

HIV Prevention in Complex, Macro-scale Societies

**A Report of the CSIS Task Force on HIV/AIDS
Working Committee on Prevention**

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Acknowledgments

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The CSIS Task Force on HIV/AIDS is cochaired by Senators Bill Frist (R-Tenn.) and Russell Feingold (D-Wis.) and is funded by the Bill and Melinda Gates Foundation. Now in its second two-year phase, the task force seeks to build bipartisan consensus on critical U.S. policy initiatives promoting U.S. leadership in strengthening prevention, care, and treatment of HIV/AIDS in affected countries. CSIS is grateful to Senators Frist and Feingold for their leadership and to the Gates Foundation for its continued support and vision.

HIV Prevention in Complex, Macro-scale Societies

Jennifer Kates and Phillip Nieburg

Among the many looming challenges facing the U.S. government and others in addressing HIV/AIDS is the epidemic's "second wave"^{1,2,3}; that is, its potential impact in countries that currently have low- to mid-level HIV prevalence but stand on the brink of major epidemics if large-scale, effective prevention efforts are not scaled up now. China, India, Russia, Ethiopia, and Nigeria, in particular, have been identified as second-wave countries. Current official HIV-prevalence estimates range in these countries from 0.1 percent to 5.4 percent,⁴ but prevalence is much higher in certain areas and among certain populations within each country, and HIV is moving beyond its initial concentration in the higher risk groups.^{5,6,7} In many ways, each country is at an important "tipping point."

As such, HIV prevention is of paramount importance in second-wave states. This is not to diminish the importance of treatment and care for those already living with HIV/AIDS; rather, without significantly scaled-up prevention now, it will be extremely difficult to meet the need for care and treatment of a growing population living with the disease. Moreover, in the absence of effective prevention, it will be hard to curtail the global pandemic overall—in part, because these five nations are among the world's most populous and are important global and regional powers. Therefore, even a relatively small increase in HIV-prevalence rates in these countries translates into a large number of people and growing share of the global HIV/AIDS burden. Consequently, the way in which the United States and other donors address HIV prevention in these five countries,

¹ National Intelligence Council (NIC), *The Next Wave of HIV/AIDS: Nigeria, Ethiopia, Russia, India, and China* (Washington, D.C.: NIC, September 2002).

² Peter Piot, "AIDS and the Way Forward," World AIDS Day address, Woodrow Wilson International Center for Scholars, Washington, D.C., November 30, 2004.

³ CSIS Task Force on HIV/AIDS, *Second Wave States*, http://www.csis.org/africa/HIVAIDS/index.php?option=com_csis_progj&task=view&id=101.

⁴ UNAIDS, *2004 Report on the Global AIDS Epidemic* (Geneva: UNAIDS, July 2004), pp. 189–207, and http://www.unaids.org/html/pub/Global-Reports/Bangkok/Table_countryestimates_2004_en_xls.xls.

⁵ UNAIDS, *2004 Report on the Global AIDS Epidemic*.

⁶ UNAIDS, *AIDS Epidemic Update 2004* (Geneva: UNAIDS, December 2004).

⁷ UNAIDS, *AIDS Epidemic Update 2005* (Geneva: UNAIDS, December 2005).

as well their own internal responses, will help determine the future course of the global epidemic.

Looking across these five second-wave states, several common themes and issues emerge, as do key differences, which are instructive for assessing both the role of and challenges to HIV-prevention efforts. These include the following 10 key points:

1. **These five nations are among the world's most populous and are important global and/or regional powers.** In 2005, they collectively accounted for 43 percent of the world's population.⁸ China is the largest nation in the world, followed by India, and Russia is ranked eighth. The borders of these three large nations are proximate. They are also nations of significant importance within the global political economy and of strategic interest to the United States. Nigeria, the ninth-largest country in the world and largest in Africa, is an important regional power on that continent. Ethiopia is the second-largest African country. Finally, these five large nations have significant geographic and population diversity, with multiple ethnic groups and languages, factors that present both opportunities and challenges to prevention efforts.
2. **Their HIV/AIDS epidemics are at different but critical tipping points.** Three of these countries find themselves at the nexus of concentrated and generalized epidemics—China, India, and Russia. Ethiopia and Nigeria already are experiencing generalized epidemics and sit within the region of the world hardest hit by HIV/AIDS to date, sub-Saharan Africa. Ethiopia faces some mounting and unique challenges, including a continuing food crisis and high levels of debt, and is classified by the World Bank as a heavily indebted poor country (HIPC). To date, the HIV/AIDS epidemics in China and Russia have been largely driven by injection drug use, although in both, sexual transmission is on the rise. The epidemics in India, Ethiopia, and Nigeria have been and continue to be driven by sexual transmission. Within each country, certain geographic areas have been more affected by HIV/AIDS than others. For example, in India, six states are considered to have high HIV-prevalence rates (i.e., greater than 1 percent).⁹
3. **Weak HIV surveillance is a common problem across these countries,** and one that inhibits an understanding of the scope and trends of the epidemic. Although this is an issue for most countries in the world, it is particularly acute in second-wave states where surveillance data are critical at this point in time. In China, India, and Russia, for example, it has been difficult to come to agreement on official estimates of HIV prevalence, as well as projections of the potential impact of HIV over time.
4. **Multiple donors are involved in all five countries, offering both financial and technical assistance, as well as diplomatic input.** All five, for example,

