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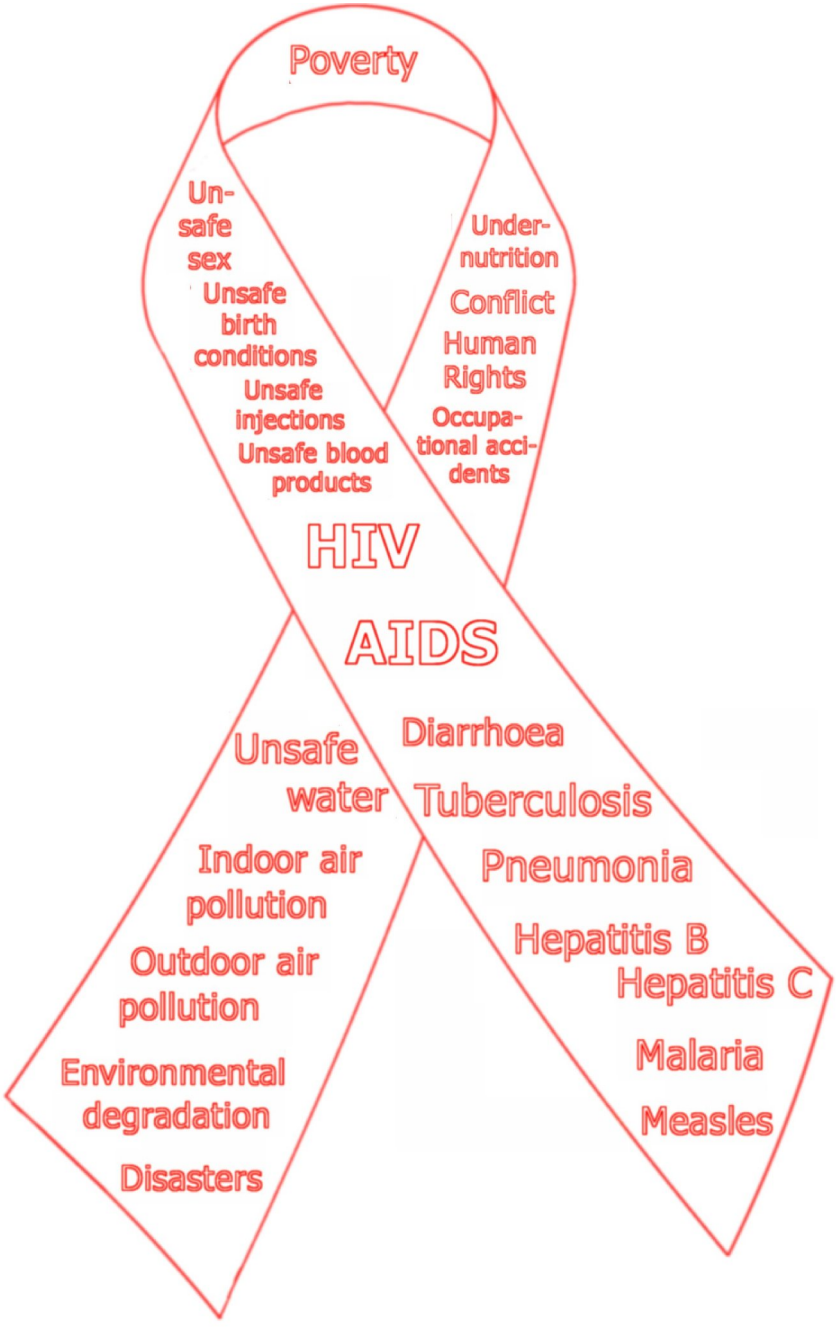
HIV/AIDS in the Context of Other Global Challenges



Special Report for the UN High-Level Meeting on AIDS, 8-10 June 2011

Global2015

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HIV/AIDS in the Context of Other Global Challenges

Special Report for the UN High-Level Meeting on AIDS, 8-10 June 2011

Berlin, June 2011

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Extended version

Special Global Challenges Report 1

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Summary of UN Meeting Results

General Assembly adopting the declaration, 10/6/11 (UN Photo/JC McIlwaine)

On 10th June 2011, the United Nations General Assembly, at the High-Level Meeting on AIDS, unanimously adopted the "Political Declaration on HIV/AIDS: Intensifying our Efforts to Eliminate HIV/AIDS", including the following new goals and targets (emphasis always added):

- "to ***end the epidemic*** with renewed political will" (§ 49).

Prevention:

- "working towards ***reducing sexual transmission of HIV by 50 per cent by 2015***" (§ 62);
- "working towards ***the elimination of mother-to-child transmission of HIV by 2015*** *and substantially reducing AIDS-related maternal deaths*" (§ 64);
- "Ensuring that *women of child-bearing age* have access to HIV prevention-related services and that pregnant women have access to antenatal care, information, counselling and other HIV services" (§ 59 l);
- "working towards *reducing transmission of HIV among people who inject drugs by 50 per cent by 2015*" (§ 63);
- "Expanding access to essential commodities, particularly male and female condoms and sterile injecting equipment" (§ 59 d); "Significantly expanding and promoting voluntary and confidential HIV testing and counselling" (§ 59 f); "Promoting medical male circumcision where HIV prevalence is high and male circumcision rates are low" (§ 59 i);
- "*Deploying new biomedical interventions as soon as they are validated,* including female-initiated prevention methods such as microbicides, HIV treatment prophylaxis, earlier treatment as prevention, and an HIV vaccine" (§ 59 n).

Universal access to treatment:

- "redouble efforts ***to achieve, by 2015, universal access*** to HIV prevention, treatment, care and support" (§ 51);
- "accelerate efforts to achieve the goal of universal access to antiretroviral treatment ... with the target of working towards ***having 15 million people living with HIV on antiretroviral treatment by 2015***" (§ 66);
- "combat *tuberculosis,* which is a leading cause of death among people living with HIV, ... and commit ***by 2015*** to work towards ***reducing tuberculosis deaths in people living with HIV by 50 per cent***" (§ 75);
- "*reduce the high rates of HIV and hepatitis B and C co-infection*" (§ 76).

Funding:

- "working towards ***closing the global HIV and AIDS resource gap by 2015***, currently estimated by the Joint United Nations Programme on HIV/AIDS to be ***$6 billion annually***" (§ 86);
- "Commit ***by 2015***, through a series of incremental steps and through our shared responsibility, ***to reach a significant level of annual global expenditure on HIV and AIDS,*** while recognizing that the overall target estimated by the Joint United Nations Programme on HIV/AIDS is ***between $22 billion and $24 billion*** in low- and middle-income countries" (§ 88).

The declaration also includes *interlinkages* between HIV/AIDS and poverty (§§ 7, 98), nutrition (§§ 70, 98), co-infections such as tuberculosis, hepatitis and malaria (§§ 69, 75, 76, 98-100), gender (§ 53), maternal and child health (§§ 98, 99), safe drinking water and sanitation (§ 98), and human rights (§ 77). However, topics such as the safety of medical injections and blood products are not covered.

UN 2011, General Assembly: Political Declaration on HIV/AIDS: Intensifying our Efforts to Eliminate HIV/AIDS. A/RES/65/277 (http://www.unaids.org/en/media/unaids/contentassets/documents/document/2011/06/20110610_UN_A-RES-65-277_en.pdf).

Countdown to Zero – Global Plan Towards the Elimination of New HIV Infections among Children by 2015 and Keeping their Mothers Alive

As a side-event of the UN High-Level Meeting, the Global Plan was started, agreed upon by 35 countries and 42 organizations and business companies. These include the 22 countries in which pregnant women are most affected by HIV infections, the US and other industrialized countries, UNAIDS, the World Bank, the Bill & Melinda Gates Foundation, the Clinton Health Access Initiative, Merck, Roche, and others. This initiative encompasses the following overall goals and targets (emphasis always added):

The 22 most affected countries:

Angola, Botswana, Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, India, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia and Zimbabwe

- "To accelerate progress towards the *elimination of new child infections by 2015 and keeping their mothers alive"* (p. 38);
- "***Reduce the number of new HIV infections among children by 90%" until 2015****; and*
- "***Reduce the number of AIDS-related maternal deaths by 50%" until 2015*** (p. 7).

Additionally, there are targets *relating to 2015* in four strategic areas of prevention and treatment:

1. "***Reduce HIV incidence in women 15-49 (and 15-24) by 50%"****;*
2. "***Reduce unmet need for family planning among women living with HIV to zero"****;*
3. "***Reduce mother-to-child transmission of HIV to 5%"****;*
   "90% of mothers receive perinatal antiretroviral therapy or prophylaxis";
   "90% of breastfeeding infant-mother pairs receive antiretroviral therapy or prophylaxis";
4. "***Provide 90% of pregnant women in need of antiretroviral therapy for their own health with life-long antiretroviral therapy"*** (p. 39).

The Global Plan covers all low- and middle-income countries, but gives priority to the 22 countries in which the estimated numbers of pregnant women infected with HIV are the highest (p. 3).

Launch of the Global Plan. From left to right: Babalwa Mbono, mothers2mothers (South-African NGO); Michel Sidibé, Executive Director of UNAIDS; Bill Clinton, Former President of the United States; UN Secretary-General Ban Ki-moon; Goodluck Jonathan, President of Nigeria; and Eric Goosby, of the United States, Global AIDS Coordinator (UN Photo/Paulo Filgueiras)

The Global Plan includes many milestones, interim targets, and activities to ensure accountability, to share responsibility, and to raise funds. Regarding funding required for the 22 most affected countries, "the shortfall is ... about ***US$ 2.5 billion for the period 2011-2015"*** (p. 18).

Because the transmission from mother to child cannot always be prevented, the funding requirements of the Global Plan include the treatment of infants living with HIV in their first year of life, which is a particularly critical period (p. 18). After the infants' first year, and regarding the mother after breastfeeding has ended, the needs of mothers and children for HIV prevention and treatment shall be met by already existing programmes on HIV prevention and treatment (p. 7). The "funds for ongoing treatment for mothers beyond the breastfeeding period, for fathers and for children living with HIV" would be required, but they "are not included in this Global Plan and must be mobilized separately" (p. 19).

UNAIDS 2011: Countdown to Zero; Global Plan Towards the Elimination of New HIV Infections among Children by 2015 and Keeping their Mothers Alive; 2011-2015. (ISBN: 978-92-9173-897-7) Geneva. (http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2011/20110609_JC2137_Global-Plan-Elimination-HIV-Children_en-1.pdf)

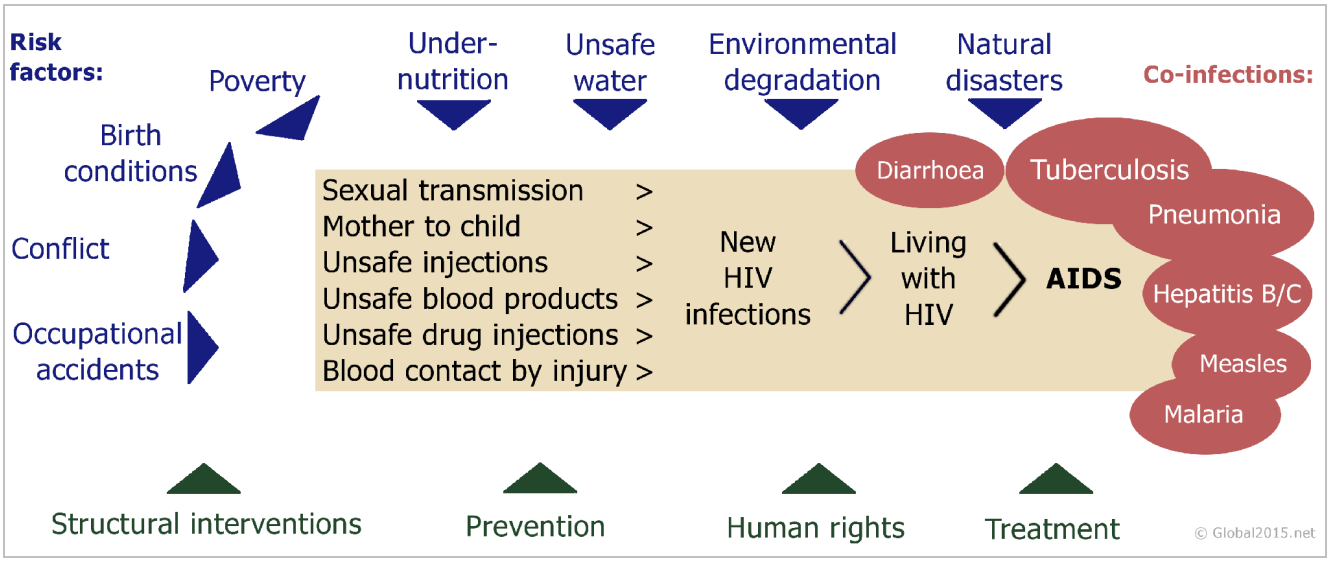
Introduction

Human health worldwide is greatly affected by epidemics such as HIV/AIDS. The international community mobilized an unprecedented level of financial resources, with 15.9 billion US dollars made available in 2009. However, an additional US$ 10 billion would have been necessary to effectively fight HIV/AIDS globally.[1] HIV/AIDS is, deservedly, a well recognized and important global challenge. However, like everything in a global context, it does not exist independently from other global challenges. Almost every major global challenge that the world is facing this century has some connection to HIV/AIDS. It is beyond the scope of this report to review them all; instead the focus is centred on some of the most relevant interlinkages between HIV/AIDS and other global challenges. The fight against the epidemic can only be successful if interlinking factors do not counteract and undermine the measures taken to tackle it. This report may therefore be helpful in assessing strategies and setting priorities in the fight against HIV/AIDS.

HIV/AIDS Basics

- **The disease was first reported in 1981 (AIDS, Acquired Immune Deficiency Syndrome).**
- **The according virus was discovered in 1983 (HIV, Human Immunodeficiency Virus).**
- **34 million people are infected.**
- **1.8 million deaths per year.**
- **58.5 million healthy life-years (DALYs) lost annually.**
- **US$ 52.3 billion, or 0.086% of global GDP in damages per year.**

Fig. 1: HIV/AIDS and Interlinking Global Challenges



Section 1: The HIV/AIDS Epidemic

1.1 People Affected by HIV/AIDS

Cumulatively, up to ***50.6 million people*** worldwide suffer from HIV/AIDS:

- About *34 million people* were living with HIV/AIDS in 2010 (estimates range from 30.9 to 36.9 million). That is 0.5% of the world population. Most of these (68%) live in sub-Saharan Africa.[2] HIV/AIDS affects mostly people in the economically productive age range, reducing the work-force and, in doing so, constraining development. The most affected group among those living

[1] UNAIDS 2010 – Joint United Nations Programme on HIV/AIDS: Global report; UNAIDS report on the global AIDS epidemic 2010. (ISBN 978-92-9173-871-7) Geneva. (http://www.unaids.org/globalreport/documents/20101123_GlobalReport_full_en.pdf), p. 146.

