THE WORLD BANK OPERATIONS EVALUATION DEPARTMENT

Evaluation of the World Bank's Assistance in Responding to the AIDS Epidemic: Brazil Case Study

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Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ANRS	Agence Nationale pour les Recherches sur le Sida (France)
ARV	Anti-Retroviral drugs
CAS	Country Assistance Strategy
CDC	U.S. Centers for Disease Control and Prevention
COFIEX	Commission on External Financing, Ministry of Planning
CRT	State Reference and Treatment Center for AIDS
CSO	Civil Society Organization
CSW	Commercial Sex Worker
CTA	Center for Testing and Counseling
DfID	Department for International Development (U.K.)
FNC	Federal Narcotics Council
HAART	Highly Active Anti-Retroviral Therapy
HIV	Human Immunodeficiency Virus
HCV	Hepatitis C Virus
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion Report
IDU	Injecting Drug User
IEC	Information, Education, and Communication
INAMPS	Social Security Institute
MOH	Ministry of Health
MSM	Men Who Have Sex with Men
NAP	National AIDS Program
NASCP	National AIDS and STDs Control Program
NEP	Needle Exchange Program
NGO	Non-Government Organization
PAB	Piso ambulatorio basico
PAHO	Pan-American Health Organization
PAM	Program of Actions and Goals
PLWHA	People Living with HIV and AIDS
POA	Annual operations plans
PPAR	Project Performance Assessment Report (of OED)
SINAN	National AIDS case report database
STD	Sexually Transmitted Disease
SUS	Sistema Unico da Saude
USAID	U.S. Agency for International Development
VCT	Voluntary Counseling and Testing

Contents

Executive Summary

The objectives of this study are to: (a) assess the impact of the World Bank's HIV/AIDS assistance to Brazil relative to the counterfactual of no Bank assistance; and (b) distill lessons for future HIV/AIDS activities. It is one of four case studies included in a larger evaluation by the Operations Evaluation Department (OED) of the World Bank, which aims to assess the development effectiveness of country-level World Bank HIV/AIDS assistance. The findings reflect the situation through the end of 2003, shortly after the field visit of the evaluation team.

Previous experience in campaigns against the military government and for expanded access to health care inspired civil society in Brazil to mobilize aggressively against AIDS when domestic cases first appeared in 1982. The epidemic first spread rapidly among men who have sex with men (MSM) and then among injecting drug users (IDU), after which a wave of heterosexual transmission took off. Several states, particularly São Paulo, led the response. By 1989, the federal government had established a national program, regulated the blood supply, and established a national AIDS commission composed of government and non-governmental representatives.

The World Bank provided important assistance to Brazil's response in the form of two projects totaling US$550 million (funded in part by US$325 million in loans from the Bank) that were in operation from 1993-2003. A third, US$200 million project was approved in June, 2003. In addition, the Northeast Endemic Disease Control Project financed $7.4 million dollars toward media campaigns on HIV/AIDS, the establishment of the National AIDS and STD Control Program, and the preparation of the first AIDS project. It was Brazil that approached the Bank about an interest in borrowing to support its HIV/AIDS program in the early 1990s, a time when the Bank did not have an explicit AIDS strategy for Brazil, nor was it already engaged in AIDS policy dialogue with the government. In 1993, when the first AIDS project began, prevention was not yet active outside selected major metropolitan areas, nor among certain high risk groups. Brazil had not developed the laboratory network that would facilitate its testing and especially its treatment programs. The National Coordination on HIV/AIDS/STDs was reconstituting after a difficult period from 1990-1992 and many states and municipalities did not have HIV/AIDS programs at all. The Bank's implicit assistance strategy focused on preventive efforts, institutional strengthening (especially surveillance, monitoring, and evaluation), and public goods to promote cost-effectiveness in treatment. These emphases were and remain relevant.

The efficacy of the World Bank's assistance was high in some areas. The partnerships with NGOs and community service organizations (CSOs) mobilized effort in prevention at a critical time, and expanded the geographic and functional coverage of the program significantly. Bank financial and technical assistance also supported the local design and implementation of 27 state and 150 municipal HIV/AIDS action plans, under the supervision of local STD/HIV/AIDS coordination

units, many of which had been established with project assistance. The Bank's efforts to assist Brazil in development of HIV epidemiological surveillance were less successful – eventually, a substantial amount of data on HIV prevalence and risk behavior on some key populations (pregnant women and military recruits) did become available, but not until after 1997. Systematic HIV surveillance remains a challenge. Similarly, a comprehensive strategy for the monitoring and evaluation of program impact was not developed until well into the second project, in preparation for the third. The capacity to use epidemiologic, behavioral, and program data for program decision making and coordinating prevention activities remains weak in Brazil, particularly outside of key metropolitan areas. Brazil failed to undertake cost-effectiveness analyses planned under Bank support with the consequence that there is little empirical basis for the prioritization of program activities and for the allocation of human and financial resources. Although the projects did develop a system for promoting local initiatives, the latter (like many health initiatives in the country) were not integrated with other local health sector programs. The absence of an effective framework for health sector decentralization in Brazil until late in the 1990s hampered that effort.

As of the end of 2003, a total of 310,310 AIDS cases had been reported in Brazil since the beginning of the epidemic and an estimated 0.65 percent of the adult population were thought to be living with HIV/AIDS. A 2002 study of MSM in 10 state capitals found that 70 percent reported always using condoms with every sex partner in the previous six months. By that year, there were 160 needle and syringe exchange programs in operation in Brazil. A study of 3,000 sex workers in five cities in 2001 found that 74 percent consistently used condoms with clients. Coverage of prisoners with a basic set of educational and condom promotion efforts was reportedly 65 percent nationwide. Annual sales of male condoms have increased from 5 million in 1985 to 395 million in 2001. Brazil passed a law guaranteeing universal access to anti-retroviral drugs to AIDS patients free of charge in 1996. In 2004, some 175,000 AIDS patients were under care: 135,000 in treatment with ARV drugs and 40,000 in other care. Brazil has built a national laboratory network for HIV viral load and CD4/CD8 immunologic monitoring to guide therapy. The impact on mortality, morbidity, survival after AIDS diagnosis, hospitalizations, opportunistic infection rates, and quality of life has been substantial.

Government commitment to fighting HIV/AIDS preceded Bank involvement, and general prevention programs almost certainly would have occurred even without the projects. The evaluation team nevertheless found four critical areas in which the Bank likely had an impact relative to the counterfactual of no involvement:

- The projects helped safeguard prevention resources during a period of macroeconomic and financial instability in which there was a dramatic increase in demand for AIDS treatment, and protected HIV/AIDS funds from political interference at the local level.
- The national response has been more focused on HIV prevention among groups with high-risk behavior, including very marginalized groups like IDU and sex workers, because of the legitimacy conveyed by the Bank's support.

- The creation and support of state and municipality-level HIV/AIDS and STD coordination units (in all 27 states and 150 municipalities), the development and implementation of local level work program proposals that would be the subject of formal agreements (contracts) between these units and the NASCP, the financing of staff costs and cofinancing of other costs by local government, and the training of local level program staff all are likely to have happened earlier than would have been the case without Bank assistance. The Bank's support helped to create local program capacity and propelled local government involvement that would ultimately facilitate program decentralization.
- The Bank's engagement encouraged early development of mechanisms for government to finance NGOs as implementers of AIDS programs, improving the efficiency and effectiveness of the prevention program, empowering marginalized groups that are key to success and expanding the base of stakeholders to reinforce government commitment.

While many of the activities financed by the two projects likely improved the efficiency and effectiveness of treatment and care, the team cannot dismiss the strong likelihood that they would have been undertaken by the government even in the absence of the Bank's involvement. Unfortunately, due largely to the failure of government to adopt systematic surveillance of HIV and risk behavior – and the inability of the Bank to ensure that these planned activities in the two projects were implemented – it is not possible to assess the impact of either the government's prevention efforts or the Bank's contribution to them on the epidemic or the behaviors that spread it. There has been very little evaluation of the cost-effectiveness of any of the innovative prevention interventions sponsored by these projects. The attempt to encourage monitoring and evaluation in the Brazilian AIDS program is arguably one of the areas in which the Bank's assistance has had the least impact.

The evaluation has also highlighted numerous lessons from the Bank's engagement with Brazil on AIDS: the need to foster political commitment at all levels of policy formulation and implementation; the Bank's role in lending legitimacy to controversial prevention programs; the need to address constraints in the health system that are critical to the AIDS response; opportunities for the Bank to invest in public goods that improve the efficiency of treatment; the critical contribution of NGO involvement in terms of reaching high-risk groups, but the need to invest in implementation capacity to make sure this happens; concerns about the long-run sustainability of the NGO response that is dependent on Bank-sponsored projects; the need to incorporate adequate preparation and incentives for M&E into projects; and the feasibility of working with high-risk groups in a concentrated epidemic when interventions are developed by and with communities at risk and respecting their human rights.

1. Introduction

Objectives

1.1 This study seeks to: (a) assess the impact of the World Bank's HIV/AIDS assistance to Brazil relative to the counterfactual of no Bank HIV/AIDS assistance with respect to outputs of the assistance (government commitment and improved implementation) and, to the extent possible, behavioral outcomes and epidemiological impacts; and (b) to distill lessons for future HIV/AIDS activities. It is one of four case studies included in a larger evaluation by the Operations Evaluation Department (OED) of the World Bank, which aims to assess the development effectiveness of country-level World Bank HIV/AIDS assistance and to distill lessons for future HIV/AIDS activities. "HIV/AIDS assistance" includes policy dialogue, analytic work, and lending to prevent HIV, care for AIDS patients, and mitigate the impact of AIDS. Consistent with standard OED evaluation criteria, "development effectiveness" is measured by the *relevance*, *efficiency*, *efficacy*, and *institutional development* impact of World Bank HIV/AIDS assistance.

Evaluation framework

1.2 Evaluating the development effectiveness of the Bank's HIV/AIDS assistance is challenging because, first, there are many determinants of the spread of HIV beyond the activities of the Bank, donors, and governments. Individual and household behavior ultimately determines the course of the epidemic and is conditioned on factors like culture, political institutions, educational levels, the status of women, and the macroeconomic environment. Second, the Bank is only one of many actors in the area of HIV/AIDS and all Bank-supported projects are implemented by government, directly or indirectly, often in collaboration with other co-financiers. While the Bank can influence policies, responsibility for key policy decisions and the implementation of programs rests with the government. Thus, the development effectiveness of the Bank's activities is strongly linked to the effectiveness of government.

1.3 Given the ways in which individuals and the government mediate the Bank's assistance, the focus of this case study will be on documenting and assessing these key elements of the Bank's and the government's response, namely:

- The <u>activities of the Bank and donors</u>, their interactions or coordination with each other, and with the government and civil society.

- The <u>government's commitment</u> to HIV/AIDS, as measured by the policies and strategies adopted and the levels and distribution of public spending relevant to the problem.

- The implementation of policies and programs, in terms of the coverage and quality of services, provision of public goods, and institutional development.

Vital to an understanding of the inputs and outputs is the extent of *multisectoral collaboration* within government and the *modalities and effectiveness of interactions between the public and private/NGO sectors*.

1.4 The activities of the Bank and donors can be thought of as inputs and both government commitment and implementation as outputs. The evaluation will attempt to link the inputs to outputs and, where possible, to behavioral outcomes and epidemiological impacts at the individual level. The timing of inputs, outputs, and outcomes is also key in assessing plausible attribution of outcomes to different actors.

Methodology and sources of information

1.5 This findings of this case study are based on an extensive review of the literature, published and unpublished, on the epidemiology, public health, and economics of HIV/AIDS in Brazil, and the politics, economics, sociology, and management of the government and social response. All World Bank project documentation was reviewed. Interviews were conducted during a field visit to Brazil[1] in May 2003 and in Washington over the following summer with a broad spectrum of actors, including: World Bank task team leaders, managers, and directors; AIDS coordinators and other government officials in Brazil at the federal, state, and municipal levels; dozens of representatives of NGOs and civil society; researchers and academics; representatives of international agencies and donors; and others. This study also draws on an OED Project Performance Assessment Report (PPAR) on the First and Second AIDS and STD Control Projects in Brazil, conducted simultaneously with the case study field work (OED, 2004). A complete list of individuals consulted is in Annex A. Based on these sources, a Timeline of Key Events was established (see Annex B). Annex C documents the contributions of other donors. An annotated bibliography of published articles documenting HIV/AIDS epidemiological levels and trends is in Annex E.

Outline of the report

1.6 The next chapter describes the first decade of HIV/AIDS in Brazil – the decade before World Bank involvement – including the early spread of HIV and the Brazilian policy response. Chapter 3 looks at the Bank's and Brazil's strategies during the second decade, 1992-2003, including the reasons the Bank got involved, policy dialogue between the Bank and Brazil, the first AIDS control project, Brazilian policy and the decision to finance anti-retroviral drugs fully and universally, the second AIDS project, and the policy dialogue related to the third project. Chapter 4 assesses the impact of the Bank's HIV/AIDS assistance relative to the counterfactual of no World Bank assistance, and Chapter 5 summarizes the lessons for the Bank's

1. In addition to conducting interviews in the Federal District of Brasilia, the team visited the states of Pernambuco, Rio de Janeiro, Rio Grande do Sul, Santa Catarina, and São Paulo.

future assistance in the area. Chapter 6 concludes on the development effectiveness of the Bank's HIV/AIDS assistance to Brazil.

2. The First Decade of HIV/AIDS in Brazil (1982-92)

POLITICAL AND SOCIAL CONTEXT

2.1 It is impossible to understand the social, political, and public health response to AIDS in Brazil without reference to two events that coincided with the emergence of the epidemic: the transition from military to civilian democratic rule and the development of the government health system (the Sistema Único da Saúde, or SUS).

2.2 Brazil's military government that ruled from 1964-1985 weakened the peasant movement, suppressed workers strikes, manipulated opposition political parties, undercut basic civil liberties, infiltrated all levels of government with its secret intelligence service, and was implicated in thousands of instances of torture and political assassination (Mainwaring, 1986; Skidmore, 1989). When the military and its allies finally lost important gubernatorial elections in 1982 and then the presidency in 1985, it was due in no small part to the re-mobilization of Brazilian civil society that had begun in 1978 (Stepan, 1989). As a result, when the AIDS epidemic emerged in the early 1980s, activists had recent experience with successful social mobilization, and they grafted the methods and objectives of the democracy movement onto their struggle to compel a forceful response to the epidemic on the part of the government. Several of the individuals, who would contract HIV and then become leading figures in the AIDS movement, including Herbert Daniel and Herbert de Souza (Betinho), had been exiled during the period of military rule. For them it was evident that the military era had demonstrated the relationship of secrecy and the centralization of power to lethal consequences, and that the same associations characterized the democratic government's early responses to AIDS (Galvão, 2000).

2.3 Most health care services provided under the military government were administered by the social security institute (INAMPS), and were restricted to formal sector workers who contributed payroll taxes. INAMPS contracted private hospitals and physicians to provide the majority of health care services for its beneficiaries, reinforcing already large regional and class inequalities in access. The movement to restore democracy to Brazil spun off a movement to provide health care to underserved groups and regions (*movimiento sanitarista*), based in some of the largest cities, including São Paulo. It advocated universal access to publicly-funded health care and a strategic decentralization of authority over health care to the states and municipalities in order to weaken the political ties between INAMPS and the private facilities, which had resisted reforms. The movement partly achieved its objectives only after the return of civilian democratic government. The 1988 Constitution called health care a "right of all and the duty of the state" and guaranteed universal and equal access to health care, interpreted to mean that the government would make health care available free of charge. The 1990 law that created the SUS reaffirmed those principles, and also established the principles of decentralized management and

wide consultation in the health sector through representative national and state conferences. The mechanisms for decentralization were only clarified with regulations in 1996 and 2002. Together, they transferred responsibility and minimum financing for primary care to municipalities *(piso ambulatorial básico*, or PAB), established criteria by which states and municipalities could qualify to manage higher level care and receive direct funding for that purpose, and created a series of incentives for localities to adopt specific health care initiatives, such as the family health and basic medicines programs. A constitutional amendment in 2000 set floors for expenditures on health care on the part of the federal government (an increase over the previous year's expenditures equal to the growth in GDP), the states (12 percent of revenues), and the municipalities (15 percent of revenues). Currently, the federal government negotiates health sector responsibilities with the states, and the states with municipalities, on a case-by-case basis, resulting in wide variation in the extent and structure of local management. Some practices, though not codified in law, have become standard nationwide: for instance, generally speaking, the federal government takes responsibility for purchasing anti-retroviral (ARV) drugs for HIV/AIDS, and the states and municipalities share responsibility for drugs for opportunistic infections and for sexually transmitted diseases (STDs).

2.4 These two events, regime transition and the development of the SUS, had five important consequences for the directions that AIDS policy took in Brazil. First, the legacy of the struggle against the human rights abuses of the military regime informed and motivated activism towards AIDS policies. The important role of non-discrimination, the right of access to treatment, and civic consultation in Brazil's AIDS policies followed in part from this historical connection. The extent of social mobilization around AIDS was unprecedented in health care, and was responsible for the visibility, political strength, and stability that the national program would achieve (Galvão, 1997; Teixeira, 1997). While there were sixteen different ministers of health during the period 1985-2003, there were only four different national AIDS coordinators. While most government programs suffered budget cuts following the financial crisis in 1998, the street protests on the part of activists ensured, according to several observers, that the AIDS program did not. The law that authorized the provision of ARV drugs to AIDS patients in 1996 enjoyed the support not only of the political left, which had traditionally been associated with the *sanitarista* movement, but also right-of-center parties, one of whose members, ex-president José Sarney, authored the legislation and guided it to congressional approval.

2.5 Second, NGOs initiated their involvement in AIDS as pressure groups, not as service providers. Their experience in the military government had been one of advocacy and mobilization, and the state was seen both as the target of their actions and as the entity responsible for health care. Many did not become involved as service providers until after a program of explicit grants for sub-projects began in 1992 and 1993, as part of the first World Bank financed AIDS project with the government.

2.6 Third, localities were the site of the earliest government response, and some of them, particularly São Paulo, retained influence throughout the development of official policies. In the crucial period between 1982 and 1988, popularly elected

opposition parties controlled a number of important state governments, including São Paulo, for the first time in nearly twenty years. These states responded to the epidemic before the federal government did, and their approaches, which emphasized substantial collaboration with civil society for preventive activities and a human rights orientation, became a model for future activities at the national level.

2.7 Fourth, the principles of universal and equal access to health care, enshrined in the constitution and the SUS, established the legal and moral basis for the management of opportunistic infections and provision of zidovudine (AZT) monotherapy to AIDS patients through the mid-1990s and then combination ARV therapy beginning in 1996.

2.8 Fifth, once established, the national AIDS program could not effectively decentralize activities to the states and municipalities because the legal and regulatory bases for decentralization were not consolidated until the late 1990s. As a result, outside of the most affected states, interventions remained centralized; and even in those states, AIDS interventions were isolated from other health care services, which were being slowly decentralized.

