or stigmatize people with HIV/AIDS, perpetuate myths about the disease or carry value judgments. Do not use terminology that general audiences cannot easily understand. This is especially important when reporting on medical stories. The goal is to be precise without being so dense your audience will not understand what you are reporting. There is more information on this in *The Challenges of Reporting on HIV/AIDS*.

What are the pitfalls when reporting on treatments for HIV/AIDS?

HIV/AIDS treatment is a complex area and there are many different treatments available for HIV/AIDS—some treat the virus itself, others treat the symptoms and illnesses caused by the virus. However, none is a cure. It is important to be clear about the distinction between a treatment that may cure or prevent an illness *related* to HIV infection with a cure for AIDS *itself*. It also is important not to describe drugs used to slow the growth of the virus as cures. Again, there is no cure.

Is it accurate to say that someone died of AIDS?

AIDS is a syndrome that can be defined by any number of diseases and cancers. There is no singular disease that is called AIDS. When someone who had been diagnosed with AIDS does die, it is technically more accurate to report that he or she died of an AIDS-related illness, of HIV-related causes or due to HIV disease.

Reporting on HIV/AIDS is complex and sorting through the epidemiological data can be challenging. Whether using data to support a story or reporting on the data itself, the specific data chosen and how they are used will play a large role in determining what story you tell. In addition, the data are often so complex that there is a risk of misinterpretation. For example, some reporters may use ‘incidence’ and ‘prevalence’ interchangeably even though they represent two different ways of measuring the epidemic. Therefore, it is important to be familiar with the types and sources of HIV/AIDS data available, how they are used to characterize the epidemic and their limitations in order to avoid hitting pitfalls when reporting. Included below is a brief discussion of some of these issues and suggested resources.

Where Do HIV/AIDS Data Come From?

HIV/AIDS data come from a variety of sources, including:

- surveys of pregnant women
- population-based household surveys
- sentinel surveillance of populations at higher risk (e.g., the collection of HIV prevalence and/or risk behavior information from individuals at “sentinel” sites including health facilities, such as antenatal and STD clinics, or within communities such as sex workers or injection drug users)
- official case reports
- vital registration systems (the official recording of births and deaths)

None of these sources, however, provides a total number of people living with HIV/AIDS, people newly infected, and deaths due to AIDS. This is the case for several reasons; the data cannot be obtained from direct counts since most people do not know their status, and stigma surrounding HIV disease often leads to denial and underreporting. Thus, for example, the number of AIDS cases officially registered by a country will always be *less* than the actual size of the HIV-infected population. Despite these challenges, methods have been developed and refined over time to produce reasonable estimates at the country, regional, and global levels. These efforts are led by UNAIDS, which has a technical advisory group to help develop estimates and regularly consults with countries.

The source of HIV/AIDS data used to develop estimates depends on the level or type of HIV/AIDS epidemic within a country:

- In countries with **generalized epidemics** (countries where prevalence among pregnant women is greater than 1%), estimates are primarily based on blood samples from pregnant women in antenatal clinics. Surveillance of pregnant women in antenatal clinics provides the best available data upon which to base estimates of HIV prevalence in the general population in countries with generalized epidemics (since conducting a population-based survey is generally not feasible).

- In countries with **concentrated epidemics** (prevalence among pregnant women is less than 1% but some groups at high risk have prevalence greater than 5%), estimates are based on sentinel surveillance of populations at higher risk of exposure— injection drug users, sex workers and men who have sex with men.

What are Key Data Issues to Consider?

Among the many issues to think about as you get ready to report on HIV/AIDS using data are:

- There are many sources and types of data, each telling a different story about the epidemic
- HIV/AIDS surveillance methods evolve over time, so data from the same source may not be directly comparable year to year
- The type of data available, and the lag-time in availability, may pose challenges to assessing recent impact
- There are gaps in the data
- Epidemiological measures of HIV/AIDS are numerous and each has important and distinct definitions (see table)
- HIV incidence (new infections) is an estimate only. This is true globally and in all countries, even the United States, due to the lag-time between HIV infection and the development of AIDS, the fact that many do not know their status, stigma which leads to underreporting, and surveillance systems that may not be complete
- Rates/percents, not just numbers, are important—rates are standardized measures, allowing for comparison of impact or concentration of HIV/AIDS across different population groups, time periods and areas (see “Examples”)
- The story is often local and complex, so global, regional, and country averages may mask localized epidemics and trends

Remember to:

- Consult multiple types of data, compare and contrast
- Consult UNAIDS and www.globalhealthfacts.org for the latest global and country-level data
- Consult regional organizations and/or country ministries of health for surveillance reports as they may have country-specific or local data
- Indicate which type of data is being used (e.g., prevalence, incidence, rates, HIV infections or AIDS cases)
- Be clear about whether data are estimates, actual reports, representative or just a small sample from an individual study

Examples

Measure of Disease	Definition	Example(s)	What does the data tell us?
Incidence	The number of new cases of a disease in a population over a specific period of time—e.g., the number of new HIV infections or AIDS cases occurring in the last year.	UNAIDS estimates that there were 4.3 million new HIV infections globally in 2006.	Incidence measures the appearance of new disease in a population and is useful for assessing recent disease patterns.
Prevalence	The number of people in a population estimated to have a disease at a specific point in time—e.g., the number of people living with HIV, at any disease stage, including AIDS.	UNAIDS estimates that there were 39.5million people living with HIV as of the end of 2006.	Prevalence measures the existence of disease in a population. It is useful for assessing the current disease burden within a population. Change in the prevalence number may reflect a change in incidence and/or deaths due to AIDS.
Rates/ Percentages	Incidence, prevalence (and other measures of disease such as mortality) can also be expressed as rates or percentages—standardized measures that take into account the size of a group (population size) allowing for a direct comparison	<i>Prevalence Rate</i> UNAIDS estimates that 1% of adults, ages 15-49, globally were living with HIV/AIDS as of the end of 2006 compared to 5.9% of adults in sub-Saharan Africa. This comparison tells us that the concentration of HIV/AIDS is much greater in sub-Saharan Africa than in the world overall—if we had just used numbers, we would not be able to necessarily conclude this (since there are a greater number of people estimated to be living with HIV/AIDS worldwide than in sub-Saharan Africa).	This measure is useful for comparing the impact of the epidemic across demographic groups, jurisdictions or countries by controlling for differences in their population size.

REFERENCES AND RESOURCES

UNAIDS. *HIV Data Page: Methods and assumptions for estimates* (2006), http://www.unaids.org/en/HIV_data/Methodology/default.asp (accessed June 2006).

UNAIDS. *Statement: Estimating the status of the AIDS epidemic in countries* (April 10, 2006), http://data.unaids.org/pub/PressStatement/2006/20060410_PS_EPI_Estimates_en.pdf (accessed June 2006).

UNAIDS. *Backgrounder on Methodology: Understanding the latest estimates of the 2006 report on the global AIDS epidemic* (November 2006), http://data.unaids.org/pub/EpiReport/2006/Epi_backgrounder_on_methodology%202006%20EG.pdf (accessed November 2006).

UNAIDS. *Global Facts and Figures* (November 21, 2006), http://data.unaids.org/pub/EpiReport/2006/20061121_EPI_FS_GlobalFacts_en. (accessed November 2006).

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Kaiser Family Foundation. *Global Health Facts website*, www.globalhealthfacts.org (accessed November 2006).

HIV/AIDS INFORMATION ON THE INTERNET

This information, on searching for and evaluating on-line information, was developed by SciDev.Net. The full multi-media training kit can be found at: www.itrainonline.org/itrainonline/mmtk/mmtk_hiv aids_lists_handout.doc. We are grateful for permission to re-print this material.

Searching for HIV/AIDS information will result in different types of information, resources and links depending on whether you are using a general search engine such as Google, or searching a specialized HIV/AIDS site or database aimed at health care professionals.

- General search engine results for a search on, for example, mother-to-child transmission of HIV will yield a wide range of types of resources—ranging from news reports, to community health guides, statistical information and information aimed at medical researchers. You may get good information, bad information, and information which is not relevant to your needs.
- A search on an organization's website may bring up information produced mainly by that organization.
- A search on a specialized portal will produce results relating to the portal's particular focus area.

Evaluating HIV/AIDS (or any health-related) information is critically important. The specific evaluation criteria you should apply will depend in some measure on the type of information and what you intend to use it for. Unless you are writing an article on fraudulent HIV/AIDS "cures," the **quality of the information is the central evaluation criterion**. Depending on the way in which you intend to use the information you might want to add additional criteria—for example, if you are looking for a good site to recommend to a grassroots organization you would also want to check that the site is easy to use and the resources targeted at an appropriate level. Key issues are:

- **Information quality:** the most important aspect of information quality is **accuracy**. Sometimes you will be able to assess the accuracy of the information on a website directly yourself. Very often, though, you won't have the specialized knowledge needed to do so. In this case, you will need to ask a number of questions to help you assess the *likely* accuracy of the information. These questions include:
 - o What is the source of the information, and how reliable is it likely to be? Does the provider of the information perhaps have a vested interest in promoting a particular point of view? Look for
 - A "mission statement" or other information about the organization which maintains the site.
 - Information about individual authors.
 - Sponsorship of the site.

- o Has the information been through an editorial review process? For example, is it in a peer-reviewed journal?
- o How current is the information?
- o How comprehensive is the information?
- o Is the information based on clinical and scientific evidence?
 - Be wary of content which goes against widely held scientific beliefs without proper discussion. This could be an indication that the information is not based on scientific research.
 - When information relates to clinical trials, remember that randomized clinical trials are generally accepted as being the most reliable, followed by other study methods such as non-randomized trials and case/cohort studies.
- o Are adequate references provided, indicating the source of the information, including statistics?

Local, National and International Organizations:

There is a vast range of websites produced by local, regional and international organizations around the world involved in HIV/AIDS research, treatment and care. These may be government or non-government-based organizations, who receive private and/or public funding. Websites vary in their content and resources, according to the time, money and expertise invested in production of the website and the intended users.

Information and resources on these sites generally fall into one of these categories:

- o Community and media guides
- o Reports
- o Policy documents
- o Background information (fact sheets and glossaries)
- o Contact information for expert advice
- o Directories
- o Searchable databases
- o Projects
- o Funding for HIV/AIDS related projects
- o Links
- o E-mail alerts

ACRONYMS

ACRONYM	DESCRIPTION
3 x 5	Three by Five
ABC	Abstinence, Be faithful, Condom use
ADAP	AIDS Drug Assistance Program(s) (U.S.)
ADC	AIDS Dementia Complex
AIDS	Acquired Immunodeficiency Syndrome
ART, ARV	Antiretroviral Therapy, Antiretroviral(s)
AZT	Zidovudine
U.S. CDC	Centers for Disease Control and Prevention (U.S.)
CNN	Condoms, Needles, Negotiation
DOTS	Directly Observed Treatment or Therapy Short-course
ELISA	Enzyme-Linked Immunosorbent Assay
FDA	Food & Drug Administration (U.S.)
FDC	Fixed Dose Combination
FI	Fusion Inhibitor
Global Fund	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GNP+	Global Network of People Living with HIV/AIDS
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
IAVI	International AIDS Vaccine Initiative
IDU	Injection Drug User
ISC	International Steering Committee for People with AIDS
LIFE Initiative	Leadership and Investment in Fighting An Epidemic Initiative (U.S.)
MDR-TB	Multi Drug Resistant Tuberculosis
MSM	Men Who Have Sex With Men
MTCT	Mother-to-Child Transmission

ACRONYM	DESCRIPTION
NAPWA	National Association of People With AIDS
NEP	Needle Exchange Program
NIH	National Institutes of Health (U.S.)
NNRTI	Non-Nucleoside Reverse Transcriptase Inhibitor
NRTI	Nucleoside Reverse Transcriptase Inhibitor
OGAC	Office of the Global AIDS Coordinator (U.S.)
OI	Opportunistic Infection
PAHO	Pan American Health Organization
PEPFAR	President's Emergency Plan for AIDS Relief (U.S.)
PHI	Primary HIV Infection
PI	Protease Inhibitor
PLWHA	Person or People Living With HIV/AIDS
PMTCT	Prevention of Mother-to-Child Transmission
RBM	Roll Back Malaria
STD / STI	Sexually Transmitted Disease, Sexually Transmitted Infection
TAC	Treatment Action Campaign (South Africa)
TB	Tuberculosis
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	The United Nations Children's Fund
USAID	The United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
WTO	World Trade Organization
ZDV	See AZT

A

1. **ABC**

A – Abstaining from sexual activity or delaying the age of the first sexual experience

B – Be faithful or mutual monogamy with an uninfected partner

C – Correct and consistent condom use

The ABC approach to behavior change promotes the adoption of these three behaviors as central to HIV prevention efforts.

2. **Abstinence**

Refraining from sexual activity. In the context of HIV/AIDS, this term also refers to delaying the age of first sexual experience.

3. **Accidental Exposure or Accidental Transmission**

This usually refers to HIV transmission that occurs in the health care setting. Transmission can occur from patient to provider or vice-versa.

4. **Acute HIV Infection**

The first stage of HIV infection, this is the period immediately following infection with HIV. The length of the acute stage can last anywhere from a few days to several weeks. HIV multiplies rapidly and can be transmitted to others during this time. Acute HIV infection is also known as primary HIV infection (PHI).

5. **ADAP – AIDS Drug Assistance Program(s)**

AIDS Drug Assistance Programs are U.S. federally funded, state-administered programs. They provide HIV-related medications to people with HIV/AIDS with limited or no health insurance coverage. The programs vary widely across the country as eligibility for ADAP is determined on a state-by-state basis, as are the drugs that are covered.

6. **Affected Community**

Persons living with HIV/AIDS, and other related individuals including their families and friends, whose lives are directly influenced by HIV infection and its physical, social and emotional effects.

7. **AIDS**

Acquired Immunodeficiency Syndrome (AIDS) occurs when an individual's immune system is weakened by HIV to the point where they develop any number of diseases or cancers. People who haven't had one of these diseases or cancers, but whose immune system is shown by a laboratory test to be severely damaged, are also considered to have progressed to an AIDS diagnosis.

8. **AIDS-defining illness**

These include a variety of conditions that occur at late stages of HIV disease and that signal progression to AIDS. According to UNAIDS, many individuals first become aware of their infection at this stage.

9. **AIDS Dementia Complex (ADC)**

AIDS Dementia Complex, also known as HIV Dementia, is a condition caused by HIV that affects the brain and causes a person to lose their mental ability. Symptoms include loss of coordination and interest in one's surroundings, mood swings, and mental dysfunction. Memory loss and limited mobility can also develop. ADC usually occurs after a person has developed serious opportunistic infections, but can also occur at an earlier stage. ADC can be prevented and treated with antiretroviral therapy.

10. **Antenatal**

Occurring before birth.

11. **Antibodies**

Molecules in the body that identify and destroy foreign (unfamiliar) substances such as bacteria and viruses. Standard HIV tests identify whether or not antibodies to HIV (HIV antibodies) are present in the blood. A positive HIV test signals that antibodies are present.

12. **Antiretroviral Therapy (ART)**

ART refers to any of a range of treatments that include antiretroviral medications. The drugs that are used in the treatment of HIV, a retrovirus, are designed to interfere with the virus' ability to replicate itself and, therefore, slow the progression of the disease.

13. **Asymptomatic**

A person with HIV is asymptomatic if they do not show signs and symptoms of the disease. This is also the second stage of HIV disease progression and can last for many years after infection. The virus can be transmitted during this stage.

C

14. **Care & Treatment**

Care and treatment encompass the range of interventions necessary to take care of people living with HIV/AIDS, including **antiretroviral therapy**, treatment and prevention of **opportunistic infections**, nutritional support, psychological and community support.

15. **CD4 (T4) cell count**

These cells control the body's immune response against infections and are the primary targets for HIV. HIV multiplies within these cells and eventually destroys them. As a result, the immune system becomes progressively weaker. CD4 cell count is used as one measure of HIV disease progression. The lower a person's CD4 cell count, the more advanced the HIV disease and deterioration of the immune system.

16. **U.S. Centers for Disease Control & Prevention (CDC)**

The United States Federal agency responsible for protecting individuals' health and safety. The CDC's activities emphasize disease prevention, control, health education and health promotion. The CDC also conducts international prevention activities for HIV, TB, malaria and other diseases.