⁸ Population Reference Bureau (PRB), *2005 World Population Data Sheet* (Washington, D.C.: PRB, August 2005), http://www.prb.org/pdf05/05WorldDataSheet_Eng.pdf.

⁹ UNAIDS, *AIDS Epidemic Update 2005*, p. 33.

have received grants from the Global Fund to Fight AIDS, Tuberculosis, and Malaria for HIV/AIDS efforts,¹⁰ and each has received World Bank grants, credits, or loans to address HIV/AIDS.¹¹ The United States plays an important role in all five countries. Two are PEPFAR¹² focus countries—Ethiopia and Nigeria—and are therefore receiving a significant amount of U.S. funding and other direct support. China, India, and Russia are not PEPFAR focus countries but have been designated as “countries of concern.” Outside of the focus countries, India receives the largest amount of U.S. bilateral aid for HIV/AIDS.¹³

5. **The role of donors vis-à-vis HIV prevention is complex and must be considered carefully.** It is important for the United States and other donors to assess how their assistance is or is not facilitating HIV-prevention efforts in these countries. China, India, and Russia do not often or easily see themselves as “recipients of aid” or in need of external assistance. Though this complicates the role of donors, it also underscores the need for diplomatic engagement to emphasize the importance of HIV prevention. Furthermore, because China, India, and Russia are not PEPFAR focus countries, it will be critical for the United States in particular to provide strong diplomatic leadership and technical assistance on the importance of HIV prevention. Ethiopia and Nigeria, on the other hand, as PEPFAR focus countries, are receiving large influxes of aid for HIV/AIDS. Much of this aid is for treatment, as the overall global response to HIV/AIDS has a strong emphasis on treatment, arguably an easier area to address than prevention. However, this emphasis should not come at the expense of HIV prevention. (Anecdotal evidence from Ethiopia and Nigeria suggests that both countries are focusing increasingly on antiretroviral treatment, potentially at the expense of prevention.)
6. **The decentralization of government health functions and budgetary authority** is on the rise in all five of these countries, raising important issues for HIV-prevention efforts. Such decentralization may allow for the tailoring of prevention efforts to particular needs and epidemic characteristics. However, funding of and coordination around HIV prevention at these multiple levels are often minimal.

¹⁰ The Global Fund to Fight AIDS, Tuberculosis and Malaria, <http://www.theglobalfund.org/search/default.aspx?lang=en>.

¹¹ World Bank, Project Database and Country Briefs, 2005, <http://web.worldbank.org/external/projects/main?pagePK=223716&piPK=95917&theSitePK=40941&menuPK=225435&pagenumber=1&pagesize=100&totalrecords=144&sortby=BOARDSORTDATE&sortorder=DESC&category=advsearch&query=ALL&status=ALL®ioncode=ALL&countrycode=ALL§or=ALL&majorsector=ALL§orboard=ALL&majorthemeid=ALL&themeid=88&network=ALL&propline=ALL&prodlinetype=ALL&lendinstrtype=ALL&lendinstr=ALL&goalid=ALL&metathemeid=ALL&startyr=ALL&endyr=ALL&env=ALL&match=allRussia>.

¹² President’s Emergency Plan for AIDS Relief (PEPFAR).

¹³ Office of the U.S. Global AIDS Coordinator, *Engendering Bold Leadership: The President’s Emergency Plan for AIDS Relief*, First Annual Report to Congress (Washington, D.C.: U.S. Department of State, March 2005), p. 79, <http://www.state.gov/documents/organization/43885.pdf>.