2.9 Brazilian NGOs have been able to incorporate for decades as nonprofit civil associations. Legislation in 1999 created a new category of civil society entities of the public interest, carrying a more favorable tax status. Brazilian NGOs, unlike counterparts in other developing countries, do not have to report contributions from foreign donors to any governmental watchdog agency. Although the share of NGOs registered in the more recent category remained small because of the bureaucratic hurdles, hundreds of new NGOs established themselves, attained funding, and begin work on HIV/AIDS activities under the earlier of these categories, buoyed by the freedom of association following re-democratization. A large number of NGOs working in related areas, such as gay rights, associations of commercial sex workers (CSW), harm reduction advocates, women's rights and welfare organizations, and organizations of the poor and the landless, also began explicit work on HIV/AIDS as the scale of the epidemic became known. [2]

THE EARLY SPREAD OF HIV

2.10 The first seven cases of AIDS in Brazil were diagnosed in 1982 among homosexual and bisexual men (MSM) in São Paulo.[3] In the early 1980s, HIV spread rapidly among urban MSM, an epidemic similar in scope, spread and epidemiology to the epidemics occurring in North America and Western Europe. This outbreak was concentrated in major coastal cities, including São Paulo and Rio de Janeiro. It was soon followed by substantial spread in urban injecting drug users (IDU) – primarily cocaine injectors – in São Paulo, Rio de Janeiro, and the southern regions of Rio

2. The organizations included community service organizations (CSOs) as well as NGOs. Consistent with the language in World Bank documents at the time, the present study refers to all nonprofit organizations, whether intermediary, non-membership non-governmental organizations or other civil society organizations (such as trade unions, faith based groups, and social movements), as NGOs.

3. While the first cases were diagnosed in 1982, subsequent analysis produced the first case reported in 1980, according to the data available on the National AIDS Program website (www.aids.gov.br).

Grande Do Sul and Santa Catarina states. By 1987, AIDS cases had been diagnosed among hemophiliacs, IDU, heterosexuals, blood transfusion recipients, and newborns and HIV infection rates among hemophiliacs in Rio de Janeiro reached 85 percent (Garrison, 1988).

2.11 As of 1986, all AIDS cases were subject to mandatory reporting. From then onward, AIDS case and mortality reports have formed the basis for Brazil's epidemiological monitoring. The emphasis on monitoring AIDS cases (which can occur a decade or more after infection) and not HIV incidence or prevalence[4], has made estimates of current infection levels and the impact of public policy particularly difficult to assess in Brazil (see Box 1).

Box 1. Reported AIDS cases: Useful for planning treatment, less so for evaluating prevention

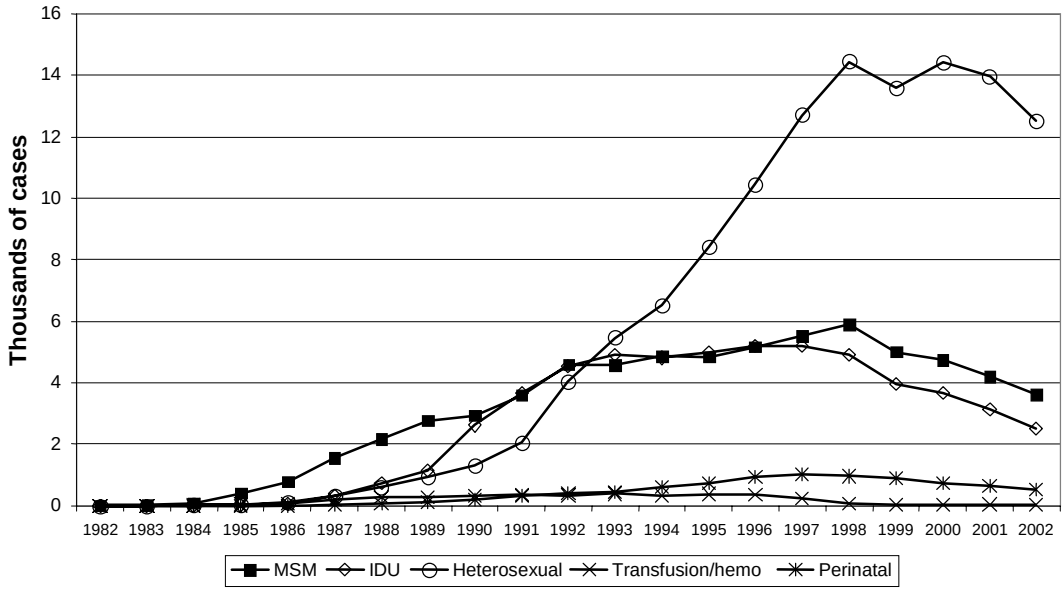
The primary focus on tracking the epidemic through reported AIDS cases and deaths in Brazil has generated an enormous data base of utility for treatment programs, in terms of assessing needs for treatment and care, monitoring survival after diagnosis, the proportion of patients on treatment, AIDS mortality, and hospitalizations. However, there is typically a long asymptomatic period between HIV infection and development of AIDS: 11 years was the median period in the United States, before the introduction of highly-active antiretroviral therapy (HAART) in 1996. A system that relies only on AIDS case reporting has very limited utility for real-time planning and evaluation of prevention programs that aim to reduce HIV transmission. Brazil has not adopted systematic HIV surveillance in key population groups, such as MSM, IDU, sex workers, or transport workers. Throughout most of the time since the start of the epidemic, HIV infection trends for previous years must be inferred from AIDS case reporting several years later.

2.12 MSM were the primary AIDS exposure category in the early years of the epidemic, accounting for over half of annual AIDS cases until 1988 (see Figure 1). By the early 1990s, the number of new AIDS cases attributed to IDU and MSM transmission was roughly equivalent, while in 1993 both were surpassed by cases due to heterosexual transmission. The number of reported AIDS cases due to IDU transmission began to rise in 1986, suggesting rapid spread among IDU shortly after the introduction of the virus into Brazil. Researchers found HIV infection rates among IDU of 34 percent in Rio de Janeiro and 60 percent in Santos (São Paulo State) in the early 1990s (Lima et al, 1994; Mesquita et al., 2001). During the first decade, the male to female ratio in reported AIDS cases fell steadily, from 25:1 in 1985 to 9:1 by 1987, 6:1 by 1990, and 4:1 by 1992 (MOH).

2.13 The Pan-American Health Organization (PAHO) estimated that by 1992 Brazil had 750,000 HIV infections, 46 percent of the regional total (PAHO Regional Program, 1992). It also estimated that Brazil had the slowest growing epidemic, with the number of new HIV cases increasing by 25 percent per year, while in the Southern Cone HIV was thought to be increasing by 155 percent per year.

4. HIV prevalence is the number of people currently infected with HIV, usually expressed as a percentage of the population. Levels of HIV prevalence in the population are affected by the number of new infections (incidence) and the mortality rate of those with HIV (due to AIDS or other causes).

Figure 1:
Annual number of new AIDS cases by mode of transmission, 1982-2002



Source: www.aids.gov.br for 1982-1991 and *Boletim Epidemiológico AIDS* Ano XVII, no. 1 (2004), Table 1, for later years.

Note: Due to significant delays in reporting, data for the most recent years should be considered provisional.

THE BRAZILIAN POLICY RESPONSE[5]

2.14 The first reports of AIDS were received with denial, stigmatization, and blame on foreigners. A columnist in the leading newsmagazine speculated that AIDS might be the consequence of estrogen consumption on the part of homosexuals (*Veja* 1982). Although some clergy, such as the Cardinal of São Paulo counseled support for AIDS patients, others, such as the Cardinal of Rio de Janeiro viewed the disease as divine retribution: "When the love of God, manifested in obedience to his teachings, is disparaged, whippings from a new threat to life awaken the recalcitrant."[6] Even within the Ministry of Health (MOH) in Brasília, some officials argued that AIDS did not satisfy the epidemiological criteria of "transcendence," "magnitude," and "vulnerability" necessary to warrant a response from public institutions. As late as 1985, INAMPS argued that AIDS was a "public health problem", not a medical concern, and therefore an issue for the state health secretariats, even though the latter had few health facilities available to them at the time.

2.15 The response of health sector officials in São Paulo was more aggressive. In 1983, under a popularly elected governor for the first time since 1964, the state government of São Paulo established an AIDS program in its Division of Leprosy and

5. This section, draws on Galvão (1997, 2000), Parker (2000), Teixeira (1997), and interviews.

6. The quotations in this paragraph are from Teixeira (1997).

Dermatological Health, made AIDS notification compulsory and initiated public awareness campaigns among and with the support of "high risk groups", which consisted almost exclusively of MSM at that time. Public funds for prevention were limited, so the state health authorities collaborated with gay rights NGOs and the gay and bisexual community, universities, the press, and community groups. The participation of physicians with long experience in treating leprosy and who belonged to the *sanitarista* movement sensitized health policy makers in São Paulo to issues of discrimination and stigma. A study of HIV/AIDS knowledge and awareness in 1987 in São Paulo State showed that 88 percent of MSM believed themselves to be "well informed" or "reasonably well informed" about AIDS in contrast to 65 percent of young people and only 49 percent of CSW (Bond, 1989).[7] Misconceptions among CSW in Sao Paulo and in the general population in Brasilia and seven state capitals were common, with roughly 49 percent of CSW and 23 percent of the general population believing that HIV could be transmitted through casual contact. Most respondents had received their HIV messages through the MOH and mass media (Bond, 1989).

2.16 The São Paulo state assembly passed legislation in 1986 requiring serological testing for all blood transfusions in the state. The state health secretariat coordinated a pilot AIDS education program in schools, but the program did not continue once the state education secretariat took control. In a joint initiative, the state health and justice secretariats recommended combating AIDS in prisons with education and made the case against isolating HIV positive prisoners. However, in practice in the early years prison authorities implemented compulsory serological testing and isolation throughout the country. In 1988 the state established its state reference and treatment center (CRT) for AIDS, launched programs of "day hospitals" and the tracking of unused beds in public hospitals for use by AIDS patients. The CRT would become a leading national institution in treatment, support, prevention, and research.

2.17 The National AIDS Program (NAP) was established at the federal level in 1985.[8] Financial and technical support from the World Health Organization (WHO) and PAHO began in earnest in 1986 and the NAP was consolidated. The importance attached to non-discrimination, human rights, and NGO participation on the part of the São Paulo program, as well as many of the eleven other state programs in existence in 1985, informed the organization of the national program. In 1987 the national program began coordinating and leading the activities of the state health secretariats, which until then had led the AIDS response.

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7. The study, conducted by *Folha de São Paulo*, a newspaper, asked respondents to assess their own perceived knowledge about HIV/AIDS. It did not ask respondents about their understanding of specific modes of HIV transmission. The sample sizes in São Paulo were relatively small: young people (n=292); MSM (199); CSW (103). The representativeness of the samples is not known. In a larger sample of the general population of Brasilia and seven state capitals (n=4,436), 64 percent rated themselves "well informed" or "reasonably well informed".

8. Portaria No. 236, May 2, 1985. The National AIDS Program changed its name several times during its history. See Galvão 2000 for a list of names. For simplicity, it is called the "National AIDS Program" or the NAP throughout this document, whatever its legal name at any given point in time, with the exception of bibliographic references.

2.18 It was not until 1988 that Congress passed laws requiring serological testing for all blood banks and granting persons living with AIDS the rights guaranteed to workers with incapacitating or terminal illnesses.[9] The Congress also voted to reject a proposal to limit the entry of HIV-positive foreign nationals into the country. That same year a multi-sectoral council that reported to the MOH, the National AIDS Commission, was established and mobilized support for the AIDS program across the political spectrum. The NAP launched several activities in collaboration with other ministries, such as the AIDS in the work place program in conjunction with the Ministry of Labor, but over time most programs fell to the MOH alone. In 1989 the Ministry of the Armed Forces initiated a program for AIDS prevention among enlisted personnel.[10] Annual meetings of Brazilian NGOs working on AIDS began in 1989 in Belo Horizonte.

2.19 By 1988, the linkages between injectable drugs, shared needles, HIV infection, and HIV transmission to partners of drug users were becoming known. The municipality of Santos and the state of São Paulo launched "harm reduction" programs that included needle exchanges in 1989 and 1990, respectively (see Box 2). However, the Federal Narcotics Council (FNC) intervened to halt the program in Santos and the political leadership in the secretariat of health put an end to the initiative in São Paulo.

2.20 Voluntary counseling and testing (VCT) services for those who do not know their HIV status, a cornerstone of prevention programs, were very limited in this period. AIDS testing was done in clinical settings and to confirm suspected AIDS cases, not as a tool for surveillance and prevention. Nationwide, condom sales were relatively flat and at low levels (fewer than 10 million male condoms/year) from 1987-1992.

Box 2: The harm reduction approach to prevention among IDU

Harm reduction seeks to reduce the spread of HIV associated with injection drug use through outreach, education in safer practices, needle and syringe exchange programs, access to counseling and drug treatment, and non-judgmental approaches to working closely with individuals and communities. Harm reduction programs are supported by an extensive body of evidence to show that they are cost-effective, can reduce HIV and other blood-borne pathogen transmission, and can serve as effective bridges to drug treatment and health care (Des Jarlais and Friedman, 1998). They do not encourage young people to initiate drug use, as is often feared. Yet they remain controversial, politically challenging, and resisted by many countries. The United States, for example, continues to have a ban on federal funding for needle and syringe exchange programs and to regulate access to injection equipment.

2.21 AIDS policies in Brazil entered a new and difficult phase in 1990 following hyperinflation and the election of a controversial new president. The NAP was dismantled and, in a pattern consistent with President Collor's effort to govern with

9. Law No. 7649, January 25, 1988.

10. Portaria No. 1, April 27, 1989.

the support of the media and public opinion and without the support of some of the traditional party alliances, the MOH set up an alternative structure for organizing the response to AIDS. Municipal AIDS Commissions would coordinate activities in the field without input from the state health secretariats, which had been leading the response since 1983. These Municipal AIDS Commissions frequently lacked the expertise to develop and manage HIV/AIDS policies. Conflict with state secretariats and confusion regarding the direction of policies occurred throughout the country. At the same time, the MOH launched a publicity campaign that emphasized the danger of AIDS to the uninfected and isolated itself from the NGOs and community groups that had been active for almost a decade. Declaring that "Brazil will not be a guinea pig" and impugning the expertise of WHO, the Minister of Health refused to participate in WHO-led HIV vaccine trials, which resulted in the virtual isolation of the Brazilian AIDS program from the international community.

2.22 Nevertheless, President Collor did mention AIDS in a public speech in 1990 (a first), the government began to purchase and distribute some AIDS drugs, offering AZT monotherapy free of charge, and it continued to advance the rights of AIDS patients. The national secretariat for health care (the former Secretário Nacional de Assistência à Sáude) began to reimburse treatments for AIDS patients provided by private philanthropic hospitals in 1992.[11]. INAMPS also initiated the first of several ministerial decrees credentialing hospitals, day hospitals, and laboratories for providing AIDS care and services.[12] The Ministries of Labor, Health, and Administration approved a decree prohibiting the use of HIV tests in physical examinations of public sector workers.[13] At the state and municipal levels, at least 67 local laws and resolutions regarding HIV/AIDS had been approved by the end of 1992. These included requirements that motels and hotels provide condoms, guarantees of non-discrimination for public sector workers and students, legal recognition and incorporation of AIDS NGOs, the reservation of hospital beds for AIDS patients, incorporation of information on HIV prevention into public and private school curricula, and compulsory HIV testing of prisoners.

2.23 By the early 1990s a Brazilian strategy toward HIV/AIDS had emerged – an approach embracing prevention among high-risk groups, universal access to treatment, and respect for human rights. After the resignation of the president under corruption charges in September, 1992, the new government reconstituted the NAP and invited back its previous director. The program recommitted itself to previous relationships with NGOs, the state health secretariats, and the international AIDS community. Among the first important steps of the program was to begin discussions with the World Bank regarding the possibility of a loan for combating HIV/AIDS.

2.24. During the first decade of the epidemic, very few donors assisted in the Brazilian response to HIV/AIDS and primarily through non-governmental channels. The Ford Foundation played a prominent role in supporting Brazilian civil society

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11. Portaria No. 291, June 17, 1992.

12. Portaria No. 7750, July14, 1992.

13. Portria No. 869, August 11, 1992.

and AIDS NGOs during the 1980s, when the latter were mounting their campaign to increase pressure on government. DFID (then ODA) provided assistance to two NGOs. More significantly, DKT-Brazil launched a condom social marketing campaign in 1991 (DKT International website). WHO, and PAHO have provided advocacy with political officials, technical assistance, and logistical and financial support, but the evaluation team has not been able to establish the magnitude of early program assistance.

3. Brazil's and the Bank's Strategies in the Second Decade, 1992-2003

RATIONALE FOR BANK INVOLVEMENT

3.1 In 1991-1992, it would have been fair to say that World Bank health projects in Brazil had a troubled history. From 1976-1992, the Bank lent $623 million to Brazil for eight health, nutrition, and population projects (see Table 1). The outcomes of the first three –Nutrition (approved in 1976), Northwest Development I: Health (1982), and São Paulo Health (1984) – were rated by the Bank as unsatisfactory at closing. The fourth closed project, National Health Policy Studies (1984), took seven years from Board Approval to completion, about three and a half years more than planned. There were four active health projects in 1992: Northeast Basic Health Services I (1986) and II (1990), Northeast Endemic Disease Control (1988) and Amazon Basin Malaria (1989). The two Northeast Basic Health Services projects, designed to strengthen the health system in a relatively disadvantaged region, were encountering problems related to counterpart financing, management, and the legal framework for decentralization; disbursements were significantly delayed.[14] The same was true of the Northeast Endemic Disease Project (by 1992 it was only 34 percent disbursed). The Amazon Basin Malaria Project was more successful, although its most marked achievements occurred after a reorientation of strategy in 1992. With this portfolio as a backdrop, as well as macroeconomic and political instability, the Brazilian government communicated to the World Bank in 1990 that it would "no longer borrow for the social sectors," which it considered unproductive.

3.2 Given that experience, the World Bank health sector unit was surprised when the government contacted it in 1992 and expressed interest in obtaining financing for an HIV/AIDS project. AIDS had become enough of a priority for the government to overcome previous concerns and there also had been a change in government. Inside the World Bank, although there was some initial hesitancy to finance AIDS activities on the part of economists because they were not considered a productive investment, the project team convinced management of the economic justification for the project. One human development economist wrote:

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14. The first Northeast Basic Health Services project was only half disbursed in 1994, 8 years after it was launched, and the second had disbursed only 16.5% of funds. They would eventually close in 1996 and 1997, respectively.

"The project tries to fill a classic public good/externality need, and I cannot imagine anyone not being 100% in support of it."

Table 1: World Bank health, nutrition and population projects in Brazil, 1976-2003

Year approved	*Project Name and Objectives relevant to AIDS*	*Project Cost ($million)*	*Loan ($million)*
1976	Nutrition I	68.4	19.0
1982	Northwest Development I: Health	20.3	12.0
1984	São Paulo Health	104.5	55.4
1984	National Health Policy Studies	2.0	2.0
1986	Northeast Health Services I	122.2	59.5
1989	Amazon Basin Malaria	198.0	99.0
1988	Northeast Endemic Disease Control $7.4 million for NGOs working on HIV/AIDS, national program, and preparation of first AIDS project.	218.0	109.0
1990	Northeast Basic Health Services II	610.6	267.0
1994	AIDS Control Prevention and treatment of HIV/AIDS and STDs.	250.0	160.0
1996	Reforsus: Health Sector Reform Built and upgraded public sector laboratories and blood banks.	750.0	300.0
1998	Vigisus Adaptable Program Loan Upgraded epidemiological surveillance, supported informational links across national blood banks.	200.0	100.0
1999	AIDS II Prevention and treatment of AIDS	300.0	165.0
2001	Family Health Adaptable Program Loan	550.0	275.0
2003	AIDS III	200.0	100.0

3.3 Nevertheless, AIDS has never been a central element of the Bank's Country Assistance Strategy (CAS) to Brazil, appearing for the first time in 1997, when one goal was "the control of traditional and emerging communicable diseases (i.e. dengue and malaria, and AIDS, respectively" and to "reduce the growth rate of the AIDS epidemic." That orientation was consistent with the Bank's general view that communicable diseases justify the use of public funds because of the positive externalities associated with their prevention.