17. **Clinical Trial**

A scientific study designed to evaluate the safety, **efficacy** and medical effects of a treatment (e.g. **antiretroviral therapy, vaccine**). A treatment must proceed through several phases of clinical trials before it is approved for use in humans.

18. Combination therapy

The use of two or more antiretroviral drugs in combination. The use of three or more antiretroviral drugs is referred to as **HAART**.

19. Complementary & Alternative therapies

Treatments that are outside the scope of Western medicine. The effectiveness of these therapies in combating HIV infection has not been proven.

20. Cross Resistance

The phenomenon where HIV resistance to one drug (see **drug resistance**) prompts resistance to other drugs in the same class. An example of this is nevirapine resistance resulting in resistance to efavirenz.

D

21. DDT

DDT (dichlorodiphenyltrichloroethane) was the main insecticide used during the 1950s and 1960s in the World Health Organization's (WHO) global campaign to eradicate the mosquitoes that carry malaria. DDT has a history of being a highly controversial insecticide. It has been banned from agricultural use in almost all countries. Currently, the WHO recommends use of DDT for malaria control through indoor spraying. Through WHO's efforts, malaria was successfully eradicated from North America and Europe.

22. Down Low

A term that has been used to refer to men who have sex with men but do not necessarily identify as gay or bisexual and may not disclose this information to others. These men may also be having sexual relations with women.

23. Drug-drug interaction

A situation where a drug changes the way another drug works in the body, also known as a *synergistic effect*. This can result in increased or decreased effectiveness of either drug. Drug-drug interactions can also lead to unintended side effects.

24. Drug resistance

The ability of HIV to reproduce despite the presence of anti-HIV drugs. Drug resistance results from **mutations** that arise during HIV replication.

25. Dry Sex

Women using various agents to 'dry out' the vagina before sexual intercourse. This practice is often based on cultural beliefs, but inadvertently can increase the risk of HIV transmission because condoms break more easily from the friction and a dry vaginal wall can lead to tears and lacerations during intercourse.

E

26. Efficacy

The measurement of a drug's or treatment's ability to heal, regardless of dose. For example, the efficacy of an **antiretroviral** drug is the most benefit that the drug can cause without considering how much of the drug is taken.

27. Endemic

The constant presence of a disease or infectious agent within a given geographic area or population group; can also refer to the usual prevalence of a given disease within such area or group.

28. End-stage disease

The four stages of HIV disease are acute infection, asymptomatic, chronic symptomatic and AIDS. Although AIDS is the end-stage of HIV disease, it is possible to live for years after an AIDS diagnosis given appropriate drug therapy.

29. Epidemic (types- low, concentrated, generalized)

The occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time.

There are different ways to describe the distribution of an HIV epidemic in an area:

- Low-level – HIV prevalence is low across the general population and is still low among higher-risk sub-populations.
- Concentrated – HIV prevalence does not exceed 1% in the general population but does exceed 5% in some sub-populations (e.g. among sex workers, **IDU, MSM**).
- Generalized – HIV prevalence exceeds 1% in the general population.

F

30. Fixed dose combination (FDC)

Fixed dose combination treatment refers to a combination of two or more drug products, such as antiretrovirals, in a single pill. An example of FDC is the single-pill combination of stavudine, lamivudine and nevirapine.

G

31. Generic

A drug that is identical, or bioequivalent, to a brand name drug in dosage, safety, strength, how it is taken, quality, performance, and intended use. The generic name of a drug is the common name of a drug, which is not protected under any manufacturer's copyright. It is the more commonly used format when referring to a drug in medical literature or the media. In addition, generic sometimes refers to less expensive, but chemically identical, medications manufactured by companies that did not invent the drug. In some countries, generic drugs come on the market after a patent on the drug has expired. In other countries, generic drugs are manufactured and sold even before a patent expires.

32. Global Fund

The Global Fund to Fight AIDS, Tuberculosis and Malaria was created in 2001 at the urging of UN Secretary General Kofi Annan. The Global Fund is a partnership among governments, the private sector and affected communities. It is an independent grant-making organization whose purpose is to help developing countries fight AIDS, tuberculosis and malaria.

H

33. Highly Active Antiretroviral Treatment (HAART)

A course of treatment that involves the use of three or more antiretrovirals.

34. HIV test

The standard HIV test looks for the presence of HIV antibodies in the blood or in oral fluid. HIV antibodies are molecules produced by the body once it detects the presence of HIV. The production of HIV antibodies does not happen immediately after exposure to the virus. The period after infection, but before production of antibodies, is called the window period. During the window period, an HIV test may be negative. It is possible to test negative despite the presence of HIV in the body. There are several different kinds of HIV tests used to screen for the presence of antibodies.

35. Human Immunodeficiency Virus (HIV)

The virus that causes AIDS. HIV can be transmitted through infected blood, semen, vaginal secretions, breast milk and during pregnancy or delivery. There are two types of HIV: HIV-1 and HIV-2. Both are transmitted through the same methods/manners and result in progression to AIDS. HIV-1 is responsible for the overwhelming majority of global infections, whereas HIV-2 is less widespread and primarily found in West Africa.

I

36. IDU

IDU stands for Injection Drug User(s), and refers to individuals who use needles to inject drugs.

37. Immune system

The body's system of defense against foreign organisms such as bacteria, viruses or fungi.

38. Immunodeficiency

A state where the immune system cannot defend itself against infection. HIV progressively weakens the immune system and causes immunodeficiency.

39. Immunosuppression

A state where the immune system cannot function normally because it has been weakened. This can arise from drugs and medical treatments (chemotherapy) or diseases (HIV). An immune system that is immunosuppressed may also be referred to as immunocompromised.

40. Incidence

The number of new cases of a disease in a population over a specific period of time (e.g., annual number of new HIV cases in a country).

41. Incubation period

The period of time between HIV infection and the onset of symptoms.

M

42. Malaria

Malaria is a disease caused by parasites that are transmitted to humans via mosquito bites. Symptoms of infection may include fever, chills, headache, muscle pain, fatigue, nausea and vomiting. These symptoms usually appear between 9 and 14 days after a person is bitten by an infected mosquito. In severe cases, the disease can be life threatening.

43. MDR-TB

Acronym for "multidrug resistant tuberculosis." A strain of tuberculosis that is resistant to two or more anti-TB drugs. MDR-TB usually arises when people take only enough medication to feel better, but not the full amount prescribed by a physician. The weaker bacteria are killed, but the stronger bacteria survive and reproduce. These stronger bacteria, when fully grown and causing sickness again, will not be curable with the same treatment and require larger doses of the drug or an entirely new, stronger drug. MDR-TB is a large problem in developing countries, where continual supervision of treatment is not always possible.

44. Microbicides

Microbicides are products designed to reduce the transmission of microbes. Research is underway to determine whether microbicides can be developed to successfully reduce the transmission of sexually transmitted diseases, including HIV. Microbicides would be applied topically, either in the vagina or anus and could be produced in many forms, including films, creams, gels, suppositories or as a ring or sponge that releases the active ingredient over time.

45. Mother-to-child transmission

This refers to transmission of HIV from an HIV-positive mother to her child during pregnancy, labor and delivery or breast-feeding. Transmission from mother to child is also referred to as **perinatal** and **vertical transmission**.

46. MSM

MSM stands for “men who have sex with men.” For assessing disease risk, use of the term “MSM” is often used instead of “gay,” “homosexual” or “bisexual” because it refers to a risk behavior, rather than an identity that may or may not be tied to a behavior. In many countries and cultures, men who have sex with other men may not perceive themselves as gay or bisexual.

47. MTCT

This stands for “mother-to-child transmission.”

48. MTCT plus

MTCT is “**mother-to-child transmission**” of HIV. Numerous programs have been designed to help reduce or prevent such transmission by providing **antiretroviral** drug treatment (and other prevention services) to pregnant women infected with HIV. More recent efforts have included a “plus,” an expansion of services, including antiretroviral treatment for mothers, even after the recommended course of therapy for prevention of transmission to the child has ended. A five-year MTCT plus initiative was launched in 2002.

49. Multidrug Resistant Tuberculosis (MDR-TB)

See **MDR-TB**.

50. Mutation

A change in an organism’s genetic structure that arises during the process of multiplication. HIV multiplies quickly and changes form during the process. These changes allow for the formation of **drug resistant** strains of the virus.

O

51. Opportunistic Infection (OI)

Diseases that rarely occur in healthy people but cause infections in individuals whose **immune systems** are compromised, including by HIV infection. These organisms are frequently present in the body but are generally kept under control by a healthy immune system. When a person infected with HIV develops an OI, they are considered to have progressed to an AIDS diagnosis.

P

52. Pandemic

A worldwide epidemic; occurring over a wide geographic area and affecting an exceptionally high proportion of the population.

53. Pathogen

An organism or virus that causes disease.

54. PEPFAR

President Bush's Emergency Plan for AIDS Relief (PEPFAR) is a US\$15 billion, five-year initiative, beginning in FY 2004, to address HIV/AIDS, TB and malaria in developing countries.

55. Perinatal transmission

Transmission of HIV from an HIV-positive mother to her child during pregnancy, labor and delivery or breast-feeding. Perinatal transmission is also known as ***mother-to-child transmission*** or ***vertical transmission***.

56. Placebo

A substance that resembles a real medication but has no medical effect.

57. PMTCT

PMTCT stands for "prevention of ***mother-to-child transmission***." UNAIDS outlines a three-part strategy to prevent HIV transmission from an HIV-positive mother to her child.

- a. Protect females of child-bearing age against HIV infection.
- b. Avoid unwanted pregnancies among HIV-positive women.
- c. Prevent transmission during pregnancy, delivery and breast-feeding by providing voluntary counseling and testing, ***antiretroviral therapy***, safe delivery practices and breast milk substitutes when appropriate.

58. Prevalence

Prevalence is a measure of the proportion of the population that has a disease at a specific period in time.

59. Prevention (primary, secondary)

In the context of HIV, prevention activities are designed to reduce the risk of becoming infected with HIV (primary prevention) and the risk of transmitting the disease to others (secondary prevention). Prevention services include voluntary counseling and testing, condom distribution, disease surveillance, outreach and education and blood safety.

60. Primary HIV infection (PHI)

The first stage of HIV infection, this is the period immediately following infection with HIV. The length of this stage can last for several weeks. HIV multiplies very often and can be transmitted to others during this time. PHI is also known as ***acute HIV infection***.

61. Prophylaxis

Prophylaxis refers to the prevention or protective treatment of disease. Primary prophylaxis refers to the medical treatment that is given to prevent onset of an infection. Secondary prophylaxis refers to medications given to prevent recurrent symptoms in an existing infection.

62. PWA / PLWA / PLWHA

These are acronyms for "Person or people with HIV/AIDS" and "Person or people living with HIV/AIDS."

R

63. Risky behavior

This refers to any behavior or action that increases an individual's probability of acquiring or transmitting HIV. Some examples of risky behaviors are having unprotected sex, having sex with multiple partners and injecting drugs. Alcohol use has also been linked to risky behavior because of its effect on an individual's ability to make decisions and negotiate safer sex.

S

64. Sexually transmitted disease/infection (STD/STI)

Any disease or infection that is spread through sexual contact.

65. Social marketing

Social marketing techniques have been used worldwide to promote a range of HIV-related prevention techniques including condom use. Social marketing refers to the adaptation of commercial marketing techniques to achieve social goals and encourage the adoption of healthier behavior.

T

66. Tuberculosis

Tuberculosis is a bacterial infection caused by *Mycobacterium tuberculosis*. The disease usually affects the lungs but can spread to other parts of the body in serious cases. An individual can become infected with TB when another person who has active TB coughs, sneezes, or spits. Not all people who become infected with TB develop symptoms. Those who do not become ill are referred to as having latent TB and cannot spread the disease to others.

U

67. UNAIDS

This acronym refers to the Joint United Nations Programme on HIV/AIDS. It is a part of the UN and is a collaboration among ten organizations and the UNAIDS Secretariat.

V

68. Vaccine

A substance that contains a deactivated infectious organism designed to stimulate the immune system to protect against subsequent infection from the active organism. A preventive vaccine preempts infection from that organism. A therapeutic vaccine improves the ability of the immune system of a person already infected with the organism to defend itself.

69. VCT

"Voluntary Counseling and Testing" programs are a critical component of both HIV prevention treatment activities. VCT is an internationally accepted intervention designed to enable people to learn their HIV status and receive counseling about risk reduction and referral to care if they are HIV-positive.

70. Vertical Transmission

Transmission of HIV from an HIV-positive mother to her child during pregnancy, birth or breast-feeding. Vertical transmission is also referred to as ***mother-to-child*** or ***perinatal transmission***.

71. Viral Load

The amount or concentration of HIV in the blood. There is a correlation between the amount of virus in the blood and the severity of disease—the higher the viral load, the more progressive the HIV disease. A viral load test is an important tool for doctors in monitoring illness and determining treatment decisions.

72. Vulnerable populations

Populations that are at increased risk of exposure to HIV due to socioeconomic, cultural or behavioral factors. Vulnerable populations include refugees, poor people, men who have sex with men, injection drug users, sex workers and females particularly in countries or communities where gender inequality is pronounced.

W

73. World Health Organization (WHO)

The WHO is the United Nations agency for health. It is governed by 192 member states and aims to help all individuals achieve the highest possible level of health. It is internationally recognized as one of the leading organizations dedicated to global health. The WHO, together with UNAIDS, launched the 3x5 Initiative, which aimed to provide 3 million people living with HIV/AIDS in low- and middle-income countries with antiretroviral treatment by the end of 2005.

74. World Bank

The World Bank is a development bank that provides loans, policy advice, technical assistance and knowledge sharing services to low- and middle-income countries to reduce poverty. The World Bank is a co-sponsor of UNAIDS and a significant donor to international HIV/AIDS efforts.

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For other suggested HIV/AIDS-related glossaries, go to GlobalHealthReporting.org:
<http://www.globalhealthreporting.org/reporting.asp?id=18#glossaries>

HIV/AIDS TIMELINE

Pre-1981

Early signs. While 1981 is referred to as the beginning of the HIV/AIDS epidemic, several recent reports indicate HIV was present years earlier.

1981

AIDS detected. On June 5, United States Centers for Disease Control and Prevention (CDC) report first cases of rare pneumonia in young gay men.

1982

The disease is named. The CDC formally establishes the term Acquired Immune Deficiency Syndrome, AIDS. CDC initially identifies four “risk factors”: male homosexuality, injection drug use, Haitian origin and hemophilia A.

AIDS in Africa. The journal The Lancet reports an African disease known as “slim” is actually AIDS.

1983

New risk group. The CDC adds female sexual partners of men with AIDS as a fifth risk group.

Organizing efforts. In the United States, the National Association of People with AIDS (NAPWA), National AIDS Network (NAN) and Federation of AIDS Related Organizations form.

1984

The virus is identified. Scientists Luc Montagnier of the Pasteur Institute in France and Robert Gallo of the National Cancer Institute in the United States isolate the human retrovirus that causes AIDS. It is later named the Human Immunodeficiency Virus (HIV).

Preventive measures. World’s first needle exchange program (NEP) begins in the Netherlands. It is designed, initially, to address Hepatitis-B among injection drug users (IDUs). Later expanded to address HIV transmission.

1985

First international AIDS conference. It is sponsored by the World Health Organization (WHO) and the United States Department of Health and Human Services (HHS) and held in Atlanta, Georgia.

Detecting the virus. The United States Food and Drug Administration (FDA) approves the first HIV antibody test. Blood products begin to be tested in the US and Japan.

Mother to Child. The United States Public Health Service issues first recommendations for preventing transmission of HIV from mother to child.

AIDS and U.S. military. The United States Department of Defense announces it will begin testing all new recruits for HIV infection and will reject those who are positive.

The disease accelerates. At least one case of HIV/AIDS is reported in every region of the world. One and a half million people worldwide are living with HIV, according to estimates by the Joint United Nations Programme on AIDS (UNAIDS).

1986

Call to action. The United States Institute of Medicine calls for a national education campaign and creation of National Commission on AIDS.

Organizing globally. International Steering Committee for People with HIV/AIDS (ISC) is created. (In 1992, name changed to Global Network of People Living with HIV/AIDS, or GNP+.)