[2] UNAIDS 2011: AIDS at 30; Nations at the crossroads. Section 3 (http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2011/20110531_JC2095E_aids_at_30_section3.pdf), p. 105; UNAIDS 2010 (fn. 1), pp. 23, 25, 180.

with HIV is people aged 25-49 years.[3] Regarding new infections, young people aged 15-24 years account for 40% of all new infections among adults.[4]

- Circa *16.6 million children* have lost one or both parents to AIDS.[5]

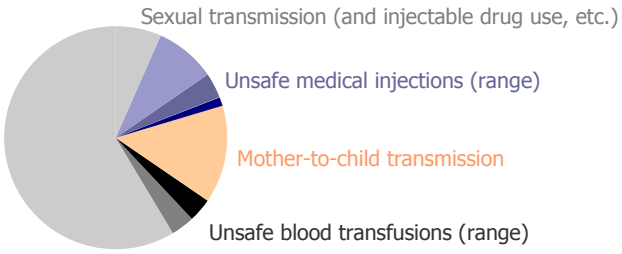
HIV can be transmitted by contact with infected blood or other body fluids, mainly through unprotected sexual intercourse, but also from mother to child (at birth or through breastfeeding), through unsafe injections in medical care, unsafe blood transfusions, and through shared injection equipment in injectable drug use.[6] Of all new HIV infections, about 14% were transmitted from mother to child in 2009,[7] 3.5-7% through unsafe blood transfusions and products,[8] and an estimated 1.3% to 5%, and even up to 14% through unsafe injections in health-care settings.[9] Regarding transmission through sharing injection equipment for drug use no global data is available; however, data on

Table 1: Countries with Highest Number of HIV-infected Inhabitants

South Africa	5 600 000
Nigeria	3 300 000
India	2 400 000
Kenya	1 500 000
Mozambique	1 400 000
Tanzania	1 400 000
Uganda	1 200 000
USA	1 200 000
Zimbabwe	1 200 000
Russia	980 000
Zambia	980 000

Source: UNAIDS 2010 (fn. 1), pp. 180, 187, 201.

Fig. 2: Proportions of 4 Major Transmission Paths



Sources: UNAIDS 2010 (fn. 1), pp. 16, 19, 31, 78; AVERT 2011 (fn. 8); Walkley 2009 (fn. 8); WHO 2008 (fn. 9), p. 26; Hauri et al. [WHO] 2004 (fn. 6), p. 1834; SIGN/WHO, 2011 (fn. 9), p. 4; own calculation.

[3] UNAIDS 2010 (fn. 1), pp. 181, 183 (the global HIV prevalence among people 15-49 years is 0.8% [0.7-0.8%]; the prevalence among young women 15-24 years is 0.6% [0.5-0.7%], and among young men 15-24 years 0.3% [0.2-0.3%] only; hence the prevalence among people 25-49 years is higher).

[4] UN 2010, The Millenium Development Goals Report 2010. (ISBN 978-92-1-101218-7) New York. (http://www.un.org/millenniumgoals/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%2020100615%20-.pdf), p. 41.

[5] UNAIDS 2010 (fn. 1), p. 186 (age: 0-17 years, uncertainty range: 14.4-18.8 million).

[6] CDC 2010, Centers for Disease Control and Prevention: Basic Information about HIV and AIDS: How is HIV spread? August 11, 2010. (http://cdc.gov/hiv/topics/basic/index.htm#spread); WHO 2010, World Health Organization: HIV/AIDS; Online Q&A, July 2010. (http://www.who.int/features/qa/71/en/index.html); WHO 2009, World Health Organization: Global Health Risks; Mortality and burden of disease attributable to selected major risks. (ISBN 978 92 4 156387 1) Geneva, (http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf), pp. 19, 22, 26; WHO 2002, World Health Organization: The World Health Report 2002, Reducing Risks, Promoting Healthy Life. (ISBN 1020-3311) Geneva. (http://www.who.int/whr/2002/en/whr02_en.pdf), pp. 62, 78-79; UNAIDS 2010 (fn. 1), pp. 19, 31; Reid, S., 2009, Non-vertical HIV transmission to children in sub-Saharan Africa, International Journal of STD & AIDS, (20) pp. 820-827; Reid, S., 2009, Increase in clinical prevalence of AIDS implies increase in unsafe medical injections, International Journal of STD & AIDS (20), pp. 295-299; Hauri et al. [WHO] 2004, Comparative Quantification of Health Risks. Chapter 22: Contaminated injections in health care settings, pp. 1803-1850 (http://www.who.int/publications/cra/chapters/volume2/1803-1850.pdf), p. 1831; Kane et al. 1999, Transmission of hepatitis B, hepatitis C and human immunodeficiency viruses through unsafe injections in the developing world: model-based regional estimates, Bulletin of the World Health Organization, 1999, 77 (10), pp. 801-807 (http://whqlibdoc.who.int/bulletin/1999/Vol77-No10/bulletin_1999_77(10)_801-807.pdf), p. 803; Lackritz, E., 1998, Prevention of HIV transmission by blood transfusion in the developing world: achievements and continuing challenges, AIDS. 1998;12 Suppl A:S81-6. (http://www.ncbi.nlm.nih.gov/pubmed/9632988).

[7] Of 2.6 million new infections, there were 370 000 in children in 2009, which makes 14%; UNAIDS 2010 (fn. 1), pp. 16, 19, 78; own calculation.

[8] WHO estimate: 5-10% of all new HIV cases in Africa; of all 2.6 million new infections, 1.8 million occur in sub-Saharan Africa; hence it is 3.5-7% of all new infections; AVERT 2011: Blood Safety and HIV. (No date of publication given; according to meta data on last modification: 2011) (http://www.avert.org/blood-safety-hiv.htm); Walkley, A., 2009: Africa: HIV Transmission Via Transfusions in Continent Remains High (http://allafrica.com/stories/201001050140.html); own calculation.

[9] WHO 2008, World Health Organization: The Global Burden of Disease; 2004 Update. (ISBN 978 92 4 156371 0) (http://www.who.int/entity/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf), p. 26; Hauri et al. [WHO] 2004 (fn. 6), p. 1834; SIGN/WHO, 2011: Annual Meeting of the Safe Injection Global Network; 9 to 11 November 2010; Dubai, United Arab Emirates (http://www.who.int/injection_safety/toolbox/sign2010_meeting.pdf), p. 4.

Kenya (2006) show that about 3.8% of people newly infected with HIV were infected via this transmission path.[10]

Contracting other sexually transmitted diseases increases an individual's susceptibility to the HI virus.[11] In most cases, if HIV is untreated for 7 to 10 years it progresses to AIDS, however this transition may occur more rapidly in less developed countries.[12] *See also 2.4 on safe injections.*

The **global risk** of HIV/AIDS is posed by possible changes in the patterns of spread, or changes in the pathogen itself; this risk is characterized by a very large potential for damage as well as uncertainty regarding the probability of occurrence.[13] For example, the frequency of antiretroviral resistant HIV in high-income countries has already been observed increasing as a result of poor compliance with antiretroviral therapy programmes.[14]

1.2 Deaths and Burden of Disease

In 2009, ***1.8 million people died*** from HIV/AIDS related causes.[15] AIDS is the leading cause of death in Africa.[16] (See figure 3 on the next page, including data on other global challenges.)

About ***58.5 million healthy life-years (DALYs)*** were lost due to HIV/AIDS in 2004.[17]

DALYs: Disability-adjusted Life Years

One DALY represents the loss of one year of equivalent full health.
DALYs are the sum of the years of life lost due to premature mortality (YLL) in the population and the years lost due to disability (YLD) for incident cases of the health condition.

WHO, World Health Report 2004, p. 95.

1.3 Economic Damages

There is no comprehensive global data available, however:

- In the United States of America, the cost of new HIV infections in 2002 was an estimated *US$ 36.4 billion*, consisting of US$ 6.7 billion in direct medical costs and US$ 29.7 billion in productivity losses.[18]
- About *US$ 15.9 billion* was spent in 2009 to constrain HIV/AIDS, mainly in low and middle-income countries.[19]
- In countries that are highly affected by HIV/AIDS, the *annual loss in GDP growth amounts to 2-4%*.[20]

The losses expressed in dollars above amount to ***US$ 52.3 billion per year*** alone (this does not include all economic costs).

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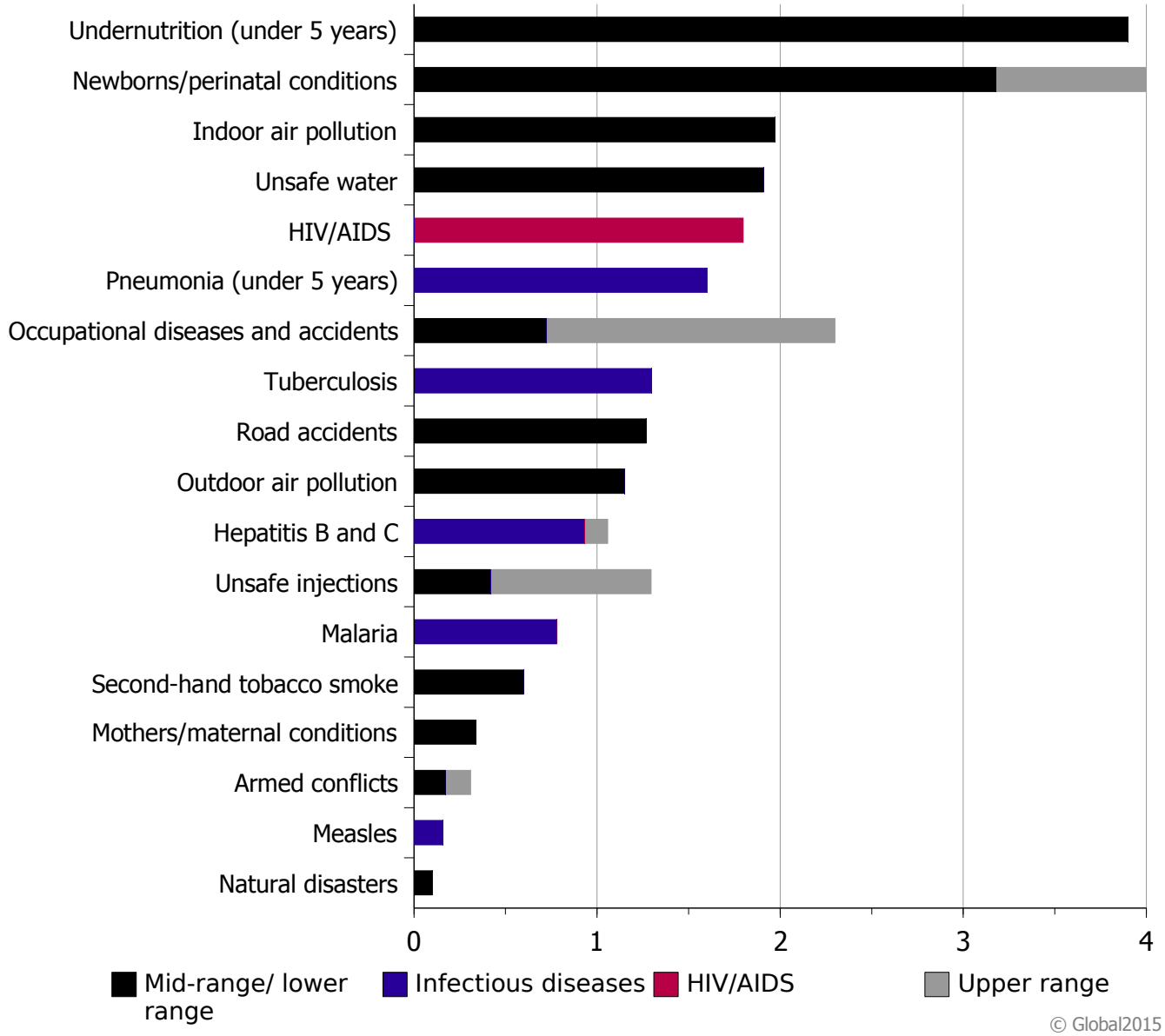
[10] UNAIDS 2010 (fn. 1), p. 31.
[11] Bertozzi, S., et al. 2006: HIV/AIDS Prevention and Treatment. In: Disease Control Priorities in Developing Countries. 2nd Edition. (ISBN 0-8213-0821361791) Washington DC, New York. (http://files.dcp2.org/pdf/DCP/DCP.pdf), p. 335.
[12] Ibid., p. 353; WHO 2010 (fn. 6).
[13] WBGU 1998, German Advisory Council on Global Change (Wissenschaftlicher Beirat Globale Umweltveränderungen der Bundesregierung): World in Transition: Strategies for managing global environmental risks, Annual report 1998. Berlin, Heidelberg, New York, et al.: Springer, 2000 [publishing year of English version], pp. 62, 91. (http://www.wbgu.de/fileadmin/templates/dateien/veroeffentlichungen/hauptgutachten/jg1998/wbgu_jg1998_engl.pdf).
[14] Bertozzi et al. 2006 (fn. 11), p. 354.
[15] Estimates range from 1.6 million to 2.1 million; UNAIDS 2010 (fn. 1), pp. 19, 21, 25.
[16] UN 2010 (fn. 4), p. 40; WHO 2008 (fn. 9), pp. 54-58.
[17] WHO 2008 (fn. 9), p. 60.
[18] Discounted; Hutchinson, A. B., et al. 2006: The Economic Burden of HIV in the United States in the Era of Highly Active Antiretroviral Therapy; Evidence of Continuing Racial and Ethnic Differences. In: Journal of Acquired Immune Deficiency Syndromes, Volume 43, Number 4, December 1, 2006 (http://journals.lww.com/jaids/fulltext/2006/12010/the_economic_burden_of_hiv_in_the_united_states_in.12.aspx), pp. 451.
[19] UNAIDS 2010 (fn. 1), p. 146.
[20] UN 2004, United Nations, Department of Economic and Social Affairs, Population division: The Impact of AIDS (http://www.un.org/esa/population/publications/AIDSimpact/91_CHAP_VIII.pdf), pp. 85, 89.

Infectious diseases such as HIV/AIDS may shift to new regions and population segments. The perceived economic *risk* has been estimated by experts to likely cause an (additional) loss of about *US$ 250 billion* within the next ten years (perceived probability of occurrence: 5-10%).[21]

Fig. 3: Annual Deaths due to Global Challenges
(Millions)



The challenges included are mainly due to a lack of access to essential preconditions of life, such as food, health care and physical integrity. – Data sources: undernutrition, indoor/outdoor air: WHO 2009 (fn. 6), pp. 13, 50; newborns: WHO 2008 (fn. 9), p. 54, UNICEF 2009: The State of The World's Children 2009, Maternal and Newborn Health, p. 2; unsafe water: WHO/UNICEF 2010: Progress on Sanitation and Drinking-water, 2010 Update, p. 7; HIV/AIDS: UNAIDS 2010 (fn. 1), pp. 19, 21, 25; pneumonia: WHO, 2010, Pneumonia, Fact Sheet Number 331; occupational: WHO 2009 (fn. 6), p. 50, ILO 2009: World Day for Safety and Health at Work 2009; Facts on safety and health at work, p. 1; TB, malaria, mothers: WHO 2011, World Health Statistics 2011, pp. 15, 16; roads: WHO 2009: Global status report on road safety, Time for Action, pp. 11, 1-3; hepatitis: Perz, J. F., et al.: The contributions of hepatitis B virus and hepatitis C virus infections to cirrhosis and primary liver cancer worldwide, Journal of Hepatology 45 (2006), pp. 529-538, WHO 2010: Viral hepatitis, Report by the Secretariat (A63/15), §1, Wiersma, S., [WHO] 2010: Global Burden of Viral Hepatitis, pp. 10, 11; injections: WHO 2009 (fn. 6), p. 50, Miller, M. A., and Pisani, E.: The cost of unsafe injections, Bulletin of the World Health Organization, 1999, 77 (10), 808-811; smoke: WHO 2009: WHO Report on the Global Tobacco Epidemic; Implementing smoke-free environments, p. 20; conflict: WHO 2008 (fn. 9), p. 58, WHO 2002 (fn. 6), p. 80, WHO 2004: World Health Report 2004, p. 124; measles: WHO/UNICEF 2010: Joint Annual Measles Report 2009; Strengthening Immunization Services through Measles Control, p. 2; disasters: IFRC 2010: World Disasters Report 2010, p. 171 (average 2000-2009).