3.4 Because Brazil was emerging from relatively recent isolation from the international AIDS community, few other donors were playing significant roles in

AIDS at the time the project was appraised. Brazil tried to keep the Global Program on AIDS and WHO away from the project, and UNDP, UNICEF, and PAHO were not significantly involved in AIDS activities. USAID provided a bridge loan to help sustain activities until the project became effective, and UNFPA assisted with condom procurements during the project.

POLICY DIALOGUE LEADING TO THE FIRST AIDS CONTROL PROJECT

3.5 In the period before appraisal, several exchanges between the World Bank and the MOH indicated that the Ministry was interested in an AIDS project. Both parties agreed to use funds from the Northeast Endemic Disease Project, which in general was not disbursing effectively at that time, to finance start-up AIDS activities and project preparation.[15] About $500,000 from the Northeast Basic Health Service Project was used for the same purpose. The dialogue with the Bank had started again in 1992, with the new government and the return of the previous NAP director. As a result, previous policy dialogue, including that dating back to a well-received 1989 piece of sector analysis of adult health (Briscoe, 1989) had to be taken up again from the beginning. It became clear that the Ministry was interested in expediting the appraisal and negotiation of the AIDS project. According to some informants, the AIDS project was appraised and approved "in record time" for a World Bank project in Brazil.

3.6 The design of the project was relatively clear from the onset – it would focus on prevention and epidemiological surveillance. The Bank took the position that prevention activities constituted an obvious public good and warranted public finance. There was concern that the epidemic might spiral out of control, and effective treatments were not available at the time. Consultants from the U.S. Centers for Disease Control (CDC) persuaded the Bank team to include testing and counseling in the project as well. The Bank's main concerns about Brazil's AIDS policies at the time were that the government was providing AZT to all patients free of charge, even though treatment was expensive and the drug was not effective,[16] and the government had import controls and tariffs on condoms and latex that resulted in higher prices for condoms. The Bank and Brazil agreed to disagree on the AZT policy, while the preparation of a MOH proposal to reduce tariffs on condoms and condom materials was made a condition of project negotiations. Despite resistance from other sectors of Brazilian society (such as the police and judiciary in some states), the decision for the project to focus on high-risk groups, particularly IDU, was not controversial in the Bank-government dialogue; both the Bank and the MOH agreed that it was a priority and the MOH had by then established contacts and

15. The Northeast Endemic Disease Control Project financed $7.4 million dollars toward media campaigns on HIV/AIDS, the establishment of the National AIDS and STD Control Program, and the preparation of the first AIDS project.

16. The Bank raised serious questions about the viability of this strategic direction in the context of its health financing policy dialogue, specifically: (a) the affordability and sustainability of the full costs of HIV/AIDS prevention and treatment, especially in light of increasing demands on the health system and escalating costs; (b) the need for more efficient resource allocation; and (c) the advisability of cost-sharing between public and private financing sources.

working relationships with a variety of civil society organizations involved in AIDS prevention among those groups.

3.7 The World Bank project preparation team also noted the effectiveness of the work of many NGOs working with marginalized populations and suggested to the MOH team that a competitive system of grants to NGOs be established as part of the project. Systematic grants to NGOs from the government had been rarely offered, if at all, in Brazil before. Both the World Bank team and the Brazilian counterparts liked the idea, however.

3.8 Pre-appraisal and appraisal documents made clear that the World Bank was interested in promoting research and surveillance through the project. A "baseline" of indicators was to be established and a list of "priority studies" would be undertaken. It was decided that, given the political and managerial difficulties of other Bank health projects in Brazil and the high priority of combating AIDS, the project would be coordinated by a team parallel to the MOH bureaucracy, reporting directly to the Minister. A variety of players, including the Bank, called urgently for prevention among IDU.

THE FIRST AIDS CONTROL PROJECT (1994-98)

3.9 The first AIDS and STD Control Project (US$250 million[17]) aimed to: (1) reduce the incidence and transmission of HIV and STDs; and (2) to strengthen public and private institutions responsible for STD and HIV/AIDS control. The specific objectives were to put in place a set of institutions and activities that would: (a) define a minimal program for HIV and STD prevention and identify what interventions work best; (b) develop an equipped and technically competent cadre of health professionals to diagnose, treat an deliver social services to HIV/AIDS patients; (c) establish effective surveillance for HIV/AIDS and STDs; and (d) sustain project investments by states and municipalities. It was to accomplish those objectives through a combination of prevention programs, services for HIV and STD patients, institutional development, and surveillance, research and evaluation (see Box 3). The National AIDS Program), under the Secretariat for Health Policy in the MOH, was responsible for project management and coordination. The agencies that executed project activities included NAP, states and selected municipalities, and NGOs and civil society organizations (CSOs).

3.10 All 27 states and 41 of the municipalities (the latter selected on the basis of needs and capacity criteria) were eligible to benefit from project support but could only access such support on the condition that they: established, staffed and co-financed an HIV/AIDS and STD Control Coordination Unit within the health structure; signed agreements with MOH on the terms and conditions of the transfers; and prepared consolidated annual operations plans (POA) to be approved by the Bank. Disbursements were contingent on inclusion of activities in the POA.

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17. Financed in part by IBRD Loan 3659-BR, US$160 million equivalent. The project was approved by the Bank's Board in November 1993 and became effective in June 1994.

3.11 Transfers to NGOs were contingent on the satisfaction of two sets of criteria, one set to determine the adequacy of the NGO itself (structure, legal status, profile, organization and staffing, sources of financing and local level assessment of its technical capacity and performance), the other set to evaluate the quality of NGO proposals against technical, managerial, financial, epidemiological and geographic criteria. Proposals were reviewed and selected by a national panel. Proposals that were promising but in need of technical refinement were to receive technical support to raise them to a standard to be selected.

3.12 OED's Project Performance Assessment Report (PPAR) on AIDS I found that it succeeded in achieving the second objective of strengthening public and private institutions responsible for STD and HIV/AIDS control (OED, 2004a). However, due to the lack of progress on surveillance and evaluation, it was not possible to assess the extent to which the first objective – the reduction of the incidence and transmission of HIV – was advanced by the project's activities. The detailed outputs of the project are described in the PPAR.

Box 3: Components of the first AIDS and STD Control Project (AIDS I)[18]

Prevention ($93.9 million) through:

(a) information, education and communication (IEC) programs emphasizing targeted interventions to inform both the general population and, particularly, certain populations, of the risks of HIV/AIDS and means to prevent or treat it;
(b) expanding medical staff capacity for diagnosing HIV, AIDS and STDs through increasing sites and upgrading staff expertise;
(c) broadening public sector capacity and capability in counseling and testing and early intervention; and
(d) condom procurement and distribution.

Services ($75.7 million), including:

(a) establishment of systems for identifying and treating STDs; and
(b) integrating HIV/AIDS prevention and medical services with long-term counseling to improve access and delivery of services and to direct patients to effective, low cost substitutes for hospitalizations;

Institutional Development ($42.3 million) to build capacity to control HIV/AIDS and STDS through:

(a) training of (mostly existing) health workers in service delivery, quality control and monitoring of AIDS, for laboratory testing and quality control, and for counseling and treatment across the SUS;
(b) upgrading State Reference Laboratories to a basic standard in each macro-region to support HIV/AIDS and STDs testing; and
(c) technical assistance;

Surveillance, Research and Evaluation ($14.6 million) through:

(a) epidemiological surveillance;
(b) program evaluation in IEC, counseling and testing, services and laboratory quality assurance; and
(c) special studies, including epidemiological analysis and projections/ costs and cost effectiveness of interventions; and the economic impact of HIV/AIDS.

3.13 With respect to the four specific objectives, AIDS I successfully defined and supported a core program for HIV and STD prevention, focused in particular on prevention among high-risk and marginalized groups, like IDU, CSW, MSM, and prisoners. NGOs undertook a large share of the prevention work financed under the project, in line with their acknowledged comparative advantage to reach and work effectively with high-risk groups. Some 181 NGOs carried out 444 prevention and 140 treatment and care projects. However, the project did not assess which interventions work best to guide future resource allocation decisions. As a complement to support under other IBRD loans (REFORSUS project), AIDS I has helped establish a national blood quality control program

3.14 The project was also successful in strengthening capacity of the health system to diagnose, treat, and deliver social services to HIV/AIDS patients, through significant investments in training and capacity building of tens of thousands of health professionals in both prevention and treatment and care as well as the establishment of counseling and testing centers (CTAs) and alternative facilities for the care and treatment of in- and out-patients. Support for ensuring the devolution and sustainability of investments at the state and municipality levels was considerable: a total of about $115.8 million was transferred to local governments during the period 1994-98.[19] The absorptive and implementation capacity of local programs was very much a function of political commitment at these levels, however.[20]

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18. The amounts cited for components are the planned amounts. In addition, $23.5 million was set aside for physical and price contingencies.

19. World Bank project completion report data.

20. For example, the city of São Paulo experienced major delays in the execution of its program and ultimately did not use its full allocation under the project, due to major changes in the structure of the health care delivery system, and also to low commitment of the city administration to AIDS control activities. A subsequent change in

3.15 The project's initial attempts to set up HIV surveillance were unsuccessful. Follow-up sample sizes were too small, resulting in confidence intervals that were too high to be useful. The system was revamped in 1997 with project assistance and improvements included: a more careful selection of participating institutions, tighter and more central management, and more rigorous supervision. With these adjustments AIDS I ultimately did succeed in establishing 150 sentinel surveillance sites in maternity clinics, emergency rooms and STD clinics, though not among the groups being targeted by the prevention activities supported by the project. In 2000 Brazil introduced significant changes to its surveillance system because it was perceived that hospital surveillance sites had become reference centers for HIV/AIDS and thus were providing biased estimates. The Brazilian surveillance system now selects a random sample of 150 hospital maternities which have over 500 deliveries per year to test women delivering in that hospital for a more representative measurement of HIV prevalence. A different random sample of hospitals, that; may include some of the same hospitals, is used for each measurement. Only two measurements have been taken since this change. Only two measurements have been taken since this change: one in 2000 with data from 128 hospital maternities (15,426 pregnant women tested) and from 25 STD clinics (4,636 STD patients tested; and one in 20203 for which data is not yet available. (Source: MoH Sentinel Surveillance Data). The project did succeed in financing a national population-based survey of sexual behavior and HIV/AIDS knowledge, representative of 77.7% of the Brazilian population (primarily the urban population), in 1998 (CEBRAP, 2000). The survey results, which were not released until 2000, had the potential to serve as a behavioral baseline for AIDS II.

3.16 Overall, 117 percent of the budgeted activities of the prevention component were financed and 102 percent of resources for institutional development, while only half of the funds allocated to the surveillance, research, and evaluation component were actually used.

BRAZILIAN AIDS POLICY FROM 1993-98, AND POLICY DIALOGUE LEADING TO THE SECOND AIDS CONTROL PROJECT

3.17 In a number of areas, the Brazilian Government pushed forward with its three-pronged approach to AIDS – prevention, treatment, and human rights, in parallel with the execution of activities within the project. The development of needle-exchange programs was perhaps the most controversial, and the one that took the most perseverance.

3.18 A meeting of the Ibero-American Health Ministers in 1993 endorsed needle and syringe exchanges and bleach distribution to prevent HIV among IDU. As a result, in 1994 the FNC approved a six-site pilot harm reduction program proposed by

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municipality leadership towards the end of AIDS I created an enabling environment for more intensified program effort. State-level staff interviewed reported that the new leadership engendered strong political support for the fight against HIV/AIDS and culminated in a well-resourced program, including both local funding and greater utilization of project funds.

the MOH. In 1995 the São Paulo state secretary of health openly endorsed harm reduction approaches and outlined key strategies to be incorporated into state programs. The implementation of needle exchange projects began with two pilots in Santos[21] and Salvador, Bahia, in 1995. The Narcotics police of Santos immediately seized all materials, including alcohol swabs and condoms, and halted the program. It was then moved to neighboring São Vicente, where the political climate was more favorable. The project was implemented in Salvador, however, and by 1997 some 5,000 needles had been exchanged (Inciardi et al., 2000). The National AIDS Program adopted harm reduction as an explicit policy in 1994.

3.19 In 1995, the Brazilian Congress passed a legislative decree that approved the San Salvador protocol for economic, social, and cultural rights.[22] In 1996, an executive decree established the National Program on Human Rights under the Ministry of Justice.[23] An annex to the latter decree enumerated the administration's short- and medium- term goals, and of the thirteen short-term goals under the heading of equal protection under the law, four were related to HIV/AIDS. Later that year Congress passed a law[24] stating that "all carriers of HIV and AIDS patients will receive, free of charge from the Unified Health System, all medications necessary for that treatment."

3.20 The efficacy of HAART, or triple-drug anti-retroviral therapy, in improving survival and quality of life of AIDS patients was established internationally in 1996. Shortly thereafter, in 1996, the Congress passed a law specifying that antiretroviral (ARV) drugs would be provided to AIDS patients, and a 1997 MOH decree established the treatment protocols related to CD4 counts and viral loads.[25]

3.21 The Government of Brazil did not request World Bank financing for ARV drugs. The Ministry took the view that Bank finance of ARV drugs was undesirable because permanent financing for their provision could be assured only with internal funds, not project-related financing, for three reasons. First, the use of project funds would require Brazil to follow Bank procurement rules for drugs and might jeopardize strategies the government was pursuing to negotiate lower costs from manufacturers. Second, project financing could only cover a small portion of ARV costs (then some $300-$400 million annually, about half the Ministry's pharmaceutical budget) anyway. Third, in international fora such as the Amsterdam AIDS Conference, members of the World Bank research staff had argued that prevention was a higher priority than treatment, that the latter should not be subsidized to a greater degree than subsidies for other health care treatments, and that since ARV drugs alone cost, at the time, $10,000-20,000 per patient per year the

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21. The very first needle exchange was launched in Santos in 1989, but halted by the FNC (see para 2.19).

22. Decreto Legislativo No. 56, April 19, 1995.

23. Decret No. 1904, May 13, 1996.

24. Law No. 9313, November 13, 1996.

25. Portaria No. 874, July 3, 1997.

opportunity cost of treating all HIV patients was very high. Representatives of the MOH disagreed with these economic arguments.[26]

3.22 The Bank's operational staff in the health sector and country departments, whatever their private views on ARV drug provision in Brazil, chose not to make an issue of it in negotiations over the second AIDS project. In the preparation for the second AIDS project, the Bank's operational staff took the view that once the government made the decision to subsidize ARVs, the Bank's task was help make that policy as effective as possible. For that reason, financing for the laboratory network that would monitor CD4 and viral load levels of patients was included in the second project, as well as financing for clinical training and the establishment of appropriate clinical protocols. What position the Bank should take on Brazil's ARV policy did arise at the decision meeting for AIDS II, but in the end all participants, including the country director, the human development director for the region, and the lead country economist, strongly supported the project as designed.

3.23 Policy dialogue on HIV/AIDS between the World Bank and Brazil occurred in the context of the two AIDS projects; AIDS did not come up in policy dialogue in other sectors. Interviewees noted that Brazil's decision to make HAART available through the public health system for free to all qualifying patients was not discussed with the World Bank in the context of the projects or in general macroeconomic policy dialogue. HIV/AIDS policy was also not discussed during the negotiations following devaluation and the 1998 financial crisis, when the Bank provided an adjustment loan conditional on the protection of certain social programs.

3.24 Several informants indicated that opposition to a second AIDS project existed in the Commission on External Financing (COFIEX), the entity within the Ministry of Planning that prioritized and approved projects receiving multi-lateral financing, and even at the highest levels of the MOH itself (though officially the Ministry never opposed the second project). To the planners, it was not clear that HIV/AIDS was high enough a priority to warrant further indebtedness. But by the time the second project was negotiated, the political strength of the AIDS program, the NGOs, and the human rights community was sufficient (through direct contacts with Congressional representatives and the Vice President, who was a major supporter) to overcome any resistance.

3.25 The World Bank consistently indicated it was ready to appraise and negotiate a second project, even though AIDS was still not central to the Country Assistance Strategy. The 1999 World Bank Assistance Strategy for the Health Sector in Brazil (which remained in draft form) mentioned AIDS briefly in the context of

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26. This argument was made more explicitly a few years later in the 1997 World Bank Policy Research Report *Confronting AIDS* in the context of broader arguments about the role of government in health care, AIDS prevention, and treatment. It took the position that AIDS care should not be subsidized at rates higher than other diseases. "Yet it is equally unfair, and also inefficient, for government to subsidize a higher proportion of the costs of care for patients with HIV than for other patients. . . Assuming that Brazil subsidizes about one-third of other health care costs and that the infectious proportion of illness episodes is similar among the HIV-infected and uninfected populations, this policy would lead Brazil to reduce its subsidy to antiretroviral therapy from 100 percent to one-third."

communicable disease prevention. However, apart from appearing in a list of projects, AIDS was not mentioned in the 2000 CAS.

THE SECOND AIDS CONTROL PROJECT, 1999-2003

3.26 The objectives and components of the second AIDS and STD Control project (AIDS II, $US 300 million[27]) were similar to the first (see Box 4). The design modifications included an increased focus on vulnerable populations (MSM, IDU, CSW) and the inclusion of new target groups (women of reproductive age and students), the expansion of alternatives to hospital care (day hospitals, home care, and other outpatient services) and studies to assess the cost-effectiveness of care and treatment, a renewed focus on establishing a viable monitoring and evaluation

Box 4: Components of the second AIDS and STD Control Project (AIDS II)

Prevention of AIDS and STD ($128 million), including:

(a) mass media campaigns to raise awareness and understanding of AIDS and STD transmission and promote safer practices;
(b) promotion of safe practices through education, condom distribution and needle exchange programs;
(c) targeted interventions among specific sub-groups at greater risk of contracting and/or spreading the HIV virus, including homosexual and bisexual men, intravenous drug-users, sex workers; adolescents, prisoners, truck drivers, and others; and preventive activities oriented to other vulnerable groups such as women and low income populations;
(d) a National Human Rights Network promoting non-discrimination against persons with HIV/AIDS;
(e) NGO executed sub-projects for AIDS and STD prevention, selected on a competitive basis; and
(f) Counseling services and dial-in AIDS information (Pergunte AIDS).

Diagnosis, Treatment and Care for persons with HIV, AIDS and STD ($102 million) that would support:/improve:

(a) the operation, standardization and quality control in diagnostic laboratories; implementation of nearly 100 new anonymous testing and counseling centers (CTAs) and maintenance of selected existing CTAs; support municipal public health laboratories through the purchase of equipment and supplies for viral load cd4 cell and other diagnostic testing; *in complement to the investments being financed by the REFORSUS project in public labs, blood banks and control of transfusions;*
(b) care and treatment of persons with HIV, AIDS and STD including about 80 group homes (casas de apoio) for the care of AIDS patients and about 40 homes for orphans of AIDS; it would also support about 80 existing specialized care units, 30 existing day hospitals, 40 existing home care programs and AIDS in-patient care in about 100 hospitals;
(c) strengthening of STD diagnosis and treatment services through: training in STD case management; licensing of about 10 national STD reference centers which will review and test norms and procedures and undertake special studies; and provision of re-agents, drugs, condoms, educational materials and other supplies; and
(d) implementation of a centralized logistical control system for drugs and condoms, the implementation of a cost control system for HIV/AIDS care and the development of a reference system for gynecological care of HIV positive women.