1987

First drug treatment. The FDA approves the first antiretroviral agent for the treatment of AIDS. It is called Zidovudine or AZT.

Vaccine testing. The FDA sanctions first human testing of candidate vaccine against HIV.

Reagan and AIDS. United States President Ronald Reagan makes first public speech about AIDS and establishes Presidential Commission on HIV.

Mandated testing. The United States adds HIV as a “dangerous contagious disease” to its immigration exclusion list. It mandates HIV testing of all immigration applicants.

Global efforts broaden. WHO launches the Global Program on AIDS (GPA).

1988

International recognition. WHO declares first World AIDS day on December 1st.

Organizing around AIDS. The United States National Institutes of Health (NIH) establish the Office of AIDS Research and the AIDS Clinical Trials Group (ACTG).

Needle exchange. First comprehensive needle exchange program established in North America in Tacoma, Washington.

1990

Conference boycott. To protest U.S. immigration policy, domestic and international non-governmental groups boycott the VI Annual International AIDS conference in San Francisco, California.

Treating children. The FDA approves use of AZT for pediatric AIDS.

The disease accelerates. Eight million people are living with HIV worldwide, according to UNAIDS estimates.

1991

AIDS symbol. Red ribbon is introduced as the international symbol of AIDS awareness and solidarity.

1992

AIDS deaths. AIDS becomes the number one cause of death among American men 25 to 44 years old and remains so through 1995.

1995

Treatments advance. FDA approves first protease inhibitor—saquinavir—for use in combination with other HIV drugs. This ushers in a new era of highly active antiretroviral therapy (HAART).

UNAIDS created. The Joint United Nations Programme on HIV/AIDS established to coordinate efforts of six different UN programs devoted to AIDS. It is known as UNAIDS and becomes operational in 1996.

Russian activism. Russia enacts a federal AIDS law, guaranteeing free access to treatment for HIV-positive citizens.

The disease accelerates. Almost 20 million people worldwide are living with HIV, according to UNAIDS estimates.

1996

Vaccine development. A non-governmental organization forms to eliminate barriers to development of an HIV vaccine. It is called the International AIDS Vaccine Initiative, IAVI.

Brazilian activism. Brazil manufactures generic antiretroviral drugs in a challenge to international patent laws. The drugs are free for those in need. Brazil becomes the first developing country to begin national ARV distribution.

1997

U.S. progress. AIDS-related deaths in the US decline by more than 40% compared to the prior year, largely due to HAART.

1998

Vaccine trials. The first large scale human trial of an HIV vaccine begins in North America.

African American activism. African American leaders declare a “state of emergency” in the African American community due to HIV/AIDS.

South African activism. Treatment Action Campaign (TAC) is formed in South Africa. The grassroots movement pushes for access to treatment.

1999

New U.S. funding. The U.S. announces new funding for the global pandemic. It is administered through LIFE, the Leadership and Investment in Fighting Epidemic Initiative.

Vaccine trials. The first human vaccine trial in a developing country begins in Thailand.

Mbeki on AIDS. South African President Thabo Mbeki stirs worldwide controversy by questioning the link between HIV and AIDS.

2000

Global attention. U.S. and UN Security Council declare HIV/AIDS a security threat.

Conference landmark. Under the slogan, “Breaking the Silence,” the XIII International AIDS conference is held in a developing nation—South Africa. It heightens awareness of the global pandemic and its impact in hard-hit regions.

Cheaper drugs. UNAIDS, WHO and other global health groups announce initiative with five major drug makers to negotiate lower prices for AIDS drugs in developing countries.

Kaunda on AIDS. Former Zambian President Kenneth Kaunda announces his son’s death in 1986 was from an AIDS-related illness. Pledges commitment to fight AIDS.

African teens. UNAIDS predicts up to half of teens in the most severely affected nations of southern Africa will die prematurely because of AIDS.

The disease accelerates. More than 31 million people worldwide are living with HIV, according to UNAIDS estimates.

2001

Global attention. UN General Assembly convenes first-ever special session on HIV/AIDS.

Global activism. UN Secretary General Kofi Annan calls for creation of a Global Fund at the African summit on HIV/AIDS in Abuja. U.S. offers first pledge to support The Global Fund.

Cheaper drugs. The World Trade Organization (WTO) meeting in Doha, Qatar, agrees that despite patent laws, developing countries can buy or manufacture cheaper generic drugs to meet public health crises, such as HIV/AIDS.

Drug makers respond. Generic drug manufacturers offer to produce discounted, generic forms of HIV/AIDS drugs. Several brand name drug makers agree to offer further reduced drug prices in developing world.

AIDS in South Africa. The government's Department of Health reports 4.74 million South Africans are HIV-positive.

Death in Africa. AIDS is the leading cause of death in sub-Saharan Africa, according to UNAIDS and the WHO.

2002

Global Fund. The Global Fund to Fight AIDS, Tuberculosis and Malaria becomes operational and awards its first round of grants.

South African government acts. The government commits to intensifying campaign to prevent HIV infection. Campaign rests on premise that HIV causes AIDS.

Drug access. U.S. President George W. Bush issues Executive Order to help developing countries import or produce less expensive generic forms of HIV drugs. UNAIDS, WHO and other global health groups announce initiative with five major drug manufacturers to negotiate reduced prices for AIDS drugs in developing countries.

Deaths worldwide. HIV becomes leading cause of death worldwide among those 15 to 59 years of age.

Women and HIV. UNAIDS reports that women comprise half of all adults living with HIV worldwide.

2003

WHO campaign. WHO launches the 3x5 Initiative, the campaign to provide antiretroviral treatment to 3 million people by 2005.

Vaccine trial in South Africa. Phase I of a human vaccine trial launched in South Africa in partnership with U.S.

Putin speaks. Russian President Vladimir Putin, in his Annual Address to the Federal Assembly, describes declining life expectancy as a serious threat to Russia's future. He says "AIDS is making it worse."

Bush plan. United States President George W. Bush announces PEPFAR, the President's Emergency Plan for AIDS Relief, a five-year, US\$15 billion initiative to address HIV/AIDS, tuberculosis and malaria primarily in hard-hit countries.

Drug access. The William J. Clinton Presidential Foundation secures price reductions for AIDS drugs from generic manufacturers. Thirteen developing nations will benefit.

2004

Conference landmark. The XV International Conference on AIDS was held in Bangkok, Thailand. First conference held in Southeast Asia.

Bush plan begins. PEPFAR, President Bush's Emergency Plan for AIDS Relief, begins first round of funding.

Women and AIDS. UNAIDS launches The Global Coalition on Women and AIDS to raise the visibility of the epidemic's impact on women and girls around the world.

2005

Economic Priority. At World Economic Forum's Annual Meeting in Davos, Switzerland, priorities include a focus on addressing HIV/AIDS in Africa and other hard hit regions of the world.

Historic Announcement. At a historic and unprecedented joint press conference, the World Health Organization, UNAIDS, the United States Government and the Global Fund to Fight AIDS, Tuberculosis and Malaria announce results of joint efforts to increase the availability of antiretroviral drugs in developing countries.

The disease accelerates. Almost 39 million people worldwide are living with HIV, according to UNAIDS estimates.

2006

Global Attention. The United Nations convenes a follow-up meeting to assess progress related to the historic 2001 Declaration of Commitment on HIV/AIDS.

Eurasia Meeting. The first Eastern European and Central Asian AIDS conference (EECAAC) is held in Moscow.

AIDS Conference. The XVI International AIDS Conference is held in Toronto, Canada. The conference's theme, "Time to Deliver," underscores the continued threat of HIV/AIDS and the need for nations to honor financial, programmatic and political commitments to prevention and treatment of HIV/AIDS.

AIDS Milestone. June 5, 2006, marks a quarter-century since the U.S. government issued its first warning about a disease that would become known as AIDS.

RESOURCE

A more extensive and 'living' version of the HIV/AIDS timeline can be found on The Kaiser Family Foundation website: www.kff.org/hivaids/timeline/index.cfm.

FREQUENTLY ASKED QUESTIONS ABOUT HIV/AIDS

What is HIV?

HIV stands for Human Immunodeficiency Virus. HIV destroys certain blood cells called CD4 or T cells. These cells are crucial to the normal function of the immune system, which defends the body against illness. When the immune system has been compromised by HIV, a person typically develops a variety of cancers and viral, bacterial, parasitic and fungal infections.

What is AIDS?

AIDS stands for Acquired Immunodeficiency Syndrome. It occurs when the immune system is weakened by HIV to the point where a person develops any number of diseases or cancers. A person without these diseases or cancers can still be diagnosed with AIDS if a laboratory test shows a severely damaged immune system.

How is HIV detected?

It is impossible to look at someone and know whether he or she is HIV-positive. The only sure way to determine this is through an HIV test. A blood or oral fluid sample can reveal the presence of the virus. If the sample contains HIV antibodies—proteins the body produces to fight off the infection—the person is HIV-positive.

How is HIV transmitted?

HIV is primarily transmitted through unprotected sex, including vaginal, anal and oral sex. Certain bodily fluids including blood, semen, vaginal secretions and breast milk spread HIV. The virus can also be transmitted through infected blood contained in needles used to inject drugs. An HIV-infected woman can pass the virus to her baby during pregnancy or breast-feeding. HIV is also transmitted through contaminated, unscreened blood supplies.

How is HIV not transmitted?

HIV is not an easy virus to pass from one person to another. The virus does not survive well outside the body. So, it cannot be transmitted through casual or everyday contact such as shaking hands or hugging. Sweat, tears, vomit, feces and urine do contain small amounts of HIV, but they have not been reported to transmit the disease. Mosquitoes and other insects do not transmit HIV.

How can HIV transmission be prevented?

The surest way to avoid transmission is to avoid identified high-risk behaviors. If that is not done various health organizations have determined that: latex condoms can significantly reduce the risk of transmission during sex; that pregnant women who are HIV-positive can reduce the likelihood of transmitting the virus to their children through antiretroviral treatment; new mothers can reduce the likelihood of transmitting the virus to their infants through alternative infant-feeding options, instead of breast-feeding, if available; and that injection drug users can reduce the risk of transmission by not sharing needles and syringes.

How long does it take for HIV to become AIDS?

The length of time varies from person to person and depends a great deal on whether there is access to treatment. Generally, for those getting drug treatments, there can be a period of ten years or more for HIV to become AIDS. UNAIDS estimates that in countries where there is little or no access to treatment the period of time for the majority of people is 8 to 10 years.

What is the link between HIV and Tuberculosis?

HIV weakens the immune system and increases the likelihood of becoming infected with TB. An estimated one-third of all people living with HIV/AIDS worldwide are co-infected with TB and TB is one of the leading causes of death among those infected with HIV.

What is the link between HIV and Sexually Transmitted Diseases/Infections (STDs/STIs)?

People with sexually transmitted diseases/infections are far more vulnerable than others to becoming infected with HIV. For example, genital ulcers caused by herpes create an entry point for HIV. STDs create concentrations of cells in the genital area that become targets for HIV. Also, HIV-positive people are far more vulnerable to acquiring additional sexually transmitted diseases/infections than other people. Their immune systems are compromised, which means the body has a more difficult time fighting off infection.

Is there a cure for HIV/AIDS?

There is no known cure for HIV/AIDS. There are medical treatments that can slow down the rate at which HIV weakens the immune system. There are other treatments that can prevent or cure some of the illnesses associated with AIDS. Researchers are testing a variety of vaccine candidates, but it is likely that a successful vaccine is years away.

How many people have HIV/AIDS?

The United Nations Joint Programme on AIDS (UNAIDS) estimates that in 2006 there were more than 39 million people worldwide living with HIV and there were over 4 million new infections. International scientists estimate that the number of new HIV infections projected to occur between 2005 and 2015 could be cut in half with scaled-up prevention measures.

What HIV/AIDS statistics are the most reliable?

UNAIDS provides the most extensive set of statistics related to the global epidemic at www.unaids.org. The statistics are compiled in consultation with country-level experts and international epidemiologists. Every country keeps count in its own way and some are more complete than others. There is more information on this in *Frequently Asked Questions about Covering HIV/AIDS and Understanding and Reporting on HIV/AIDS Data*.

What do endemic, epidemic, pandemic mean?

Endemic is the constant presence of a disease or infectious agent in a certain geographic area. Epidemic is the rapid spread of a disease in a certain area or among a certain population group. Pandemic is a worldwide epidemic; an epidemic occurring over a wide geographic area and affecting an exceptionally high proportion of the population.

What is ARV?

ARV stands for antiretroviral. It is a type of drug designed to slow the reproduction of HIV in the body. If ARV treatment is effective, the onset of AIDS can be delayed for years. It is recommended that ARV drugs be used in combination. There is more information on this in *FDA-Approved Antiretroviral Therapy*.

What is HAART?

HAART stands for highly active antiretroviral therapy. It is the combination of at least three ARV drugs that attack different parts of HIV or stop the virus from entering blood cells. Even among people who respond well to HAART, the treatment does not eradicate HIV. The virus continues to reproduce but at a slower pace.

What is drug resistance?

Drug resistance is the ability of an organism (e.g., a virus, bacterium, parasite or fungus) to adapt, grow and multiply even in the presence of drugs that usually kills it. It reduces the ability of ARV drugs to block the replication of HIV. In some people on HAART, HIV mutates into new strains that are highly resistant to current drugs.

What is ABC?

ABC stands for **a**bstinence, **b**eing faithful to a single partner and **c**ondom use. It is an approach to prevention that certain organizations and governments promote as a means to stop the spread of HIV.

What is the Global Fund?

The Global Fund to Fight AIDS, Tuberculosis and Malaria was created in 2001 at the urging of UN Secretary General Kofi Annan. The Global Fund is a partnership among governments, the private sector and affected communities. It is an independent grant-making organization whose purpose is to help developing countries fight AIDS, tuberculosis and malaria.

What is 3x5?

3x5 is a campaign launched in 2003 by the World Health Organization and UNAIDS and directed at developing countries. The goal was to get 3 million people, infected with HIV, on antiretroviral drugs by the year 2005. Although the number of people receiving ARVs has greatly increased—from 400,000 in December, 2003 to more than two million in December, 2006—the goal of 3 million was not met. Of the 7.1 million people estimated to need ARVs, only 28% were receiving treatment as of December, 2006

What is absorptive capacity?

Absorptive capacity in the context of the global epidemic is used to refer to the ability of developing countries to efficiently spend foreign aid money. Given the limitations of health systems in developing countries, it is a challenge to process, disperse and manage outside assistance especially since many developing countries receive aid from numerous donors, each with their own preferences and requirements.

HIV PREVENTION

Prevention is a critical component of the response to HIV/AIDS. HIV prevention includes both:

- **Primary Prevention:** to reduce the risk of becoming infected with HIV
- **Secondary Prevention:** to reduce the risk that a person infected with HIV will transmit HIV to others and to keep that person as healthy as possible

There are many success stories from around the world of programs that have helped bring about a leveling or even decrease in new HIV infections. A recent study projects that greater spending on prevention now would prevent more than half of the new HIV infections that would otherwise occur between 2005 and 2015, and would produce financial savings to society as future costs for treatment and care are reduced. However, according to UNAIDS, there is a significant gap between current prevention spending and funding needs, and there are many obstacles facing prevention efforts. Globally, it is estimated that less than one in five people at risk for HIV has access to needed HIV prevention services.

Challenges to HIV Prevention include:

- Human behavior is difficult to change.
- There is strong stigma surrounding the disease, which may discourage those at risk from seeking information about HIV and from getting tested.
- Given the role that sex and drug use play in HIV transmission, there are often political and other sensitivities to addressing HIV prevention and a lack of consensus about approach.
- Most people with HIV do not know they are infected.
- Levels of knowledge of HIV and how it is transmitted are low in many countries.
- It is difficult to measure “what did not happen” (e.g., HIV infections averted) versus, for example, measuring the number of people receiving antiretroviral therapy. This makes it difficult to show impact.
- Prevention efforts need to be scaled up, at sufficient intensity, and for a sufficient amount of time to show impact, since it can take many years for declines in HIV incidence to manifest.
- Gender and cultural factors, severe poverty, other diseases and health threats, underdeveloped health infrastructures, and political instability existing in many of the countries hardest hit by the disease further complicate prevention efforts.