[21] WEF 2010 – World Economic Forum: Global Risks 2010; A Global Risk Network Report. (ISBN 92-95044-31-2) Geneva. (http://www.weforum.org/pdf/globalrisk/globalrisks2010.pdf), 2, pp. 44-45.

1.4 Human Rights

The "right of everyone to the enjoyment of the highest attainable standard of physical and mental health" also applies to HIV/AIDS, regarding "the areas of prevention, treatment, care and support", and "addressing stigma and discrimination".

The international human rights system explicitly recognizes HIV status as a prohibited ground of discrimination.

Sources: resolution UN 2006 (fn. 65, General Assembly); resolution UN 2004 (fn. 195); UN 1976 (fn. 194), art. 12; UN 1948 (fn. 193); WHO 1946 (fn. 192); see quotes in the annex; UNHCHR/UNAIDS 2006 – Office of the United Nations High Commissioner for Human Rights and the Joint United Nations Programme on HIV/AIDS: International Guidelines on HIV/AIDS and Human Rights; 2006 Consolidated Version. (http://www2.ohchr.org/english/issues/hiv/docs/consolidated_guidelines.pdf), p. 6.

1.5 Goals

The following goals have been agreed upon internationally:

1. "to provide education and services *to prevent the transmission of all forms of sexually transmitted diseases and HIV* and ... *improve care and support for people living with HIV/AIDS";*
2. "addressing the rising rates of HIV infection among young people *to ensure an HIV-free future generation";*
3. "To encourage the pharmaceutical industry *to make essential drugs more widely available and affordable* by all who need them in developing countries" (Millennium Goal). Essential medicines include antiretroviral drugs against HIV/AIDS.

Sources: 1. UN 1999 (fn. 34, General Assembly), § 67, emphasis added; 2. resolution UN 2006 (fn. 65, General Assembly), § 26, emphasis added (see annex for full quote and further goals); 3. resolution UN 2000, General Assembly: United Nations Millennium Declaration (http://www.un.org/millennium/declaration/ares552e.pdf) , § 20 [3], emphasis added; WHO 2010: WHO Model List of Essential Medicines; 16th list (updated). March 2010. (http://www.who.int/medicines/publications/essentialmedicines/Updated_sixteenth_adult_list_en.pdf), p. 10.

1.6 Targets

The following internationally agreed upon, time-bound, quantifiable targets have been set:

1. with regard to ***2015:*** "To have, by then, ***halted, and begun to reverse, the spread of HIV/AIDS***" (Millennium Target);
2. "ensuring that ... *by 2010 prevalence ... is reduced globally by 25 per cent" in persons 15 to 24 years of age* (UNGASS target [United Nations General Assembly Special Session on HIV/AIDS, 2001]);
3. *"reduce the proportion of infants infected with HIV ... by 50 per cent by 2010"* (UNGASS target).

For targets on treatment please refer to the measures section below (1.8).

Sources: 1. resolution UN 2000, General Assembly: United Nations Millennium Declaration (http://www.un.org/millennium/declaration/ares552e.pdf) , § 19.4, emphasis added; 2. UN 1999 (fn. 34, General Assembly), § 70, emphasis added [see annex for full quote]; resolutions UN 2001 (fn. 34, General Assembly), § 47, and UN 2002 (fn. 34, General Assembly), § 46; 3. resolutions UN 2001 (fn. 34, General Assembly), § 54, emphasis added [see annex for full quote], and UN 2002 (fn. 34, General Assembly), § 46.

In May 2011, the member states of the World Health Organization endorsed unanimously a strategy to fight HIV/AIDS, which includes the following targets:

- ***by 2015, to "reduce HIV-related deaths by 25%*** (compared with a 2009 baseline)";
- *by 2015, to "reduce by 50%* the percentage of young people aged 15–24 years who are infected (compared with a 2009 baseline)";
- and, *by 2015, to "reduce new HIV infections in children by 90%* (compared with a 2009 baseline)".

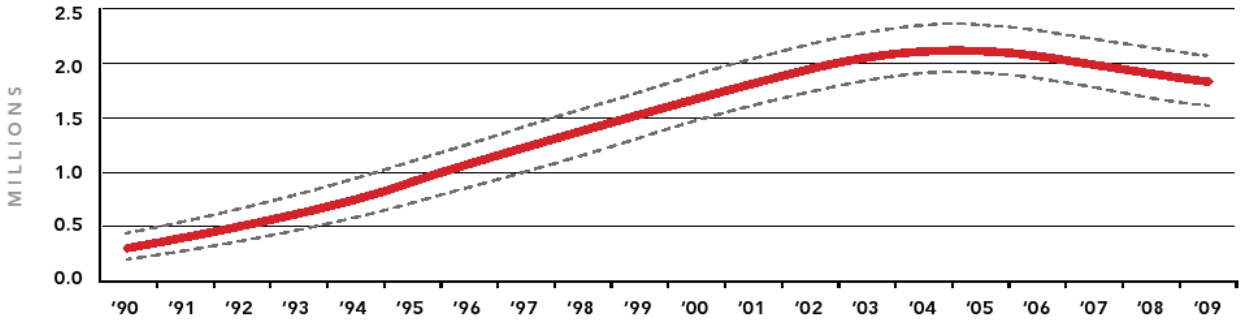
Source: WHO 2011 (fn. 59), § 22, emphasis added; resolution WHO 2011 (fn. 118).

1.7 Trends

+ / − The numbers of annual deaths and new infections are declining, however the number of people reported to be living with HIV/AIDS is still rising.

+ The number of annual *AIDS-related deaths is steadily decreasing* from its peak of 2.1 million in 2004 to about 1.8 million in 2009.[22] Assuming that coverage with antiretroviral drugs continues to *rise* at current rates, deaths worldwide from HIV/AIDS are expected to decline to 1.2 million in 2030.[23] However, in 2009 the financial and economic crisis has flattened the funding of efforts to fight HIV/AIDS.[24]

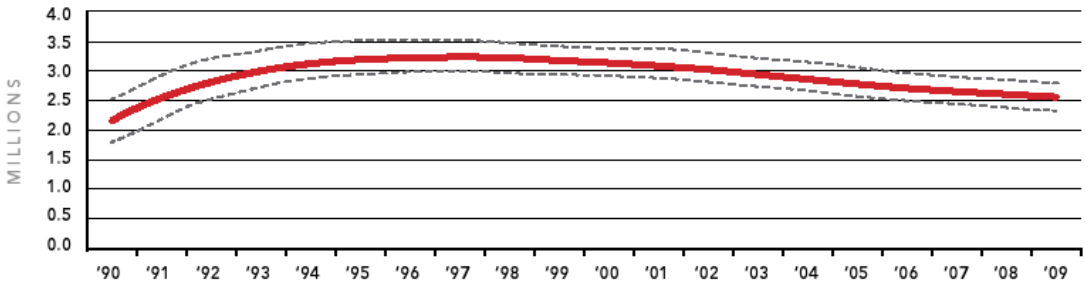
Fig. 4: Deaths due to AIDS (1990-2009)



Source: UNAIDS 2010 (fn. 1), p. 24.

The number of people *newly infected with HIV* peaked in 1997 at 3.2 million, and has since declined to 2.6 million in 2009.[25] Regarding new infections, the Millennium Target to halt, and to begin to reverse the spread of HIV/AIDS, has already been achieved at the global level.[26] On the corresponding UN MDG indicator (the HIV prevalence among the population aged 15-24 years) there is no comprehensive data available (see below).[27]

Fig. 5: New HIV Infections (1990-2009)



Source: UNAIDS 2010 (fn. 1), p. 16.

Another positive decline is found in the number of *children who contracted HIV* during the perinatal and breastfeeding period – this number decreased from 500 000 in 2001 to about 370 000 in 2009.[28] This is a reduction of 26% from 2001 to 2009. Unfortunately this is just over half the UN target of a

[22] Uncertainty ranges: 1.9 million–2.3 million in 2004, 1.6 million–2.1 million in 2009, UNAIDS 2010 (fn. 1), pp. 19, 185.

[23] WHO 2008 (fn. 9), pp. 22, 117, and WHO 2008a – World Health Organization: World Health Statistics 2008. (ISBN 978 92 4 0682740) Geneva. (http://www.who.int/entity/whosis/whostat/EN_WHS08_Full.pdf), p. 29.

[24] UNAIDS 2010 (fn. 1), pp. 96, 146.

[25] Uncertainty ranges: 3.0 million-3.5 million in 1997, 2.3-2.8 million in 2009, revised data; UNAIDS 2010 (fn. 1), pp. 16, 21, 184; UNAIDS 2011 (fn. 2), p. 99.

[26] UNAIDS 2010 (fn. 1), p. 7; UN 2010 (fn. 4), p. 40.

[27] UN 2010a – United Nations: The Millennium Development Goals Report 2010. [Statistical Annex] (http://unstats.un.org/unsd/mdg/Resources/Static/Data/2010_Stat_Annex.pdf), indicator 6.1; UN 2010b – United Nations: Report of the Secretary-General on the work of the Organization. (A/65/1, General Assembly, Official Records, Sixty-fifth Session, Supplement No. 1.) (ISSN 0082-8173) New York. (http://mdgs.un.org/unsd/mdg/Resources/Static/Products/SGReports/65_1/a-65-1_e.pdf), pp. 54-55.

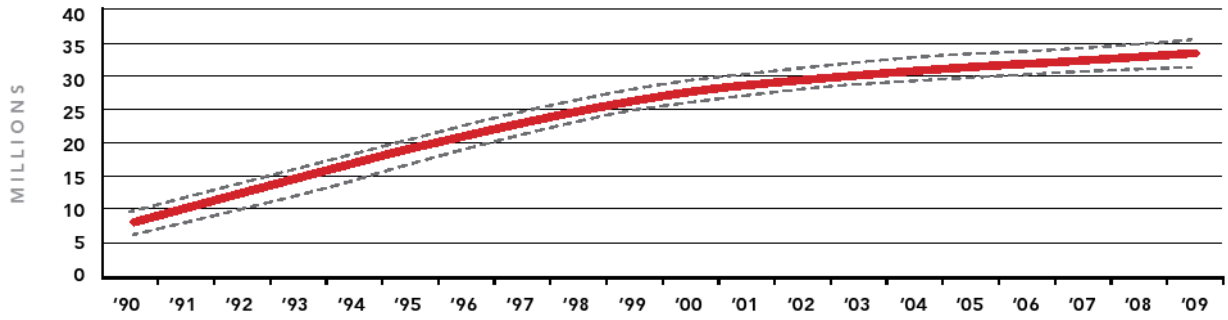
[28] Uncertainty ranges: 320 000–670 000 in 2001, 230 000–510 000 in 2009; UNAIDS 2010 (fn. 1), pp. 19, 78.

50% reduction of infections among infants by 2010.[29] One of the primary barriers to further reductions in mother-to-child transmission is inadequate access to antenatal and postnatal services[30] (see also sub-section 2.7 on safe birth conditions in this report).

There is no comprehensive data available regarding the UN target to reduce the occurrence of HIV infections among *young people aged 15-24 years* by 25%, but in 15 of the worst affected countries occurrence has fallen by more than 25% as young people have adopted safer sexual practices.[31]

– The *increase of people infected by HIV/AIDS* has slowed as a result of intense efforts, but it has still not been halted or reversed. The number of people living with HIV/AIDS has risen from 26.2 million in 1999 to 34 million in 2010.[32]

Fig. 6: HIV-infected People (1990-2009)



Source: UNAIDS 2010 (fn. 1), p. 24.

Furthermore, the number of children who lost one or two parents due to HIV has increased from 14.6 million in 2005 to 16.6 million in 2009.[33]

1.8 Recommended Measures and Internationally Agreed Upon Treatment and Prevention Targets

Measures include **preventing infection** by information and education, access to testing and means of protection, safe injections and safe blood transfusions; **treatment** of infection with antiretroviral therapy (also for preventing mother-to-child transmission), avoiding stigmatization, and improving conditions for resilience:

- **Preventing new infections:**
  - **Providing comprehensive and accurate knowledge about the transmission of HIV and access to prevention**: The UN members target to "ensure that ... by 2010 at least 95 per cent ... of young men and women aged 15 to 24 have access to the information, education and services" necessary to avoid HIV infection.[34] According to surveys, the global percentage of young men and women with this knowledge has increased slightly – but at 34% it is far below the target level of 95%.[35]

    "Services should include access to preventive methods such as female and male condoms, voluntary testing, counselling and follow-up".[36]

[29] Own calculation, based on abovementioned data.
[30] UNAIDS 2010 (fn. 1), p. 64.
[31] Ibid., p. 9.
[32] Uncertainty ranges: 24.6 million–27.8 million in 1999, 30.9 million–36.9 million in 2010, revised data; UNAIDS 2010 (fn. 1), p. 23; UNAIDS 2011 (fn. 2), p. 65.
[33] Uncertainty ranges: 12.4 million–17.1 million in 2005, 14.4 million–18.8 million in 2009, UNAIDS 2010 (fn. 1), p. 112.
[34] UN 1999 – United Nations, General Assembly: Report of the Ad Hoc Committee of the Whole, Key actions for the further implementation of the Programme of Action of the International Conference on Population and Development. (A/S-21/5/Add.1) (http://www.un.org/popin/unpopcom/32ndsess/gass/215a1e.pdf), § 70 [see annex for full quote]; resolution UN 2001, General Assembly: Declaration of Commitment on HIV/AIDS. (http://www.un.org/ga/aids/docs/aress262.pdf), § 47; resolution UN 2002, General Assembly: A world fit for children. (http://www.unicef.org/specialsession/docs_new/documents/A-RES-S27-2E.pdf), § 46.
[35] UNAIDS 2010 (fn. 1), p. 68; UN 2010 (fn. 4), p. 41.

- Only consistent abstinence provides a 100% prevention of sexually transmitted HIV.[37] However, campaigns limited to abstinence showed little effect on sexual behaviours.[38]
- The risk of infection increases with the number of sex acts.[39]
- Choosing a partner who tested HIV-negative instead of an untested partner reduces the relative risk of HIV infection 47-fold (or by 98%).[40] Living in a mutually monogamous relationship combined with undergoing regular retesting is also an effective risk-reduction strategy.[41]
- Treating HIV-infected people with antiretroviral therapy (ARVT) is also a very effective prevention measure. According to very recent research, ARVT reduces the rate of transmission to an uninfected partner by 96%.[42]
- The use of condoms provides the highest degree of HIV infection prevention available from devices. Consistently using male latex condoms provides 80-95% fewer infections than never using them during intercourse.[43] Comprehensive prevention campaigns led to safer sexual behaviours and fewer HIV infections.[44]
- Without replacing other known methods of HIV prevention, adult male circumcision is recommended in areas of high HIV prevalence as it is associated with a lower risk of HIV infection (55-76% relative risk reduction) for men – partial, but lifelong.[45]
- Further factors influencing to different degrees the transmission of HIV include the duration of sexual relationships, the frequency of partner change, multiple partnerships, early or late sexual debut, sex between people of different generations, types of sexual intercourse, and other related issues.[46]

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[36] UN 1999 (fn. 34), § 70, emphasis added [see the annex for full quote]; resolution UN 2001 (fn. 34), § 47; resolution UN 2002 (fn. 34), § 46.