Institutional Strengthening ($70 million) of Executing Agencies Responsible for AIDS and STD Control, in support of:

(a) epidemiological surveillance including sentinel surveys for HIV/AIDS and expansion or upgrading of the HIV and STD case notification system, as well as a national study of STD transmission, HIV prevalence studies among specific risk groups, HIV sub-type studies and other epidemiological studies;
(b) the National Reference Laboratories for HIV and STD including support for quality control in lab testing, expansion of the national network for STD drug resistance studies, implementation of a network to monitor HIV susceptibility to anti-retroviral therapy;
(c) training activities, including training of CN-DST/AIDS staff, specialized training of health workers involved in prevention and treatment among high-risk groups, training for NGO personnel in project development and reporting, as well as training in counseling and testing, epidemiology and laboratory diagnostics for AIDS and STD;
(d) research, including studies of survival, case notification delay, opportunistic, epidemiology and projections, cost and impact, behavioral change, AIDS among indigenous populations and in mining camps and extractive reserves, a national study of sexual behavior change, and others. The component would also support selection of, and support for, about 3 scientific centers of excellence to carry out long term multidisciplinary research; and monitoring and evaluation activities, including strengthening supervision and evaluation of CTAs, public health labs, and the syphilis case investigation network; evaluation of all state and municipal institutions undertaking project activities; evaluation of NGO projects including monitoring of 80 NGO projects, KAP studies on impact of preventive activities in the workplace; workshops for NGO participants on evaluation; preparation of monitoring and evaluation reports; project impact studies; and evaluation of interventions among specific populations.

27. Financed in part by IBRD loan 4392-BR, US$165 million equivalent. The project was approved by the Bank's Board in September 1998 and became effective in February 1999.

system, and an increase in the pace and scope of the decentralization of AIDS activities to states and municipalities. Implementation arrangements remained largely unchanged, although there was an emphasis on including more and smaller municipalities in project activities through the creation of municipal consortia.

3.27 AIDS II transferred resources for HIV/AIDS activities to all 27 states and the number of municipalities benefiting from direct transfers more than tripled to 150. In December 2002, a year before the closure of the project, the Minister of Health signed a law establishing federal transfers to states and municipalities to finance HIV/AIDS/STD activities. Under this law states and municipalities must prepare and successfully negotiate action plans with targets (PAMs), whose focus is on performance benchmarks and targets, rather than inputs. This new law was supportive of Brazil's decentralization policy and reflective of the design and implementation experience of AIDS I and II. In May 2003, 14 states and 158 municipalities had approved PAMs. The PAMs decentralized planning and budgeting for HIV/AIDS activities to localities. Previously, while localities prepared and implemented program activities, their conception and approval by the NAP were carried out on the basis of nationally-set vs. locally-set priorities.

3.28 AIDS II expanded and strengthened prevention activities in Brazil. From 1998 to 2002, 20 mass media campaigns were carried out covering a range of topics aimed at general and specific audiences. A substantial number of targeted interventions were implemented to prevent transmission among high-risk groups, as well as vulnerable groups, including truck drivers, prisoners, indigenous populations, poor and marginalized populations, adolescents and women. During the period 1999–2003 AIDS II financed 547 projects which covered an estimated 899,386 CSW, 631 projects reaching some 145,807 IDUs (an estimated 18.2 percent of that population), and 486 projects covering some 3,074,980 MSM. Lack of adequate data on the total population of MSM makes it impossible to estimate with reasonable certainty program coverage of this group. (MOH/NASCP, 2003). Coverage rates are in need of further substantiaton and should be interpreted with caution. Public sector agencies that undertook prevention activities with project support included: Ministry of Education, Ministry of Justice (Special Secretariat for Human Rights), National Anti-Drugs Secretariat, and Ministry of Labor. Human rights promotion was also undertaken by both public and private sector agencies including capacity building, publications, direct and indirect support of people living with HIV/AIDS (PLWHA) and advocacy work with and through executive, legislative and judicial branches of government. Male condoms distributed through the MoH more than tripled between 2000 and 2003 from 77 million to 270 million and those sold through the commercial sector increased from 228.4 million in 1997 to 427.1 million in 2003 (MoH/NASCP 2003, cited in OED 2004a, Table F-5).

3.29 AIDS II helped to expand and improve the quality of diagnosis, treatment and care of persons with HIV, AIDS and STDs. The number of CTAs in Brazil more than doubled from 104 in 1999 to 237 in 2003. The number of persons who were tested for HIV in CTAs annually rose from 120,468 in 1997 (based on data from 1997 of 100 CTAs) to 271,056 in 2001 (based on reports from 115 of 174 CTAs). The project also financed the significant expansion of low-cost, alternative, in-patient and out-

patient treatment and care services. Thirty-five new day hospitals, 20 therapeutic home-based care services and 103 specialized ambulatory services were established and 47 conventional hospitals and 28 day hospitals were accredited. In addition, a total of 369 civil society projects were financed to address the basic treatment and care needs of HIV/AIDS and STD patients, including guest houses for the travel needs of patients, support groups, social reinsertion, income generation support, household support, psychosocial support, mental health services and assistance in assessing and adhering to ART. Some 126 projects financed the establishment of support homes for people living with HIV/AIDS (PLWHA). The number of HIV-positive pregnant women receiving prophylaxis for mother to child transmission increased from 1,472 in 1997 to 5,958 in 2002 (MOH/NASCP, 2003). Also supported were activities to strengthen the diagnosis and treatment of STDs and activities to reduce mother to child transmission of HIV/AIDS and congenital syphilis. Investments included the training of service providers and the development and dissemination of guidelines and protocols.

3.30 The project strengthened laboratory capacity in Brazil to improve the quality and timeliness of services to evaluate and monitor the viral and immune status of HIV/AIDS patients. HIV diagnosis was decentralized through some 70 projects to strengthen capacity in municipal and public health laboratories and to monitor drug resistance (of HIV patients to ARV, and of strains of gonorrhea to antibiotics). The project also supported the National System for Quality Control of Diagnostics in carrying out internal and external quality audits of some 521 facilities for HIV diagnosis, 357 for hepatitis diagnosis, 381 for CD4 and 264 for viral load testing. Despite these investments, it appears to be the case that poor and marginal groups continue to utilize testing services at low rates, not merely because facilities are hard to reach but because of their marginalized status.

3.31 AIDS II did not significantly strengthen evaluation capacity. It financed training, technical assistance and supervision to improve routine surveillance of AIDS and STD cases, including the refinement of case definitions both for AIDS (over and under 13 years of age) and for congenital syphilis, and the upgrading of SINAN and the national AIDS case report database managed by the National Epidemiological Center. However, the HIV surveillance system in Brazil still does not effectively monitor the epidemic. The number of reporting sites in the sentinel surveillance system has fluctuated with each reporting period, making the data difficult to interpret and also making it difficult to determine the number of fully functional sentinel sites. Beginning in 2000, the Brazilian surveillance system selected a random sample of 150 hospital maternities which have over 500 deliveries per year to test women delivering in that hospital for a more representative measurement of HIV prevalence. A different random sample of hospitals, that may include some of the same hospitals, is used for each measurement. At the end of AIDS II systematic surveillance was still limited to pregnant women and to military conscripts (the latter through annual surveys). Data on pregnant women for the period 1997 through 1999 are difficult to interpret as the numbers of sites reporting fluctuated from one measurement exercise to the next and they were not representative.

3.32 Despite project support, the issues of STD surveillance, identified under AIDS I and II, persist: STDs are considerably underreported, data come primarily from clinics and represent only those who seek services rather than the general population or specific target groups (see Box 5). The syndromic approach to STD treatment[28] also undermines the accuracy of reporting. The uncertain validity of STD reporting in Brazil makes this a weak indicator for behavioral trends and a highly uncertain proxy for HIV trends.

3.33 With the exception of annual surveys of military conscripts, there is no surveillance system in Brazil for routinely collecting data on behaviors of segments of the general population or of high-risk groups. AIDS II did not plan or support the establishment of routine behavioral surveillance, though it did finance clinical and technological research through a competitive process. While the 1998 national survey of sexual behavior (CEBRAP, 2000), representing primarily the urban population, was a behavioral baseline for AIDS II, the survey was not repeated by the end of AIDS II, in 2003, so behavioral trends could not be detected.[29] Research proposals were widely solicited from a range of qualified public and private institutions and vetted and approved by a National Research Committee. Of the 31 approved research proposals, only two focused on STD prevalence and only one was on health economics, simply because very few were submitted. No research was undertaken to evaluate the cost-effectiveness of prevention activities, although the Bank did provide the Brazilians with. **].** Some analysis of the costs and outcomes of Brazil's treatment and care program was undertaken and reveal substantial increases in survival after AIDS diagnoses, and decreases in mortality, morbidity, hospitalizations, opportunistic infection rates, and marked improvements in quality of life indicators.

3.34 A number of important omissions obstructed the goal of systematic monitoring and evaluation of project performance and impact. First, the consolidation of indicators and preparation of an M&E plan were not carried out until the very end of AIDS II, in preparation for AIDS III. Second, over and above the lack of baseline data and data on trends in HIV and behavior noted above, there is still incomplete data (at national and local levels) on the sizes of target populations for program interventions and on trends in their effective coverage. Baseline studies were envisaged under the project but not carried out. The lack of M&E expertise within NAP and inadequate coordination and collaboration of M&E efforts among the different technical units also hampered the consolidation and improvement of program M&E.

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28. The syndromic approach to STD patient management bases diagnosis on a group of symptoms and treats for all diseases that could cause that syndrome. This approach is recommended by WHO in developing country settings as it provides for more accurate diagnosis without extensive lab tests and allows treatment with a single visit.

29. There are plans to repeat the survey in 2004.

Box 5: Other STDs: Under-reported, more prevalent, and cost-effective to treat

Sexually transmitted diseases (STD) – particularly ulcerative STDs, including syphilis – play an important role in sexual transmission of HIV, are more common than HIV, and are easier to treat. Yet STD surveillance is not widespread and programs to prevent and treat STD have been of relatively low priority.

STD is vastly under-reported. For example, national case reports for 2001 included only 2,204 cases of genital herpes and a total of 88,489 cases of any STD, with several states reporting no cases of any STD. The four-fold increase in reported STD in 1999 is due primarily to an increase in the share of cases reported (see table below). One of the problems with accurate reporting is that Brazil has used the WHO system of syndromic management for STD diagnosis and treatment. This has public health importance, but considerably limits the tracking of STDs for surveillance purposes, as many are asymptomatic and can only be detected though laboratory tests. Syphilis, including neonatal congenital syphilis, is certainly one of the most under-reported, as it is largely diagnosed by lab tests, not by its symptoms. In 2001, there were only 13,138 cases of syphilis reported nationwide, and 3,316 cases of neonatal syphilis. STD case reports have increased since the Bank's involvement, with sustained increases in reporting from 1997 (see table). However, total reported cases remain a small fraction of the likely total.

Even taking into account this under-reporting, other STD are far more prevalent than HIV and much easier and less costly to prevent and treat. In São Paulo State in 2001, for example, there were fewer than 50 reported cases of infant HIV infections acquired from infected mothers, yet more than 450 cases of neonatal syphilis, an entirely preventable infection. Prevention of mother to child transmission of HIV in Brazil uses the 076 AZT protocol and bottle feeding; neonatal syphilis is preventable with generic penicillin alone. While major improvements are in order for HIV surveillance, STD surveillance is relatively even weaker.

Box Table: Number of reported STD cases, 1996-2001

STD	1996	1997	1998	1999	2000	2001	Total
Cervicitis	826	241	373	6,893	24,703	32,212	65,248
Urethritis	1,165	796	2,075	10,940	21,974	19,188	56,138
Syphilis	2,710	1,254	2,395	11,496	15,968	13,138	46,961
Human papilloma virus	659	389	1,867	5,941	15,852	15,570	40,278
Congenital syphilis	376	2,025	3,868	4,366	4,487	3,316	18,438
Genital Ulcers	69	49	101	1,083	2,696	2,861	6,859
Genital Herpes	44	94	172	790	2,131	2,204	5,435
Total	**5,849**	**4,848**	**10,851**	**41,509**	**87,811**	**88,489**	**239,357**

Source: SINAN

3.35 The process of NGO subproject bidding and selection was has also been gradually decentralized to eight states under AIDS II, along with the responsibility to supervise such projects. Ten percent of the financing transferred through the fund-to-fund mechanism was earmarked for NGOs.

POLICY DIALOGUE LEADING TO THE THIRD AIDS CONTROL PROJECT

3.36 One instance in which Brazil's HIV/AIDS policy did reach the Bank's Country Director was the government's intent, expressed in August 2001, to issue a compulsory license on an AIDS drug held by the Swiss pharmaceutical firm Roche. The World Bank suggested that Brazil use international forums, such as the World Trade Organization, to discuss its concerns and build consensus on the appropriate use of compulsory licenses, rather than doing so unilaterally. As it happens, Brazil was able to negotiate lower prices for AIDS drugs without having to impose compulsory licenses, and the industrialized countries agreed in the Doha Declaration of 2001 that developing countries have a right, under TRIPS, to override patents for public health concerns.

3.37 Recently, HIV/AIDS has received more prominence in Bank strategy documents. The 2001 CAS Progress Report noted that "in recent years, the Brazilian HIV/AIDS program has reached worldwide recognition for its achievement in preventing and treating HIV/AIDS. HIV/AIDS was early perceived as a developmental and societal issue rather than a health issue alone, and has had full government support. The Government/civil society partnership is remarkable, and an example to the rest of the world. Also Brazil is one of the few countries in the world that provide antiretroviral drugs free of charge to all ill patients." AIDS appeared in the 2002 CAS progress report in the context of the Millennium Development Goals.

3.38 In the discussions leading up to the third AIDS project, the World Bank has taken the position that although the NAP has a strong record of achievement, both AIDS projects suffered from: (a) the lack of an adequate monitoring and evaluation system to improve targeting and steer the program to higher impact and more sustainable interventions; and (b) insufficient supervision by the Bank and the government of procurement activities implemented by decentralized entities, including local governments and NGOs. In addition, the Bank has taken the position that the program needs to evolve to meet the changing profile of the epidemic, incorporate prevention and treatment activities into other health services and activities outside the health sector, improve the quality and targeting of activities, achieve sustainability, and integrate program management and financing more fully into local government health secretariats.

3.39 The Third AIDS and STD Control Project (AIDS III, US$ 200 million[30]) aims to reduce the incidence of STDs and HIV and improve the quality of life for PLWHA by improving the effectiveness and efficiency of the national response and ensuring its sustainability in the medium- and long-term. These objectives are to be reached by: (a) expanding the coverage and quality of interventions; (b) decentralizing the financing and management of activities to states and municipalities in accordance with current national health policy; (c) strengthening management by establishing an effective M&E capacity, instituting the use of management tools (including performance-based management), focusing on more cost-effective interventions, and improving their targeting; (d) introducing technological innovation and upgrading

30. Funded in part by a $100 million IBRD loan (Loan # IBRD 4713-BR).

existing technology in treatment and prevention; and (e) reducing discrimination and stigma associated with HIV/AIDS. The project was approved by the Bank's Board on June 26, 2003 and became effective on December 12 of the same year.

3.40 Given the lack of success in promoting M&E in the first project and the limited success in the second one, M&E activities were launched during the preparation of AIDS III and monitoring, evaluation, and epidemiological surveillance are again a formal sub-component of the project. The establishment of a monitoring and evaluation unit and agreement on an M&E strategy were integrated into project preparation. An M&E unit was set up and an operational plan for M&E was drafted at the conclusion of AIDS II, facilitated by an extension of the AIDS II closing date by 6 months to finance these activities. Discussions were held on the choice of indicators for assessing program performance and impact. All available M&E studies and methodologies were reviewed. M&E capacity at state and municipal levels as well as the flow and use of information were assessed in field visits. The CDC participated in these assessments and has put in place a program of technical assistance to strengthen M&E capacity.

3.41 The monitoring, evaluation and epidemiological surveillance subcomponent under AIDS III (US$8.95 million) will support the establishment and operation of a Monitoring, Evaluation, and Planning unit at the federal level and "reference" M&E units in selected states that will pilot initiatives for dissemination and application by other states. It is also supporting finalization of the M&E Operational Plan and its application to guide M&E activities during the project. The component will support capacity building at local levels, the promotion and use of data for decision-making, and M&E studies. Finally, M&E is to be incorporated into the Fund-to-Fund transfer process: uniform indicators will be used and baseline data will be established and tracked to assess compliance with agreed targets.

ACTIVITIES OF OTHER DONORS IN BRAZIL, 1992-2003

3.42 Throughout this period, the World Bank was the major external donor for HIV/AIDS in Brazil and the earliest to become involved in a major way. The U.S. Agency for International Development (USAID) launched a first five-year strategy for HIV/AIDS in Brazil in 1992-96 with an unknown amount of funding or content.[31] The Agence Nationale de Recherches sur le Sida (ANRS, National Agency for AIDS Research) of France launched the first of several research activities with Brazil soon after its formation in 1992-93, focusing on topics such as HIV vaccines, the relation between AIDS and TB, the neurological impact of HTLV-1 infection, and sexual behavior in the Southern Cone countries. The amount spent on these activities in the 1990s is unknown. DKT-Brazil was perhaps the most active, selling nearly 51 million socially marketed condoms annually by 2003 but it is not known what it spent to market condoms over this period.

31. From 1992-2003, USAID spent an average of $2 million/year on HIV/AIDS.

3.43 Bilateral assistance for HIV/AIDS seems to have increased at the turn of the millennium, but the amounts committed were still not of the magnitude of those spent by the Bank and the government (see Annex C). USAID launched a second five-year strategy in 1998-2003, spending US$8.4 million in fiscal years 2001 and 2002 on HIV prevention among vulnerable populations in Rio de Janeiro, São Paulo, Bahia, and Ceara states. This was followed by a six-year strategy from 2003-2008 financed by up to US$48 million, for condom social marketing, NGO support, surveillance, STD treatment for high-risk groups, and coordination of HIV and TB services. France financed, through the ANRS, $1.4 million toward an AIDS vaccine trial in 2001. The CDC launched in 2003 a program of technical assistance on voluntary counseling and testing, prevention of mother-to-child transmission, laboratory support, surveillance, M&E, national and regional capacity building, and vulnerable populations, spending US$1.3 million in fiscal year 2003 on this program. The German aid agency, GTZ, offered €1 million to the government in 2002-2004 to update diagnostic equipment in six national reference laboratories to improve the accuracy of STD diagnoses and, over the period 2003-2005, allocated half a million Euro to its International Cooperation Program to build the political will of Latin American leaders to address HIV/AIDS and provide ARV drugs, including Brazil. Finally, the British Department for International Development (DfID) offered £1 million to build Brazil's capacity to provide technical assistance for other Latin American countries and Russia, for the period 2000-2005.

4. The Impact of the Bank's HIV/AIDS Assistance

4.1 This chapter assesses the contribution of Bank's assistance to Brazil's response to HIV/AIDS relative to the counterfactual of no World Bank assistance. Many aspects of Brazil's AIDS response were supported through the two AIDS projects, yet it is reasonable to assume that some of these activities might have been financed by the government through reallocation of funds from other priorities had the Bank not been involved. This chapter assesses which of these aspects might not have taken place had it not been for the Bank's involvement. It concludes that the Bank's assistance likely did affect a number of aspects of Brazil's HIV/AIDS response in terms of strategy and institutions.