There is no single intervention to prevent the spread of HIV. Multifaceted, integrated, long-term strategies have been shown to have the greatest impact. Effective prevention efforts reflect a wide range of factors related to the epidemiology of the disease, as well as the specific socioeconomic and cultural norms and structures of specific populations. These factors are important to consider when targeting and designing prevention programs as, even within a country, the epidemic can be very diverse in terms of the extent of its impact, transmission patterns and the populations most affected. Further, it is important that prevention efforts address the factors that have been linked to contributing to greater risk for HIV infection, including poverty and gender inequalities. It is also important for programs to be culturally appropriate and to take into account the role of media, schools, parents, youth and leaders in a given area, engaging these groups in prevention efforts where appropriate. Finally, it has also been shown that HIV prevention efforts are most effective when integrated with HIV treatment.

Currently, research is being conducted on a range of new interventions and technologies that may have important implications for HIV prevention, including male circumcision, pre-exposure prophylaxis with antiretroviral drugs (taking medication before possible exposure to HIV to reduce the likelihood of infection if exposed), microbicides and vaccines. Should these prove effective, they will provide additional prevention options. An effective vaccine, which would offer the greatest promise for HIV prevention, is unfortunately many years away from being discovered, and even if discovered, will not prevent HIV transmission 100% of the time—this means that broader HIV prevention efforts will still be critical.

Below is a list of some of the many interventions that encompass HIV prevention:

HIV Prevention Interventions

- Mass media efforts
- Community mobilization
- Voluntary counseling and testing
- Partner notification and referral
- Programs for youth in school
- Programs for youth out of school
- Programs focused on sex workers and their clients
- Programs focused on men who have sex with men
- Harm-reduction programs for Injection Drug Users (IDUs)
- Workplace interventions
- Programs for people already living with HIV to prevent them from transmitting the disease to others
- Programs targeting special populations
- Condom social marketing
- Public and commercial sector condom provision
- Improving management of sexually transmitted infections
- Prevention of mother-to-child transmission
- Blood safety
- Post-exposure prophylaxis
- Safe medical injections
- Universal precautions

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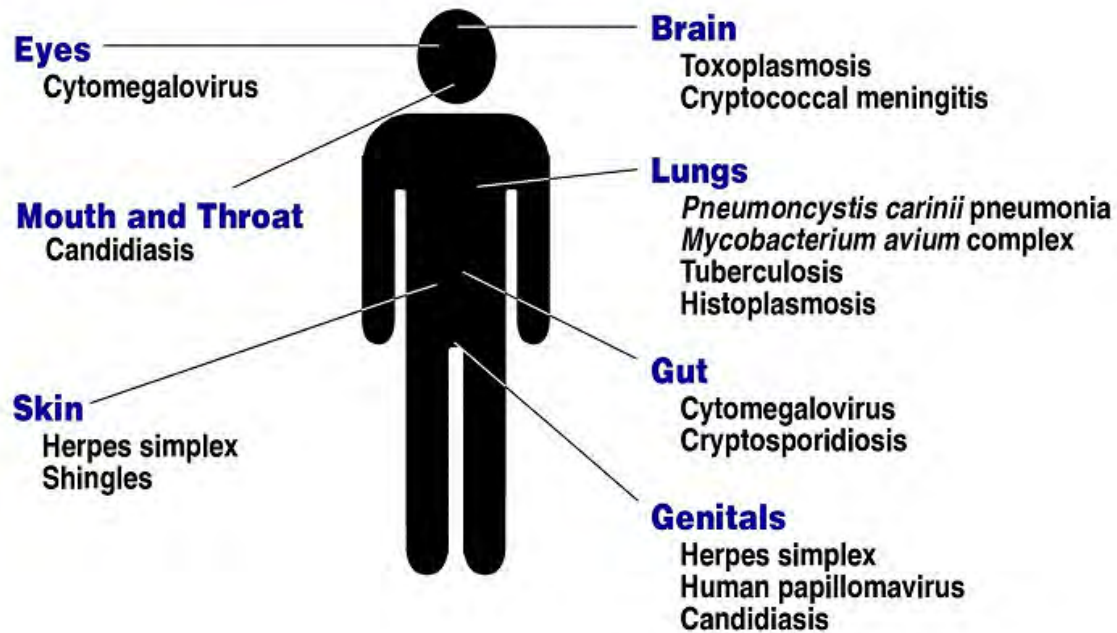
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Organ-Specific Opportunistic Infections in HIV-Infected Individuals



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GENERAL NOTES

- **Opportunistic Infections (OI)** are diseases that rarely occur in healthy people but cause infections in individuals whose immune systems are compromised, including by HIV infection. Organisms that cause OIs are frequently present in the body but are generally kept under control by a healthy immune system. HIV gradually weakens a person's immune system and leads to the development of one or more opportunistic infections, which signals the progression to AIDS. These illnesses are generally the eventual cause of death due to HIV infection.
- **Prophylaxis** refers to the prevention or protective treatment of disease. Primary prophylaxis refers to the medical treatment that is given to prevent onset of an infection. Secondary prophylaxis refers to medications given to prevent recurrent symptoms in an existing infection.
- **Antiretroviral therapy** refers to any of a range of treatments that include antiretroviral medications. These drugs are designed to destroy retroviruses such as HIV, or interfere with their ability to replicate. HAART (Highly Active Antiretroviral Treatment) refers to a course of treatment that involves the use of three or more antiretroviral drugs. HAART strengthens the immune system and therefore helps protect against opportunistic infections.

BRAIN

Cryptococcal Meningitis [krip-toe-KOK-kull men-in-JY-tiss] is caused by *Cryptococcus*, a fungus commonly found in soil contaminated by bird droppings. People become infected with *Cryptococcus* by breathing in dust that is contaminated with the fungus. Although most people have been exposed to this fungus, it does not usually cause disease in healthy individuals. Among people with HIV, infection most often results in meningitis. Symptoms may include fever, headache, nausea, vomiting, stiff neck, mental confusion, vision problems and coma. *Cryptococcal* meningitis does not spread from one person to another. Primary prophylaxis (treatment to prevent disease) and secondary prophylaxis (treatment to prevent disease recurrence) are available. The disease can be treated with anti-fungal medications. Without treatment, death can occur quite rapidly.

Toxoplasmosis [tock-so-plaz-MO-sis] (also referred to as Toxo) is an infection caused by a parasite found in cat feces, raw meat, raw vegetables, and soil. Infection can result from eating contaminated food or contact with cat droppings. Toxo can infect many parts of the body but most commonly causes encephalitis, an infection of the brain. It cannot be spread from one person to another and does not cause infection among people with healthy immune systems. Symptoms may include fever, confusion, headache, personality changes, tremors and seizures and can result in coma and death. Primary and secondary prophylaxes are available. Toxo can be treated with a combination of anti-toxo drugs.

EYES

Cytomegalovirus [sigh-TOE-meg-a-low-VY-rus] (also referred to as **CMV**) is a virus that typically causes an eye disease called **retinitis** [ret-tin-EYE-tis]. Retinitis is the most common type of CMV infection among people with HIV. CMV can be passed from person to person through saliva, semen, vaginal secretions, urine, breast milk and transfusions of infected blood. While anyone can be infected with CMV, illness occurs only among people with weakened immune systems. Symptoms may include blind spots and blurred, distorted or decreased vision that can progress to complete blindness. Primary prophylaxis may be recommended in certain cases. Forms of treatment for retinitis include intravenous medications, pills and injection of drugs directly into the eye. Secondary prophylaxis is also available. If left untreated the disease will cause blindness.

MOUTH

Candidiasis [can-did-EYE-a-sis] is the most common fungal infection in people with HIV. It usually affects the mouth, throat, lungs and vagina (see *Genitals*). The fungi that cause Candidiasis are naturally present in the human body and are responsible for most cases of the disease, but rare cases of person-to-person transmission have been recorded. Although anyone can develop the disease, it is more common among people with HIV. Infection in the mouth is called *thrush* and can cause pain when swallowing, nausea and loss of appetite. Symptoms of throat infection may include chest pain and difficulty swallowing. Primary prophylaxis is not recommended and use of secondary prophylaxis may be recommended in certain cases. There are a variety of treatments available to control infection.

SKIN

Herpes simplex [HER-peeZ SIM-plex] is a disease caused by the Herpes simplex virus. There are two types of Herpes simplex virus (HSV): HSV1, which causes cold sores or blisters around the mouth and the eyes; and HSV2, which causes genital or anal herpes. The viruses are spread from one person to another by contact with an infected area such as the mouth and genitals. Symptoms appear in outbreaks of rash, which may involve itching, tingling and the appearance of painful blisters or sores. HSV can affect anyone but outbreaks are more frequent and more serious in people with HIV. Although there is no prevention or cure for HSV, there are treatments that shorten the length and severity of the outbreaks.

Herpes zoster [HER-peeZ ZOS-tur], also known as **shingles**, is caused by the virus responsible for the chickenpox, Herpes Varicella-zoster virus. Although it can also affect HIV-negative individuals it is most common among people with HIV because of their weakened immune systems. It results in very painful rashes and blisters on the chest, back and face. The rash typically affects one side of the body and lasts for a few weeks. There are no primary or secondary prophylaxes available for shingles. Treatments include anti-herpes drugs and pain medications.

INTESTINES / GUT

Cryptosporidiosis [krip-toe-spor-rid-ee-O-sis] (also referred to as Crypto) is an intestinal infection that is easily spread through contact with water, feces or food that have been contaminated with a common parasite called *Cryptosporidium*. Symptoms may include diarrhea, nausea, vomiting, weight loss and stomach cramps. Infection usually lasts one to two weeks in HIV-negative individuals, but can last much longer and be life-threatening in people with HIV. While there are no medications that prevent or treat crypto, there are a variety of treatments to control the diarrhea caused by infection.

Cytomegalovirus [sigh-TOE-meg-a-low-VY-rus] (also referred to as CMV) is a virus that most commonly affects the eyes (see *Eyes*), but among people with HIV it can also cause colitis [ko-LY-tis], which is an infection of the colon. CMV can be passed from person to person through saliva, semen, vaginal secretions, urine, breast milk and transfusions of infected blood. While anyone can be infected with CMV, illness occurs only among people with weakened immune systems. Symptoms of CMV colitis may include abdominal pain, diarrhea, cramps, weight loss and blood loss. Primary and secondary prophylaxes, and treatments are available.

GENITALS

Candidiasis [can-did-EYE-a-sis] is the most common fungal infection in people with HIV. It usually affects the vagina, mouth (see *Mouth*), throat and lungs. The fungi that cause Candidiasis are naturally present in the human body and are responsible for most cases of the disease, but rare cases of person-to-person transmission have been recorded. Although anyone can develop the disease it is more common among people with HIV. Symptoms of vaginal infection may include white discharge, itching, and pain during urination or sexual activity. Primary prophylaxis is not recommended and secondary prophylaxis may be recommended in certain cases. Anti-fungal treatments help control the fungus but recurrence of the infection is common.

Herpes simplex [HER-peeZ SIM-plex] is a disease caused by the Herpes simplex virus. There are two types of Herpes simplex virus (HSV): HSV1, which causes cold sores or blisters around the mouth and the eyes; and HSV2, which causes genital or anal herpes. The viruses are spread from one person to another by contact with an infected area such as the mouth and genitals. Symptoms appear in outbreaks of rash, which may involve itching, tingling and the appearance of painful blisters or sores. HSV can affect anyone but outbreaks are more frequent and more serious in people with HIV. Although there is no prevention or cure for HSV, there are treatments that shorten the length and severity of the outbreaks.

Human papillomavirus [pa-pill-LOW-muh-VY-rus] (also referred to as HPV) is a commonly occurring genital infection that is caused by a group of viruses called human papillomavirus. HPV is easily passed from person to person through direct contact with infected areas, for example during sexual activity. It can cause genital warts, which look like bumps on the penis, vagina and anus. Certain types of HPV are also linked to cervical cancer. The virus can be passed from one person to another even when a person is asymptomatic. Anyone can be infected with HPV but infection is usually short in healthy people. Among people with HIV, HPV infection is more serious, can recur frequently and last for long periods of time. These persistent infections are associated with higher risks of cervical cancer. In June 2006, the first HPV vaccine, Gardasil, produced by

Merck, was approved by the U.S. Food and Drug Administration (FDA) for use in females between the ages of 9 and 26. The vaccine is nearly 100% effective against four types of HPV. There are numerous ways to remove warts and dysplasias.

LUNGS

Histoplasmosis [hiss-toe-plaz-MO-sis] is caused by a fungus found in soil contaminated with bird droppings or other organic matter. People get infected by breathing in dust that is contaminated with the fungus. Anyone can be infected with the fungus but people with HIV are more likely to develop the disease. Symptoms may include fever, weight loss, fatigue, difficulty breathing and swollen lymph nodes. Histoplasmosis typically affects the lungs, but among people with weakened immune systems, the disease can spread to the rest of the body. That is a serious complication that can be fatal if left untreated. Histoplasmosis is not transmitted through person-to-person contact. Primary prophylaxis is not currently recommended. Anti-fungal medications are available for treatment of histoplasmosis and secondary prophylaxis is available to prevent disease recurrence.

Mycobacterium avium Complex [MY-ko-back-TEER-ree-um A-vee-um] (also referred to as MAC) is an illness caused by *Mycobacterium avium* and *Mycobacterium intracellulare*. These two similar types of bacteria are commonly found in water, soil, dust and food. Anyone can be infected with the bacteria but HIV-infected individuals are at higher risk of developing serious disease. Disease symptoms may include fever, weight loss, night sweats and weakness. Infection can occur at one site in the body or can spread throughout the body. A variety of drugs are available to treat and prevent MAC.

Pneumocystic carinii pneumonia [NEW-mo-SIS-tic CA-RIN-nee-eye new-MO-knee-yuh] (also referred to as PCP), now known as *Pneumocystis jiroveci* [yee-row-vet-zee] pneumonia, is caused by a fungus and usually appears as a lung infection. The fungus is believed to be spread through the air. Although it can be present in the lungs of any individual, it causes serious disease only when an infected individual's immune system becomes weakened. It is the most common opportunistic infection among people with HIV. Symptoms may include dry cough, chest tightness, fever and difficulty breathing. Although PCP is entirely preventable and treatable, it is a serious disease that can be fatal if untreated. There are a variety of drugs available for primary and secondary prophylaxis and treatment of PCP.

Tuberculosis [too-burr-kyu-LOW-sis] (also referred to as TB) is a common bacterial infection among people with HIV. An individual can become infected with TB when another person who has active TB coughs, sneezes or talks. Although TB also affects HIV-negative individuals, people with HIV are at higher risk of infection. While not all infected people become ill, TB infection speeds up HIV progression and is the leading cause of death among people with HIV worldwide. Symptoms may include fever, cough, night sweats, weight loss, fatigue, swollen lymph nodes and coughing up blood. Primary prophylaxis is available but secondary prophylaxis is not considered to be necessary. A variety of antibiotics are used in treatment of TB. Depending on the severity of infection, treatment can last for many months or even years.

GUIDE TO DRUG DEVELOPMENT AND APPROVAL

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Before a new drug can be prescribed for patient use, it must first be approved by the U.S. Food and Drug Administration (FDA) Center for Drug Evaluation and Research (CDER). CDER is responsible for overseeing the testing and development of new drugs and new drug uses, and for ensuring that the methods used in drug development are both safe and effective.

CDER does not actually test new drugs. That responsibility falls to the company or institution developing the drug, also known as the “sponsor.” Before a new treatment can be approved by the FDA, a sponsor must extensively test the new drug and submit the data collected to CDER for review.

Throughout the development and testing process, CDER scrutinizes everything from the design of the drug’s clinical trials to the nature of side effects to the manufacturing conditions under which it will be produced and packaged.

Preclinical Testing

Before approaching the FDA for permission to test a new drug in humans, the sponsor must first analyze the drug in the lab and thoroughly test it in animals to make an initial determination about its safety and effectiveness. These preclinical trials are the first step in the development and approval of a new treatment.

Preclinical trials mark the end of the road for the vast majority of experimental drugs. According to industry research, only one out of every 1,000 potential new drugs proceeds from preclinical to clinical trials.

Investigational New Drug Applications (IND)

If preclinical trials are successful, the sponsor can submit an Investigational New Drug Application (IND) to the FDA. This document includes the results of the preclinical testing and proposes a “protocol” for clinical trials—a detailed plan of how the sponsor will test the drug in humans.