7. **Stigma, including criminalization of risk behaviors and lack of legal protections, is a serious problem within each country,** and will have significant implications for curtailing the epidemic unless addressed. Stigma is of particular concern for injection drug users (IDUs), commercial sex workers (CSWs), and men who have sex with men (MSM).
8. **Prevention interventions must also target high-risk groups** especially IDUs, CSWs, and MSM, both to minimize their own vulnerability and to reduce further the spread of the epidemic more broadly. This is particularly the case in China, India, and Russia, but also in Ethiopia and Nigeria where CSWs continue to be at risk. Yet the very interventions needed to reach high-risk groups are often the most controversial. In some cases, clearer policy guidance by both affected and donor governments on the types of interventions that will be supported to reach these groups (e.g., drug treatment/substitution therapy, syringe access, outreach services for commercial sex workers, condoms, etc.) is needed.
9. **Addressing the epidemic's impact on women and girls needs to be a fundamental part of HIV prevention.** Today, women represent close to half of all adults living with HIV/AIDS and in some countries far outnumber the number of men infected. In Ethiopia and Nigeria, for example, women already represent more than half of those living with HIV/AIDS. The epidemics in China, India, and Russia, while still primarily male, are likely to see increasing impacts on women and girls without increased attention to the factors that make women and girls particularly vulnerable to HIV infection or complicate their access to services once infected.
10. **Both “structural” and “operational” prevention are important.** Finally, HIV prevention requires attention not only to direct or “operational” prevention interventions—that is, interventions specific to HIV such as HIV testing and counseling—but to “structural” prevention, the underlying factors that make societies and individuals vulnerable to HIV infection in the first place, including poverty, the status of women, food insecurity, and others. These structural factors, however, are often intractable, pre-date and transcend HIV/AIDS, and will likely not disappear even if and when an HIV vaccine becomes available. Therefore, donors and affected countries alike are faced with the challenging question of how much of their HIV-specific funding and assistance should go to address these larger issues and how responses to structural factors can incorporate a more explicit HIV focus.

Annex. Cross-country Comparison of Second-wave States

KEY VARIABLES	CHINA	INDIA	RUSSIA	ETHIOPIA	NIGERIA
DEMOGRAPHIC AND ECONOMIC VARIABLES					
UNAIDS Region¹	East Asia	South/Southeast Asia	Eastern Europe/ Central Asia	Sub-Saharan Africa (East)	Sub-Saharan Africa (West)
World Bank classification of economy, 2005 ²	lower middle income; less indebted	low income; less indebted	lower middle income; moderately indebted	low income; moderately indebted; HIPC	low income; moderately indebted
Total land area (in million square miles) ³	3.7	1.3	6.5	0.5	0.4
Population (millions) / world rank, 2005 ⁴	1,304 / #1	1,104 / #2	144 / #8	77 (not in top 10)	131 / #9
Gross national income (GNI) per capita, 2003 ⁵	\$1,100	\$530	\$2,610	\$90	\$320
Per capita health expenditure, 2002 ^{5,6}	\$261	\$96	\$535	\$21	\$43
Health expenditure as % of GDP, 2002 ⁵	5.8%	6.1%	6.2%	5.7%	4.7%
Percent population < age 15 ⁷	22%	36%	16%	44%	44%
Life expectancy at birth, 2003 ⁵	71	62	65	50	45
Child (< 5 years) mortality rate (per 1,000 male/female), 2003 ⁵	32/43	85/90	18/14	177/160	200 / 197
Maternal mortality, (per 100,000 live births), 2000 ⁸	56	540	65	850	800
Adult illiteracy rate, (% male/female), 2000 ⁸	7.9 / 22.1	32 / 55	0.3 / 0.6	53 / 69	28 / 44
Type of government^{3,9}	one party	federal republic	federation	federal republic	federal republic
Government administrative divisions^{3,9}	23 provinces, 5 regions, 4 municipalities	28 states, 7 union territories	88 regions, including 2 federal cities	9 states, 2 city administrations	36 states, 1 territory
HIV/AIDS VARIABLES					
Year of first HIV case ¹⁰	1985	1986	1986	1986 ¹¹	1986
UNAIDS/WHO epidemic classification¹²	concentrated →generalized	concentrated →generalized	concentrated →generalized	generalized	generalized
Adult HIV/AIDS prevalence (%), 2003 ¹	0.1%	0.9%	1.1%	4.4%	5.4%

Annex. Cross-country Comparison of Second-wave States (cont'd.)

KEY VARIABLES	CHINA	INDIA	RUSSIA	ETHIOPIA	NIGERIA
Estimated no. living with HIV/AIDS, 2003 ^{1,13}	840,000	5,100,000	860,000	1,500,000	3,600,000
Women as % of adult prevalence, 2003 ¹	23%	38%	34%	55%	58%
Predominant mode of HIV transmission ^{10,14,15}	IDU (↑sexual)	sexual	IDU (↑sexual)	sexual	sexual
Most affected regions/states ^{10,14,15}	8 hard hit provinces/autonomous regions	6 states > 1% HIV/AIDS prevalence	10 regions w/ 70% of reported HIV cases	highest prevalence in urban/peri-urban areas	all states > 1% HIV/AIDS prevalence
GOVERNMENT & DONOR RESPONSE VARIABLES					
Domestic HIV/AIDS budget (federal; in U.S.\$ equivalent)	\$97 million FY 2004 ¹⁶	\$69 million FY 2004/2005 ¹⁷	< \$10 million FY 2004 ¹⁸	[not available]	\$30 million FY 2004 ¹⁹
Global Fund To Fight AIDS, TB and Malaria, 5-year totals over 4 rounds for HIV/AIDS ²⁰	\$162 million	\$241 million (TB/HIV=\$15 million)	\$210 million	\$541 million	\$71 million
World Bank total grant (IDA) or loan (IDRB) commitment, cumulative as of April 2005 ^{21,22}	\$60 million (IDRB)	\$418 million (IDA)	\$150 million (IDRB)	\$160 million (IDA)	\$217 million (IDA)
U.S. government PEPFAR focus country (yes/no) ²³	no ("country of concern")	no ("country of concern")	no ("country of concern")	yes	yes
U.S. government bilateral funding commitment, FY 2004 ^{23,24}	\$37 million (for HIV/AIDS & other diseases)	\$36 million	> \$10 million	\$48 million (\$70 million FY 2005)	\$71 million (\$109 million FY 2005)