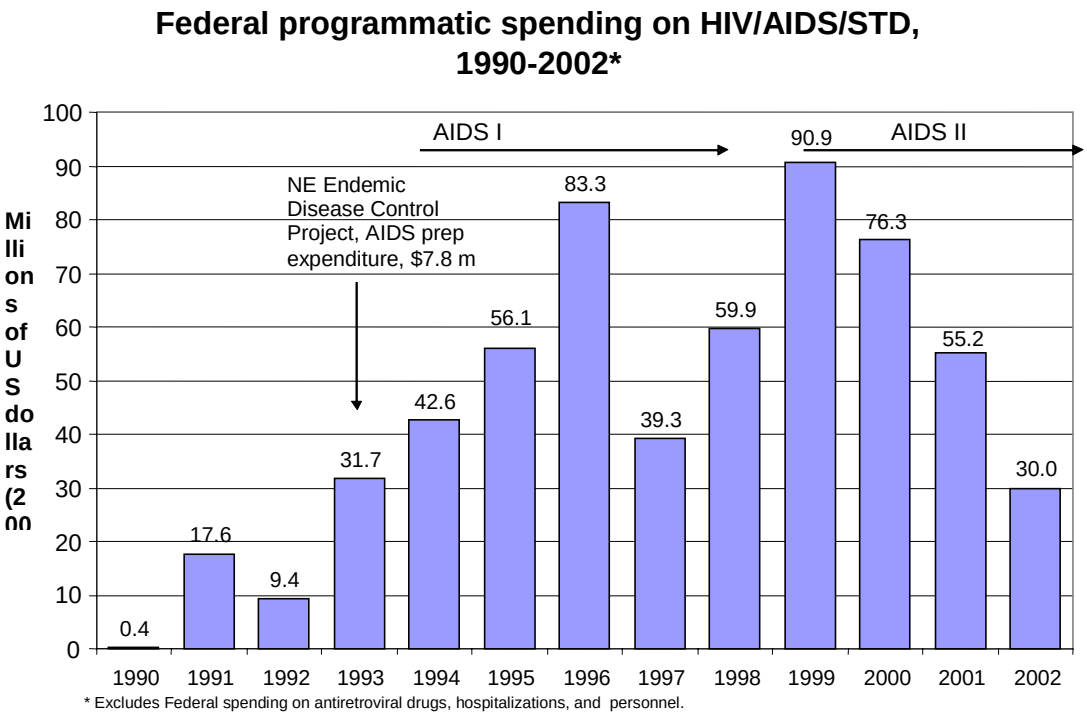
MAINTAINING A PREVENTION FOCUS

4.2 **The involvement of the World Bank with the two AIDS and STD projects that focused on prevention likely helped safeguard prevention resources, relative to the counterfactual of no Bank involvement, during a period in which there was a dramatic increase in demand for AIDS treatment and macroeconomic and financial instability.**

4.3 The government likely spent more on HIV/AIDS prevention than would have been the case in the absence of the two Bank-supported projects. Federal government

programmatic expenditures on HIV/AIDS/STDs – a category that excludes anti-retroviral drugs and other pharmaceutical products – rose from an annual average of US$9.1 million from 1990-1992 to $56.5 million from 1993-2000 in constant 2002 dollars (see Figure 2). From 1993-2003, these expenditures were structured as the first and second AIDS projects, which consisted of public health activities, the establishment of the national laboratory network for HIV/AIDS, institutional

Figure 2:



Source: MOH data collected by the OED mission.

strengthening, NGO sub-projects, and other activities described above. Nearly half of the actual expenditures of the two projects (48 percent of AIDS I and 45 percent of AIDS II) were for prevention components totaling US$253 million in nominal terms over the decade (OED 2004a, Annex E). It is notable that in 1998-99, during a period of financial crisis, Federal programmatic AIDS spending actually *increased* in constant 2002 dollar terms, a sign of the extent of political commitment.

4.4. In contrast, based on the most comprehensive analysis available, total federal spending on AIDS in 2000 alone amounted to about US$416 million, of which 69 percent (US$ 290 million) was spent on anti-retroviral drugs.[32] This is nearly four

32. Based on calculations by Piola, Teixeira, and Dutra Nunes (2002). They found that Brazil had about US $627 million (R$1.14 billion) of direct public and private HIV/AIDS-related expenditures in the year 2000 (about $3.50 per capita). 79 percent of total expenditures were estimated to be public, of which 84 percent were Federal. Total public and private HIV/AIDS expenditures, including treatment costs, were estimated to be about 1.3 percent of total health expenditures. Public sector expenditures on HIV/AIDS were about 2.5 percent of total public health sector expenditures. Source: http://www.sidalac.org.mx/spanish/publicaciones/cnacionales99-00/brasil/brasil.pdf .

times federal programmatic spending on HIV/AIDS/STDs in 2000 and an unknown but even higher multiple of prevention expenditure for that year. While Bank support through the AIDS loans amounted to about 30 percent of federal AIDS expenditures during the first project and 10 percent during the second, it was leveraged to create the "space" for prevention and outreach workers to do their work.

SUSTAINING COMMITMENT TO PREVENTION AMONG MARGINALIZED GROUPS

4.5 **The Brazilian national response has been more focused on HIV prevention among groups with high-risk behavior, including very marginalized groups such as IDU and sex workers, than might have been the case in the absence of the Bank's involvement.**

4.6 Preventive HIV interventions for sex workers and particularly harm reduction programs for IDU were highly controversial in Brazil in the 1990s, yet likely to have the largest impact in stemming the epidemic. Many governments throughout the world in both developing and developed country settings have been reluctant to embrace them.

4.7 Respondents to this study felt that the Bank's advocacy and willingness to finance controversial targeted activities for high-risk groups as a cornerstone of the prevention package – not only in preparation but in supervision of both projects – lent legitimacy to these programs and helped to build government commitment. There is a strong consensus in the MOH, among researchers, and among NGOs that the support of the World Bank and of the UN agencies was crucial to the Brazilian effort to implement harm reduction efforts, and to create an enabling policy environment for these efforts across the political spectrum. Sex worker activists consistently made it clear that the Bank's efforts gave them credibility with police and security agencies, visibility, and validation. This appears to have been especially important during AIDS I, when prevention efforts were still seen as politically or socially sensitive in many regions in Brazil and there was considerable resistance on the part of an array of stakeholders to implementing needed programs. The police and security agencies, for example, resisted programs for sex workers, transgender sex workers, drug users, and prisoners. Local political forces often resisted programs aimed at gay and bisexual men. Had these forces prevailed, Brazil would almost certainly have implemented broad public campaigns, but could not have developed and implemented the kind of targeted and innovative programming that delivered prevention services to those most in need.[33]

4.8 By 2003, there was a dramatic increase in the number of targeted interventions to MSM, CSW, and IDU (see Figure 3), with estimated coverage of IDU and MSM of 18 percent and 96 percent, respectively (MOH/NASCP 2003, cited in OED 2004a, Table F-5). The number of interventions in these groups expanded even while government expanded the scope of the program to include lower risk groups and undertook the costly provision of HAART to all AIDS patients.

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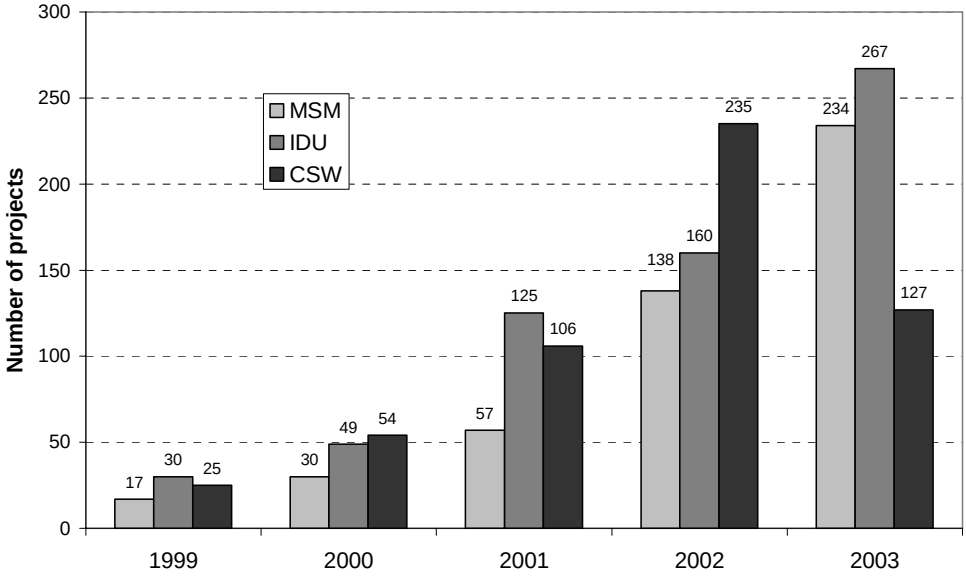
33. The controversy is by no means over: Rio de Janeiro's law legalizing harm reduction as the State's approach to IDU prevention was defeated in 2003. Yet harm reduction activities continue without this legislative sanction.

Figure 3:

Growth in targeted interventions for high-risk groups during AIDS II, 1999-2003



Note: This figure includes interventions implemented both by the public sector and NGOs.

4.9 At a policy level, the Bank's support for prevention targeting those at highest risk played an essential role in convincing stakeholders of the legitimacy of their efforts, and of the primacy of human rights protections. Because Brazil's epidemic primarily affected members of vulnerable and stigmatized groups and later the urban and rural poor, the provision of services to these groups required leadership, innovative programs, and political will. The engagement of NGOs and civil society in the organization and delivery of targeted interventions in the two projects strengthened the position of these often marginalized stakeholders, helping to sustain commitment for prevention among the populations most likely to contract HIV.

EXTENDING AND DECENTRALIZING THE AIDS PROGRAM TO STATES AND MUNICIPALITIES

4.10 **The extension of the national institutions for a response in every state and the devolution of responsibility for planning and budgeting to states and municipalities was likely earlier than might have been the case without the Bank's involvement.**

4.11 Prior to AIDS I, the national response was variable, with a few states highly engaged and leading the federal government response and others relatively disengaged. During the course of AIDS I (1994-98), AIDS offices were set up in all 27 states and 43 of the municipalities; a total of US$115.8 million was transferred to local governments. State funds co-financed projects supported by block grants from the federal level, enhancing the local commitment and sustainability of programs.

Under AIDS II the responsibility for direct contracting with NGOs as well as for the supervision of NGO activities was devolved, in a first phase, to several states.

4.12 The Bank's support helped to consolidate the national program at a precarious moment. Although several states in the South and Southeast had active prevention programs, prevention received scant attention in other regions of the country and in the smaller municipalities in the South and Southeast. Nationally, Brazil's program was isolated from the international AIDS community as a result of its decision to pull out of WHO vaccine trials and other disagreements. With the commitment for World Bank funding in hand, the program was in a stronger position to ask Congress for funding for HIV/AIDS prevention and treatment, and to obtain requisite technical expertise.

4.13 The strong institutional ownership and funding of local programs generated during AIDS I and augmented by support of states and NGOs helped to sustain government commitment and funding across administrations with different levels of interest in the problem, at the federal, state, and local levels. Eventually, the program's would become politically strong enough to mount an effective campaign for a second and third World Bank project over the objections of senior management in the Ministry of Planning and some in the MOH, and to resist efforts on the part of some in the Government to cut funding for HIV/AIDS drugs during the financial crisis of 1998 and 1999. The presidential candidacy of the former health minister, José Serra, also raised the profile of the National AIDS Program.

4.14 Might it have been possible to decentralize HIV/AIDS activities sooner? Perhaps. But the absence of the health sector regulations for local management (developed only in 1996 and 2002) made it difficult, as did the imperative to launch quickly a strong national response to a possible health crisis. The decentralization of prevention and outreach activities, which localities might conduct themselves or which they might supervise, remains the principal challenge for HIV/AIDS policy in Brazil. Now, under AIDS III, localities receive block grants for AIDS activities (the transfers are *fondo a fondo,* to use the Brazilian term; that is, they go prospectively from the national account to state treasuries and are not reimbursements or payments for specific interventions), including money for local NGOs, outreach work, treatment, and monitoring activities. There is some concern that rigid laws, regulations, and bureaucratic practices at the state and municipal levels will impede the response to AIDS in some localities.

CREATING MECHANISMS FOR FINANCING THE NGO RESPONSE

4.15 **The Bank's engagement encouraged early development of mechanisms by which government could finance NGOs as implementers of AIDS programs, improving the efficiency and effectiveness of the prevention program, empowering marginalized groups that are key to success, and expanding the base of stakeholders to reinforce government commitment to the program.**

4.16 Prior to the Bank's involvement, NGOs were primarily engaged as advocates, not implementers. The creation of mechanisms for federal financing of NGOs was pivotal for many reasons. First, it enlisted NGOs to help implement prevention and other interventions among marginalized groups that are critical to an effective response but that the government was not well placed to influence (see Table 2). Second, it empowered NGOs from many of the marginalized groups that were the subject of these interventions. Third, it strengthened new constituencies with a stake in the AIDS program, sustaining political commitment. A total of US$25.5 million was channeled to NGOs by AIDS I and II. Fourth, it established a new model for government-NGO relationships not only in Brazil but throughout Latin America. The collaboration not only involved Bank/government funding of AIDS NGOs, but also important staff exchanges where well-known NGO leaders were brought into the National AIDS Program to manage sub-programs (i.e., prevention and CSO fund) and eventually the entire Program itself. It also involved technical assistance contracting in which CSOs were hired to provide technical assistance to the government in the areas of program design, project monitoring, and staff training.

4.17 If the World Bank had not channeled resources to NGOs through those projects, would the Brazilian NGOs working on HIV/AIDS have obtained comparable funds from other sources? The largest ones might have, and several were already receiving financing from international foundations and European church groups before 1993. But the funding for the big NGOs would probably have been less substantial, and many of the smaller ones were not in a position to obtain foreign financing. It is also unlikely that the Brazilian government would have channeled as many resources to NGOs as it did without World Bank financing. In fact, the flexibility that accompanied multi-lateral financing was what in many cases made those transfers possible.

Table 2. NGO Projects Supported by AIDS I and AIDS II

Target groups/interventions	Number of Projects	
		AIDS II **
Prevention	**444**	**1,709**
Injection drug users	15	171
Men who have sex with men	28	193
Commercial sex workers	54	285
Youth, of which:	73	192
School children		*17*
Adolescents		*56*
Children and adolescents		*192*
Low income populations	14	160
Women	40	213
Other, of which:	220	495
NGO sustainability		*120*
IEC/Institutional development		*118*
Health and education prof.		*83*
Resettled populations		*62*
Prisoners		*48*
Truck drivers		*26*
Indigenous populations		*24*
Miners		*10*
Disabled		*4*
Treatment and Care	**140**	**454**
Total actual:	**584**	**2,163**
Planned:	261	(not specified)
Total No. NGOs supported:	181	795***

- Source: Implementation Completion Report on AIDS I

** Source: Ministry of Health/NASCP 2002

*** Source: NAP data provided during OED mission

4.18 Because most funding for NGOs continues to be provided through World Bank loans, it remains unclear whether the Brazilian government will take on that financing once Bank loans cease, or whether local governments will begin to manage and implement prevention and other activities themselves. Government-to-NGO transfers remain problematic in some states: some fear that in AIDS III the "fund-to-fund" transfers from the federal government to the states will restrict NGO accounts by state laws and limited local government capacity. The impact of NGO projects, moreover, remains uncertain evaluations were implemented in a somewhat irregular and ad hoc manner. To promote sustainability on the part of NGOs, the new procedures require NGO funds to be matched with private contributions raised by the NGOs

IMPROVING THE EFFICIENCY AND EFFECTIVENESS OF TREATMENT AND CARE

4.19 **While many of the activities financed by AIDS I and II likely improved the efficiency and effectiveness of treatment and care, the team cannot dismiss the strong likelihood that they would have been undertaken by the government even in the absence of the Bank's involvement.**

4.20 At the time that the policy of universal free access to HAART was introduced in 1996, the cost of anti-retroviral treatment in Western countries, including drugs, tests, hospitalization and other medical inputs, was already on the order of $10,000-$20,000 per patient per year. Thus, there were very strong incentives for the government to attempt to reduce those costs, by providing and producing locally lower-cost generic drugs, striking special price deals for imported drugs, reducing

reliance on hospitalizations in favor of out-patient treatment, and putting in place the testing and monitoring infrastructure to ensure that the treatment was efficient. The government successfully brought down the drug costs of antiretroviral treatment (without Bank involvement) by more than half, from a peak of $4,860 per patient year in 1997 to $2,035 in 2002 (MOH data, see Box 6). The HAART policy also reduced, in the short run, the incidence of opportunistic infections requiring hospitalization, invoking a cost savings in terms of avoided admissions estimated at US$76 million per year in 1997, climbing to nearly $360 million per year in 2001 (OED, 2004a, Table F-3).[34]

4.21 AIDS II financed establishment of lower-cost outpatient facilities for treatment of AIDS patients, helping to reduce per patient treatment costs, as well as the extensive testing and monitoring system for AIDS care. The team believes, however, that given the government's high priority to expanding access to HAART, the high costs of this strategy, and the imperative to reduce costs and improve efficiency, these activities might have been financed by government even in the absence of the Bank's involvement. To the extent that Bank-financed preventive programs have been effective in reducing the spread of HIV, the Bank's continued support has reduced the eventual treatment burden by reducing the number of people who are infected and the number of hospitalizations. However, as noted below, this hypothesis cannot be examined due to lack of data.

Box 6: Government efforts to reduce the drug costs of antiretroviral therapy

Bringing down the cost of drug treatment has been a major focus of the AIDS program. There have been significant drug price declines since the start of the ARV program, and these dramatically since the universal access policy in 1997. The cost of the 076 AZT regimen for prevention of mother to child transmission of HIV fell from US $660 in 1994 to US$170 in 2001 (P. Teixeira, personal communication). The average weighted cost per patient year for two-drug regimens fell from $3,810 in 1996 to $630 in 2001. For triple therapy the costs declined 66 percent per patient per year, from $4,500 in 1998 to $1,540 in 2001. Taken together, all ARV treatment costs per patient/ year declined 48 percent across this period, to about $2,530, and these declines appear to be ongoing. Costs have been reduced through a two-pronged strategy:

- Local formulation and distribution of seven antiviral drugs including zidovudine (AZT), Didanosine (ddI), Lamivudine (3TC), Estavudine (d4T), Indinavir, Ritonavir, and Nevirapine.
- For those drugs Brazil does not manufacture, generic purchases or bulk purchase at reduced prices on the international market. Drugs in this category include Abacavir, Saquinivir, Nelfinivir, Amprenivir, Efavirenz, and Lopinavir, and most of the more difficult to manufacture and expensive protease inhibitors are in this category. Nevirapine, for example, declined in cost from US$3.04 to US$1.25 per capsule from 1999 to 2001.

34. The number of yearly admissions per AIDS patient declined from 1.7/year in 1996 to 0.28/year in 2001. Because the long-term prognosis for patients on HAART remains uncertain, patients on anti-retrovirals might well require hospitalizations in the future. Thus, the estimates of hospitalization costs avoided might be more accurately be treated as estimates of costs deferred.