Each protocol is reviewed both by CDER and a local Institutional Review Board (IRB), an independent panel of scientists and other experts that has the authority to approve, change or reject research designs.

Before the clinical trial can proceed, both CDER and IRB must determine that the research protocol is sound and that the sponsors will take appropriate steps to inform trial participants of any risks and make every effort to protect participants from harm.

Clinical Trials

There are four stages or “phases” of clinical studies, the human trials required for a drug to be considered for approval.

Phase I

The primary goal for Phase I trials is to evaluate the safety of the drug and determine how the drug behaves in the body (also known as pharmacokinetics). These initial clinical tests help to identify a drug's most frequent side effects when used for relatively short periods of time (days to weeks). Phase I trials often investigate the drug's effects at several dose levels and typically involve a relatively small number of participants (generally between 20 and 100). Roughly 70% of the drugs that make it this far successfully navigate Phase I trials.

Phase II

Phase II trials are designed to provide evidence for effectiveness—whether the drug provides a benefit against a certain disease or condition. Safety continues to be evaluated, and short-term side effects are also studied. Phase II studies generally last from several months to two years and involve anywhere from a few dozen to several hundred subjects. About one-third of drugs that enter Phase II trials proceed to the next phase.

Phase III

These large-scale studies involve larger groups of participants and generally last from one to five years. Phase III trials gather additional information about safety and effectiveness by studying how the drug affects different populations in different dosages and examining how it interacts with other drugs. Roughly 30% of drugs that enter Phase III trials go on to seek FDA approval.

Phase IV

These “post-marketing” studies take place only after the drug being tested has been approved by the FDA. Phase IV trials may be used to evaluate long-term safety and efficacy of the drug, to explore alternate uses for a treatment or its effects on other patient populations.

New Drug Application (NDA)

Before the FDA will consider approving a new drug for marketing in the United States, the sponsor must file a New Drug Application (NDA), a document that tells the entire “life story” of a drug's development. The NDA includes detailed analyses of the results of each preclinical and clinical trial, information about how the drug works and behaves in the body, as well as information about how the drug will be manufactured.

Once a sponsor files an NDA, the FDA has 10 months (six, if the drug is a new compound for the treatment of a very serious illness) to review the application. The FDA may then reject the application outright, return it to the sponsor as incomplete or approve the drug as a treatment for a specific condition.

Sources: FDA, PhRMA, WebMD.com, AIDSmeds.com, New Mexico AIDS Infonet and AIDSinfo.nih.gov.

IMPORTANT TERMS IN ANTIRETROVIRAL THERAPY

TERM	DESCRIPTION
Antiretroviral Therapy (ART or ARV)	ART (or ARV) refers to any of a range of treatments that include antiretroviral medications. These drugs are designed to destroy retroviruses or interfere with their ability to replicate. ART suppresses the ability of HIV to multiply, slowing the progression of the disease. The four classes of antiretroviral drugs currently available are nucleoside reverse transcriptase inhibitors (NRTI), non-nucleoside reverse transcriptase inhibitors (NNRTI), protease inhibitors (PI) and fusion inhibitors. The drugs on the following pages are all antiretrovirals.
Combination Therapy	The use of two or more antiretrovirals in combination.
Food and Drug Administration (FDA)	The U.S. Department of Health and Human Services' agency responsible for ensuring the safety and effectiveness of all drugs, biologics, vaccines and medical devices, including those used in the diagnosis, treatment and prevention of HIV infection, AIDS and AIDS-related opportunistic infections. The FDA also works with the blood-banking industry to safeguard the nation's blood supply.
Fusion Inhibitor	Fusion Inhibitors are a class of ART that work by blocking HIV from entering target cells and preventing it from multiplying, since HIV needs to be inside the cells to make copies of itself.
Generic Drug	A drug that is identical or bioequivalent to a brand name drug in dosage, safety, strength, how it is taken, quality, performance and intended use. The generic name of a drug is the common name of the drug and not protected under any manufacturer's copyright. It is the more commonly used format when referring to a drug in medical literature or the media. Generic sometimes refers to less-expensive but chemically identical medications manufactured by companies that did not invent the drug. In some countries, generic drugs come on the market after a patent on the drug has expired. In other countries, generic drugs are manufactured and sold even before a patent expires.
HAART (Highly Active Antiretroviral Therapy)	Refers to ARV treatment regimens that act aggressively to suppress the replication of HIV and progression of HIV disease. The usual HAART regimen involves the use of three or more antiretrovirals.
Nucleoside Reverse Transcriptase Inhibitor (NRTI)	Nucleoside Reverse Transcriptase Inhibitors are a class of ART that block the replication of HIV by interfering with Reverse Transcriptase (RT), a protein that HIV needs to make more copies of itself.
Non-Nucleoside Reverse Transcriptase Inhibitor (NNRTI)	Non-nucleoside Reverse Transcriptase Inhibitors are a class of ART that block the replication of HIV by interfering with Reverse Transcriptase, a protein that HIV needs to make more copies of itself. NNRTIs work in a slightly different way than NRTIs.
Protease Inhibitor (PI)	Protease Inhibitors are a class of ART that act by blocking the function of protease, a protein that HIV needs to make more copies of itself.
Single Tablet Regimen (STR)	A single, daily pill that contains multiple antiretroviral drugs. The treatment can greatly simplify combination therapy, which can require patients to take as many as 30 or more pills a day.
Trade/Brand Name	The trade name is the name designated by the drug manufacturer. The first letter of the trade name is capitalized.

FDA-APPROVED ANTIRETROVIRAL THERAPY

Generic Name	Pronunciation	Trade/Brand Name	Class	Date of FDA Approval	Description
zidovudine, AZT, azidothymidine, ZDV	zye-DOE-vue-deen	Retrovir	NRTI	Mar. 19, 1987	Zidovudine, also known as AZT and ZDV, was the first drug approved for treatment of HIV in adults in 1987. In 1990, it was approved for use among children 3 months of age and older. In 1994, it became the first drug to be approved for use among HIV-positive pregnant women to prevent mother-to-child transmission (MTCT) of HIV during pregnancy and delivery. In such cases, it is also given to the baby during the first 6 weeks following birth. Zidovudine is available in capsule, tablet, syrup and intravenous forms.
zalcitabine, ddC, dideoxycytidine	zal-SITE-a-been	Hivid	NRTI	Jun. 19, 1992	Zalcitabine, also known as ddC, was approved in 1992 for use in combination therapy for treatment of adults and pediatric patients. It is available in tablet form.
stavudine, d4T	STAV-yoo-deen	Zerit	NRTI	Jun. 24, 1994	Stavudine, also known as d4T, was approved in 1994 for treatment of HIV infection in adults, and in 1996 for pediatric use. It is available in liquid and capsule forms.
lamivudine, 3TC	la-MI-vyoo-deen	Epivir	NRTI	Nov. 17, 1995	Lamivudine, also known as 3TC, was approved in 1995 for use in combination therapy for adults and children over 3 months of age. It is available in liquid and tablet forms.
lamivudine/zidovudine	la-MI-vyoo-deen, zye-DOE-vue-deen	Combivir	NRTI	Sep. 27, 1997	Combivir is the combination of zidovudine and lamivudine in a single tablet. Also known as 3TC/ADV, Combivir was approved in 1997 for use by adults and adolescents over 12 years of age.
abacavir	a-BAK-a-vir	Ziagen	NRTI	Dec. 17, 1998	Abacavir, also known as ABC and abacavir sulfate, was approved in 1998 for use in combination anti-HIV therapy among adults and children over 3 months of age. It is available in tablet and liquid forms.
abacavir/lamivudine/zidovudine	a-BAK-a-vir, la-MI-vyoo-deen, zye-DOE-vyoo-deen	Trizivir	NRTI	Nov. 14, 2000	This single tablet formulation of abacavir, lamivudine and zidovudine was created because these three drugs were frequently prescribed together. Trizivir was approved in 2000 for use in treatment of adults and teenagers weighing at least 88 pounds.
didanosine, ddl, dideoxyinosine	di-DAN-oe-seen	Videx	NRTI	Oct. 9, 2001	Didanosine, also known as ddl, was approved in 1991 for use in adults and children over 6 months of age. It is available in capsule, tablet, liquid and powder forms.
tenofovir disoproxil fumarate	te-NOE-fo-veer di-SO-prox-il fum-AR-ate	Viread	NRTI	Oct. 26, 2001	Tenofovir, also known as TDF, BisPOC and PMPA, was approved in 2001 for use in combination therapy among adults. It is available in tablet form.

Generic Name	Pronunciation	Trade/Brand Name	Class	Date of FDA Approval	Description
emtricitabine, FTC	em-trye-SYE-ta-been	Emtriva	NRTI	Jul. 2, 2003	Emtricitabine, also known as FTC, was approved in 2003 for use in combination therapy among adults. It is available in capsule form.
abacavir / lamivudine	a-BAK-a-vir, la-MI-vyoo-deen	Epzicom	NRTI	Aug. 2, 2004	Epzicom, also known as abacavir and lamivudine, is a combination of two antiretroviral drugs: abacavir sulfate (Ziagen) and lamivudine (Epivir). Both of these drugs are nucleoside reverse transcriptase inhibitors (NRTIs). Epzicom was approved by the FDA on August 2, 2004, for treatment of HIV infection in adults. Epzicom should be used in combination with other types of anti-HIV drugs.
tenofovir disoproxil/ emtricitabine	te-NOE-fo-veer, di-SO-prox-il, em-trye-SYE-ta-been	Truvada	NRTI	Aug. 2, 2004	Truvada includes two antiretroviral drugs: emtricitabine (Emtriva) and tenofovir disoproxil fumarate (Viread). Both of these drugs are nucleoside reverse transcriptase inhibitors (NRTIs). Truvada was approved by the FDA as a coformulation on August 2, 2004, for use with other antiretrovirals in the treatment of HIV-1 infection in adults.
nevirapine, BI-RG-587	ne-VYE-ra-peen	Viramune	NNRTI	Jun. 21, 1996	Nevirapine, also known as Viramune and NVP, was the first FDA-approved non-nucleoside reverse transcriptase inhibitor (NNRTI). It was approved for use in adults and children over 2 months of age. It is also used to prevent mother-to-child transmission (MTCT) of HIV. NVP is available in tablet and liquid form.
delavirdine, DLV	de-la-VIR-deen	Rescriptor	NNRTI	Apr. 4, 1997	Delavirdine, also known as Rescriptor and DLV, was approved in 1997 for combination therapy use among adults. It is available in tablet form.
efavirenz	ef-FAH-ver-enz	Sustiva	NRTI	Sep. 17, 1998	Efavirenz, also known as Sustiva, Stocrin and EFV, was approved in 1998 for use in adults and children over 3 years of age. It is available in capsule form.
saquinavir mesylate	sa-KWIN-a-veer	Fortovase Invirase	PI	Invirase- Dec. 6, 1995 Fortovase- Nov. 7, 1997	Saquinavir mesylate, also known as Invirase, was the first FDA-approved protease inhibitor (PI). It is a hard gelatin capsule and was approved in 1995. Another formulation of the drug, known as Fortovase, was approved in 1997 as a soft gelatin capsule. However, Fortovase was discontinued in 2006. Invirase, now the preferred formulation of the drug, is approved for adults and children 16 years of age and older, and must always be taken in combination with ritonavir.

Generic Name	Pronunciation	Trade/Brand Name	Class	Date of FDA Approval	Description
ritonavir, ABT-538	rit-ON-uh-veer	Norvir	PI	Mar. 1, 1996	Ritonavir, also known as Norvir, was approved in 1996 for combination therapy use among adults, and in 1997 for use among children 2 years of age or older. It is available in soft gel capsules and liquid form.
indinavir, IDV, MK-639	in-DIN-a-veer	Crixivan	PI	Mar. 13, 1996	Indinavir, also known as Crixivan, was approved in 1996 for combination therapy use among adults. It is available in capsule form.
nelfinavir mesylate, NFV	nel-FIN-a-veer	Viracept	PI	Mar. 14, 1997	Nelfinavir mesylate, also known as Viracept, was approved in 1997 for combination therapy use among adults and children 2 years and older. It is also used to prevent infection in cases of accidental exposure and is available in tablet form.
amprenavir	am-PREN-a-veer	Agenerase	PI	Apr. 15, 1999	Amprenavir, also known as Agenerase, was approved in 1999 for use in combination therapy among adults and children 4 years of age and older. It is available in soft gel capsule and oral solution forms.
iopinavir/ritonavir	Low-PIN-a-veer, ri-toe-na-veer	Kaletra	PI	Sep. 15, 2000	The lopinavir and ritonavir combination, also known as Kaletra, was approved in 2000 for combination therapy use in adults and children 6 months of age and older. It is available in capsule and liquid forms.
atazanavir sulfate	at-a-za-NA-veer	Reyataz	PI	Jun. 20, 2003	Atazanavir, also known as Reyataz, was approved in 2003 for combination therapy use in adults. It is available in capsule form. Atazanavir is different that the other protease inhibitors in that individuals who form resistance to it may still be able take other PIs.
fosamprenavir Calcium	FOS-am-pren-a-veer	Lexiva	PI	Oct. 20, 2003	Fosamprenavir, also known as Lexiva or 908, was approved in 2003 for combination therapy use in adults and children 16 years of age and older. It is available in tablet form.
tipranavir	tip-ran-a-vir	Aptivus	PI	June 22, 2005	Aptivus, manufactured by Boehringer Ingelheim, was approved for the treatment of HIV by the FDA in June 2005. Aptivus/ritonavir is only approved for HIV-infected people who have tried and failed other anti-HIV drug regimens in the past. Aptivus must be used in combination with <i>Norvir</i> (ritonavir) and at least two other anti-HIV drugs.
enfuvirtide, T-20	en-FYOO-vir-tide	Fuzeon	Fusion Inhibitor	Mar. 13, 2003	Enfuvirtide, also known as Fuzeon or T-20, was approved in 2003 for combination therapy use in adults and children six years and older. It is available in injection form, administered as a shot under the skin.

Generic Name	Pronunciation	Trade/Brand Name	Class	Date of FDA Approval	Description
efavirenz, emtricitabine, tenofovir disoproxil fumarate	ef-FAH-ver-enz, em-trye-SYE-ta- been, te-NOE-fo-veer di-SO-prox-il fum- AR-ate	Atripla	Combines drugs from NNRTI and NRTI classes	July 12, 2006	Atripla is the first approved once-a-day three-drug combination ARV treatment. It is a fixed dose combination treatment that contains three ARVs from two classes: Sustiva (efavirenz, an NNRTI), Emtriva (emtricitabine, an NRTI) and Viread (tenofovir disoproxil fumarate, an NRTI). It is approved for adults with HIV-1 and is to be taken once a day, by itself or in combination with other drugs.

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GLOBAL GOALS AND FINANCIAL COMMITMENTS

The HIV/AIDS epidemic requires substantial funding to develop and sustain prevention, care, treatment and research programs. The funding must be provided by all sectors including donor organizations, the private sector and governments whose countries have been affected by HIV/AIDS. There have been a series of international HIV/AIDS commitments recognizing that the scale of the AIDS epidemic requires a global partnership to integrate efforts at all levels.

UNGASS: In 2001, the 189 members at the United Nations General Assembly Special Session (UNGASS) adopted a blueprint for action in The Declaration of Commitment on HIV/AIDS (DoC). The UN describes this as a landmark document, which “identifies goals and targets based on human rights law and principles in four areas: prevention of new infections, provision of improved care, support and treatment for those infected with and affected by HIV/AIDS, reduction of vulnerability, and mitigation of the social and economic impact of HIV/AIDS.” The two principle goals set for 2010 are to reduce the percentage of young people who are HIV-positive by 25% and to reduce the percentage of HIV-infected newborns by 50%. The goal set for 2015 is to reverse the spread of the epidemic. In the spring of 2006, the Secretary General reported uneven progress in reaching these goals. Certain countries, it was reported, “reached key targets and milestones” but many countries “failed to fulfill” their pledges.