1 UNAIDS, *2004 Report on the Global AIDS Epidemic* (Geneva: UNAIDS, July 2004), pp. 189–207, http://www.unaids.org/html/pub/Global-Reports/Bangkok/Table_countryestimates_2004_en.xls.xls.

2 World Bank, *Country Classification, List of Economies*, April 2005, <http://www.worldbank.org/data/countryclass/classgroups.htm>.

3 "Background Notes," various issues, U.S. State Department <http://www.state.gov/r/pa/ei/bgn/>.

4 Population Reference Bureau (PRB), *2005 World Population Data Sheet* (Washington, D.C.: PRB, August 2005), http://www.prb.org/pdf05/05WorldDataSheet_Eng.pdf.

5 World Health Organization, *Statistical Information System (WHOSIS)*, June 5, 2005.

6 In international dollars.

7 United Nations Development Programme (UNDP), *Human Development Report 2004* (New York: UNDP, 2004).

8 UNAIDS/WHO, "Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections, 2004," <http://www.who.int/hiv/pub/epidemiology/pubfacts/en/>.

9 Central Intelligence Agency (CIA), *The World Fact Book* (Washington, D.C.: CIA, May 2005), <http://www.cia.gov/cia/publications/factbook/>.

10 CSIS Task Force on HIV/AIDS, *Second Wave States*, http://www.csis.org/hivaids/index.php?option=com_csis_progj&task=view&id=101.

11 Evidence of HIV in 1984 from stored sera. See Negatu Mereka, "The Status of HIV/AIDS in Ethiopia," presented at a conference hosted by the CSIS Task Force on HIV/AIDS, Washington, D.C., June 7, 2005, http://www.kaisernet.org/health_cast/uploaded_files/Nigatu_Ethiopia.pdf.

- 12 UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance, *Guidelines for Second Generation HIV Surveillance* (UNAIDS: Geneva, 2000).
- 13 Adults and children.
- 14 UNAIDS, *2004 Report on the Global AIDS Epidemic* (Geneva: UNAIDS, July 2004).
- 15 UNAIDS, *AIDS Epidemic Update 2004* (Geneva: UNAIDS, December 2004).
- 16 China State Council AIDS Working Committee Office and UN Theme Group on HIV/AIDS in China, *A Joint Assessment of HIV/AIDS Prevention, Treatment and Care in China* (Geneva: UNAIDS, December 2004).
- 17 Teresita Schaffer, personal communication, June 6, 2005. India's HIV/AIDS budget in FY 2005–2006 is estimated at \$122 million, which includes some carryover from prior-year funds.
- 18 Transatlantic Partners against AIDS, personal communication, June 5, 2005. FY 2005 funding is estimated to be at a similar level.
- 19 Babatunde Osotimehin, "HIV/AIDS in Nigeria Today," presented at a conference hosted by the CSIS Task Force on HIV/AIDS, Washington, D.C., June 7, 2005, http://www.kaisernetwork.org/health_cast/uploaded_files/Osotimehin_Nigeria.pdf.
- 20 The Global Fund to Fight AIDS, Tuberculosis and Malaria, <http://www.theglobalfund.org/en/>.
- 21 World Bank, Personal Communication, May 2005.
- 22 IDA = International Development Association (grants and interest-free loans/credits); IDRB = International Bank for Reconstruction and Development (nonconcessional loans), See <http://www.worldbank.org/>.
- 23 Office of the U.S. Global AIDS Coordinator, *Engendering Bold Leadership: The President's Emergency Plan for AIDS Relief, First Annual Report to Congress* (Washington, D.C.: U.S. Department of State, March 2005.)
- 24 Office of the U.S. Global AIDS Coordinator, *Emergency Plan for AIDS Relief: Fiscal Year 2005 Operational Plan* (Washington, D.C.: U.S. Department of State, February 2005).