IMPACT ON THE EPIDEMIC AND RISK BEHAVIOR

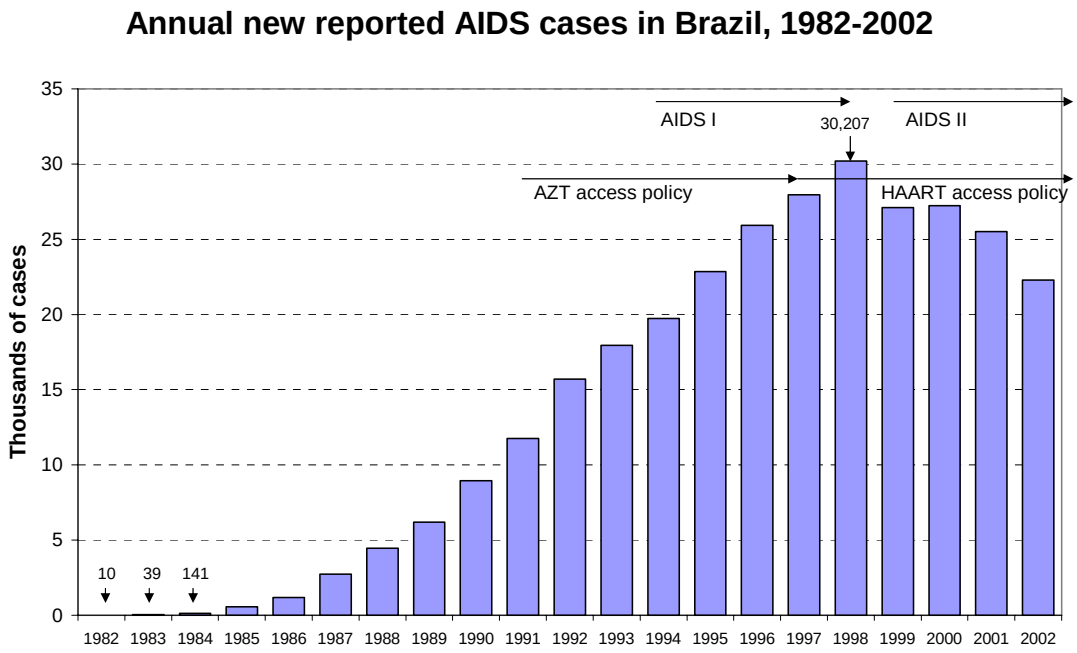
4.22 **Due largely to the failure of government to adopt systematic surveillance of HIV infection and risk behavior in both high-risk and general populations – and the inability of the Bank to ensure that these planned activities in the two projects were implemented – it is not possible to assess the impact of either the Brazilian government's prevention efforts or the Bank's contribution to them on the epidemic or behaviors that spread it, relative to the counterfactual.**

4.23 The government AIDS program has not engaged in systematic collection of data on HIV (as opposed to AIDS cases, morbidity and mortality) and risk behavior over time in the same populations to allow tracking of trends the whole population and in particular those targeted by Brazil's innovative prevention interventions. The inability of the Bank's assistance to expand Brazil's surveillance system to include systematic HIV infection and behavioral surveillance is arguably one of the areas in which the Bank has had the least impact. Epidemiological surveillance of HIV infection and risk behaviors is a public good that is a key responsibility of government, without which it is difficult if not impossible to track progress, evaluate program effectiveness, and improve efficiency.

4.24 There has been a rich tradition of epidemiological and behavioral research in Brazil, much of it supported by government and by the two AIDS projects. It has produced diverse estimates of infection levels and risk behavior in various populations at a given point in time (see Annex E). However, the numerous studies financed under the project were carried out by a multiplicity of actors and covered a range of methodologies, indicators, geographical areas, populations, implementers and timeframes that are virtually impossible to consolidate in order to provide a coherent overview of program performance or impact.

4.25 The AIDS case and mortality reporting system is the main epidemiological monitoring in Brazil and is inadequate to detect trends in HIV prevalence or behavior. The number of reported AIDS cases annually 'peaked' in 1998, at slightly over 30,000 new cases (see Figure 4). Given the many-year delay between HIV infection and AIDS, it is plausible that the subsequent decline in AIDS cases from 1999 onward reflect an earlier decline in HIV incidence. When the number of new cases is broken down by mode of transmission (refer back to Figure 1), it seems that the number of new AIDS cases in IDU and MSM, both of which were targeted by the project, also declined in 1999-2002. Two alternative hypotheses are that the post-1998 declines in new AIDS cases reflect delayed reporting of AIDS cases across all categories, or that

Figure 4:



Source: *www.aids.gov.br*

there has been a real reduction in reported new AIDS cases but it is associated with wider availability of HAART (which might lead some patients to seek treatment before their condition satisfies the technical criteria for AIDS) rather than an earlier reduction in HIV incidence.[35] The widespread use of HAART is already calling into question the utility and interpretation of AIDS case reporting (see Box 7).

35. Reviewing back issues of the *Bolletim Epidemiologico*, it appears that AIDS case figures are often adjusted many years after a case occurred due to delayed reporting. For example, the 2002 edition found that the number of AIDS cases peaked a year earlier, in 1997. This raises the possibility that the annual number of new AIDS cases has not declined and the entire recent trend is due to delayed reporting.

Box 7: The impact of treatment on monitoring AIDS cases

The reliance on AIDS case reporting to monitor the epidemic has long been problematic in Brazil. With the advent of HAART it will likely become even more so, and may not adequately monitor even AIDS case burdens, given the substantial number of people with HIV infection on HAART who will be living largely disease free.

There are now five active AIDS case definition criteria, and cases are often reported as AIDS based on one, or more than one. One of the more important is the CD4 T-cell count per cubic mm of blood. The MOH defines AIDS as a CD4 count of <350 cells/mm^3, while the US CDC uses a CD4 count of <200 as its definition. Brazil's higher cut-off tends to increase the proportion of individuals defined as having AIDS, while decreasing the proportion defined as HIV infected but AIDS-free. Since initiation of HAART often leads to dramatic CD4 *increases*, an unknown but likely large number of patients will enter the SINAN data base as having AIDS, receive treatment, have CD4s above 350 and remain AIDS free clinically, while "counting" in the system as having AIDS. This scenario may partly explain the relatively high proportion of HIV infected persons classified as having AIDS in Brazil. Both factors have the potential to bias AIDS survival times upwards, since AIDS diagnoses will be made earlier in the actual disease course. In underserved regions including the North and Northeast, survival times may be shorter since patients are more likely to present with advanced disease, and less likely to be diagnosed with AIDS through CD4 criteria.

5. Lessons for the Bank's HIV/AIDS Assistance

5.1 This review of the Bank's assistance to Brazil in its response to HIV/AIDS offers several lessons for the Bank's broader portfolio of work in the area. These are divided here into six areas: political commitment, strategic choices, multi-sectoral responses and prevention, NGOs, monitoring and evaluation, and other lessons.

POLITICAL COMMITMENT

5.2 ***Government commitment to fighting AIDS is important at all levels of policy formulation and implementation – federal, state, municipal, local – and is a moving target that fluctuates according to the regime***. Even when financing is available, local leadership and commitment can make or break the success of program efforts, as was the case with the mayor of São Paulo during the implementation of AIDS I. The Bank's decision to fund NGOs and strengthen the capacity of NAP significantly broadened civil society's contact with and support for HIV/AIDS issues. In the language of political science, financing from the Bank changed the "domestic game" by strengthening the position of actors interested in raising additional resources to respond to HIV/AIDS. That additional strength might have played a role in their ability to garner Congressional approval for financing the universal provision of HAART in 1996, an outcome that the Bank certainly did not foresee nor intend when it proposed to strengthen NGOs and NAP in 1993. Raising political commitment can be based on society-wide, extra-governmental partnerships, but the resulting political commitment might lead to unforeseen outcomes.

STRATEGIC CHOICES

5.3 ***The Bank's involvement can lend legitimacy to controversial prevention activities, such as harm reduction, work with prisoners, and programs for commercial sex workers.*** The Bank's support for programs including harm reduction and needle and syringe exchange for IDU, sex worker outreach and empowerment, programs for young and vulnerable MSM and low income women, promoted the objectives of cost-effectiveness and equity while helping Brazil develop a culture of rights-based prevention. That these programs can be effectively implemented and supported by the Bank is a useful model for other countries and regions.

AIDS AND THE HEALTH SECTOR

5.4 ***An aggressive response to HIV/AIDS can be constrained by weaknesses in the health sector as a whole.*** In Brazil, efforts to combat mother-to-child transmission were hampered by relatively weak antenatal care in rural and peri-urban areas, as well as by the weak surveillance, prevention of and treatment for STDs. At the same time, the rapid changes in state and municipal responsibilities in the health sector during the period made devolution of responsibilities for responding to HIV/AIDS to local governments difficult.

5.5 ***There are usually opportunities to invest in public goods that can improve efficiency***. While the Bank did not fund ARV drugs for treatment in Brazil, it did finance public goods – laboratory monitoring and staff training activities – and cost-cutting alternative care facilities that would improve the efficiency of the program and enable monitoring of their impact. These activities strengthen the overall health infrastructure on which both AIDS treatment and other preventive and curative services depend for support.

MULTISECTORAL RESPONSES

5.6 ***Other sectors can be successfully engaged in a national response to AIDS led by a program in the Ministry of Health.*** The Bank's support for prevention among high-risk groups involved substantial inputs from key non-health sectors. For prevention efforts involving sex workers, MSM and IDU, the police and security forces required considerable engagement, training, and staff development to move from punitive reponses to being partners in prevention. The condom program in the prison system also required Ministries of Health, Justice, and Interior to collaborate on HIV prevention and change policies and attitudes. Advocates for sex workers, prisoners, transgender persons and MSM all reiterated that the legitimacy and agency conferred by the Bank was a vital tool in building the needed cross-sectoral relationships to achieve prevention goals.

5.7 ***Controversial AIDS programs launched in other sectors – such as programs of harm reduction and to reduce transmission among prisoners – can be slow to emerge, but are achievable with persistence and advocacy.*** Launching these programs can take well over a decade.

NGOs

5.8 ***NGO involvement in public HIV/AIDS programs can be critical for reaching high-risk groups that are not easily reached by government, and in empowering those groups to become key stakeholders***.

5.9 ***Even in countries with a strong civil society, the Bank and other donors should not take for granted the existence of implementation capacity when it comes to AIDS programs.*** In Brazil the political role of NGOs and civil society was strong, coming out of the democratization movement. However, they had little experience or expertise in designing and implementing HIV/AIDS interventions. Building this capacity takes time.

5.10 ***It is important to plan for a transition to government-NGO contracting once project funds disappear.*** Most NGOs working on AIDS in Brazil remain heavily dependent on project funds, and the sustainability of their work, and of prevention activities more broadly in Brazil, will in the future depend on diversifying the sources of their financing and/or governmental assumption of responsibility for either the financing or implementation of prevention activities. The use of World Bank funds to support NGOs allowed for hiring and procurement rules that were more flexible than those of the Brazilian state. Many NGOs rely entirely on the Bank-supported AIDS projects. At the same time, because of high NGO involvement, many local governments have not build their own capacity to monitor or implement HIV/AIDS prevention and treatment activities.

MONITORING AND EVALUATION

5.11 ***Absence of systematic surveillance of HIV prevalence, incidence, and behavior of high-risk groups and of the general population will undermine a program's ability to assess its prevention impact and document and disseminate its successes.*** Brazil has launched some of the most innovative targeted interventions ever supported by the Bank and on a relatively large scale, yet there is virtually no information on their effectiveness or cost-effectiveness, nor do we know what has happened to the spread of HIV infection as a result of these investments. Brazil has highly trained professionals and researchers capable of collecting this information, yet it lags countries like Thailand and even Cambodia in collecting the most basic data for monitoring HIV and behavior (OED, 2004b). The absence of systematic monitoring of HIV is also a missed opportunity to raise awareness and political commitment in states with relatively fewer AIDS cases.

5.12 ***A research program that is ad hoc and uncoordinated in its conception is unlikely to provide systematic data to monitor the epidemic.*** The former is likely to generate a large volume of information that will be of limited use for systematic measurement and improving program performance.

5.13 ***Monitoring, evaluation, research, and surveillance are public goods that, left to their own devices, almost all agents, including government agencies with their own institutional interests, will not produce enough of. Because these***

activities benefit not only the efficiency of programs in the country in question, but inform the world at large, the World Bank should place particular emphasis on their design, management, and supervision. Explicit conditions and decision-points contingent on monitoring and evaluation activities need to be incorporated into work programs to create the incentives for these activities Simply isolating M&E as a separate component in project design is not sufficient to ensure that it will become a reality. In two AIDS projects in Brazil, the Bank has had very limited success in improving monitoring and evaluation. Even as AIDS III is launched, it is not certain that the incentives for good M&E have been created; despite the more thorough preparation, most of the M&E sub-component work program emphasizes consolidating what is known from past and ongoing studies, rather than implementing nationwide HIV and behavioral surveillance. **.**

PRAGMATISM AND HUMAN RIGHTS

5.14 ***In concentrated epidemics, prevention aimed at specific risk groups is feasible and can be highly effective when developed by and with communities at risk and respecting their human rights.*** In an era where prevention is increasingly limited by moralistic and political agendas, Brazil's prevention program as supported by the Bank has not been driven by ideological approaches such as "abstinence only" programming, but has been developed by and with communities at risk, has respected human rights, and has attempted to reduce harms and HIV transmission risks for MSM, sex workers, and IDU.

6. Conclusion: The Development Effectiveness of the Bank's Assistance

6.1 The World Bank provided important assistance to Brazil's response to HIV/AIDS in the form of two stand-alone AIDS and STD projects that were in operation from 1993-2003. A third was approved in June, 2003. In addition, two Bank-financed health projects supported Brazil's HIV/AIDS program in the areas of NGO support, preparation of AIDS I, and the building and upgrading of public sector laboratories and blood banks.[36] There was very little analytic work on HIV/AIDS sponsored by the Bank. AIDS has not been central to the Bank's Country Assistance Strategy, and to the extent that there has been policy dialogue, it has been conducted in the context of the three AIDS projects.

6.2 According to OED criteria, assessment of the development effectiveness of the Bank's HIV/AIDS assistance to Brazil would be based on the relevance, efficacy, and efficiency of its assistance. Relevance answers the question, "did the Bank do the right thing"? Efficacy answers the question, "Were the objectives of the Bank's

36. The Northeast Endemic Disease Control Project ($7.4 million of which supported NGOs working in AIDS, national program support, and AIDS I preparation) and the Reforsus Health Sector Reform Project, supporting laboratories and blood banks.

assistance achieved?" Efficiency answers the question, "did the Bank's assistance maximize the cost-effectiveness of the program"?

6.3 *Relevance*. There was no explicit Bank strategy developed on AIDS in Brazil. The Bank's implicit assistance strategy focused on preventive efforts, institutional strengthening (especially surveillance, monitoring, and evaluation), and improving the cost-effectiveness of treatment activities. These emphases were decidedly *relevant* for Brazil and remain so. Although they were also relevant to the Country Assistance Strategy and the health sector strategy, they were not central to either. In 1993, when the first AIDS project began, prevention was not yet active outside selected major metropolitan areas, nor among certain high risk groups. In addition, Brazil had not developed the laboratory network that would facilitate its testing and especially its treatment programs; the National Coordination on HIV/AIDS/STDs was reconstituting after a difficult period from 1990-1992; and many states and municipalities did not have HIV/AIDS programs at all.

6.4 *Efficacy*. With respect to some objectives, the Bank's efficacy was high. The partnerships with NGOs and CSOs mobilized irreplaceable effort in prevention at a critical time, and expanded the geographic and functional coverage of the program significantly. Bank conditionality and financial assistance also supported the design and implementation of 27 state and 150 HIV/AIDS action plans, designed and implemented at the local level under the supervision of local STD/HIV/AIDS coordination units, many of which had been established with project assistance. However, the Bank's efforts to develop HIV sentinel surveillance were less successful – eventually, a substantial amount of data on HIV prevalence did become available, but not until after 1997, and systematic HIV surveillance of the general population and high-risk groups remains a challenge. Similarly, a comprehensive strategy for the monitoring and evaluation of program impact was not developed until well into the second project. The capacity to use epidemiologic, behavioral, and program data for project decision making and coordinating prevention activities remains mixed in Brazil, particularly outside of key metropolitan areas. By the same token, Brazil failed to undertake cost-effectiveness analyses planned under Bank support with the consequence that there is little but a theoretical basis for the prioritization of program activities and for the allocation of human and financial resources. Although the project did develop a system for promoting local initiatives, those were not integrated into other local health sector programs: the absence of an effective framework for health sector decentralization in Brazil until late in the 1990s hampered that effort.

6.5 *Efficiency*. Calculations of the cost-effectiveness of Bank expenditures are difficult because an unknown number of cases of HIV were prevented as a result of the Bank's projects. An examination of the distribution of project transfers to the states and localities showed that the program achieved broad geographic coverage. Although transfers to the Northeast on a per capita basis were somewhat below average, transfers per reported AIDS case to the Northeast were somewhat above average. In general, the Bank's assistance was not limited to the most affected localities and also focused on places where prevalence rates were still low.

6.6 The impact of the World Bank's assistance on AIDS prevention in Brazil went beyond the financing it provided. The Bank's support of controversial prevention efforts, such as needle exchanges, programs for prisoners, and mobilization of sex workers, helped legitimize those activities in the country. The Bank's involvement also helped leverage additional political and financial support in the country. Government commitment to fighting HIV/AIDS preceded Bank involvement, and general prevention programs almost certainly would have occurred even without the projects. It is less certain whether prevention activities targeting high risk groups would have been as successful without as many, and as many different, NGOs involved, which Bank financing helped make possible. The epidemiological impact of the Bank's assistance is more speculative. To the extent that the prevention effort contributed to lower HIV, the Bank's assistance played an important role in the prevention effort and contributed to reducing the long-run burden of treatment.