UNIVERSAL ACCESS: In 2003, UNAIDS and the World Health Organization established the ambitious goal of providing access to treatment to 3 million people in the developing world by the year 2005. The 3x5 Initiative did not meet that goal; however, at the UN’s World Summit in 2005, a new and even more ambitious timetable was established. There was a call “to implement a package for HIV prevention, treatment and care with the aim of coming as close as possible to the goal of universal access to treatment by 2010 for all those who need it.” Financing the response to HIV/AIDS—securing the money to meet the goals described above—has emerged as one of the world’s greatest challenges. Often, the countries most affected have the fewest resources. Consequently, the role of international donor assistance in low- and middle-income countries is critical. Analysis by UNAIDS and others indicate there is a significant gap between the resources that are needed and the funding that is available. Funding needs for HIV/AIDS are projected to rise over time, reaching US\$15 billion in 2006 and over US\$20 billion in 2008. Even if current resources from international donors and domestic governments were to double in the next several years, a gap between what is provided and what is needed would remain. Financing for HIV/AIDS in low- and middle-income countries is provided by four major funding streams, which are described below:

Donor Governments: Donor governments provide virtually all of the world’s development assistance for HIV/AIDS. The funds are either given directly by one government to a country through its government, a non-governmental organization (NGO) or another entity. The donor government may also contribute to multilateral organizations. The bulk of donor government assistance comes from most members of the Group of Eight as well as other governments such as the Netherlands and Sweden. The European Commission also is a significant donor in the battle against HIV/AIDS.

Multilateral Organizations: Multilateral organizations provide significant resources to combating HIV/AIDS. They receive their funding primarily from governments but may also receive funding from private organizations and individuals. The main multilateral organizations in the fight against HIV/AIDS are: the Global Fund, which was established in 2001 and is an independent, public-private partnership; the World Bank, which has been supporting AIDS efforts since 1986; and numerous entities within the United Nations whose activities are coordinated by UNAIDS.

Private Sector: The private sector includes foundations, corporations, international NGOs and individuals. Together they represent an important funding stream for HIV/AIDS, often acting to pilot new and innovative strategies, leveraging existing ones and developing partnerships within the private sector. Support can also come in the form of non-cash commodities such as price reductions for AIDS drugs and in-kind support.

Domestic Resources: Spending by governments and individuals in affected countries represents a significant part of the response to HIV/AIDS. The extent of support by domestic governments varies greatly and depends upon income, debt, availability of external resources and political commitment. In addition to domestic government support, households and individuals within affected countries often shoulder at least some, if not much, of the financial burden.

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SELECT KEY FIGURES

The list that follows is intended to give you a flavor of the depth and breadth of some of the key individuals involved in the HIV/AIDS epidemic and their fields of expertise. These are people from all over the world involved in the medical, social, political, economic and cultural aspects of the crisis. Some were there at the beginning and others have more recently made their mark; some are current references and contacts while others have historical significance in understanding the epidemic. Where possible, we have provided website links that will lead you to more information about each individual and the organizations with which they are associated.

Lists such as these invariably leave some readers feeling frustrated. This one is not intended to be exhaustive and does not include many of those involved in HIV/AIDS, only some of the more notable individuals. We believe, however, those described below will provide you with a good overview of many who have made a difference.

Adurrazack (Zackie) Achmat

Achmat is a prominent South African activist who has led campaigns to end apartheid, combat discrimination against gays and lesbians and secure drug access for South Africans living with AIDS. He co-founded and chairs the Treatment Action Campaign (TAC), which is an influential force in the fight to expand access to treatment for people living with HIV/AIDS. For a time, Achmat, who is HIV-positive, refused to take ARVs until the government pledged to make drugs available and affordable for all in need.

(www.tac.org.za)

Terje Anderson

Anderson was executive director of the National Association of People with AIDS (NAPWA) from 1997 to 2006. Based in Washington, D.C., NAPWA advocates on behalf of all people living with HIV/AIDS in the U.S. and throughout the world. Anderson also served on the U.S. Federal Health AIDS Advisory Committee from 1994 to 2003. The Committee provides HIV/AIDS policy information to the Secretary of Health and Human Services and the Assistant Secretary for Health. He was a member of the President's Advisory Council on HIV/AIDS from 1995-2002 and has worked in the field of HIV/AIDS for over 20 years. Anderson has been living with HIV/AIDS for many years.

(www.napwa.org)

Kofi Annan

Kofi Annan served as Secretary-General of the United Nations from 1997 through 2006. During his tenure, Annan advocated for increased global attention to HIV/AIDS and described the epidemic as his "personal priority." In 2001, Annan convened the groundbreaking UN General Assembly Special Session on HIV/AIDS. He also issued a five-point "Call to Action," which led to the creation of the Global Fund to Fight AIDS, Tuberculosis and Malaria. In 2001, Annan was awarded the Nobel Peace Prize.

(www.un.org)

Bono

Bono is the lead singer of the Irish rock band U2 and has used his celebrity to draw the attention of politicians to the crises of HIV/AIDS and impoverished African nations. Bono has a long history of social involvement. In 2002, he co-founded DATA, which stands for Debt, AIDS, Trade, Africa. Through DATA, Bono lobbies wealthy governments to increase resources for Africa and forgive debt obligations so money can be directed to fighting AIDS and other social crises.

(www.data.org)

William Clinton

Bill Clinton served two terms as President of the United States from 1992 to 2000. In 2003, he announced the creation of the Clinton Foundation HIV/AIDS Initiative. One of the Initiative's greatest successes to date was to convince five generic drug companies to dramatically reduce the costs of commonly used antiretroviral drugs for people in developing countries. In 2002, at the International AIDS Conference in Barcelona, Mr. Clinton said, "There are still people who view AIDS as something that affects only people who are different. We all know the victims."

(www.clintonpresidentialcenter.com)

Jerry Coovadia

Dr. Coovadia is Chair of HIV/AIDS Research at the Nelson Mandela School of Medicine at the University of Natal in Durban, South Africa. In 2000, he chaired the International AIDS Conference in Durban, South Africa. Dr. Coovadia was previously professor of pediatrics and child health, and has worked extensively on mother-to-child transmission of HIV through breast-feeding. At a public health conference in 2004 he cautioned, "We need to reinvent government to respond to public needs and the public health agenda."

(www.hivan.org.za)

Mark Dybul

Dr. Dybul was appointed U.S. Global AIDS Coordinator, which carries the rank of Ambassador, by President Bush in 2006. As the Global AIDS Coordinator, he is responsible for overseeing and implementing the President's Emergency Plan for AIDS Relief, PEPFAR. Dr. Dybul has been involved in the U.S. government's global AIDS response for many years, including serving on the planning task force that helped design PEPFAR. Dr. Dybul also has had a long career as a researcher and clinician in the field of HIV, with a focus on the development of U.S. and international protocols for HIV therapy. He continues to serve as a Staff Clinician in the Laboratory of Immunoregulation at the National Institutes of Health and as a principal investigator for clinical and basic research studies.

(www.pepfar.gov/press/75976.htm)

Wafaa El-Sadr

Wafaa El-Sadr, MD, MPH is the Director of the International Center for AIDS Care and Treatment Programs (ICAP), an initiative through the Mailman School of Public Health at Columbia University. ICAP coordinates diverse initiatives for combating the HIV/AIDS epidemic in impoverished environments. Dr. El-Sadr is also founding Director of the Center for Infectious Disease Epidemiologic Research (CIDER) and Professor of Clinical Medicine and Epidemiology at the Mailman School. Dr. El-Sadr is Chief of the Division of Infectious Diseases at Harlem Hospital Center.

(www.mailman.hs.columbia.edu)

(www.columbia-icap.org)

Max Essex

Dr. Essex is chairman of the Harvard AIDS Institute and of the Department of Immunology and Infectious Diseases at the Harvard School of Public Health. He was among the first researchers to describe the transmission mechanisms of HIV, calling particular attention to the dangers of contaminated blood transfusions. His later research into the molecular identity and genetic variations of the virus has been critical to the development of HIV diagnostic tests and vaccine research. In 1985, Dr. Essex and colleagues established an AIDS research and training center in Dakar, Senegal.

(www.aids.harvard.edu)

Paul Farmer

Dr. Farmer is a physician and medical anthropologist, and is actively involved with HIV/AIDS in Haiti. He is well known for helping create innovative community-based approaches to treating HIV/AIDS and TB in resource-poor settings, particularly in Haiti. While a medical student in 1987, Farmer helped found Partners in Health, a community-based health project to support people with HIV and other infectious diseases. Dr. Farmer also is an attending physician in infectious diseases, and chief of the Division of Social Medicine and Health Inequalities at the Brigham and Women's Hospital in Boston, Massachusetts. In 1993, Dr. Farmer received a MacArthur Foundation "genius" award.

(www.pih.org)

Anthony Fauci

Dr. Fauci is one of the longest-serving U.S. government officials helping to oversee HIV/AIDS research and one of the first scientists to begin studying HIV. In 1984, he became Director of the National Institute of Allergy and Infectious Diseases at the National Institutes of Health, which conducts extensive research to prevent, diagnose and treat infectious diseases, including HIV/AIDS. He serves as one of the key advisors to the White House and Department of Health and Human Services on global AIDS issues. Dr. Fauci has made numerous contributions to basic and clinical research in the field of immune-mediated illnesses.

(www.niaid.nih.gov)

Raoul Fransen

Raoul Fransen of the Netherlands has been involved in a wide range of programs to support young people with HIV/AIDS and to include them in efforts to curb the epidemic. His organization, the Young Positives Foundation, is affiliated with the Global Network of People Living with HIV/AIDS (GNP+). GNP+ was a co-organizer of the International AIDS Conference in Bangkok in 2004. Fransen, himself HIV-positive, has been closely involved in a Dutch project to build schools and hospices in Zambia for children orphaned as a result of HIV/AIDS.

(www.gnpplus.net)

(www.youngpositive.com)

Robert Gallo

Dr. Gallo is Director of the Institute of Human Virology at the University of Maryland Biotechnology Institute. In the early 1980's he discovered the human immunodeficiency virus that causes AIDS, a distinction he shares with Luc Montagnier of France, who also identified the same virus. Research by Dr. Gallo and his team also led to the development of the HIV blood test. For a time, there was great controversy about whether Dr. Gallo stole the virus from Dr. Montagnier. Eventually U.S. and French health authorities agreed that both men should share the credit for discovery of HIV. In 2002, Dr. Gallo and Dr. Montagnier announced their partnership in the Program for International Viral Collaboration, an effort to advance global HIV/AIDS vaccine research.

(www.umbi.umd.edu)

William (Bill) Gates III

Gates is Chairman of the Microsoft Corporation and is also co-founder of the Bill & Melinda Gates Foundation. The Foundation committed US\$500 million to global HIV/AIDS efforts. Since its inception in 2000, the Gates Foundation has committed billions of dollars towards improving global health overall, especially in the fields of HIV/AIDS & TB, infectious diseases, and reproductive and child health.

(www.gatesfoundation.org)

Helene Gayle

Dr. Gayle is the President and Chief Executive Officer of CARE, a humanitarian organization fighting global poverty. Prior to joining CARE, Dr. Gayle directed the HIV, TB and Reproductive Health Program at the Bill & Melinda Gates Foundation. She is president of the International AIDS Society and co-chairs the Global HIV Prevention Working Group, an international panel of HIV/AIDS experts convened by the Gates and Kaiser Family Foundations. Dr. Gayle earlier served as the Director of the National Center for HIV, STD and TB Prevention at the U.S. Centers for Disease Control and Prevention.

(www.care.org)

(www.gatesfoundation.org)

Richard Gere

Gere is an American actor and AIDS activist. His activism began in the United States with organizations such as the Elizabeth Glaser Pediatric AIDS Foundation. He has extended his HIV/AIDS work to India where he founded the Gere Foundation India Trust. The Gere Foundation, in coordination with the Kaiser Foundation Family and other organizations, launched a major public awareness campaign in India in 2004.

(www.gerefoundation.org)

(www.heroesprojectindia.org)

Elizabeth Glaser

Elizabeth Glaser was co-founder and Director of the Pediatric AIDS Foundation until her death in 1994. Glaser became an activist after she discovered she had received a contaminated blood transfusion in 1981 and had passed the virus on to her two children. After the death of her daughter due to HIV and frustrated by the lack of pediatric HIV/AIDS research, Glaser established the Foundation in 1988 to promote research and prevention of mother-to-child HIV transmission. The Foundation, which officially became the Elizabeth Glaser Pediatric AIDS Foundation after her death, is a leader in the effort to treat and prevent HIV/AIDS among children in developing countries.

(www.pedaids.org)

Danny Glover

Glover is an American actor and AIDS activist. Since 1998, he has served as a Goodwill Ambassador for the United Nations Development Program. In that role, he has spent time in Africa and the Caribbean, focusing his attention on young people with HIV/AIDS. In 2000, he attended the International AIDS Conference in Durban, South Africa, where he visited a number of HIV/AIDS projects. Glover also supports the TransAfrica Forum, a U.S.-based organization addressing AIDS and other issues affecting Africa.

(www.undp.org)

(www.transafricaforum.org)

Geeta Rao Gupta

Dr. Rao Gupta is President of the International Center for Research on Women (ICRW), a Washington, D.C.-based organization that undertakes policy-oriented research, technical assistance, and advocacy. The organization's focus is on women's economic roles, health and nutrition, the environment and natural resources, adolescent sexual health and women's rights. Dr. Rao Gupta has over 20 years experience in research and program development, particularly in the area of women's health, and is an international expert on women and HIV/AIDS.

(www.icrw.org)

Yusuf Hamied

Dr. Hamied is chairman of Cipla, an Indian pharmaceutical company. In 2001, Cipla announced its plans to sell generic AIDS combination therapies at vastly discounted prices, igniting widespread criticism from other pharmaceutical companies. The combination therapies consist of multiple antiretroviral medications combined into a single pill. Dr. Hamied announced that Cipla would sell these drugs for approximately US\$350 per patient per year, compared to the previous price of over US\$10,000 per patient per year. (www.cipla.com)

David Ho

Dr. Ho is director of the Aaron Diamond AIDS Research Center in New York City and was named *Time* magazine's "Man of the Year" in 1996 for his groundbreaking AIDS research. As a medical resident in Los Angeles during the early 1980s, he saw some of the earliest cases of AIDS. Dr. Ho's subsequent research on HIV/AIDS led to the development of "AIDS cocktails," which consist of combinations of antiretroviral therapies. Combination therapy has resulted in a significant decline in AIDS-related deaths among people with access to treatment. Dr. Ho's current work includes the China AIDS Initiative, which teams with partners to develop treatment and care programs, mobilize leadership, educate the population and strengthen civil society groups involved with HIV/AIDS.

(www.adarc.org)

(www.chinaaidsintiative.org)

Nkosi Johnson

Nkosi was a young South African whose bravery and suffering drew renewed international attention to the HIV/AIDS crisis. Nkosi was born HIV-positive and died of an AIDS-related illness in 2001 when he was just 13. A year earlier, Nkosi spoke at the International AIDS Conference in Durban telling a global audience, "Care for us and accept us, we are all human beings." He championed many causes during his short life, including human rights and providing care and shelter for people living with HIV/AIDS.

(www.nkosi.iafrica.com)

Milly Katana

Katana of Uganda is one of Africa's leading activists. She was diagnosed with HIV in 1995 and immediately became an advocate for others like her. Katana was the first HIV-positive person to sit on the Board of the Global Fund to Fight AIDS, Tuberculosis and Malaria. She also co-founded the Pan African Treatment Access Movement, which is dedicated to getting drug treatment to all in need. Katana has said that her association with other HIV-positive people helped her "regain" her life.

(www.patam.org)

Michel Kazatchkine

Dr. Kazatchkine of France was named Executive Director of The Global Fund to Fight AIDS, Tuberculosis and Malaria in early 2007. He has worked in the field of HIV/AIDS for two decades, as a doctor, researcher, policymaker and diplomat. Dr. Kazatchkine opened a clinic in Paris specializing in HIV/AIDS in 1985 and since then has held several senior positions including director of the French National Agency for AIDS Research and France's global HIV/AIDS and communicable diseases ambassador. Dr. Kazatchkine has worked closely with international organizations in the fields of health and development and served on advisory groups to the World Health Organization and several other international bodies. Prior to being named Executive Director, he held other leadership positions with the Global Fund.