[37] WHO 2010 (fn. 6).

[38] Bertozzi et al. 2006 (fn. 11), p. 344, 337; Bennett, S. E., and Assefi, N. P., 2005, School-based teenage pregnancy prevention programs: A systematic review of randomized controlled trials. In: Journal of Adolescent Health, Volume 36, Issue 1, pp. 72-81 (http://www.jahonline.org/article/S1054-139X%2804%2900167-3/abstract), p. 80.

[39] Varghese et al. 2002: Reducing the Risk of Sexual HIV Transmission; Quantifying the Per-Act Risk for HIV on the Basis of Choice of Partner, Sex Act, and Condom Use. In: Sexually Transmitted Diseases, 9(1):38-43. (www.aegis.com/files/AskDoc_refs/varghese2002-29-1.pdf), pp. 41-42.

[40] Ibid, pp. 39-41; own calculation.

[41] Ibid, p. 42.

[42] WHO 2011: Groundbreaking trial results confirm HIV treatment prevents transmission of HIV. (http://www.who.int/hiv/mediacentre/trial_results/en/index.html); National Institute of Allergy and Infectious Diseases (NIAID) 2011: Treating HIV-infected People with Antiretrovirals Protects Partners from Infection; Findings Result from NIH-funded International Study. (http://www.niaid.nih.gov/news/newsreleases/2011/Pages/HPTN052.aspx).

[43] World Health Organization, Johns Hopkins Bloomberg School of Public Health and United States Agency for International Development, 2008: Family Planning; A Global Handbook for Providers; Evidence-based guidance developed through worldwide collaboration. (2008 Update.) (ISBN 978-0-9788563-0-4) Baltimore and Geneva, p. 192; Varghese et al. 2002 (fn. 39), p. 40; NIAID 2001 – National Institute of Allergy and Infectious Diseases: Workshop Summary: Scientific Evidence on Condom Effectiveness for Sexually Transmitted Disease (STD) Prevention; June 12-13, 2000; Hyatt Dulles Airport. Herndon. (http://www.niaid.nih.gov/about/organization/dmid/documents/condomreport.pdf), pp. 7-8, 14.

[44] Bertozzi et al. 2006 (fn. 11), pp. 344, 337-338.

[45] UNAIDS 2010 (fn. 1), 81; WHO et al. 2010 – World Health Organization, UNAIDS and UNICEF: Towards universal access; Scaling up priority HIV/AIDS interventions in the health sector; Progress report 2010. (http://whqlibdoc.who.int/publications/2010/9789241500395_eng.pdf), p. 37; WHO 2010 (fn. 6); CDC 2008 – Centers for Disease Control and Prevention: Male Circumcision and Risk for HIV Transmission and Other Health Conditions: Implications for the United States. Updated February 2008. (http://cdc.gov/hiv/resources/factsheets/PDF/circumcision.pdf), p. 2; UNAIDS 2011: AIDS at 30; Nations at the crossroads. Sub-section 1.9 (http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2011/20110531_JC2095E_aids_at_30_section1-9.pdf), p. 65.

[46] Mah, T. L., and Halperin, D. T., 2008: Concurrent Sexual Partnerships and the HIV Epidemics in Africa: Evidence to Move Forward. In: AIDS and Behavior, Volume 14, Number 1, 11-16. (http://www.springerlink.com/content/aq8244262614q762/); Lurie, M. N., and Rosenthal, S., 2008: Concurrent Partnerships as a Driver of the HIV Epidemic in Sub-Saharan Africa? The Evidence is Limited. In: AIDS and Behavior, Volume 14, Number 1, 17-24. (http://www.springerlink.com/content/w21330981283021w/); Hertog, S., 2007: Heterosexual behavior patterns and the spread of HIV/AIDS: the interacting effects of rate of partner change and sexual mixing. In: Sexually Transmitted Diseases Volume 34, Number 10, 820-8 (http://www.ncbi.nlm.nih.gov/sites/entrez?orig_db=PubMed&db=PubMed&cmd=Search&term=Sexually%20Transmitted%20Diseases%5BJour%5D%20AND%2034%5Bvolume%5D%20AND%2010%5Bissue%5D%20AND%20820%5Bpage%5D%20A

Prevention programmes shall include most or all of the available strategies and means of prevention, including public education.[47] Information should also cover how to prevent other transmission paths, including from mother to child and through unsafe injections and blood transfusions (see below).

Voluntary testing and counselling should be available for couples, in particular. In 36-85% of couples in 12 sub-Saharan countries one partner is HIV-infected and the other one is HIV-negative.[48] Most new infections happen to people in such couples. Voluntary testing and counselling motivates such couples to practice safer sexual behaviours more effectively than individual testing and counselling.[49] By sharing knowledge of HIV status, couples are able to make plans and vital decisions together, and to seek joint care and support.[50]

HIV prevention programmes should reach all groups largely involved in the spread of HIV (young men and women, sex workers and their clients, men who have sex with men, and people who inject drugs).[51] Effectiveness of HIV prevention programmes is increased by peer approaches, involving faith-based groups and leaders, empowering women and girls, and providing screening and treatment of other sexually transmitted diseases.[52] Many of the preventive measures mentioned also help to avoid infections with other sexually transmitted diseases, such as hepatitis B.

- **Preventing transmission from mother to child by voluntary testing, prophylactic treatment and expanded access to maternal and infant health services**: The proportion of pregnant women in low- and middle-income countries who received an HIV test reached 26% in 2009, showing an increase from 7% in 2005.[53] More than 60% of pregnant women who were confirmed HIV positive in low- and middle-income countries received antiretroviral medication to prevent the mother-to-child transmission in 2010, in comparison to 15% in 2005.[54] Antiretroviral prophylaxis is recommended during pregnancy, delivery, and also during breastfeeding. An alternative or additional method to reduce the transmission risk during delivery is caesarean section (see 2.7 on safe birth conditions).

  Regarding breastfeeding, in less developed regions where access to safe water is lacking and child-killing diseases are common, breastfeeding combined with antiretroviral prophylaxis minimizes the risk of HIV transmission and maximizes the child's chance of survival regarding other fatal diseases, because of the natural immunity provided by breast milk.[55] Where antiretroviral prophylaxis is not provided, babies should be given

ND%202007%5Bpdat%5D); Hallett, T. B., et al. 2007: Behaviour change in generalized HIV epidemics: impact of reducing cross-generational sex and delaying age at sexual debut. In: Sexually Transmitted Infections Volume 83:i50-i54. (http://sti.bmj.com/content/83/suppl_1/i50.full); Garnett, G. P., 1998: The Basic Reproductive Rate of Infection and the Course of HIV Epidemics. In: AIDS Patient Care and STDs. Volume 12 Number 6, 435-449. (http://www.liebertonline.com/doi/abs/10.1089/apc.1998.12.435); Le Pont, F., and Valleron, A. J., 1991: Impact of temporal patterns of sex partner change on the HIV epidemic in an heterosexual population. In: International Conference on AIDS. Jun 16-21, 1991; 7: 411. (http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102193537.html).

47 UNAIDS 2010 (fn. 1), 85.

48 UNAIDS 2010 (fn. 1), 30.

49 Kennedy, C. E., et al., 2010: Behavioural interventions for HIV positive prevention in developing countries; A systematic review and meta-analysis. In: Bulletin of the World Health Organization 88: 615-623. (http://www.who.int/bulletin/volumes/88/8/09-068213/en/)

50 WHO 2011: HIV testing and counselling. (No year of publication given; according to metadata: publishing year 2011.) (http://www.who.int/hiv/topics/vct/about/en/).

51 UNAIDS 2010 (fn. 1), 85.

52 Bertozzi et al. 2006 (fn. 11), pp. 348-349.

53 WHO et al. 2010 (fn. 45), 86; UNAIDS 2010 (fn. 1), p. 78.

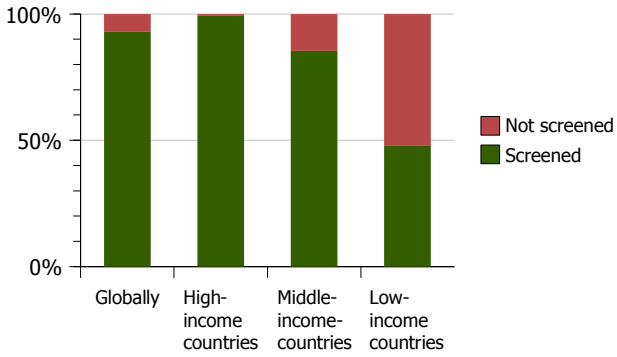
54 UNAIDS 2011: AIDS at 30; Nations at the crossroads. Sub-section 1.11 (http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2011/20110531_JC2095E_aids_at_30_section1-11.pdf), p. 72; WHO et al. 2010 (fn. 45), 83; UNAIDS 2010 (fn. 1), p. 78.

55 WHO et al. 2010 – WHO, UNAIDS, UNFPA and UNICEF: Guidelines on HIV and infant feeding 2010; Principles and recommendations for infant feeding in the context of HIV and a summary of evidence. (ISBN 978 92 4 159953 5) (http://whqlibdoc.who.int/publications/2010/9789241599535_eng.pdf), pp. 35, 37-38; UNAIDS 2010 (fn. 1), p. 79; Kesho Bora 2011, Triple antiretroviral compared with zidovudine and single-dose nevirapine prophylaxis during pregnancy and breastfeeding for prevention of mother-to-child transmission of HIV-1 (Kesho Bora study): a randomised controlled trial. In: The Lancet Infectious Diseases, Early Online Publication, 14 January 2011. pp. 6-8; WHO 2011 (fn. 42), p. 2.

infant formula prepared using safe water, or heat-treated breast milk.[56] Nevertheless, as long as sufficient access to safe water and child health care are not provided, mothers are presented with a difficult choice between two life-threatening options. Maternal and child health services must be further strengthened to reduce mother-to-child transmission[57] – see sub-section 2.7 on safe birth conditions. Continuing antiretroviral treatment of HIV infected mothers reduces the risk of increased drug resistance of HIV, as well as the number of children orphaned in the future.[58]

- **Ensuring injection safety through sustainable procurement of sufficient quantities of appropriate syringes, avoiding unnecessary injections, informing about the risks of injections, training in safe injection practices, and ensuring that sharps waste (e. g. used needles and scalpals) is properly managed**[59] – see sub-section 2.4 on safe injections.
- **Ensuring blood safety by introducing effective blood donor selection and quality-assured screening of all donated blood and blood products, as well as training clinicians and nurses in safe clinical transfusion practices** (including appropriate use of blood in order to minimize unnecessary transfusions, and informing about the risks of transfusions).[60] Blood safety is already improving, but as of 2009, 38 of the 165 countries participating in a survey still reported that they have not screened all or even any blood donations for HIV in a quality-assured manner.[61] Globally, however, about 93.1% of blood donations were screened for HIV in a quality-assured manner during the period of 2007-09: in high-income countries 99.5%, in middle-income-countries 85.4%, and in low-income countries 47.8%.[62] These measures, as well as providing injection safety, also help to prevent infections with other blood-borne diseases, such as hepatitis B and C.

Fig. 7: Blood Donations Screened for HIV (2007-2009)



Data source: WHO et al. 2010 (fn. 45), p. 43.

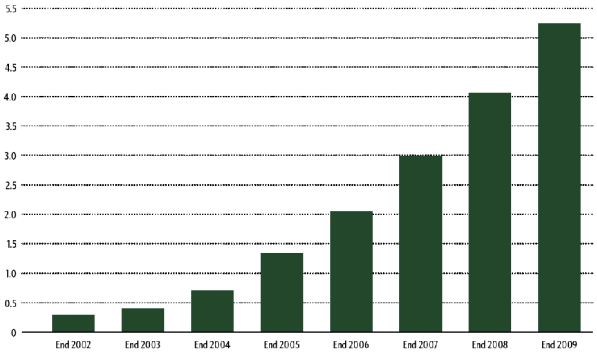
- "**Expanded access … to sterile injecting equipment**" by 2005,[63] e. g. through needle or syringe exchange programmes for injectable drug users. Other harm reduction measures, such as ready access to effective drug treatment and substitution, and provision of counselling and condoms, can also help to reduce the spread of HIV/AIDS.[64]

- **Providing antiretroviral therapy and care, for "coming as close as possible to the goal of *universal access* to treatment by 2010 for all those who need it":**[65] About 6.6 million people in low- and middle-income countries were accessing antiretroviral drugs at the end of 2010, up from around 4.05 million in 2008. The coverage of antiretroviral treatment in

[56] WHO et al. 2010 (fn. 55), pp. 35, 37-38.
[57] UNAIDS 2010 (fn. 1), pp. 115, 9, 64.
[58] Kesho Bora 2011 (fn. 55), p. 8; Bertozzi et al. 2006 (fn. 11), p. 345; UNAIDS 2010 (fn. 1), p. 155.
[59] Resolution UN 2001 (fn. 34), § 51; WHO 2011: Draft WHO HIV strategy 2011–2015; Report by the Secretariat. (A64/15) (http://apps.who.int/gb/ebwha/pdf_files/WHA64/A64_15-en.pdf), § 36; WHO 2002 (fn. 6), pp. 130-131; Hauri et al. [WHO] 2004 (fn. 6), p. 1840; Reid, 2009 (fn. 6), p. 298.
[60] WHO 2005, 58th World Health Assembly: Blood safety: proposal to establish World Blood Donor Day. (Resolution WHA58.13) (http://apps.who.int/gb/ebwha/pdf_files/WHA58/WHA58_13-en.pdf), §3 [7] e, f; WHO 2011 (fn. 59), §§ 36 and 75.
[61] Summary of table from UNAIDS 2010 (fn. 1), pp. 245-247, 217.
[62] WHO et al. 2010 (fn. 45), p. 43.
[63] Resolution UN 2001 (fn. 34), § 52.
[64] Bertozzi et al. 2006 (fn. 11), p. 346.
[65] Resolution UN 2006 – United Nations, General Assembly: Political Declaration on HIV/AIDS. (A/RES/60/262) (http://data.unaids.org/pub/Report/2006/20060615_hlm_politicaldeclaration_ares60262_en.pdf), § 57 d, emphasis added.

low- and middle-income countries increased 22-fold since 2001.[66] Despite limited availability, approximately 2.9 million deaths have been averted because of antiretroviral drugs.[67] Furthermore, antiretroviral therapy reduces the infectiousness of treated individuals, and the availability of treatment destigmatizes the disease and increases the effectiveness of prevention programmes.[68] Although substantial, these achievements are far removed from the target of universal access: about 36% of the 14.6 million people in need in low- and middle-income countries were receiving antiretroviral therapy in 2009; where globally more than 9 million people still remain in need of treatment.[69]

Fig. 8: Number of People Receiving Antiretroviral Therapy in Low- and Middle-income Countries, 2002–2009 (Millions)



Source: WHO et al. 2010 (fn. 45), p. 53.