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Draurio Barreira, Epidemiology Unit (UEPI)
Josué Lima, Diagnosis, Treatment and Care Unit (UDAT)
Karen Bruck de Freitas, Civil Society and Human Rights Unit (SCDH)
Mauro Siqueira, Communications Unit (ASCOM)
Jackeline Fabiola E.F. de Souza, Human and Institutional Development Unit (UDHI)
Carmen Dhalia, Epidemiologist (UEPI)
Mauro Sanchez, Epidemiologist (UEPI)
Leila Rossi, Director for MSM Prevention Programs (PREV)
Paolo Junqueria Aguiar, Prevention Unit (PREV)
Denise Serafim, Harm Reduction Coordinator (PREV)
Omar Bravo, Consultant, Prison HIV/AIDS Programs

State Program for STD and AIDS Control
Maria Josenilda Gonçalves da Silva, Coordinator
Suely Andrade, Health Coordinator
Staff of State Coordination
Managers/staff of Federal district HIV/AIDS facilities

Civil Society
Aroo-Iris DF
GAPA Brasília

State of Pernambuco

State Program for STD and AIDS Control
François José de Figueiroa, Coordinator
Staff of State Coordination
Managers/staff of State HIV/AIDS facilities (including visit to State Blood Bank)

Municipal Programs for STD and AIDS Control
Municipal coordinators and coordination staff, including:
Sair Pereira de Sena, Coordenadora, Olinda
Maria Helena Gomes dos Santos, Coordenadora Municipal, Petrolina
Maria do Socorro Ratis, Gerente Administ., Paulista
Francisco Leone Vay, Coordenador Municipal, Paulista
Maria Candida Araújo de Oliveira, Coordenadora, Jaboatao dos Guarapes
George C. Sa Barreto, Consultor Administ., Jaboatao dos Guarapes
Scheyla M. Silva Gonçalves, Gerente, SAE
Municipality coordination unit of Gonçalores
Managers/staff of selected municipal HIV/AIDS facilities

Civil Society
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Iris de Fatima, Coordenadora, AMHOR
Christiane/Lucielle, Aux de Coordenação, Casa de Passagem
Nanci Feijo de Melo, Coordenadora Geral, Associação Pernambucana de Profissionais do Sexo (APPS)
Ivaldo Soles Alaide Alvias da Silmes, Presidente, ASAS: Associção Solidária Grupo Viva Rachid
Josenita Dura Ciriaco, Sócia e Coordenadora, Creche Comunitária Vivendo e Aprendendo
Maristela Moraes, Asesora de Projetos/Coordenadora, Instituto PAPAI/Associação Usuários Alcohol e Drogas de Pernambuco

State of Rio de Janeiro

State Program for STD and AIDS Control
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Denise Ribeiro Franqueira Pires, Deputy Coordinator
Staff of State Coordination, including Luciana Kamel, Consultant, AIDS Program – State Health Department, Prevention
Managers/staff of State HIV/AIDS facilities

Municipal Programs for STD and AIDS Control
Betina Durovni, Transmissible Diseases Department Head
Municipal coordinator and coordination staff

Research/Academic Community
Francisco Inácio Bastos, Deputy Coordinator – Fiocruz AIDS Programme
Célia Landmann Szwarcwald, Senior Epidemiologist, Firocruz AIDS Programme
Paolo Fieja Barroso, Federal University of Rio de Janeiro, Projeto Praça Onze
Mauro Schechter, Professor of Infectious Diseases and Head of AIDS Research Laboratory, Federal University of Rio de Janeiro, Projeto Praça Onze

Civil Society
Maria Cristina Pimenta, ABIA
Secretaria, FORUMONG/RS
Coordenador Geral, S.O.S. Vida
Alex Uma dos Santos, Presidente, S.O.S. Vida
Marisa Campany, Coordenadora, Movimento Mulheres em São Gonçalvo
Centro Especial de Orientacao a Mulher – Zuzu Angel
Norma Maria Gomes, Tesoureira, Associação Carioca de Redução de Danos
Edmundo, Coordenador, Adaps
Flavio Lewe, Diretor Adjunto, Davida
Gabriele Ceite, Diretora Executiva
Davida, Coordenadora Rede Profissionais do Sexo
Roberto Pereira, Coordenador, Centro do Educação Sexual
Forum de ONG/AIDS do Estado do Rio de Janeiro

State of Santa Caterina

State Program for STD and AIDS Control
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Staff of State Coordination
Managers/staff of State HIV/AIDS facilities

Municipal Programs for STD and AIDS Control
Municipal coordinators and coordination staff (Florianópolis and Itajaí)
Managers/staff of municipal HIV/AIDS facilities

Civil Society
Grupo de Apoio Regional Para Rehabilitação da AIDS, Lages, SC
INST Tuto, Arco Iris, Florianópolis, SC
Casa – Centro de Assessoria a Adolescencia, Florianópolis, SC

State of Rio Grande do Sul
State Health Secretary

State Program for STD and AIDS Control
Geralda Maria Bauer Pereira Rigotti, Coordinator
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Managers/staff of State HIV/AIDS facilities

Municipal Programs for STD and AIDS Control
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Porto Alegre
Alvorada
Uruguaiana
Rio Grande
São Leopoldo

Caxias do Sul
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Civil Society
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State of São Paulo

State Program for STD and AIDS Control: State of São Paulo
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Maria Clara Giana, Deputy Coordinator
João , Human Resources Head
Christiano Azevedo Marques, Head, Instituto Adolfo Lutz
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Anna Luiza Luns Gryschek, Nurse Technician
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Municipal Programs for STD and AIDS Control
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Managers/staff of municipal HIV/AIDS facilities

Civil Society
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Theresa Jones, Lead Operations Officer, LCSHS (former Task Manager AIDS I and AIDS II)

Maureen A. Lewis, Sector Manager, HDNVP (former Task Manager AIDS I)
Gobind Nankani, Vice President, PREM (former Country Director, Brazil)
Sandra Rosenhouse, Senior Population and Health Specialist, LCSHH (Task Manager AIDS II and III)
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Other

Pedro Chequer, UNAIDS Country Program Adviser, Moscow (former and current Coordinator, NAP)
Dr. Theresa Diaz, Epidemiologist, Outgoing Chief of Party for Brazil, US Centers for Disease Control and Prevention
Dr. Rafael Mazin, PAHO
William McFarland MD, PhD, Co-Director HIV/AIDS Statistics and Epidemiology Section, San Francisco Department of Health
Michael Merson, former Head, Global Programme on AIDS

Annex B. Timeline of Key Events

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
1981					▪ Northwest Region Integrated Development Program – Health: Loan 2061-BR approved
1982		▪ Military and its allies lost key gubernatorial elections	▪ 7 AIDS cases among MSM were diagnosed		
1983		▪ A popularly elected governor led São Paulo for the first time since 1964 ▪ São Paulo state health secretariat established an AIDS program in the Division of Leprosy and Dermatological Health, mandated notification of AIDS cases, and launched public awareness campaigns for and with HRG ▪ Outro Coisa (NGO) distributed informational AIDS pamphlets in São Paulo	▪ Newspapers called AIDS the "gay cancer"		
1984			▪ 10 AIDS cases among hemophiliacs were diagnosed		▪ National Health Policy Studies: Loan 2448-BR approved ▪ São Paulo Basic Health Care: Loan 2447-BR approved
1985	▪ Military lost presidential	▪ 11 states have AIDS	▪ 14 IDU, 15		

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
	elections, ending nearly two decades of military rule ▪ INAMPS declared AIDS as a public health, not medical, problem for state health secretariats to address despite their lack of facilities ▪ Portaria No. 236 (May 2) established the National AIDS Program	programs ▪ GAPA was established in São Paulo ▪ The cardinal-archbishop of Rio de Janeiro called AIDS a divine punishment	heterosexual, and 16 blood transfusion AIDS cases were diagnosed		
1986	▪ Federal government mandated notification of AIDS cases	▪ São Paulo state assembly passed a law mandating HIV testing of all blood supplies		▪ WHO, through PAHO, began to provide substantial financial and technical assistance	▪ Northeast Basic Health I: Loan 2699-BR approved
1987	▪ Federal Council of Medicine passed resolution urging doctors to notify blood donors of their HIV status ▪ National AIDS Program began to coordinate and lead activities of state health secretariats	▪ Medical Council of São Paulo passed resolution urging against dismissal of workers as a result of their HIV status	▪ 26 perinatal HIV cases were diagnosed		
1988	▪ New constitution declared that "health is a right of all and a duty of the state," guaranteeing universal and equal access to health services, provided for free by the government ▪ National AIDS Program was consolidated within MOH ▪ Serological testing was required for all national public and private blood banks ▪ Congress passed Law No. 7649 (January 25) granting rights guaranteed to workers	▪ Demonstraters placed AIDS Solidarity banner on Cristo Redentor statue in Rio de Janeiro ▪ São Paulo state established its own AIDS reference and treatment center, launched "day hospital" programs, and began to track unused beds in public hospitals for AIDS patients to use			▪ Northwest Region Integrated Development Program – Health: Loan closed (June) ▪ Northeast Endemic Disease Control: Loan 2931-BR approved

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
	with incapacitating or terminal illnesses for PLWHA ▪ Congress rejected a proposed law to limit entry of HIV-positive foreigners ▪ National AIDS Commission was formed and included representatives from the Ministries of Health, Labor, Justice, and Education, Order of Lawyers, Federal Council of Medicine, and other civil society groups				
1989	▪ Inflation reached 1,862% per annum ▪ Major national businesses launched prevention campaigns in the workplace ▪ Ministry of Armed Forces launched HIV prevention program among enlisted personnel	▪ Municipality of Santos launched its first needle exchange program, but a court ruling halted it ▪ First meeting of Brazilian NGOs working on AIDS occurred in Belo Horizonte			▪ *Adult Health in Brazil: Adjusting to New Challenges* was published (November) ▪ National Health Policy Studies: Loan closed (December) ▪ Northeast Basic Health II: Loan 3135-BR approved ▪ Amazon Basin Malaria Control: Loan 3072-BR approved
1990	▪ Sistema Unico de Saúde (SUS) was established, reinforcing the principles of decentralized management and constitutional right of health service access ▪ Collor was elected president and mentioned AIDS in a public speech ▪ The federal government communicated to the Bank that it	▪ São Paulo state launched a needle exchange program ▪ Municipal AIDS commissions began to coordinate activities without input from the state health secretariats			

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
	would "no longer borrow for social sectors" ▪ National AIDS Program was dismantled; MOH established a decentralized AIDS response mechanism, launched a publicity campaign emphasizing the danger of AIDS to uninfected people, refused to participate in WHO anti-HIV vaccine trial, and began to isolate itself from civil society groups				
1991	▪ MOH began to acquire and distribute free AZT, Ganciclovir, and Pentamidina to AIDS patients		▪ One study estimated that 700,000 Brazilians were infected with HIV	▪ DKT do Brasil launched a condom social marketing campaign	▪ *Women's Reproductive Health* published (August)
1992	▪ The fifth health minister in two years assumed command ▪ Portaria No. 291 (June 17) was passed for the national health secretariat to reimburse treatments for AIDS patients provided by private philanthropic hospitals ▪ Portaria No. 7750 (July 14) was passed for INAMPS to certify hospitals, day facilities, and laboratories to provide AIDS care and services ▪ Portria No. 869 (August 11) was passed for the Ministries of Labor, Health, and Administration to prohibit HIV testing in physical examinations of public sector workers	▪ At least 67 state and municipal laws on HIV/AIDS were passed	▪ One study forecasted that 1.2 million Brazilians will be infected by year 2000 ▪ World Bank estimated that there were 300,000-400,000 PLWHA in Brazil	▪ USAID launched the first 5-year strategy	▪ São Paulo Basic Health Care: Loan closed (June)

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
	▪ President Collor was impeached, and his last minister of health was accused of corruption ▪ National AIDS Program was re-constituted with its former director; it re-established contact with civil society and GPA and began policy dialogue with the Bank for an HIV/AIDS project ▪ The government began to import and distribute AZT for free through SUS ▪ NGOs began to provide services in addition to their advocacy role after receiving AIDS I funds				
1993	▪ The government began to produce its own AZT and introduced a 14-month tax holiday for imported condoms ▪ Ibero-American Health Ministerial Meeting held and endorsed needle and syringe exchanges and bleach distribution for IDU HIV prevention			▪ ANRS launched a 2-year study on the neurological impact of HTLV-1 infection	▪ AIDS I: Loan 3659-BR approved (November)
1994	▪ Plano Real cut inflation to 3% per month in the second half ▪ Cardoso was elected president ▪ National AIDS Program adopted harm reduction as an explicit policy ▪ FNC approved a 6-site pilot			▪ ANRS sponsored bilateral seminars on vaccines, HIV/ TB, adolescent HIV prevention, HIV patient care, and quality control	▪ *The Organization, Delivery and Financing of Health Care in Brazil: Agenda for the 90s* published (June) ▪ AIDS I: Loan 3659-BR became effective (June)

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
	harm reduction program proposed by MOH				
1995	▪ Congress passed Decreto Legislativo No. 56 (April 19) approving the San Salvador protocol for economic, social, and cultural rights	▪ São Paulo state secretary of health openly endorsed harm reduction approaches and outlined key strategies for incorporation into state programs ▪ Municipality of Santos launched its second needle exchange program, but it was halted by police seizures and later moved to São Vicente ▪ Salvador do Bahia launched its first needle exchange program		▪ ANRS carried out a study of sexual behaviors in Brazil and other Southern Cone countries	▪ Northeast Basic Health I: Loan closed (December)
1996	▪ A regulation clarified the mechanisms of decentralizing SUS ▪ Decret No. 1904 (May 13) was passed to establish the National Program on Human Rights under the Ministry of Justice; 4 of the short-term goals were related to HIV/AIDS ▪ Congress passed Law No. 9313 (November 13), stating that "all carriers of HIV and AIDS patients will receive, free of charge from the SUS, all medications for that treatment" ▪ Congress passed patent law	▪ A regulation established per-capita payments to municipalities for primary care management and initiated transfer of management responsibilities of secondary and higher facilities to some states/municipalities			▪ AIDS I: Mid-term review (September) ▪ Northeast Endemic Disease Control: Loan closed (June) ▪ Amazon Basin Malaria Control: Loan closed (June) ▪ *Addressing Nutritional Problems in Brazil* published (October) ▪ Health Sector Reform (REFORSUS): Loan 4047-BR approved

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
	▪ Nationwide, an estimated 600 NGOs were working on AIDS				
1997	▪ Portaria No. 874 (July 3) was passed to specify that ARV drugs would be provided to AIDS patients and treatment protocols would be developed according to CD4 counts and viral loads ▪ MOH created a national, computerized scheme to track ARV use ▪ Three national AIDS reference centers were established ▪ HIV surveillance system was revamped with AIDS I funds			▪ UNAIDS Theme Group was established in November, with UNICEF as its first coordinating agency	▪ AIDS first appeared in the CAS, which called for "the control of traditional and emerging communicable diseases, i.e. dengue fever and malaria, and AIDS, respectively" and the reduction of "the growth rate of the AIDS epidemic" among its goals ▪ Northeast Basic Health II: Loan closed (December)
1998	▪ A floating Real-US$ exchange rate was established ▪ Despite a balance-of-payment crisis and shrinking budget, expenditures for HAART increased			▪ USAID launched the second 5-year strategy, with $8.4 million for FY2001-02 ▪ UNDCP launched a 4-year, $2.5 million drug abuse and STD/HIV/AIDS prevention project ▪ UNESCO and UNDCP contracted by the Bank to carry out AIDS II activities	▪ *The Brazil Health System: Impact Evaluation Report* was published (June) ▪ AIDS I: Loan closed (June); ICR completed (December) ▪ AIDS II: Loan 4392-BR approved (September) ▪ Disease Surveillance and Control (VIGISUS): Loan 4394-BR approved
1999	▪ National AIDS coordination council established a unit for external cooperation ▪ Laws were passed to create a new category of public interest			▪ UNESCO replaced UNICEF as the UNAIDS Theme Group chair	▪ AIDS II: Loan became effective (February) ▪ Assistance Strategy for the Health Sector in Brazil mentioned AIDS briefly in

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
	civil society groups with a more favorable tax status				the context of communicable disease prevention
2000	▪ Parliamentary Group on AIDS was created ▪ Forum 2000 was held in Rio de Janeiro to convene the Latin American and Caribbean members of the Horizontal Technical Cooperation on HIV/AIDS Group ▪ Constitutional amendment was passed to set health care expenditure floors for the federal, state, and municipal governments			▪ DfID launched a 5-year, £1 million project to support the Horizontal Technical Cooperation on HIV/AIDS Program ▪ UNAIDS appointed the first Country Program Adviser for Brazil ▪ UNDCP replaced UNESCO as UNAIDS Theme Group chair	▪ *Public Policies in the Pharmaceutical Sector: A Case Study of Brazil* published (January) ▪ CAS excluded AIDS except in project list ▪ Health Sector Reform (REFORSUS): Loan closed (December)
2001	▪ The government expressed an intent to issue a compulsory license on an AIDS drug held by Roche			▪ USAID designated Brazil as an "intensive-focus" country ▪ UNAIDS launched a 1-year project to assist Brazil in implementing the Horizontal Technical Cooperation on HIV/AIDS Program for Angola, Mozambique, São Tome and Príncipe, and Guinea-Bissau ▪ WHO/PAHO launched a 1-year project to establish a data bank for AIDS drugs in Brazil ▪ In WTO Ministerial Meeting, representatives from developed countries agreed that developing	▪ AIDS II: Mid-term review completed (May) ▪ CAS Progress Report noted that, "in recent years, the Brazilian HIV/AIDS program has reached worldwide recognition for its achievement in preventing and treating HIV/AIDS"

Year	Brazil			Bilateral donors and multilateral agencies	World Bank
	National events	State/municipal events	HIV/AIDS events and data		
				countries can override patents under TRIPS in public health emergencies ▪ ANRS launched a $1.4 million HIV vaccine trial	
2002	▪ Another regulation further clarified the mechanisms of decentralizing SUS; with the 1996 regulation, it transferred primary care financing and delivery to municipalities ▪ Minister of Health signed a law to establish transfer of funds from federal to state/ municipal governments for HIV/AIDS/STI activities; to qualify for funds, states and municipalities must have program of actions and goals (PAMs) with performance benchmarks and targets			▪ GTZ launched a 2-year, €1 million project to re-equip six national reference laboratories and improve STD diagnoses	▪ *Maternal and Child Health* published (February) ▪ *The Potential Demand for an HIV/AIDS Vaccine in Brazil* issued by DEC (December) ▪ AIDS appeared in CAS Progress Report in context of MDGs
2003		▪ PAMs from 14 states and 158 municipalities were approved (May)		▪ ANRS invested €10 million to build a research center ▪ CDC opened a Brazil office as part of its Global AIDS Program with $1.3 million for FY2003 ▪ GTZ launched a 2-year, €0.5 million project to support the Horizontal Technical Cooperation on HIV/AIDS Program ▪ USAID launched a 6-year strategy, with up to $48 million for the entire project	▪ *Decentralization of Health Care in Brazil: A Case Study of Bahia* issued (May) ▪ AIDS II: Loan closed (June) ▪ Disease Surveillance and Control: Loan closed (December)

Annex C. External Support for HIV/AIDS Programs in Brazil, Other Donors

Donor	Period	Activity	Amount
ANRS	1994	French-Brazillian seminar on HIV vaccines	
	1994	Regional seminar on AIDS/TB	
	1994	QC, patient care and adolescent HIV prevention training for Brazillian health practitioners in France	
	1993-95	Research project on the neurological impact of HTLV-1 infection	
	1995	Research project on sexual behaviors in Southern Cone countries (including Brazil)	
	2001	HIV vaccine clinical trials and drug/biologics manufacturing	$1.4 million
	2003	ANRS research center	E10 million
CDC	2003 onwards	Global AIDS Program-Brazil Country Program: VCT, PMTCT, laboratory support, surveillance, M&E, national and regional capacity building, and vulnerable populations	$1.3 million (FY2003 only)
DfID	2000-05	Support for the International Cooperation Program: Build Brazil's capacity to provide TA for other Latin American countries and Russia	£1 million
DKT-Brazil	1991 onwards	Condom social marketing	Nearly 51 million condoms distributed (2003 only)
GTZ	2002-04	Support for the National Program on AIDS/STDs: Update diagnostic equipment in six national reference laboratories for accurate STD diagnoses and ultimately, more valid and reliable data	€1 million
	2003-05	Support for the International Cooperation Program: Build political will of Latin American leaders to prioritize HIV/AIDS and provide ARV drugs	€0.5 million
UNDCP	1998-2002	Drug abuse and STD/HIV/AIDS prevention, with government co-financing of $30.5 million	$2.5 million
USAID	1992-96	First five-year strategy	unknown
	1998-2003	Second five-year strategy, designated as an "intensive-focus" country in 2001: HIV prevention among vulnerable populations in Rio de Janeiro, São Paulo, Bahia, and Ceara states	US$8.4 million (FY2001 and FY2002 only)
	2003-08	Six-year strategy: Condom social marketing, NGO support, surveillance, STD treatment access for high-risk groups, and HIV/TB coordinated services	Up to US$48 million
WHO/PAHO	2001-2002	Establishment of data bank for AIDS drugs in Brazil, with the government co-financing of an additional $25,000	$44,200

Annex D: Health, Nutrition and Population Sector Work, Working Papers, and OED Reports on AIDS in Brazil

Briscoe, J. 1989. "Adult Health in Brazil: Adjusting to New Challenges". Report No. 7807-BR. Brazil Department, Latin America and the Caribbean Region, World Bank, Washington, DC. *Argues AIDS cases could number 30,000-75,000 in the early 1990s.*

Cohen, J.C. 2000. "Public Policies in the Pharmaceutical Sector: A Case Study of Brazil". *LCSHD Working Paper Series* No. 54. Department of Human Development, Latin America and the Caribbean Regional Office, World Bank, Washington, DC. *Calculates that 46 percent of government pharmaceutical budget is spent on AIDS drugs; notes that AIDS drugs registered in 30 days, much faster than average.*

Cotlear, D. 2003. "Decentralization of Health Care in Brazil: A Case Study of Bahia". Report No. 24416-BR. Brazil Country Management Unit, Human Development Sector Management Unit, Latin American and the Caribbean Region, World Bank, Washington, DC.