(www1.theglobalfund.org/en/media_center/press/pr_070208.asp)

Jim Yong Kim

Dr. Kim is chief of the Division of Social Medicine and Health Inequalities at Brigham and Women's Hospital in Boston and Associate Professor of Medicine and Medical Anthropology at Harvard Medical School. In his previous job as Director of the World Health Organization's Department of HIV/AIDS he helped create the 3x5 Initiative. Dr. Kim is a co-founder with Dr. Paul Farmer of Partners in Health, a non-profit organization operating in many of the world's poorest regions. In 2006, he was named one of *Time* magazine's "100 most influential people."

(www.pih.org)

(www.brighamandwomens.org/socialmedicine)

Stephen Lewis

Lewis has long been involved in the global fight against AIDS and is recognized as an especially articulate and passionate speaker. He served as the UN Special Envoy for HIV/AIDS in Africa from 2001 through 2006. Lewis is chair of the board of the Stephen Lewis Foundation, which states as its goals; support for women dying of AIDS, the children left behind and NGO's assisting people living with AIDS. He previously served as Canadian Ambassador to the United Nations.

(www.stephenlewisfoundation.org)

Graça Machel

Machel is a former first lady and Minister of Education in Mozambique. She is a member of the Board of the United Nations Foundation and is president of the Foundation for Community Development, an organization established to alleviate poverty in Mozambique. She has long been an outspoken advocate for the rights and education of children living in poverty. With her current husband, former president Nelson Mandela of South Africa, Machel continues to advance human rights in Africa through economic and community development.

(www.unfoundation.org)

Mercy Makhamele

In 1993, Makhamele became the first black woman in South Africa to publicly declare her HIV-positive status and campaign to reduce the stigma associated with the disease. She is a founding member of South Africa's National Association of People Living with HIV/AIDS and Treatment Action Campaign. She received the Kaiser Family Foundation's 2004 Nelson Mandela Award for Health and Human Rights, for her efforts to combat stigma and advocate for increased access to treatment, care and support for people living with HIV/AIDS. Makhamele also serves on the National Advisory Board of South Africa's national HIV prevention program for young people, loveLife.

(www.tac.org.za)

(www.kff.org/southafrica/mandela2004.cfm)

(www.lovelife.org.za)

Nelson Mandela

Mandela has become a strong voice in the global fight against HIV/AIDS after earlier being criticized for not urgently responding to the epidemic while President of South Africa. He created the 46664 Global Campaign to create more awareness, advocate for care and treatment and raise needed funds. In 2004, at the International AIDS Conference in Bangkok, he told delegates, "As former prisoner 46664, there is a special place in my heart for all those that are denied access to their basic human rights." He also has encouraged the public health community to pay more attention to the links between AIDS and tuberculosis.

(<http://46664.tiscali.com>)

(www.nelsonmandela.org)

Jonathan Mann

Mann was an inspirational and influential figure in the fight against global HIV/AIDS. The long-time researcher and human rights champion died in a plane crash in 1998, on his way to an AIDS conference. In 1986, he helped establish and lead the World Health Organization's Global Program on AIDS. In that role, he established human rights as central to the WHO's HIV/AIDS strategy and persuaded health ministers from dozens of countries to do the same. He is remembered for asking, "People say there is no use trying to change the world. But if we don't try, will it change?"

(www.doctorsoftheworld.org)

Thabo Mbeki

South African President Mbeki has been a controversial and polarizing figure in the fight against HIV/AIDS. In 1999, Mbeki declared that HIV alone cannot lead to AIDS and he publicly questioned whether antiretroviral therapies for HIV are effective. By 2002, his government committed to intensifying prevention and treatment efforts. President Mbeki's pledge rested on the premise that HIV *does* cause AIDS. In 2005, Mbeki described South Africa's HIV/AIDS program as among "the best in the world."

(www.southafrica.info)

Luc Montagnier

In 1983, Dr. Luc Montagnier of the Pasteur Institute in France discovered the virus that causes AIDS, the human immunodeficiency virus. It is a distinction he shares with Dr. Robert Gallo of the U.S. In 1986, Dr. Montagnier's team also identified HIV-2, the virus that is responsible for many HIV infections in West Africa. Dr. Montagnier is currently president of the World Foundation for AIDS Research and Prevention. In 2002, Dr. Montagnier and Dr. Gallo announced their partnership in the Program for International Viral Collaboration, an effort to advance global HIV/AIDS vaccine research.

(www.pasteur.fr)

Peter Mugenyi

Dr. Mugenyi is the Director of the Joint Clinical Research Centre, in Kampala, Uganda, and chairman of both the Ugandan AIDS task force and the African Dialogue on AIDS. In 1996, he was one of the first African physicians to insist that his patients were capable of taking the complicated regimen of AIDS medications. By 2001, Dr. Mugenyi and his colleagues successfully pressured U.S. and European pharmaceutical manufacturers to discount AIDS medications for many poor nations. Currently, Dr. Mugenyi treats over 5,000 AIDS patients a year through his network of clinics in Uganda.

(www.jcrc.co.ug)

Yoweri Museveni

Ugandan President Museveni has led a successful campaign against HIV/AIDS in his country, which is held up as a model for the rest of Africa. Soon after assuming the presidency in 1986, Museveni became the first African leader to speak openly about the epidemic. His government's campaign is based on ABC: Abstinence, Be faithful, Condom use. There is much discussion over what has been the main driver of Uganda's success. Museveni is sometimes criticized by those who believe he minimizes the importance of condoms in the ABC program.

(www.statehouse.go.ug)

Nikolay Nedzelskiy

Nedzelskiy is an advocate for Russians living with HIV/AIDS. He was among the first activists to step forward in the early 1990s. Nedzelskiy is the Director of INFO-Plus Center based in Moscow. It is a clearinghouse for information about HIV/AIDS, and maintains a telephone hotline for people living with HIV. INFO-Plus is frequently sought out by reporters who need access to Russians living with HIV/AIDS and commentary about the epidemic.

(www.aids.ru)

Peter Piot

Dr. Piot was appointed the first Executive Director of UNAIDS in 1995. He coordinates the HIV/AIDS efforts of ten co-sponsoring organizations. Dr. Piot has longed worked in the public health arena. In 1976, he co-discovered the Ebola virus in Zaire. In the 1980s, he contributed to an understanding of the epidemic's spread in Africa. As Executive Director of UNAIDS he has said, "Investment in AIDS will be re-paid a thousand-fold in saved lives and communities held together."

(www.unaids.org)

Vadim Pokrovskiy

Dr. Pokrovskiy is the Director of Russia's Federal AIDS Center. He has warned that the real number of those infected with HIV in Russia is higher than official statistics indicate. Dr. Pokrovskiy has encouraged the government to develop a more coordinated response to the epidemic.

(www.pcr.ru)

Gracia Violeta Ross

Ross is a young Bolivian who became an activist after being raped and infected with HIV. She is a member of the International Community of Women Living with HIV/AIDS. In her public appearances, she encourages women to become more involved in political, cultural and gender issues. In 2004, Ross spoke at the International AIDS Conference in Bangkok, where she said, "We must face the gender inequalities that increase the risk of AIDS for both women and men."

(www.icw.org)

Jeffrey Sachs

Professor Sachs, currently Director of the Earth Institute at Columbia University in New York, is one of the world's foremost economists. He is known for his work with governments and international agencies to promote poverty reduction, disease control and debt reduction for poor countries. He has urged poor nations to suspend debt payments to rich creditors and instead, use that money to fight HIV/AIDS and other social ills. Professor Sachs warns that AIDS is "exploding. Its consequences will make the world quake." Previously, he spent 20 years at Harvard University.

(www.earth.columbia.edu)

David Serwadda

Dr. Serwadda is the director of the Institute of Public Health at Makerere University in Kampala, Uganda. He also serves as co-chair of The Global HIV Prevention Working Group, an international advisory panel of nearly 50 public health experts and scientists involved in HIV/AIDS. The Working Group seeks to guide policy makers and non-governmental organizations in developing comprehensive strategies to prevent HIV transmission and care for those with AIDS-related illnesses. Dr. Serwadda is an expert in the fields of epidemiology, evaluation of health interventions and disease surveillance, and is a leading authority on the AIDS epidemic in Africa.

(www.iph.ac.ug)

Suniti Solomon

Dr. Solomon and her colleagues saw the first cases of HIV/AIDS in India in 1986. She has since become a recognized expert on the epidemic in her country. In response to the disease, Dr. Solomon created the first voluntary testing and counseling center and an AIDS research group in Madras, India. In 1993, she founded the Y.R. Gaitonde Centre for AIDS Research and Education. YRGcare is a non-profit center that offers HIV and sex education, voluntary counseling and testing services, and care for people living with HIV. It also conducts medical and behavioral research.

(www.yrgcare.org)

Paulo Teixeira

Dr. Teixeira previously was Director of the World Health Organization's (WHO) HIV/AIDS Department. He gained worldwide recognition for his work on HIV/AIDS in Brazil and Latin America. Dr. Teixeira was director of the National STD/AIDS Program at the Ministry of Health in Brazil, where he created the first national AIDS program in 1983. Dr. Teixeira pioneered Brazil's program for free, universal distribution of ARVs, which has become a model for other developing countries dealing with HIV/AIDS. He is now involved in environmental issues.

(www.who.int/hiv/en)

Mechai Viravaidya

Mechai Viravaidya is a Senator in the Parliament of Thailand and is affectionately known as the "Condom King" because of his strong and public support for the use of condoms as a way of preventing HIV transmission. Senator Mechai is the founder and chairman of the Population and Community Development Association, one of Thailand's largest private, non-profit development organizations. He was appointed Ambassador for UNAIDS in 1999 and has received numerous awards including the United Nations Population Award in 1997 and the United Nations Gold Peace Medal in 1981.

(www.thaigov.go.th)

(www.sli.unimelb.edu.au/pda)

Ryan White

American Ryan White became an unwitting international symbol of HIV/AIDS. White was born in 1971 with hemophilia and became infected with HIV in 1984 after receiving contaminated blood during a transfusion. He was shunned by his community but embraced by celebrities such as Elton John. White died in 1990 and soon after then-President George Bush enacted landmark legislation named the Ryan White Comprehensive AIDS Resource Emergency Act which provides care, treatment and services to people with HIV/AIDS in the United States.

(www.careactdatasupport.hrsa.gov)

Phill Wilson

Wilson is founder and the Executive Director of the Black AIDS Institute, based in Los Angeles, California. It is the only black HIV/AIDS think tank in the United States. Wilson has said the goal of the Institute is to "reduce the HIV health disparities between people of African descent and other racial ethnic groups by engaging black folks in efforts to combat HIV/AIDS." The organization's motto is, "Our people, Our problem, Our solution." Wilson also helped create the National Black Lesbian and Gay Leadership Forum and the National Task Force on AIDS Prevention. He has served as the AIDS Coordinator for the City of Los Angeles and the Director of Policy and Planning at AIDS Project Los Angeles.

(www.blackaids.org)

Wan Yanhai

Dr. Wan is China's most prominent AIDS activist. In 1994, he founded AIZHI (AIDS) Action Project, which for some Chinese is the only source of information available about HIV/AIDS. Dr. Wan established the first telephone hotline for HIV/AIDS information and went on to create a widely used website. His activism led to his dismissal from China's Health Ministry. In 2002, he was detained for several weeks by the government. In 2005, Dr. Wan organized a landmark conference between Shanghai University Law School and Human Rights Watch, an international watchdog organization, to discuss how to tackle the growing threat of HIV/AIDS in China.

(www.aizhi.org)

Debrework Zewdie

Dr. Zewdie is the Director of the Global HIV/AIDS Program for the World Bank. Her career has been spent working on HIV/AIDS with a particular emphasis on Africa. Prior to her current position, Dr. Zewdie managed the World Bank's AIDS Campaign Team for Africa (ACTafrica). Before joining the World Bank in 1994, she managed AIDS programs in 16 African countries for Family Health International.

(www.worldbank.org)

Winstone Zulu

Zulu is an AIDS activist in Zambia who publicly declared his HIV-positive status along with a later diagnosis of tuberculosis. Zulu has lost four brothers and sisters to AIDS and TB and, in his work, emphasizes the close link between the two. Zulu actively campaigns for more effective and accessible drugs. He told a reporter, "For me and my family, HIV and TB have always been seen together conspiring and collaborating to steal away our health."

(http://66.216.124.114/7_5_3_feature_winstonezulu.asp)

TUBERCULOSIS (TB)

Tuberculosis (TB) is a significant health problem in both industrialized and developing countries. More than 8 million people are estimated to develop active TB every year, and approximately 2 million die from the disease each year. One-third of the world's population is estimated to be infected with the bacterium that causes TB and 5% to 10% of those infected will become sick or infectious at some point during their lifetime. The HIV/AIDS and TB epidemics are closely linked, with each disease fueling the other.

Tuberculosis is a bacterial infection caused by *Mycobacterium tuberculosis*. The disease usually affects the lungs but can spread to other parts of the body in serious cases. An individual can become infected with TB when another person who has active TB coughs, sneezes, or spits. Not all people who become infected with TB develop symptoms. Those who do not become ill are referred to as having latent TB and cannot spread the disease to others. However, latent TB may eventually progress to active TB. At that point, symptoms develop and the disease can be passed to others. Symptoms may include fever, cough, night sweats, weight loss, fatigue, and coughing up blood.

TB is especially problematic in developing countries, where poverty, overcrowding and other diseases, especially HIV/AIDS, help facilitate its spread. More than 80% of all new TB patients are in Africa, Southeast Asia and the Western Pacific. Thirty-three percent of new TB cases occur in Southeast Asia, but the estimated incidence (new cases) per capita is highest in sub-Saharan Africa. Both the number of TB-related deaths and the highest mortality rate per capita are also in sub-Saharan Africa. TB is also the leading cause of death worldwide among women of reproductive age, accounting for 9% of all deaths among women aged 15-44. Because TB hits women in their reproductive years hardest, they often leave behind young children.

The World Health Organization (WHO) estimates that almost one-third of all people living with HIV/AIDS are also infected with TB, the majority of them live in Africa. In sub-Saharan Africa, the HIV/AIDS epidemic is the principal reason for the resurgence of TB over the past decade. While not all people who become infected with TB will develop symptoms, people with HIV/AIDS are at much higher risk of developing active TB. TB infection also speeds up HIV progression and is the leading cause of death among people with HIV.

TB can be successfully prevented, treated and controlled, even if someone is HIV-positive. The recommended strategy for TB control is DOTS, or "directly observed therapy short-course." Under the DOTS strategy, once patients have been diagnosed with infectious TB, health workers or trained volunteers supervise patients as they take the full course of medications. DOTS is cost-effective and can cure most TB patients in developing countries. The WHO estimates that 83% of the world's population lives in countries covered by DOTS. Efforts to expand access are underway, but only 36% of estimated cases arising in 2003 were treated successfully by DOTS programs.

Expanding access to DOTS is important because if medications are not taken as prescribed, the disease can become resistant to treatment. TB that is resistant is called multi-drug resistant TB (MDR-TB). The rise in resistant strains is another factor contributing to the spread of TB. Treatment for multi-drug resistant TB is significantly more expensive and takes much longer than treatment for TB that is not drug-resistant. MDR-TB is also more serious and can be deadly, especially in people also infected with HIV/AIDS. Rates of MDR-TB are high in several regions, including the countries of the former Soviet Union.

Rising rates of MDR-TB further complicate global prevention, treatment and control efforts. Additionally, growing international recognition of the seriousness of co-infection with HIV/AIDS is pressuring countries and organizations to intensify their efforts to deal with the dual epidemics. Two important efforts aimed at alleviating the worldwide burden of TB are The Global Partnership to Stop TB and the Global Fund to Fight AIDS, Tuberculosis and Malaria.

The Stop TB initiative is a partnership of various public and private organizations including international agencies, government and non-governmental organizations, research institutions, and donor organizations that aim to strengthen social and political support for stopping the spread of TB. It focuses on DOTS expansion, HIV and TB, MDR-TB, and the development of new drugs, vaccines, and diagnostic procedures.

The Global Fund to Fight AIDS, Tuberculosis and Malaria is an independent grant-making organization and a major financier for TB control in developing countries. Since 2002, the Fund has approved grants totaling more than US\$5 billion, approximately 15% of which has been allocated to TB programs. The Global Fund and the Stop TB initiatives have helped coordinate global TB control efforts and ensured that they remain a priority. At the 2004 International AIDS Conference, Nelson Mandela reaffirmed the necessity of these approaches, stating, "We cannot win the battle against AIDS if we do not also fight TB. TB is too often a death sentence for people with AIDS."