There is also a lack of treatment for opportunistic diseases (such as tuberculosis), as well as a lack of palliative and home-based care, including pain management.[70] Malnutrition, which impairs treatment, is addressed through counselling, daily micronutrient supplements, food rations, therapeutic food, school feeding with take-home rations for families caring for orphans, food for training and food for work programmes.[71]

- **Research and development on improved treatment, vaccines and other preventive methods:** A preventive vaginal microbicide gel (28-54% relative risk reduction for women) will be introduced following further testing.[72] Ongoing trials on the preventive use of antiretroviral drugs before exposure to HIV, as well as the development of vaccines, may provide major improvements in the fight against HIV/AIDS.[73] New research showed that using a persistent virus as a vaccine vector enables immune cells of monkeys to clear SIV from the body (SIV is the equivalent of HIV in monkeys, and the most likely origin of HIV).[74]
- **Protecting human rights of all people affected by HIV is a precept and makes prevention efforts more effective**. The human rights of key populations at higher risk of exposure to HIV, such as prostitutes, men who have sex with men, and injectable drug users, should be recognized and addressed. National programmes to reduce HIV-related stigma and discrimination should be in place and better implemented. Addressing discrimination avoids driving HIV underground, inhibits transmission pathways, and helps to expand access to life-saving HIV prevention, treatment, care and support.[75] *See also 2.10 on human rights issues.*
- **Including structural activities into prevention can reduce the numbers of new HIV infections**: providing food security and microfinance for women, schooling or cash transfers for girls, and crisis response services to street-based sex workers.[76]

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66 UNAIDS 2011: AIDS at 30; Nations at the crossroads. Sub-section 1.1 (http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2011/20110531_JC2095E_aids_at_30_section1-5.pdf), p. 42; WHO et al. 2010 (fn. 45), pp. 51-54; UNAIDS 2010 (fn. 1), pp. 96, 8.

67 UN 2010 (fn. 4), p. 45.

68 Bertozzi et al. 2006 (fn. 11), p. 349; A Castro and P Farmer 2005: Understanding and Addressing AIDS-Related Stigma: From Anthropological Theory to Clinical Practice in Haiti. In: American Journal of Public Health 95 (1): pp. 53-59, p. 56.

69 Revised data; WHO et al. 2010 (fn. 45), pp. 53, 55; UNAIDS 2010 (fn. 1), p. 8; own calculation; UNAIDS 2011 (fn. 66), p. 43.

70 UNAIDS 2010 (fn. 1), p. 109; Bertozzi et al. 2006 (fn. 11), pp. 351-352.

71 Bertozzi et al. 2006 (fn. 11), pp. 352-353.

72 UNAIDS 2010 (fn. 1), p. 83; WHO et al. 2010 (fn. 45), p. 43; Abdool Karim, Q., et al., 2010, Effectiveness and Safety of Tenofovir Gel, an Antiretroviral Microbicide, for the Prevention of HIV Infection in Women, Science, Vol. 329, no. 5996, (http://www.sciencemag.org/content/329/5996/1168.full), pp. 1168-1174.

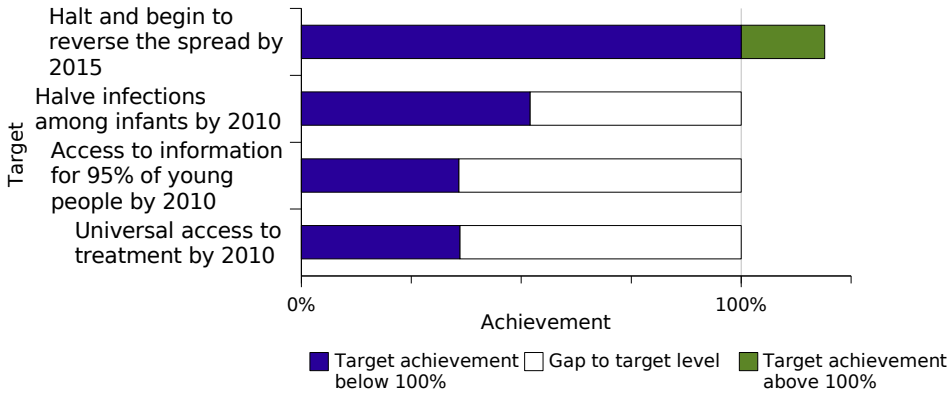
73 WHO et al. 2010 (fn. 45), pp. 25, 43; UNAIDS 2008, Report on the global HIV/AIDS epidemic 2008, ISBN 978 92 9 173711 6, Geneva, p. 106. (http://data.unaids.org/pub/GlobalReport/2008/JC1510_2008GlobalReport_en.zip); RM Grant, et al.: Preexposure Chemoprophylaxis for HIV Prevention in Men Who Have Sex with Men. In: The New England Journal of Medicine, 10.1056/nejmoa1011205. (http://www.nejm.org/doi/pdf/10.1056/NEJMoa1011205).

74 Hansen, S. G., et al. 2011: Profound early control of highly pathogenic SIV by an effector memory T-cell vaccine. In: Nature, Volume 473, 523–527. (http://www.nature.com/nature/journal/v473/n7348/pdf/nature10003.pdf)

75 WHO et al. 2010 (fn. 45), p. 106; UNAIDS 2010 (fn. 1), pp. 8, 121, 137.

76 UNAIDS 2010 (fn. 1), pp. 76.

Fig. 9: Target Achievements on HIV/AIDS by 2009



Data sources: UNAIDS 2010 (fn. 1), p. 7; UNAIDS 2010 (fn. 1), pp. 19, 78; UNAIDS 2010 (fn. 1), p. 68; WHO et al. 2010 (fn. 45), pp. 53, 55; own calculations of percentages.

1.9 Costs and Benefits of Measures

About US$ 15.9 billion were available in 2009 to constrain HIV/AIDS, mainly in low and middle-income countries. However, this still left a US$ 10 billion funding gap.[77] In 2010 at least US$ 26.7 billion (0.044% of gross world product) would have been needed to meet the 2010 target of universal access to prevention and treatment.[78] The costs to achieve safe and appropriate use of injections in transitional and developing countries were estimated to be US$ 905 million in 2000.[79] The G8 has pledged "to work towards the goals of providing at least a projected US$ 60 billion over 5 years, to fight infectious diseases and strengthen health".[80]

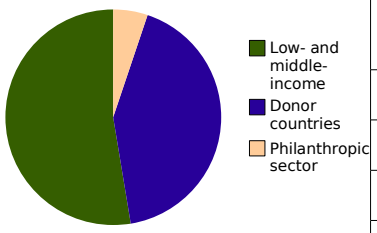
In economic terms, benefits of the main measures to fight HIV/AIDS are 1 to 12 times as high as their costs. However, some measures are even more cost-effective. To avert 2 million new infections and to save 22 million healthy life-years (DALYs) by a combination of different prevention measures requires an estimated US$ 2.5 billion per year, with benefits 12-times the costs (assuming the value of a DALY to be more than double the annual per capita income in low-income countries, or US$ 1.000).[81] By including treatment, to avert 28 million new infections within 10 years requires US$ 122 billion during that decade, but saves the higher costs of future treatment.[82] Cost-effectiveness of prevention measures is low if the national or local prevalence of HIV is low.

Blood screening for HIV is costly but has been shown to be cost-effective, with median costs of US$ 11 (0.45-2,259) per DALY saved. Screening all blood for transfusions and providing sterile injections is recommended as being cost-effective even in a low-level epidemic.[83] In less developed countries, voluntary counselling and testing costs a median US$ 19 (10-261) per saved DALY, but depends strongly on HIV prevalence and is hence cost-effective only for risk groups, or in a high-level epidemic area.[84] However, there may be other good reasons to offer testing, e. g. to enable people to know their

[77] Ibid., pp. 146.
[78] WHO et al. 2010 (fn. 45), 10.
[79] Dziekan, G., et al., 2003: The cost-effectiveness of policies for the safe and appropriate use of injection in healthcare settings, Bulletin of the World Health Organization 81(4), pp. 277-285 (http://www.who.int/bulletin/volumes/81/4/Dziekan0403.pdf), p. 277; WHO 2004a, Safety of Injections, Global Facts & Figures. (WHO/EHT/04.04) (http://www.who.int/entity/injection_safety/about/resources/en/FactAndFiguresInjectionSafety.pdf), p. 2.
[80] G8 2008, Group of Eight industrialized countries: (http://www.mofa.go.jp/policy/economy/summit/2008/doc/doc080714__en.html), § 46a; affirmed in G8 2009, (http://www.g8italia2009.it/static/G8_Allegato/G8_Declaration_08_07_09_final,0.pdf), § 125.
[81] Jamison, D. T., P. Jha and D. Bloom, 2008: Disease Control. (Copenhagen Consensus 2008 Challenge Paper; Diseases) October 2007, revised April 2008. (http://www.copenhagenconsensus.com/Admin/Public/DWSDownload.aspx?File=%2fFiles%2fFiler%2fCC08%2fPapers%2f0+Challenge+Papers%2fCP_DiseasesCC08vol2.pdf), pp. 51, 27.
[82] Stover, J., et al. 2006: The Global Impact of Scaling Up HIV/AIDS Prevention Programs in Low- and Middle-Income Countries. In: Science Magazine Volume 311 (www.constellafutures.com/fg/cdIAC/publications/3396.pdf), p. 1474.
[83] Bertozzi et al. 2006 (fn. 11), pp. 346, 348, 342; median taken from reported values.
[84] Ibid, pp. 339, 348-349; median taken from reported values.

HIV status, or as an entry point to HIV prevention and care.[85] Injection-related infections could be reduced at an average cost of US$ 102 per DALY by applying a combined policy strategy of single-use syringes and interventions to minimize injection use.[86] Preventing mother-to-child HIV transmission by antiretroviral drugs costs a median US$ 126-154 (6-2.303) per DALY saved.[87]

Fig. 10: Major Sources of Financing



Source: UNAIDS 2010 (fn. 1), p. 146; WHO et al. 2010 (fn. 45), p. 10.

Antiretroviral treatment is expensive, but the benefits are in many instances larger than the costs.[88] To save a DALY through antiretroviral drugs in less developed countries costed about US$ 350 in 2001 (first-line therapy).[89] The median price of the most common adult first-line antiretrovirals continued to decrease in low-income, lower-middle income and upper-middle countries between 2008 and October 2010. The decrease in the observed price varied from 12% up to 77%.[90] The median price of second-line drugs, which are applied after resistance or severe side effects of the first-line therapy have occurred, also decreased between 2008 and October 2010 but at a smaller magnitude. The most common second-line regimen prescribed for adults decreased in price by 15% in low income countries, 62% in lower-middle income countries and 80% in upper middle-income countries.[91] The price of second-line regimens continues to decrease but their cost remains 6 to 30 times higher than that of the least expensive first-line regimen.[92]

Table 2: Top 10 Donor Countries (Million US$ in 2009)

United States	4,434.9
United Kingdom	779
Germany	397.9
Netherlands	381.9
France	338.4
Denmark	193.3
Sweden	171.8
Spain	163.6
Japan	141.8
Norway	130.2

Source: UNAIDS 2010 (fn. 1), pp. 150-151; Kates, J., et al., 2010, Financing the response to AIDS in low- and middle-income countries: international assistance from the G8, European Commission and other donor governments in 2009. Geneva (http://www.kff.org/hivaids/upload/7347-06.pdf).

Section 2: Interlinkages with Other Global Challenges

"[W]e face a new generation of threats, unlike any in history, which spill across borders and have global reach. No single country or group, however powerful, can deal with them alone. All must work together – in common cause for common solutions – to address challenges like climate change, poverty, and nuclear disarmament ... Collective action has never been easy, but it has never been more necessary than in achieving the UN's Millennium Development Goals – the world's blueprint for ending extreme poverty. The conventional wisdom will tell you that the MDGs targets – reducing poverty and hunger, improving the health of mothers and children, combating HIV/AIDS, increasing access to education, protecting the environment, and forging a global partnership for development – are simply unattainable. In fact, we are controlling disease – polio, malaria, and AIDS – better than ever before, and making big new investments in women's and children's health – the key to progress in many other areas."

Ban Ki-Moon, 2010, New Directions for the UN, United Nations (http://www.un.org/sg/articleFull.asp?TID=120&Type=Op-Ed)

[85] WHO 2003: The right to know; New approaches to HIV testing and counselling. (WHO/HIV/2003.08) (http://www.who.int/entity/hiv/pub/vct/en/Right_know_a4E.pdf).
[86] Dziekan et al. 2003 (fn. 79), p. 277; WHO 2004a (fn. 79), p. 2, Bertozzi et al. 2006 (fn. 11), p. 346.
[87] Bertozzi et al. 2006 (fn. 11), p. 341; upper and lower median taken from reported values.
[88] Jamison et al. 2008 (fn. 81), p. 41.
[89] Bertozzi et al. 2006 (fn. 11), p. 356.
[90] WHO 2011, World Health Organization: Transaction prices for antiretroviral medicines and HIV diagnostics from 2008 to October 2010; A summary report from the Global Price Reporting Mechanism. December 2010 (http://www.who.int/hiv/pub/amds/gprm_report_dec10/en/), p. 6.
[91] Ibid., p. 9.
[92] Ibid., p. 22.

2.1 Poverty

Although the HI virus does not discriminate, and affects the wealthy as well as the under-privileged, the most affected countries are among the poorest in the world.[93] The rate of people living with HIV in the least developed countries is nine times higher than the rate in more developed regions.[94] Most governments have prevention programmes in place, but in some cases these are less effective than they could be with better information and funding, and many of the individuals most in need do not have access to basic prevention programmes because of their impoverished state.[95]

Poverty contributes strongly to individuals partaking in behaviours that expose them to an increased risk of infection. In most cases this is due to a lack of knowledge on how to prevent infection.[96] Poverty can also prevent those who have been infected from accessing the life-long care that HIV/AIDS requires. Although it is generally believed that it is the rural and uneducated individuals that are more likely to engage in high-risk sex and less likely to use condoms, due to being poorly informed,[97] data has shown that it is usually the better-off members of society who have the highest HIV/AIDS transmission rate in these less developed countries. It seems that HIV is transmitted mainly to urban, employed, and more mobile members of these countries.[98] However, HIV/AIDS often increases the burden of poverty where it already exists,[99] and pushes previously unimpoverished people into poverty by placing heavy financial burdens on families and breaking down inter-generational support.[100]

There are several poverty-related factors which increase exposure to HIV/AIDS. Financial constraints influence occupational decisions (including participating in the sex trade) which carry a high risk of participating in unprotected sex, and poverty has also been linked to a lowered fear of contracting HIV/AIDS.[101] One theory behind this is that impoverished people are generally less likely to be concerned with the future and are forced to be more concerned with day to day survival.[102]

Mambilla women working their farm in Nigeria

Another reason that poverty is associated with a higher risk of contracting HIV/AIDS is family life. The WHO notes that poverty plays a pivotal role in teenage marriage, a factor that leads to the spread of sexually transmitted diseases including HIV (this can also be exacerbated by the practice of polygamy). Young girls often have no choice about having unprotected sex with their husbands and makes them vulnerable to contracting the HI virus from their infected husbands.[103]

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93 UN Department of Social and Economic Affairs, 2005, Population, Development and HIV/AIDS with Particular Emphasis on Poverty: The Concise Report (http://www.un.org/esa/population/publications/concise2005/PopdevHIVAIDS.pdf), p. 55.
94 Ibid., p. 55.
95 Ibid., p. 57.
96 Ibid., pp. 1-2.
97 Ibid., p. 30.
98 IFRC (International Federation of Red Cross and Red Crescent Societies), 2008, World Disasters Report 2008: Focus on HIV and AIDS. (http://www.ifrc.org/Global/Publications/disasters/WDR/wdr2008-full.pdf), p. 34; Piot P, Greener R, Russell S (2007): Squaring the circle: AIDS, poverty, and human development. PLoS Med 4(10): e314 (doi:10.1371/journal.pmed.0040314), p. 1571.
99 IFRC, 2008 (fn. 98), pp. 41, 42.
100 Ibid., p. 3.
101 Ibid., pp. 8, 34, 50.
102 SARPN Conference 2006, [in] Mbirimtengerenji, N., 2007, Croatian Medical Journal, (48) 5, (http://www.cmj.hr/2007/48/5/17948947.htm), pp. 605-617.
103 University of Illinois at Chicago, Conference Report on African Studies 2005: Teenage Marriages in Africa [in] Mbirimtengerenji, N., 2007, Croatian Medical Journal, (48) 5, (http://www.cmj.hr/2007/48/5/17948947.htm), p. 145.