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TUBERCULOSIS (TB) GLOSSARY

Active TB disease: an illness in which TB bacteria are multiplying and attacking different parts of the body. The symptoms of active TB disease include weakness, weight loss, fever, no appetite, chills, and sweating at night. Other symptoms of active TB disease depend on where in the body the bacteria are growing. If active TB disease is in the lungs (pulmonary TB), the symptoms may include a bad cough, pain in the chest, and coughing up blood. A person with active TB disease may be infectious and spread TB to others.

BCG: a vaccine for TB named after the French scientists who developed it, Calmette and Guérin. BCG is not widely used in the United States, but it is often given to infants and small children in other countries where TB is common.

Chest x-ray: a picture of the inside of your chest. A chest x-ray is made by exposing a film to x-rays that pass through your chest. A doctor can look at this film to see whether TB bacteria have damaged your lungs.

Contact: a person who has spent time with a person with infectious TB.

Culture: a test to see whether there are TB bacteria in your phlegm or other body fluids. This test can take 2 to 4 weeks in most laboratories.

Directly observed therapy (DOT): a way of helping patients take their medicine for TB. If you get DOT, you will meet with a health care worker every day or several times a week. You will meet at a place you both agree on. This can be the TB clinic, your home or work, or any other convenient location. You will take your medicine while the health care worker watches.

Extrapulmonary TB: active TB disease in any part of the body other than the lungs (for example, the kidney, spine, brain, or lymph nodes).

HIV infection: infection with the human immunodeficiency virus, the virus that causes AIDS (acquired immunodeficiency syndrome). A person with both latent TB infection and HIV infection is at very high risk for active TB disease.

INH or isoniazid: a medicine used to prevent active TB disease in people who have latent TB infection. INH is also one of the four medicines often used to treat active TB disease.

Latent TB infection: a condition in which TB bacteria are alive but inactive in the body. People with latent TB infection have no symptoms, don't feel sick, can't spread TB to others, and usually have a positive skin test reaction. But they may develop active TB disease if they do not receive treatment for latent TB infection.

***Multidrug-resistant TB (MDR-TB):** Acronym for "multidrug resistant tuberculosis". A strain of tuberculosis that is resistant to two or more anti-TB drugs. MDR-TB usually arises when people take only enough medication to feel better, but not the full amount prescribed by a physician. The weaker bacteria are killed, but the stronger bacteria survive and reproduce. These stronger bacteria, when fully grown and causing sickness again, will not be curable with the same treatment and require larger doses of the drug or an entirely new, stronger drug. MDR-TB is a large problem in developing countries, where continual supervision of treatment is not always possible.

***Mycobacterium tuberculosis:** Tuberculosis is a bacterial infection caused by *Mycobacterium tuberculosis*. The disease usually affects the lungs but can spread to other parts of the body in serious cases. An individual can become infected with TB when another person who has active TB coughs, sneezes or spits. Not all people who become infected with TB develop symptoms. Those who do not become ill are referred to as having latent TB and cannot spread the disease to others.

Negative: usually refers to a test result. If you have a negative TB skin test reaction, you probably do not have TB infection.

Positive: usually refers to a test result. If you have a positive TB skin test reaction, you probably have TB infection.

Pulmonary TB: active TB disease that occurs in the lungs, usually producing a cough that lasts 3 weeks or longer. Most active TB disease is pulmonary.

QuantiFERON-TB® Gold (QFT): a blood test used to find out if you are infected with TB bacteria. The QFT measures the response to TB proteins when they are mixed with a small amount of blood.

Resistant bacteria: bacteria that can no longer be killed by a certain medicine.

Smear: a test to see whether there are TB bacteria in your phlegm. To do this test, lab workers smear the phlegm on a glass slide, stain the slide with a special stain, and look for any TB bacteria on the slide. This test usually takes one day to get the results.

Sputum: phlegm coughed up from deep inside the lungs. Sputum is examined for TB bacteria using a smear; part of the sputum can also be used to do a culture.

TB skin test: a test that is often used to detect latent TB infection. A liquid called tuberculin is injected under the skin on the lower part of your arm. If you have a positive reaction to this test, you probably have latent TB infection.

Tuberculin or PPD: a liquid that is injected under the skin on the lower part of your arm during a TB skin test. If you have latent TB infection, you will probably have a positive reaction to the tuberculin.

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**Definition provided by the Kaiser Family Foundation.*

MALARIA

Malaria is a major cause of sickness and death worldwide, resulting in 300 million to 500 million infections and at least 1 million deaths each year. Over 50% of the world's population lives in areas where they are at risk of contracting malaria. Malaria is a disease caused by parasites that are transmitted to humans via mosquito bites. Symptoms of infection may include fever, chills, headache, muscle pain, fatigue, nausea and vomiting. These symptoms usually appear between nine and 14 days after a person is bitten by an infected mosquito. In severe cases, the disease can be life threatening.

Although the disease occurs in many parts of the world, it poses the greatest problem in sub-Saharan Africa, where more than 90% of malarial deaths occur each year, mostly in children under five years of age. This region is particularly hard-hit by malaria due to several factors: most of the region's cases are caused by the *Plasmodium falciparum* parasite—the most severe and life-threatening form of disease; limited health infrastructure affecting prevention and treatment efforts; and the relationship between poverty and malarial disease.

In sub-Saharan Africa, the situation is also worsened by the presence of other diseases, especially HIV/AIDS. Both diseases affect similar geographic areas and risk groups, causing dual public health crises. A study in Uganda found that HIV-positive people were more likely to also be infected with malaria than HIV-negative people.

People with HIV/AIDS may be more susceptible to malaria because of their weakened immune systems. Once infected with malaria, they may be more likely to suffer from serious illness and less likely to respond to standard treatments for malaria.

Children and pregnant women are particularly vulnerable to malaria. Women's immune systems are weaker during pregnancy, placing them at increased risk for contracting disease. Malaria during pregnancy is very serious and can lead to severe anemia and even maternal death. Children born to women with malaria and HIV are more likely to have low birth-weight and die during infancy. Additionally, HIV-positive pregnant women with malaria are at higher risk of developing such complications compared to pregnant women without HIV.

Children under five years of age are also at high risk of suffering from malaria-related illness and death because they have not had a chance to build up sufficient immunity to the disease. According to the World Health Organization (WHO), over 75% of annual malarial deaths occur in African children under five years of age, with one child dying approximately every 30 seconds. Those who recover from the disease may still suffer from serious conditions, as a result of the infection, such as anemia, recurrent fever, blindness and brain damage.

Insecticide spraying, bed nets, and other cost-effective measures can help prevent malaria. During the 1950s and 1960s, the WHO led a global effort to eradicate the mosquitoes that carry malaria. DDT (dichlorodiphenyltrichloroethane) was the main insecticide used during this time. Through the WHO's efforts, malaria was successfully eradicated from North America and Europe. Eventually, outdoor use of DDT for malaria control was discouraged by the WHO because of the insecticide's harmful effects on the environment. It has been banned from agricultural use in almost all countries. Currently, the WHO recommends use of DDT for malaria control through indoor spraying.

Medications for prevention and treatment of malaria are also available. A number of anti-malarial drugs exist, including chloroquine, sulfadoxine-pyrimethamine (SP) and amodiaquine; they are known as monotherapies because each is generally used alone. Unfortunately, malaria parasites are developing resistance to many of the available drugs. This is true in many parts of Asia and South America, and is a growing problem in Africa as well. Because resistance to monotherapies is expanding, the WHO now recommends that countries make combination therapies available. Since 2001, 56 countries have changed their treatment policy. However, combination therapy is still not available in many countries where existing drugs are ineffective. The WHO, together with organizations such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, support initiatives to expand access to effective combination therapies. In 2004, the WHO revised its malaria treatment recommendation to include artemisinin-based combination therapy (ACT). The compound, found naturally in a Chinese herb, has been used to treat malaria since the 1980s and is currently the most effective measure against the disease.

The Global Fund, an independent grant-making organization, is a significant source of funding for malaria-control interventions. Since its establishment in 2002, the Global Fund has committed approved grants totaling more than US\$5 billion, approximately one-quarter of which has been allocated towards malaria control efforts.

One of the major global malaria initiatives is the Roll Back Malaria (RBM) partnership, created in 1998 by the WHO, UNICEF, UNDP and the World Bank. The partnership aims to coordinate international malaria-control activities, bringing together over 90 public and private organizations, international agencies, malaria-endemic countries, and research and academic institutions. The goal of the partnership is to cut the global burden of malaria in half by 2010. RBM has successfully raised awareness of the disease, mobilized social, political and financial support and coordinated international efforts to combat malaria. In 2005, U.S. President Bush announced the creation of a new Presidential Malaria Initiative and pledged to increase funding for malaria prevention and treatment by more than US\$1.2 billion over five years. The Bill & Melinda Gates Foundation also has established major global malaria initiatives.

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Bill & Melinda Gates Foundation: http://www.gatesfoundation.org/GlobalHealth/Pri_Diseases/Malaria/default.htm

MALARIA GLOSSARY

Anopheles: The genus of mosquito that transmits malaria.

***Antibody:** Molecules in the body that identify and destroy foreign substances such as bacteria and viruses.

Antigen: Any substance that provides an immune response when it is introduced into the body.

Attenuated: Treated in such a way as to decrease the ability of the parasite to cause infection or disease.

Chloroquine: The mainstay of malaria treatment since 1945, but no longer effective against a growing number of strains of *P. falciparum* malaria.

***Endemic:** The constant presence of a disease or infectious agent within a given geographic area or population group; can also refer to the usual prevalence of a given disease within such area or group.

***Epidemic:** The occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time.

Gametocytes: Precursors of the sexual forms of the malaria parasite, which release either male or female gametes within the stomach of the mosquito.

Genus: A category of organisms.

G6PD deficiency: An inherited abnormality that causes loss of a red blood cell enzyme. It may give a person some protection against malaria, but it also means that person cannot take the antimalarial drug primaquine. G6PD deficiency is found most commonly in people of African, Mediterranean, and Asian descent.

Hemoglobin: The oxygen-carrying part of the red blood cell.

Hypnozoite: A form of the parasite that remains inactive within the liver and can produce relapses.

***Immune System:** The body's system of defense against foreign organisms such as bacteria, viruses or fungi.

Immunity: The protection generated by the body's immune system in response to invasion by "foreign" invaders, including bacteria and viruses as well as parasites.

Larvae: Immature wingless forms of insects such as mosquitoes.

***Malaria:** A disease caused by parasites that are transmitted to humans via mosquito bites. Symptoms of infection may include fever, chills, headache, muscle pain, fatigue, nausea and vomiting. These symptoms usually appear between 9 and 14 days after a person is bitten by an infected mosquito. In severe cases, the disease can be life-threatening.

Merozoite: The form of the malaria parasite that invades human red blood cells.

Mucous membrane: The lining of certain cavities, such as the nose and mouth and intestinal tract, that produces a protective layer of mucus.

Oocyst: A parasite stage within the mosquito, produced by the union of male and female gametes.

Parasite: An animal (or plant) that must live on or in an organism of another species, from which it draws its nourishment.

Paroxysm: An attack of a disease that is likely to recur at periodic intervals.

Plasmodium: The genus of the parasite that causes malaria. The genus includes four species that infect humans: *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium malariae*, and *Plasmodium ovale*.

Primaquine: A drug that kills malaria parasites that lodge in the liver.

Quinine: A drug, originally extracted from tree bark, which was the only available antimalarial treatment for nearly 300 years.

Relapse: The recurrence of disease some time after it has been apparently cured.

***Resistance:** The ability of a pathogen to reproduce despite the presence of drugs designed to inhibit its reproduction or survival. The malaria parasite has developed strains that are resistant to drugs such as chloroquine. The *Anopheles* mosquito has developed strains that are resistant to DDT and other insecticides.

Schizont: A developmental form of the parasite that contains many merozoites.

Species: Organisms in the same genus that have similar characteristics.

Sporozoite: The infectious form of the parasite, which is injected into people by a feeding mosquito.

Strain: A genetic variant within a species.

Vector: The organism, typically an insect, that transmits an infectious agent to its alternate host, typically a vertebrate. In human malaria, the vector of the parasite are mosquitoes, the “carriers” or “hosts” are humans.

Virulent: Characterized by rapid course or severity.

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**Definition provided by the Kaiser Family Foundation.*

RESOURCE LIST

AIDSinfo: The U.S. Department of Health and Human Services' comprehensive online resource on HIV/AIDS treatment, prevention and research.

<http://aidsinfo.nih.gov>

American Foundation for AIDS Research (amfar): A nonprofit organization dedicated to supporting AIDS research, prevention, treatment and the advocacy of AIDS-related public policy.

www.amfar.org

Avert.org: An international HIV/AIDS charity based in the United Kingdom dedicated to preventing HIV/AIDS worldwide. Avert.org conducts education campaigns in countries with high rates of infection, particularly South Africa and India.

www.avert.org

Global Business Coalition on HIV/AIDS (GBC): An alliance comprising over 200 international companies dedicated to combating HIV/AIDS with private sector resources.

www.businessfightsaids.org

The Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund): An international partnership between public and private organizations that finances programs to fight HIV/AIDS, TB and Malaria.

www.theglobalfund.org

Global Health Facts.org: An online interactive resource of the Kaiser Family Foundation providing up-to-date data by country on HIV/AIDS, tuberculosis, malaria and other key health and socio-economic indicators.

www.globalhealthfacts.org

Global Health Reporting.org: An online resource of the Kaiser Family Foundation providing journalists and others with the latest information on HIV/AIDS, tuberculosis and malaria.

www.globalhealthreporting.org

HIV InSite: The University of California San Francisco School of Medicine's comprehensive online resource on HIV/AIDS treatment, prevention, policy and research.

www.hivinsite.org

International Finance Corporation Against AIDS (IFC Against AIDS): A member of the World Bank Group, IFC Against AIDS is a division of the IFC dedicated to promoting and protecting sustainable development in regions threatened by HIV/AIDS.

www.ifc.org/ifcagainstaids

Stop TB Partnership: An international network of public and private organizations dedicated to the elimination of tuberculosis.

www.stoptb.org

Roll Back Malaria (RBM): A global partnership created by the WHO, UNICEF, UNDP and the World Bank. RBM coordinates international malaria-control activities, bringing together over 90 public and private organizations, international agencies, malaria-endemic countries, and research and academic institutions.

www.rbm.who.int

U.S. Centers for Disease Control and Prevention (CDC): The principle agency in the United States government for protection against infectious and chronic diseases. CDC is a major participant in bilateral and multilateral initiatives on HIV/AIDS and other diseases.

www.cdc.gov

U.S. Food and Drug Administration (FDA): An agency of the U.S. government regulating the development and application of food and medicinal products. FDA approval sets the international standard for accepted HIV/AIDS drugs and therapies.

www.fda.gov

U.S. National Institute of Allergy and Infectious Diseases (NIAID): A division of the U.S. National Institutes of Health for studying HIV and other diseases.

www3.niaid.nih.gov

U.S. State Department Office of the Global AIDS Coordinator: The clearinghouse for all HIV/AIDS-related activities of the United States.

www.state.gov/s/gac

U.S. Agency for International Development (USAID): An agency of the U.S. government facilitating economic, political and public health–related initiatives in developing nations.

www.usaid.gov/our_work/global_health/aids/index.html

Joint United Nations Programme on HIV/AIDS (UNAIDS): The clearinghouse for all UN activities and resources relating to HIV/AIDS.

www.unaids.org

United Nations Development Programme (UNDP): An agency of the United Nations for improving local infrastructure, poverty reduction and human rights. UNDP plays an important role in the fight against HIV/AIDS, as poverty and other related socio-economic problems contribute greatly to the spread of the epidemic.

www.undp.org

United Nations Children’s Fund (UNICEF): An agency of the United Nations committed to improving the quality of life of children worldwide.

www.unicef.org

World Bank HIV/AIDS: A division of the World Bank dedicated to the prevention and mitigation of HIV’s social, economic and strategic impact.

www.worldbank.org

World Health Organization (WHO): The WHO is the United Nations’ agency for health.

www.who.int/en



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