2.2 Nutrition

In 2010, about 925 million people were undernourished,[104] and undernutrition accelerates the development of immune deficiency and opportunistic infections.[105] It can also increase the side effects of antiviral therapy.[106] Two thirds of HIV/AIDS sufferers live in Sub-Saharan Africa, where undernutrition rates are high. Undernutrition can compound the complications and side effects of antiretroviral therapy and other types of care.[107]

Similarly HIV/AIDS also has a strong influence on undernutrion. Children who have been orphaned due to HIV/AIDS (or are living with parents who are living with HIV and therefore unable to provide a livelihood) are likely to be undernourished. An estimated 16.6 million children have lost either one or both parents because of AIDS. Furthermore, food is likely to be scarce in areas highly affected by HIV/AIDS.[108] In times of nutritional emergency, further problems are generated, which include disrupting education and a rise in sex-related crimes towards women and children. These situations can contribute to the spread of HIV/AIDS.[109]

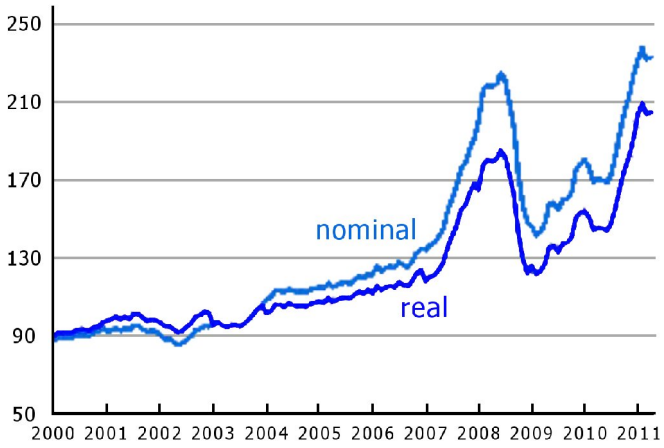
Even when adequate nutrition is available, people in the advanced stages of AIDS will suffer symptoms similar to those of undernutrition: weight loss, nutrient deficiencies, and wasting. This is due to a combination of increased metabolic demand, loss of appetite, gastrointestinal malabsorption and body redistribution.

A lack of vital nutrients in people living with HIV/AIDS is linked to a higher rate of mortality and HIV progression. Nutrients can be supplemented with vitamin tablets, which can slow down the progression of the virus even in those who are not undergoing antiretroviral therapy.[110] When affected with HIV, regular bouts of illness often occur. These periods of sickness are likely to alter a patient's appetite as well as increase the body's demand for nutrients.[111]

Currently, the FAO Food Price Index shows that food prices are higher than they have ever been. Naturally, impoverished countries are largely affected by this increase and many people are not able to afford food. They are therefore likely to become undernourished, and this in turn will lead to a faster progression of HIV to AIDS.[112]

A number of organizations, which focus on tackling HIV/AIDS and undernourishment, have been established. This integrated approach to fighting HIV/AIDS has had demonstrable success, assisted by support from the UN and other agencies.[113] For example, UNICEF, along with the Department for International Development (DFID) have co-lead a number of programmes in Sub-Saharan Africa, South-East Asia, and the

Fig. 11: FAO Food Price Index 2000-2011



2002-2004=100. Source: FAO Food Price Index, 05/05/2011 (http://www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/).

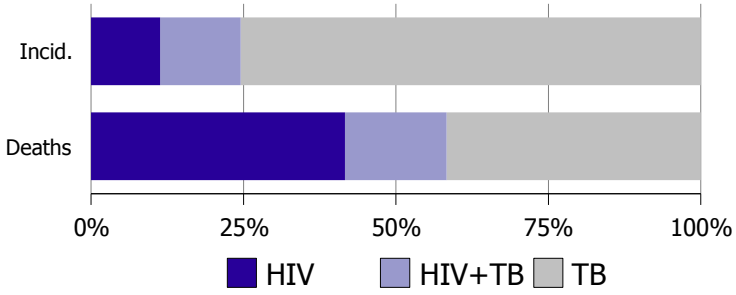
[104] FAO, 2010, Addressing Food Insecurity in Protracted Crises (http://www.fao.org/publications/sofi/en/).
[105] IFRC, 2008 (fn. 98), p. 145.
[106] Ivers, L., et. al., 2009, HIV/AIDS, Undernutrition and Food Insecurity, Clinical Infectious Diseases, 49, (http://www.aidsportal.org/repos/HIVAIDS%20Undernutrition%20and%20food%20insecurity.pdf), p. 1097; Bertozzi et. al., 2006 (fn. 11), p. 352.
[107] WHO, 2008, Regional Consultation on Nutrition and HIV/AIDS in French speaking countries, (http://www.who.int/nutrition/topics/nut_hiv_consultation_francophone/en/index.html).
[108] UNAIDS 2010 (fn. 1), p. 186.; UNICEF, 2008, Nutrition and HIV/AIDS, (http://www.unicef.org/nutrition/index_HIV.html).
[109] UNICEF, 2008, HIV's high nutritional toll, (http://www.unicef.org/nutrition/index_24808.html?q=printme).
[110] Drain, P. K., et al., 2007: Micronutrients in HIV-positive persons receiving highly active antiretroviral therapy. In: The American Journal of Clinical Nutrition. (http://www.ajcn.org/content/85/2/333.full.pdf), p. 333.
[111] FAO, 2007, Pocketbook on integrating HIV/AIDS considerations into food security and livelihoods projects, (ftp://ftp.fao.org/docrep/fao/007/y5575e/y5575e00.pdf), p. 2.
[112] Overseas Development Institute, 2010, High World Food Prices, (http://www.odi.org.uk/work/projects/details.asp?id=1131&title=high-world-food-prices); FAO, 2011, World Food Situation, (http://www.fao.org/worldfoodsituation/wfs-home/en/).
[113] WHO, 2008, Regional Consultation on Nutrition and HIV/AIDS in French Speaking Countries in Africa Region, (http://www.who.int/nutrition/topics/nut_hiv_consultation_franco_conceptpaper_english.pdf), p. 1.

Western Pacific region which focused on strengthening services and community involvement in order to tackle HIV/AIDS and under- and malnutrition.[114]

2.3 Diseases and Co-infections

HIV/AIDS leaves a patient increasingly vulnerable to other diseases rather than having a direct effect on the well-being of the patient. Consequently, all deaths attributed to AIDS are also strongly associated with other diseases. Tuberculosis (TB) in particular, is the leading direct cause of death in HIV/AIDS patients. The largest contributor to the spread of tuberculosis in Africa during the past two decades has been HIV/AIDS,[115] and of the 9.4 million people infected with TB in 2008, an estimated 1.4 million were also infected with HIV. Approximately 520 000 patients die each year from TB (26% of total HIV/AIDS deaths). The risk of contracting TB is estimated to be between 20-37 times greater for HIV infected people than for the general population.[116] Antiretroviral treatment of HIV/AIDS reduces the risk of HIV-associated tuberculosis by 80-92%.[117] As part of their Global Health Sector Strategy on HIV/AIDS, the WHO recommends the following target: "reduce tuberculosis deaths by 50% (compared with a 1990 baseline)" by 2015.[118]

Fig. 12: Overlaps between HIV and TB (incidence and deaths)



Sources: WHO et al. 2010 (fn. 45), pp. 50-73; WHO 2011: World Health Statistics 2011, p. 16.

Not only does HIV/AIDS increase susceptibility to tuberculosis, but tuberculosis also speeds the progression of HIV into AIDS,[119] as does pneumonia, malaria, and most other communicable diseases.[120] There is some debate over whether this is true for viral diseases such as measles, as some studies have indicated that while the measles virus is active, the replication of HIV is slowed.[121] However, infecting HIV patients with measles is not recommended as a strategy to fight HIV/AIDS, since people with compromised immune systems are naturally more susceptible to measles.[122] This in turn has lead to concern over whether HIV/AIDS patients should receive the measles vaccine (an attenuated "live" vaccine). A 2009 systematic review and meta-analysis published by the WHO concluded that there is no increased risk in vaccinating HIV infected children with the measles vaccine. The same study also recommends that severely immunocompromised patients should not receive the vaccine. When CD4 cell counts are too low, the vaccine is usually ineffective, and therefore the risks do not outweigh the benefits in severely immunocompromised patients[123] (because attenuated vaccines rely on the creation of antibodies within the patients own body to create immunity). When vaccinating people living with HIV, administering antiretroviral therapy directly before a measles vaccination therefore helps promote the creation of antibodies, increasing the effectiveness of the vaccine.[124]

[114] UNICEF, 2010, Health, Nutrition, & HIV and AIDS (http://www.unicef.org/zambia/health_nutrition.html).
[115] WHO, 2010, Tuberculosis, Fact Sheet No. 104 (http://www.who.int/mediacentre/factsheets/fs104/en/).
[116] WHO et al. 2010 (fn. 45), pp. 50-73.
[117] WHO, 2011, Antiretroviral therapy for HIV prevention (http://www.who.int/hiv/topics/artforprevention/en/index.html).
[118] WHO 2011 (fn. 59), § 22; resolution WHO 2011, 64th World Health Assembly: Draft global health sector strategy on HIV, 2011–2015. (WHA64.14) (http://apps.who.int/gb/ebwha/pdf_files/WHA64/A64_R14-en.pdf).
[119] WHO et al. 2010 (fn. 45), pp. 50-73.
[120] Hewitt, K. et al., 2006, Interactions between HIV and malaria in non-pregnant adults: evidence and implications. AIDS vol. 20 (16):1993-2004 (http://journals.lww.com/aidsonline/Citation/2006/10240/Interactions_between_HIV_and_malaria_in.1.aspx).
[121] Garcia, M. et al., 2008, Measles virus inhibits human immunodeficiency virus, Journal of General Virology, Vol. 89, (http://jgv.sgmjournals.org/cgi/content/full/89/4/984).
[122] WHO, 2009, WHO Weekly Epidemiological Record, No. 32 (http://www.who.int/wer/2009/wer8432.pdf), p. 325-332.
[123] Ibid.
[124] Pensieroso, S., et al., 2009, Timing of HAART defines the integrity of memory B cells and the longevity of humoral responses in HIV-1 vertically-infected children. In: Proceeding of the National Academy of Sciences (http://www.pnas.org/content/106/19/7939.full.pdf+html), p. 1.

Other diseases are closely linked to HIV/AIDS via their transmission pathways. Blood safety is not only important for limiting the spread of HIV/AIDS, but also hepatitis B and C. HIV-infected people are also more susceptible to infection with viral hepatitis B and C.[125]

Furthermore, HIV infection may reduce the protective effect of the hepatitis B vaccine.[126] A co-infection with HIV and hepatitis C may lead to an accelerated course of liver disease[127] as well as accelerated progression of HIV into AIDS.

HIV co-infections with hepatitis B or hepatitis C are an increasing issue in countries with a high occurrence of HIV infections.[128] Therefore it is recommended to integrate interventions for the prevention, treatment and care of hepatitis B and C virus infections into existing HIV focused services.[129]

Reproductive health and safety initiatives also integrate HIV/AIDS prevention and awareness measures with other sexually transmitted infections (STIs, including hepatitis B). Not only are these topics well suited to be addressed together, but, the presence of other STIs (both ulcerative and non-ulcerative) greatly increases the risk of acquiring or transmitting HIV/AIDS (by a factor of up to 10).[130]

As well as being increasingly susceptible to existing diseases, immunocompromised individuals become increasingly susceptible to new diseases. Surveys in Latvia and the Ukraine found nearly twice the level of antibiotic-resistant TB among TB patients living with HIV compared with TB patients without HIV. Antiretroviral resistant HIV is also a serious concern, and the WHO has described its development as inevitable due to the fast replication and mutation rates of the HI virus, and the need for lifelong antiretroviral treatment of patients.[131]

Additionally, HIV/AIDS itself may mutate to a more virulent form, including the already emerging forms of drug resistant HIV strains.[132] Therefore, clinics treating HIV/AIDS patients should be attentive to both the development of new diseases, as well as signs that the HI virus is increasing in virulence.

Indoor air pollution is another important health consideration for HIV/AIDS patients. HIV/AIDS patients are particularly vulnerable to respiratory problems, eye infections, and other problems associated with indoor air pollution such as the cooking smoke from open fires.[133]

2.4 Safe Injections and Sterile Medical Equipment

Unsterile medical equipment is an important vector for the transmission of HIV, and injection safety is a particular concern. Contaminated injections result in about *8-20.6 million* new cases of hepatitis B infection, *1-4.7 million* cases of hepatitis C infection, *3 million* cases of bacteraemia, *850 000* cases of injection site abscess and, more alarmingly, *80 000 to 340 000* cases of HIV infections per year.[134] Making sure that injection equipment (as well as other surgical equipment) is sterile not only prevents the spread of HIV, but the spread of other diseases transmitted via blood or bodily fluids.

The UN established an internationally agreed upon goal of implementing universal precautions in health-care settings to prevent the transmission of HIV infection by 2003.[135] Although this has not been fully achieved, HIV/AIDS infections caused by unsafe injections have been reduced by half between 2001 and 2008.[136]

[125] WHO 2002, Hepatitis B (http://www.who.int/entity/csr/disease/hepatitis/HepatitisB_whocdscsrlyo2002_2.pdf), p. 7; WHO 2002a, Hepatitis C (http://www.who.int/entity/csr/disease/hepatitis/Hepc.pdf), p. 35.
[126] WHO 2002 (fn. 125), pp. 50, 54.
[127] WHO 2002a (fn. 125), p. 48.
[128] WHO, 2010, Viral hepatitis; Report by the Secretariat. (A63/15) 2010, (http://apps.who.int/gb/ebwha/pdf_files/WHA63/A63_15-en.pdf), p. 7.
[129] Ibid., p. 15.
[130] WHO, 2007, Fact sheet No. 110, Sexually Transmitted Infections (http://www.who.int/mediacentre/factsheets/fs110/en/index.html).
[131] WHO, 2011, HIV drug resistance strategy (http://www.who.int/hiv/topics/drugresistance/general_info/en/index.html).
[132] Ibid.
[133] Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, 2009: Mainstreaming HIV in the Energy Sector. (Guidance for German Development Cooporation.) (http://www.gtz.de/de/dokumente/en-gn-energy-2009.pdf).
[134] Hauri et al. [WHO], 2004 (fn. 6), p. 1831; Kane et al., 1999 (fn. 6), p. 803; SIGN/WHO, 2011 (fn. 9), p. 4.
[135] Resolution of UN, 2001 (fn. 34).
[136] SIGN/WHO, 2011 (fn. 9), p. 4.

Precautions in Medical Environments Recommended by WHO

- Communication of risks associated with unsafe injections to patients through disease prevention programmes (such as HIV prevention)
- capacity building of all health care workers in best injection and related procedures and practices
- the use of protective barriers
- preventing two-handed recapping of needles
- ensuring access to sufficient quantities and quality of injection equipment in health care facilities:
  - for therapeutic injections, either reuse and needle stick prevention syringes or single-use disposable injection equipment
  - for immunization injections, auto-disable syringes exclusively
- covering all cuts and abrasions with waterproof dressings
- prompt clean up of spills of blood or other bodily fluids
- sanitation
- safe collection of medical waste and disposal of sharps to prevent the reuse of dirty equipment and needle-stick injuries (safety-boxes, syringes with needle-stick prevention feature)

Sources: WHO 2002 (fn. 6), pp. 130-131; Hauri et al. [WHO] 2004 (fn. 6), p. 1840; SIGN/WHO 2011 (fn. 9); AVERT, 2011 (fn. 8), p. 3: WHO 2009.

2.5 Occupational Safety

HIV/AIDS creates a large challenge to economic and social development and can endanger public workplaces, as HIV/AIDS's highest concentration of victims are among adults of working age. The workforce of over 30 countries may be between 10-35% smaller by 2020 due to HIV/AIDS.[137]

Health care professionals, sex workers, and highly mobile labourers have a far greater risk of being infected with HIV than the individuals of other professions. They are classified as "high-risk workers". Health care professionals carry a high risk mainly due to their heightened exposure to blood and other bodily fluids.[138] The primary source of transmission in the medical field is through percutaneous infection (i. e. from needles, instruments and bites). Fortunately, the average rate of transmission after such an incident is only about 3 in 1 000.[139]

Effects of HIV/AIDS on the Workforce

- Costs borne by employers can increase:
  - productivity can decline and lead to weakened economic development;
  - skilled workers may become scare
- overall labour force:
  - absenteeism and early retirement may increase
  - stigmatization and/or discrimination of HIV-positive employees;
- food may become insecure as rural workers are among the highest concentration of the infected;
- increased poverty, due to the loss of the family 'breadwinner';
- an increased demand for public services and crucial supplies;
- distorted markets

ILO (fn. 137), p. 13.

Since 2005 the HIV prevention efforts for high-risk individuals has tripled. These high-risk individuals include sex workers, and out of the 39 countries that report to have HIV-prevention services for sex workers, only a 60% average coverage rate exists.[140]

Within medical environments, health care workers should follow the precautions that are advised by the World Health Organization (see box above).

The workplace offers an excellent platform for fighting the HI virus by educating workers and providing practical prevention tools. Although education campaigns may be initially costly, inaction by companies can result in increased production costs due to heightened levels of HIV/AIDS and the

[137] ILO, (no date), Factory Improvement Programme: HIV and AIDS in the Workplace, Training Guide (http://www.ilofip.org/Documents/Hivaids-submodule.pdf), p. 13.
[138] AVERT, 2011 (fn. 8).
[139] WHO, 2010, HIV/AIDS: Online Q&A (http://www.who.int/features/qa/71/en/index.html).
[140] UNAIDS, 2008, Press Release: Substantial Increases in HIV Prevention Efforts Producing Results, but not Enough to Turn Back the Epidemic (http://www.unaids.org/en/media/unaids/contentassets/restore/080725_gr08_pressrelease_en.pdf).

associated productivity losses (researchers from the Center for International Health at Boston University found that new infections can cost employers between 3.4% and 10.7% of annual salaries, dependent on skill level, associated benefits, etc.).[141] The ILO recommends measures focusing on the prevention and management of the impact of HIV/AIDS in the workplace, care and support for infected workers, and the elimination of discrimination and stigmatization on the basis of a real or assumed HIV status.[142]

2.6 Gender Equity

The proportion of women living with HIV/AIDS has remained stable at slightly less than 52% worldwide.[143] Women face double the risk of contracting HIV than men during sexual intercourse with an infected partner. Statistically, women also tend to be infected earlier in life. Power imbalances often limit women's capacity to negotiate safer sex, as many men do not respect the wants and needs of their partners regarding safer behaviours. An unknown proportion of women have also become infected with HIV through rape, which is linked to a threefold increase in the risk of HIV transmission. Additionally, many women are economically forced to work in the sex industry, which increases their risk of HIV infection.[144] With antenatal and perinatal care and injectable birth control, women undergo a higher proportion of injections and, accordingly, a higher risk of HIV infection.[145]

Many cultures hold gender-related beliefs that prevent women from taking the necessary steps to protect themselves from HIV transmission. For example, in certain cultures it is considered inappropriate for a woman to initiate the frank, assertive discussions about sex and disease risk that are necessary to implement preventative measures (such as condom use).[146] In other instances, the emergence of HIV/AIDS has lead to an increase in practices that violate women's rights, such as certain forms of virginity testing.[147] In other instances cultural myths have lead directly to rape, such as the belief that sex with a virgin can protect one from HIV/AIDS,[148] or even heal an already infected person.[149]

2.7 Safe Birthing Conditions

There are 2.5 million children living with HIV/AIDS[150] and another 10 000 become infected each day.[151] Furthermore, an estimated 260 000 children under the age of 15 died of AIDS related illnesses in 2009.[152] Children are usually infected by their HIV-positive mothers during pregnancy, delivery, breastfeeding or by unsafe injections in perinatal and pediatric health care.

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[141] ILO, 2002, Good Practice Note HIV/AIDS in the Workplace (http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_hiveng/$FILE/HIVAIDSEng.pdf), p. 2.
[142] ILO, 2001, An ILO Code of Practice on HIV/AIDS and the World of Work (http://www.ilo.org/public/libdoc/ilo/2001/101B09_133_engl.pdf), p. 1.
[143] UNAIDS 2010 (fn. 1), p. 23.
[144] UNAIDS 2010 (fn. 1), pp. 10-11, 130-136; UNAIDS 2010a, Joint United Nations Programme on HIV/AIDS: Fact Sheet 10: Women, Girls and HIV. 1 March 2010 (http://www.unaids.org/en/media/unaids/contentassets/dataimport/pub/factsheet/2010/20100302_fs_womenhiv_en.pdf); Action Aid 2008, Hit or miss? Women's rights and the Millennium Development Goals. London, (http://www.actionaid.org.uk/doc_lib/aamdg.pdf), pp. 28-29.
[145] Reid, S., 2010, Preliminary results of the update of the WHO global burden of disease from unsafe medical injections. Presentation at the 11th annual meeting of the Safe Injection Global Network (SIGN/WHO), 9 November 2010, Dubai, p. 8.
[146] Levinson, R. A., et al., 2004, The impact of cultural context on Brazilian adolescents' sexual practices, (http://search.proquest.com.ezproxy.canterbury.ac.nz/docview/195935584/fulltextPDF/12F7498FA84728E7626/1?accountid=14499), pp. 217-221.
[147] Leclerc-Madlala, S., 2001, Virginity Testing: Managing Sexuality in a Maturing HIV/AIDS Epidemic, Medical Anthropology Quarterly 15 (4) (http://onlinelibrary.wiley.com/doi/10.1111/maq.2001.15.issue-4/issuetoc), pp. 533-552.
[148] Motzoi, C., 2006, Combating HIV/AIDS: Promoting Gender Equality among Youth, World Bank, Washington, DC (http://www.athgo.org/downloads/position_papers/Motzoi_Clairneige.pdf), p.3.
[149] Meel, B., 2003, The Myth of Child Rape as a Cure for HIV/AIDS in Transkei: A Case Report, Medicine, Science and the Law 43(1):85-8 (http://www.ncbi.nlm.nih.gov/pubmed/12627683), pp. 85-86.
[150] UNAIDS 2010 (fn. 1), p. 182.
[151] Ibid., pp. 19, 78, own calculation.
[152] Ibid., p. 19.

Around half of the infants born to HIV-positive mothers are pre- or perinatally infected with HIV, which contributes to 90% of all childhood HIV infections.[153] Although most infants are not infected during pregnancy, the process of delivery and the associated breaking of membranes may cause the HI virus to spread to the child. In order to reduce this risk, a caesarean section may be recommended. Traditionally, this is most often the case for women who are not taking any ARV treatment, because for women who are, the rate of transmission is already reduced, and the risks of surgery in low and middle income countries can often outweigh the benefits. These risks include haemorrhage, post-postpartum fever, wound infection and sepsis. The WHO recommends that the safety of surgery should be improved as a part of the fight against the HIV/AIDS epidemic.[154] Elective caesarean sections decrease the risk of transmitting HIV by 50% (the transmission rate for women who underwent elective caesarean section was 8.4%, compared to 16.7% for those who did not). Furthermore, for women receiving ARV treatment, an elective caesarean section decreased the transmission rate from 7.3% to 2% (which equals a reduction of transmission risk by 73%).[155]

Kaka woman with her youngest brother, Nigeria

Another stage of development at which of mother-child transmission occurs is during breastfeeding. Despite this risk of transmission, breastfeeding by HIV-positive women is often less dangerous than formula feeding because of the life-threatening diseases present in unsafe water, and the immunity that is transmitted through breastmilk. The likelihood of transmission can be significantly lowered (by 42-54%) if the mothers receive ARV treatment.[156] Therefore, ARV treatment is of paramount importance for mothers who have no alternative to breastfeeding.[157] Another option would be to provide equipment to heat breastmilk. The rates of perinatal and breastfeeding transmission have been decreasing; from 500 000 in 2001 to about 370 000 in 2009,[158] albeit at about half of the targeted 50% rate.[159]

See section 1.8 on measures on this issue

The latest documented stage at which caregiver to child transmission occurs is during the pre-mastication of food for infants (when an adult chews food before feeding it to the infant). Infection occours when blood from an infected caregiver's mouth mixes with the food while chewing. Pre-mastication of food for children is common in many parts of the world.[160]

One of the predominant obstructions to further reducing mother-child transmission rates is insufficient access to antenatal and postnatal care. With adequate access to services, mother-child transmission can often be prevented. An antiretroviral (ARV) regimen is recommended during the pregnancy, delivery and breastfeeding stages of development. Recently a triple ARV regimen was shown to decrease HIV infections in newborns by 42-54% compared with the control ARV regimen.[161] In addition to ARV regimens, more inclusive antenatal and postnatal care should include voluntary testing, prophylactic treatment, and optimal obstetric care. Despite these relatively simple preventative solutions, many women in the developing world do not have any access to these services and others

[153] UK Center for disease Control and Prevention, 2011, 19994-GP Notebook: UK Medical Reference, (http://www.gpnotebook.co.uk/simplepage.cfm?ID=-2113535973), p. 1.
[154] WHO 2011 (fn. 59), §§ 36 and 67.
[155] Northwest AIDS Education and Training Center/University of Washington, 2011, Perinatal Discussion, own calculation (http://depts.washington.edu/hivaids/perinatal/case3/discussion.html), p. 1.
[156] Kesho Bora, 2011 (fn. 55), pp. 6-8; WHO, 2011, Kesho Bora Study: Preventing mother-to-child transmission of HIV during breastfeeding, Policy brief (http://www.who.int/entity/reproductivehealth/publications/rtis/KeshoBora_study.pdf), p. 2.
[157] WHO et al., 2008 (fn. 43), pp. 35, 37-38; WHO, 2010 (fn. 45), p. 79.
[158] WHO, 2010 (fn. 45), pp. 19, 78.
[159] Ibid., p. 64.
[160] Gaur, A. H., et al., Practice of Feeding Premasticated Food to Infants: A Potential Risk Factor for HIV Transmission. Pediatrics. 2009, 124:658-666 (http://pediatrics.aappublications.org/content/124/2/658.full), p. 66.
[161] Kesho Bora (fn. 55), 2011, p. 1.

may have only partial access. In 2009, only 26% of pregnant women had access to HIV testing.[162] Nevertheless, there has been an increase in the amount of confirmed HIV-positive, pregnant women in low and middle income countries receiving antiretroviral medication to prevent mother-child transmission, from 15% in 2005 to more than 60% in 2010.[163] Continuing and strengthening education on HIV/AIDS prevention, obstetric care, and AVR treatments for HIV-positive mothers and mothers-to-be will continue this trend.

2.8 Access to Safe Water and Sanitary Living Conditions

Women washing their laundry, India

Although HIV/AIDS is not directly a water-related disease, access to safe water and sanitary living conditions can improve the health of those already living with HIV/AIDS, relieve the burden of caregivers, and preserve human dignity.[164] The majority of opportunistic infections, which are the primary direct killers of HIV/AIDS sufferers, are often transmitted via contaminated water and unsanitary living conditions.[165] In addition, diarrhoea, a common symptom of the aforementioned infections, can be deadly without access to clean water for re-hydration. Large amounts of clean water as well as hygienic latrines are necessary to protect the individual from waterborne diseases and prevent further contamination of the community. If there is no access to clean water, HIV-positive mothers tend to breastfeed their children even if they are aware of the risk of HIV transmission.[166]

2.9 Environment, Consumption of Natural Resources, and Land Usage

Members of women's council, with medicines collected from the fields, Nigeria

Natural resources serve as a "safety net" for households unable to maintain their livelihood as a result of HIV/AIDS and or poverty.[167] Since natural resource collection is, in general, less labour-intensive and requires little to no start-up capital, HIV/AIDS affected communities often become more heavily reliant on the natural resources available to them.[168] This increased dependence on natural resources has anecdotally been linked to a decline in their prevalence, quality, predictability, and/or accessibility.[169] Reciprocally,

[162] WHO et al. 2010 (fn. 45), 86; UNAIDS 2010 (fn. 1), p. 78; AVERT, 2011 (fn. 8), p. 3.
[163] UNAIDS 2011 (fn. 54), p. 72; WHO et al. 2010 (fn. 45), pp. 78, 83.
[164] World Bank, 2011, Water and Sanitation Program: Access to Water Supply and Sanitation Improves Quality of Life for People living with HIV/AIDS (http://www.wsp.org/wsp/node/126).
[165] Ibid.
[166] IRC (International Water and Sanitation Centre), 2007, HIV/AIDS and Water, Sanitation and Hygiene (http://www.irc.nl/page/3462).
[167] Bolton, S., and Talman, A., 2008, Centre for Disease Control and Prevention, Male Circumcision and Risk for HIV Transmission and Other Health Conditions: Implications for the United States, (http://cdc.gov/hiv/resources/factsheets/PDF/circumcision.pdf); Feldbaum, H., et al., 2006, The National Security Implications of HIV/AIDS, Public Library of Science (http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.0030171).
[168] Bolton, Talman, 2008 (fn. 167).
[169] Challe, J. F., and Price, L. L., 2009, Endangered edible orchid and vulnerable gatherers in the context of HIV/AIDS in the Souther Highlands of Tanzania, Journal of Ethnobiology and Ethnomedicine, Vol. 5. (http://www.ethnobiomed.com/content/5/1/41); Dwasi, J., 2002, HIV/AIDS and Natural Resource Management in Africa: Findings from Kenya, Namibia., South Africa and Uganda (Draft). (http://www.rmportal.net/training/content/abcg-report-on-hiv-aids-and-natural-resource-management-in-africa-findings-from-kenya-namibia-south-africa-and-uganda-by-dr.-jane-dwasi/view?searchterm=dwasi); Mauambeta, D. D. C., 2003, HIV/AIDS Mainstreaming in Conservation: The Case of Wildlife and Environmental Society of Malawi (http://www.frameweb.org/adl/en-US/2308/file/209/WESM_AIDS_Paper.pdf).

shortages in natural resources reduce peoples coping ability, thereby leading to increased vulnerability to poverty, and therefore also to HIV/AIDS.[170]

HIV/AIDS also causes changes in land usage. Rural communities burdened by HIV/AIDS often experience a decreased availability of labour and land management capacity, and a loss of indigenous knowledge on resource management and biodiversity conservation.[171] Dr. Marcela Vilarreal, a Senior Officer for the UN Food and Agriculture Organization (FAO) of the United Nations' Sustainable Development department explained the problem in the following terms: *"Innovation often dies with the farmers ... They have developed ways to adapt their crops to the environment and when they die, so does their knowledge. Biodiversity is also threatened because in times of acute labour shortages, people plant fewer varieties of crops to save time and money".*[172]

Women and children washing clothes and softening maize in a stream, Nigeria

2.10 Conflict, Human Rights, and International Security

"The threats to peace and security in the twenty-first century include not just international war and conflict but civil violence, organized crime, terrorism and weapons of mass destruction. They also include poverty, deadly infectious disease and environmental degradation since these can have equally catastrophic consequences. All of these threats can cause death or lessen life chances on a large scale. All of them can undermine States as the basic unit of the international system. ...

In our globalized world, the threats we face are interconnected ... On this interconnectedness of threats we must found a new security consensus, the first article of which must be that all are entitled to freedom from fear, and that whatever threatens one threatens all. Once we understand this, we have no choice but to tackle the whole range of threats. We must respond to HIV/AIDS as robustly as we do to terrorism and to poverty as effectively as we do to proliferation. We must strive just as hard to eliminate the threat of small arms and light weapons as we do to eliminate the threat of weapons of mass destruction. Moreover, we must address all these threats preventively, acting at a sufficiently early stage with the full range of available instruments."

Kofi Annan, 2005, In Larger Freedom, §§ 78-81 (http://www.un.org/largerfreedom/chap3.htm).

Many factors that make management and treatment of HIV/AIDS difficult are magnified by conflict.[173] For example sexual violence, high risk behaviours, isolation and insecurity of affected regions complicate the delivery of supplies and equipment, and leads to the breakdown of social and healthcare infrastructure. Personal trauma and the death of key support leaders may decrease general willingness to be treated, and (although against international humanitarian law) targeting of aid workers can lead to a lack of qualified staff.[174] Although the magnification of these factors may contribute to a possible increase in HIV transmission in conflict-ridden areas,[175] it is still unclear whether such vulnerability necessarily translates to an increased rate of transmission, as each

[170] IUCN, 2010, HIV/AIDS and the environment: A review of Evidence and Recomendations for Next Steps (http://cmsdata.iucn.org/downloads/hiv_policy_brief.pdf), p. 3.

[171] Bolton, Talman, 2008 (fn. 167); Torella, E., et al., 2006, Ocean & Coastal Management, Examining the linkages between AIDS and biodiversity conservation in coastal Tanzania (http://cat.inist.fr/?aModele=afficheN&cpsidt=18229479), 49(11), 792-811.

[172] Vilarreal, [in] FAO, 2001, Indigenous knowledge - a key weapon in fighting HIV/AIDS (http://www.fao.org/english/newsroom/highlights/2001/011108-e.htm).

conflict presents different factors contributing to either an decrease or increase of transmission, making it difficult to claim that conflict has a direct effect in HIV transmissions.[176] In fact it is possible that areas affected by long conflicts, even when with sexual violence is an issue, may have a low HIV-infected population in comparison to host countries without such conflicts. For example, the eastern Democratic Republic of Congo showed an increase in HIV transmission due to sexual violence perpetrated by paramilitary and foreign military personnel on the local population, while Sierra Leone, Southern Sudan and Angola did not. This may be due to the nature of isolation of refugee population and internally displace peoples (IDPs),[177] which, contrary to popular belief, often have a lower HIV-infected rate than the surrounding host population.[178] Despite this, stigmatization of refugees and IDPs is still an issue. This is especially true for women and girls who have been raped as a "weapon of war" by host states, members of their society or in their state of origin. This leaves these vulnerable populations to face an already high rate of human rights abuses.[179] Furthermore, either a real or perceived lack of confidentiality, discrimination, denial of access to asylum procedures, threats of refoulement or restrictions of freedom and other consequences have been proven to make people living with HIV/AIDS reluctant to seek treatment.[180] Therefore, strict standards of confidentiality and equal opportunity should be in place in conflict-ridden areas in order to minimize the spread of HIV/AIDS. Additionally, because of the frequency of human rights violations in areas of conflict, the UNHCR (United Nations High Commissioner for Refugees) recommends the following steps:

Discarded bomb casings, Laos

- *"No denial of access to asylum procedures, refoulement or denial of right to return on the basis of HIV status.*
- *No mandatory HIV testing of displaced persons under any circumstances.*
- *When required by countries in which refugees have requested resettlement, HIV testing conducted in accordance with established standards (i. e., accompanied by pre- and post-test counselling and appropriate referral for follow-up support and services).*
- *Effective procedures in place to maintain confidentiality of individuals HIV status.*
- *Informed consent by clients for disclosure of their HIV status if such disclosure is necessary to obtain community or protection services.*
- *Policies, laws and programmes in place to combat stigma and discrimination against people living with HIV/AIDS.*
- *No laws or regulations prohibiting displaced persons access to public sector HIV/AIDS programmes."*[181]

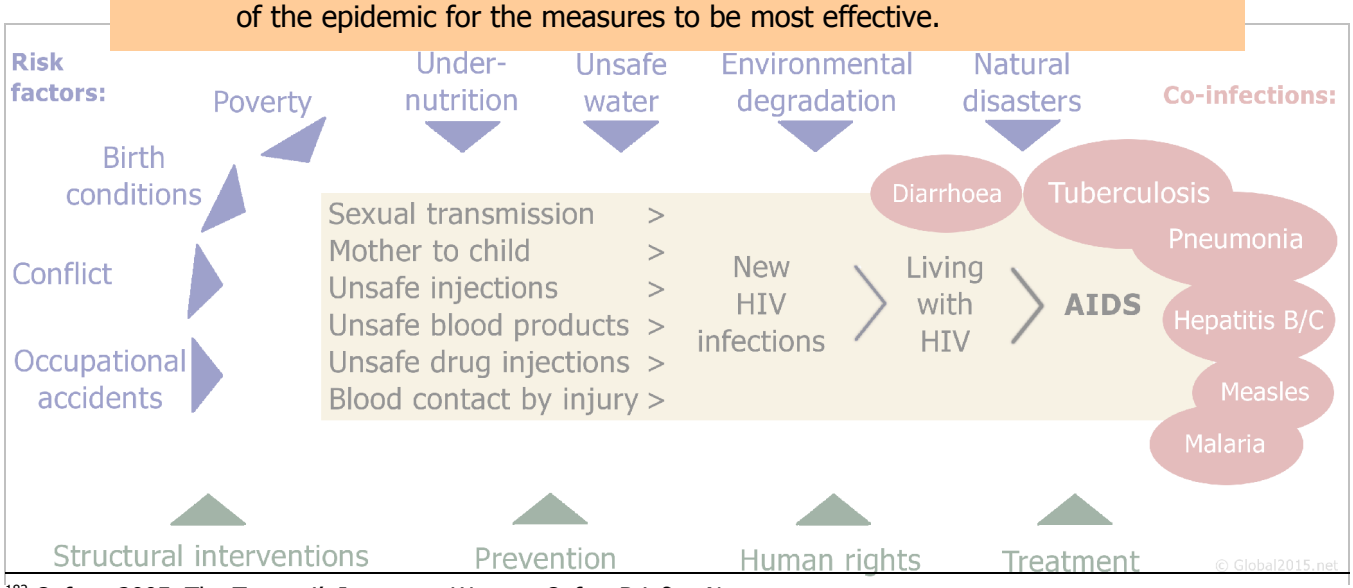
[173] IFRC, 2008 (fn. 98).
[174] Ibid.
[175] International Committee of the Red Cross (ICRC), 2008: HIV/AIDS field guide; A planning and practice guide to integrating HIV/AIDS into the ICRC's health work (http://www.icrc.org/eng/assets/files/other/icrc_002_0953.pdf), p. 6.
[176] Spiegel, P., 2004, HIV/AIDS among conflict-affected and displaced populations: dispelling myths and taking action, Disasters, Vol. 28, No. 3 (http://onlinelibrary.wiley.com/doi/10.1111/j.0361-3666.2004.00261.x/abstract), pp. 322-339.
[177] Mock, N., et al., Conflict and HIV: A framework for risk assessment to prevent HIV in conflict-affected settings in Africa, Emerging Themes in Epidemeology, vol. 1 (http://www.ete-online.com/content/1/1/6), p. 6.
[178] IFRC, 2008 (fn. 98).
[179] Ibid.
[180] Spiegel, 2004 (fn. 176).
[181] Spiegel, 2004 (fn. 176), p. 331.

2.11 Preparedness for Natural Disasters

The social and economic upheaval resulting from disasters potentially increases risk-taking, sexual and gender-based violence (including rape) and other behaviours which are linked to an increase in HIV/AIDS (including forcing women whose livelihoods have been disrupted to work in the sex industry).[182] Natural disasters may break family ties and alter sexual networking, which in turn facilitates the spread of HIV/AIDS.[183] The interruption of treatment and care regimes, the prevalence of opportunistic infections, unavailability of medical interventions to prevent mother-child transmission of the virus (antiretrovirals and caesarean sections where needed), limited availability of condoms and other preventative tools, and the lack of priority that reproductive healthcare and information services take on in an emergency situation.[184] This can have serious consequences. For example, interruptions in an antiretroviral treatment regime can increase the development of an antiretroviral resistant HIV strain.[185] These interruptions can be as a result of either the unavailability of antiretroviral drugs themselves, or the poor compliance that is associated with the increased side effects of antiretroviral drugs without adequate nutrition.[186]

Key Points

- HIV/AIDS is responsible for 1.8 million deaths and 58.5 million lost healthy life-years (DALYS) each year.
- People from every country are infected, but the most affected countries are also some of the poorest in the world.
- HIV/AIDS is a global issue, with wide-reaching economic, political, social and environmental consequences, even for countries which do not have a high rate of infection.
- Poverty, including the lack of access to food, antenatal health care and safe water, may be the strongest hurdle to fight the spread of HIV/AIDS and to reduce its human impact.
- Many factors influence HIV/AIDS, and measures taken to fight it need to be undertaken with an understanding of the holistic global context of the epidemic for the measures to be most effective.



[182] Oxfam, 2005, The Tsunami's Impact on Women, Oxfam Briefing Note (http://www.oxfam.org.uk/resources/policy/conflict_disasters/downloads/bn_tsunami_women.pdf); IFRC, 2008 (fn. 98).
[183] IFRC, 2008 (fn. 98), p. 148.
[184] Ibid., p. 144.
[185] WHO 2010, HIV/AIDS; Online Q&A, July 2010, (http://www.who.int/features/qa/71/en/index.html); Bennett/Assefi 2005 (fn. 38), pp. 72-81; Bertozzi et al. 2006 (fn. 11), p. 358.
[186] Ivers et al. 2009 (fn. 106), p. 1097; Bertozzi et al. 2006 (fn. 11), p. 352.

Annex

Goals

"Commit ourselves to addressing the rising rates of HIV infection among young people *to ensure an HIV-free future generation* through the implementation of comprehensive, evidence-based prevention strategies, responsible sexual behaviour, including the use of condoms, evidence- and skills-based, youth-specific HIV education, mass media interventions and the provision of youth-friendly health services".[187]

"Intensify proven, cost-effective actions against diseases and malnutrition that are the major causes of child mortality and morbidity, including ... *reducing the incidence of ... HIV/AIDS.*"[188]

"By 2003, implement universal precautions in health-care settings to prevent transmission of HIV infection".[189]

Targets

"Governments, with assistance from UNAIDS and donors, should, by 2005, ensure that at least 90 per cent, and *by 2010 at least 95 per cent, of young men and women aged 15 to 24 have access to the information, education and services* necessary to develop the life skills required to reduce their vulnerability to HIV infection. Services should include access to preventive methods such as female and male condoms, voluntary testing, counselling and follow-up. Governments should use, as a benchmark indicator, HIV infection rates in persons 15 to 24 years of age, with the goal of ensuring that by 2005 prevalence in this age group is reduced globally, and by 25 per cent in the most affected countries, and that *by 2010 prevalence in this age group is reduced globally by 25 per cent."*[190]

"By 2005, *reduce the proportion of infants infected with HIV* by 20 per cent, and *by 50 per cent by 2010,* by ensuring that 80 per cent of pregnant women accessing antenatal care have information, counselling and other HIV-prevention services available to them, increasing the availability of and providing access for HIV-infected women and babies to effective treatment to reduce mother-to-child transmission of HIV, as well as through effective interventions for HIV-infected women, including voluntary and confidential counselling and testing, access to treatment, especially anti-retroviral therapy and, where appropriate, breast-milk substitutes and the provision of a continuum of care".[191]

Human Rights

"The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."[192]

"Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including ... medical care".[193]

The state parties of the International Covenant on Economic, Social and Cultural Rights „recognize *the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.* ... The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for: ...
(c) The prevention, treatment and control of epidemic, endemic, occupational and other diseases;
(d) The creation of conditions which would assure to all medical service and medical attention in the event of sickness."[194]

The UN General Assembly "Recognizes that *access to medication* in the context of pandemics such as HIV/AIDS, tuberculosis and malaria is one fundamental element for achieving progressively the full realization of the right of everyone to the enjoyment of the highest attainable standard of physical and mental health".[195]

"Reaffirm that the full realization of all human rights and fundamental freedoms for all is an essential element in the global response to the HIV/AIDS pandemic, including in the areas of *prevention, treatment, care and support,* and recognize that *addressing stigma and discrimination* is also a critical element in combating the global HIV/AIDS pandemic".[196]

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[187] Resolution UN 2006 (fn. 65), § 26, emphasis added.
[188] Resolution UN 2002 (fn. 34), § 37 (11), emphasis added.
[189] Resolution UN 2001 (fn. 34), § 51.
[190] UN 1999, § 70, emphasis added; similar: resolutions UN 2001 (fn. 34), § 47, and UN 2002 (fn. 34), § 46.
[191] Resolution UN 2001 (fn. 34), § 54, emphasis added, and UN 2002 (fn. 34), § 46.
[192] WHO 1946 – World Health Organization: WHO Constitution. (http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf).
[193] UN 1948: Universal Declaration of Human Rights. (http://www.un.org/en/documents/udhr/index.shtml), Article 25.1.
[194] UN 1976: International Covenant on Economic, Social and Cultural Rights. (http://www2.ohchr.org/english/law/cescr.htm), art. 12, emphasis added.
[195] UN 2004: Resolution adopted by the General Assembly 58/179, Access to medication in the context of pandemics such as HIV/AIDS, tuberculosis and malaria (http://daccess-ods.un.org/TMP/2650212.94355392.html), emphasis added.
[196] Resolution UN 2006 (fn. 65), emphasis added.