Gauri, V. 1998. "The Brazil Health System: Impact Evaluation Report". Report No. 18142. Operations Evaluation Department, World Bank, Washington, DC. *Evaluates Bank work in health sector in Brazil.*

Gauri, V. 2002. "Maternal and Child Health". Report No. 23811-BR. Brazil Country Management Unit, Human Development Sector Management Unit, Latin American and the Caribbean Region, World Bank, Washington, DC. *Reports child AIDS mortality and knowledge of HIV prevention.*

Lewis, M. 1991. "The Organization, Delivery and Financing of Health Care in Brazil: Agenda for the 90s". Report No. 12655-BR. Population and Human Resources Operations Division, Country Department I, Latin America and the Caribbean Regional Office, World Bank, Washington, DC. *Compares AIDS treatment costs in two public and private hospitals.*

Novaes, H.M.D., Luna, E.J.A., Goldbaum, M., Kilsztajn, S., Rossbach, A., & Carvalheiro, J. 2002. "The Potential Demand for an HIV/AIDS Vaccine in Brazil". *Policy Research Working Paper* 2940. Public Services, Development Research Group, World Bank, Washington, DC. *Estimates demand for HIV vaccine in Brazil.*

Saxenian, H. 1991. "Women's Reproductive Health". Report No. 8215-BR. Population and Human Resources Operations Division, Country Department I, Latin America and the Caribbean Regional Office, World Bank, Washington,

DC. States little is known about effectiveness of HIV/AIDS prevention activities.

Saxenian, H. 1996. “Addressing Nutritional Problems in Brazil”. Report No. 16010-BR. Social and Human Capital Development Group, Country Department I, Latin America and the Caribbean Regional Office, World Bank, Washington, DC.

Annex E. Epidemiology of Aids in Brazil

There have been a number of very good studies of risk behavior and HIV prevalence in Brazil (see below and an annotated bibliography in Annex F). They provide important evidence of levels of behavior and infection in various populations and geographic areas at different points in time. However, the lack of systematic data collection on HIV prevalence and incidence, and risk behavior over time in the same or in representative populations prevents confident assessment of trends that conceivable might be attributed to public policy.

RISK BEHAVIOR

Behavioral studies in Brazil have used a number of standard measures to assess risk, including: proportions of men and women reporting multiple and/or casual sex partners in the last year; condom use with the most recent sexual act; condom use with regular partners and casual partners; using a condom when having sex for the first time; and reporting of male same sex behaviors.

A large population-based survey of these behaviors was conducted in 1998 by the Centro Brasilieiro de Analise e Planejamento (CEBRAP) which included over 1,200 municipalities representative of about three-quarters of the Brazilian population. Six percent of adults aged 16-65 (10.6 percent of men, 0.7 percent of women) reported only casual sex partners and 12.5 percent (19.7 percent of men, 4.4 percent of women) reported both steady and casual partners (CEBRAP, 2000). In all, 2.5 percent of men reported having had at least one male partner in the previous year. Using a condom when having sex for the first time was reported by 48 percent of respondents, but among 71 percent of those with higher educational levels; it was higher among younger cohorts than among older ones. Consistent condom use rates with all partners (spouses, casual, and others) were higher in the age group 16-25 (44 percent) than among the general population (24 percent).

An important population for assessing prevalence and risks among young men is the Brazilian conscript population. All 18-year-old males are conscripted on an annual basis for one-year service in Brazil's armed forces. Fiocruz has collaborated with the NAP and the military on behavioral and HIV surveillance among conscripts since 1996, and has conducted several rounds of behavioral surveillance, the first on general sexual behavior, a 2000 round that focused on substance use, and a 2002 round that has an emphasis on socio-economic indicators and HIV risk. While arguably too young to give accurate assessments of HIV rates among Brazilian men generally, this is a valuable population for behavioral surveillance among adolescents, whose behaviors strongly predict later risks.

TEST-SEEKING BEHAVIOR

Public policies have been attempting to encourage the adult population to be tested for HIV, to enhance both prevention and treatment programs. There is a large body of evidence to suggest that not knowing personal HIV status is an indicator of poor uptake of prevention information (Voluntary HIV-1 Counseling and Testing Efficacy Study Group, 2000; GHPWG, 2003). A 1998 randomized population survey found that 20.2 percent of the adult population had been tested at least once; rates were higher in the South (25 percent) and lower in the North-Northeast (9.6 percent) (NAP data). Among 3,000 female sex workers interviewed in 2001, nearly half (49.2 percent) had ever been tested (NAP and Sex Worker Union study). Testing history was even more common among MSM, with 73 percent of urban men in Rio de Janeiro and São Paulo reporting having been tested in 2001 (n=800) and 69 percent in 2002 (n=1,200, NAP data).

Box E-1: AIDS case transmission categories track male better than female risk

Brazil should reconsider its classification system for AIDS transmission risks in women, since the current system uses categories that are not mutually exclusive and sometimes group women with greatly divergent risks, making it less informative for prevention efforts. Brazil assigns to an individual the reported risk category with the highest likelihood of transmission. For example, a man reporting sex with only female partners and a history of IDU behavior would be classified as "IDU", as would a heterosexual woman with a history of IDU behavior. However, there is no category for sex workers, so female CSW are classified as "heterosexual," and male CSW as either homosexual or bisexual, depending on their reported behavior. The most serious problem with such a system in a country like Brazil is that women in the sex industry, female partners of IDU, and women with bisexual partners, each of which have divergent prevention and care and support needs, are all reported as "heterosexual." An increase in the number of heterosexual AIDS cases could indicate a widening IDU epidemic, high AIDS rates in a large sex industry, or spreading of HIV to low-risk women in the general population through their high-risk partners. In some areas in the South, where IDU rates among both men and women are high, HIV infection in women and infants is strongly associated with father's IDU status (Fonseca et al, 2003).

HIV PREVALENCE

The 1998 round of the survey of military conscripts included HIV testing in a randomly selected sample in three strata – the North and Central West, the South, and the states of Rio de Janeiro and São Paulo. Trends in HIV prevalence rates among young men in this age group (17-21) are presumably not much affected by AIDS mortality, given the long asymptomatic period of HIV infection, and thus can be thought of as a good proxy for recent infection or HIV incidence. In the case of the 1998 conscript survey, the results are not representative of the population of conscripts in these strata because municipalities with higher AIDS incidence rates were selected for inclusion (Szwarcwald et al., 2000). With that caveat, HIV prevalence ranged from 0.12 percent in the South, to 0.19 percent in the North and Central West, and 0.08 percent in Rio de Janeiro and São Paulo, with nearly 10,000 men sampled in each regional aggregate (see Table E-1).

Annex Table E-1. Percent of conscripts infected by HIV, according to stratum, Brazil, 1998

Stratum	Number HIV Positive	Sample size	Percent HIV-positive	95-percent confidence interval
North and West	19	9788	0.194	0.107-0.281
Rio de Janeiro and São Paulo	8	9899	0.081	0.025-0.137
South	12	9707	0.124	0.054-0.194

Source : Szwarcwald et al (2000).

Brazil also attempted to establish sentinel surveillance of HIV among pregnant women attending ante-natal clinics (ANC), from 1998 onward. HIV prevalence among pregnant or post-partum women of 20-24 years is reported to have increased during the period 1998 – 2002 from 0.3 percent to 0.6 percent (NASCP 2003). These statistics for adult women *are* affected by AIDS mortality as well as the propensity to seek antenatal care or deliver in a health facility. The 1996 Demographic and Health Survey (DHS) found that the percent of women who did not consult antenatal care before the last pregnancy ranged from 4 percent in Rio de Janeiro to 17 percent in the North and 25 percent in the Northeast (BEMFAM 1997). Thus, trends in HIV infection in pregnant women at antenatal clinics are not a good proxy for trends in the number of new infections. In addition, this particular upward trend in HIV among pregnant women over the period 1998-2002 may be influenced by changes in the coverage, number of sites, and representativeness in the ANC sentinel data and thus may not indicate a real increase.

Research studies on HIV prevalence of the highest risk groups reveal infection levels of 36.3 percent among IDU, 10.8 percent among MSM, and 6.5 percent among CSW for recent years in various samples, most of them non-national (see Table E-2). These data must be interpreted with caution. The groups for each study come from different samples at different points in time, so trends cannot be inferred.

PAHO estimated that 750,000 persons were living with HIV in Brazil in 1992 and that this number would be over 1 million within 18 months. This did not happen. HIV infections are well under a third of expected cumulative totals. The extent to which Brazil's lower rates were due to prevention is difficult to quantify, and the spread was very likely over-estimated in the early 1990s. Few, if any, of the countries with similar rates in 1990 mounted anything like Brazil's targeted and progressive prevention response, however. This vigorous HIV prevention response almost certainly played an important role in making later commitments to universal treatment more feasible--by decreasing the number of Brazilians needing AIDS care through averting HIV infections.

Annex Table E-2. HIV prevalence and risk indicators for high-risk populations in Brazil, 1999-2002

	IDU		CSW	MSM		
Indicator	**1999[a]**	**2001[b]**	**2001[c]**	**1994-99**	**2001[d]**	**2002[e]**
HIV prevalence	52%	36.3%	6.5%	10.8%		
HCV prevalence	60%	56.4%	4.5%			
Condom use	42.1%	62.9%	73.8 % w/clients 23.9% w/reg. partners		81% regular partners;95 % casual partners	70% in all anal intercourse in past 6 months
Ever HIV tested	52%	66.4%	49.2%		73%	69%
Needle sharing	70%	59.4%				
Sample size	287	869	3,000	1,082	800	1,200
Location	5 cities	7 cities	5 cities	unknown	7 capital cities	10 capital cities

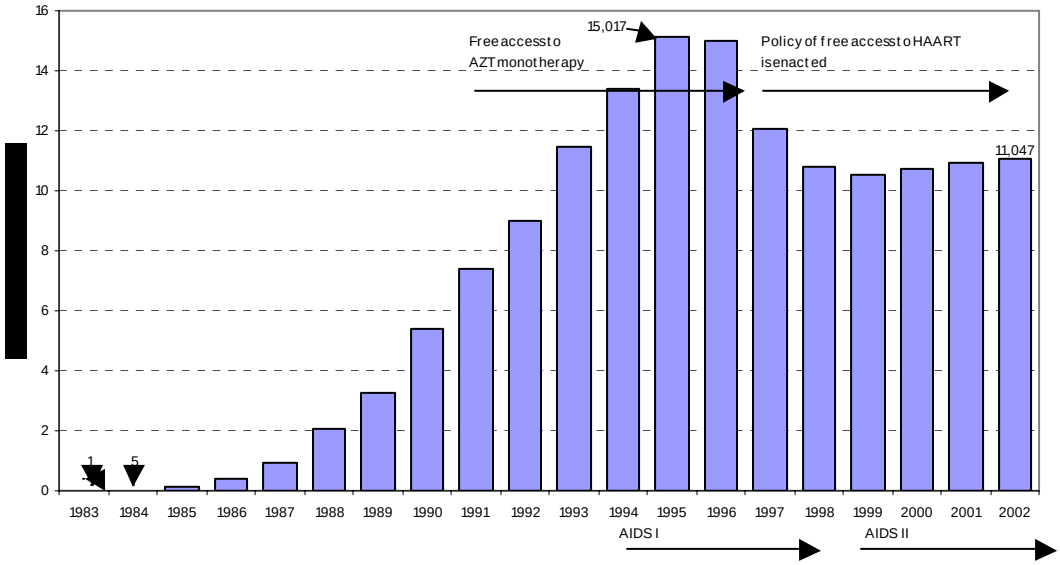
Source: Ministry of Health/NASCP (2003), compiled from the following studies: Federal University of Minas Gerais and NASCP (a, b); Federal University of Brasilia and NASCP (c); Opinion polls carried out by IBOPE (d,e).

AIDS MORTALITY

Reported deaths from AIDS rose steadily from approximately 6/100,000 persons in 1990, to over 11/100,000 in 1994. AIDS deaths peaked in 1995 at just over 12/100,000 persons. AIDS deaths declined thereafter, to 10/100,00 in 1996, 8/100,00 in 1997, and 6.3/100,000 in 2000. The number of AIDS deaths has remained stable since 1998, with no further declines and in fact a slight increase (see Annex Figure E-1).

Annex Figure E-1:

Annual reported deaths due to AIDS, 1983-2002



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Annex F: Annotated Bibliography of References on Epidemiological Trends

Citation	Site	Population	Key findings
Acurcio et al. 1998. Health care utilization and survival among patients with AIDS in Belo Horizonte, Minas Gerais, Brazil. *Cad Saude Publica* 14(4): 811-20.	Belo Horizonte, Minas Gerais	Clients from outpatient services	Among patients categorized as asymptomatic or mildly symptomatic who progressed to AIDS, 57.0% died. Mortality rate was 34.9 person-months. Overall median survival time following AIDS diagnosis was 14.3 months.
Acurcio & Guimaraes. 1998. [Use of health services and progression of AIDS in persons with HIV infection in Belo Horizonte (Minas Gerais), Brazil] in Portuguese. *Rev Panam Salud Publica* 4(5): 331-40.	Belo Horizonte, Minas Gerais	Clients from outpatient services	Between 1989 and 1992, 39.5% of the HIV infected patients under follow-up developed AIDS. For the group as a whole, the median time without AIDS was 32.4 months.
Adair. 1994. A epidemiologia da infecção pelo HIV em Santos, in Parker, Bastos, Galvao & Stalin Pedrosa, *A AIDS no Brasil (1982-1992),* Rio de Janeiro: Abia, IMS-UERJ, Relume-Dumará.	Santos, São Paulo	Secondary data	A pioneer paper addressing the characteristics of the AIDS epidemic in Santos, then the most affected municipality all over Brazil. The paper highlights the key role of IDUs in the local epidemic. Other key finding is the substantial and increasing number of HIV-infected women, most of them sexual partner of migrants and mobile populations such as sailors and truck drivers. The very high prevalence of tuberculosis in Santos PLWA (vis-à-vis Brazilian broad patterns) was of special concern.
Albuquerque et al. 1997. Região Norte, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias,* Brasilia: Ministerio de Saude.	North region	Secondary data	A progressive predominance of heterosexual transmission was observed in the region. The epidemic has a unique geographic pattern in the region and is basically concentrated along the main transportation axes, poles attracting migrants and mobile populations such as farmers, militaries and miners, and cities located near the frontiers.
Alves et al. 2003. Risk factors for incident HIV infection among anonymous HIV testing site clients in Santos, Brazil, 1996-9. *J Acquir Immune Defic Syndr* 32(5): 551-9.	Santos, São Paulo	Clients of VCT centers	In the period, estimated HIV incidence remained stable in men but increased in women. Overall, HIV incidence was 2.0% for the 4 year period (1.2% for women and 2.7% for men).
Andrade Neto et al. 2002. HIV prevalence among blood donors in a blood bank in Curitiba (Brazil). *Braz J Infect Dis* 6(1): 15-21.	Curitaba, Parana	Blood donors	Overall, point prevalence for HIV infection was found to be 0.149%, with no significant difference for new and repeat donors. Prevalence was slightly higher in women, many of them married.
Bandeira & Rodríguez Silva. 1997. Calculation of HIV infection rates and projection of the	São Paulo	Secondary data	HIV infection rates peaked at ~10,000 new infections annually in the mid-80s, followed by a plateau with 4,000 new annual infections in the

Citation	Site	Population	Key findings
number of cases of AIDS in São Paulo, Brazil. *Braz J Infect Dis* 1(4): 186-95.			early 90s. The infection curves decreased in gay and bisexual men, but have been continuously increasingly for heterosexuals.
Barbosa & Struchiner. 2002. The estimated magnitude of AIDS in Brazil: a delay correction applied to cases with lost dates. *Cad Saude Publica* 18(1): 279-85.	Brazil	Secondary data	Model estimates show that there were 36,000-50,000 unreported cases in Brazil, as of 1999. The actual epidemic is 20-30% greater than could be deduced from the information available as of February 1999.
Barbosa & Villela. 1996. A trajetória feminina da AIDS, in Parker & Galvao, *Quebrando o Silêncio: Mulheres e AIDS no Brasil*, São Paulo: Relume-Dumará.	Brazil	Secondary data	The paper highlights the progressive increase of the number of AIDS cases among women, most of them not included in the "traditional" at-risk female populations, e.g. commercial sex workers. The paper also highlights the relevance of uterine dysplasia and cancer in HIV-infected women, then a neglected condition in this population.
Barcellos & Bastos. 1995. [Social geography of AIDS in Brazil] in Portuguese. *Rev Saude Publica* 29(1): 52-62.	Brazil	Secondary data	The epidemic evolved toward medium sized cities and expansion frontiers, with an increasing number of AIDS cases among the underprivileged. The paper describes also changes in the pattern of transmission, with proportional augmentation of heterosexual transmission and IDUs as key exposure categories.
Barcellos & Bastos. 1996. [Social networks and diffusion of AIDS in Brazil] in Portuguese. *Bol Oficina Sanit Panam* 121(1): 11-24.	Brazil	Secondary data	Geographic analyses showed that metropolises and regional urban centers, mainly those in the Southeast, play a key role in the spread of the epidemic, not only because of their population density but also because they are centers of trade and social interaction. In smaller cities located in the state of São Paulo, a large number of AIDS cases among injecting drug users are concentrated, revealing the routes and centers of cocaine use.
Bastos et al. 1995. A epidemia de AIDS no Brasil, in Minayo, *Os Muitos Brasis: Saúde e População na Década de 80*, São Paulo/Rio de Janeiro: Hucitec/ABRASCO.	Brazil	Secondary data	A comprehensive reanalysis of available information on reported AIDS cases and AIDS deaths defined HIV seroprevalence ranges, highlighting vulnerable populations. Sociodemographic impacts of the epidemic in Brazil were compared with information from African countries.
Brito et al. 2001. [AIDS and HIV infection in Brazil: a multifaceted epidemic] in Portuguese. *Rev Soc Bras Med Trop* 34(2): 207-17.	Brazil	Secondary data	Initially restricted to large urban centers and markedly masculine, the epidemic has changed its pattern toward: "heterosexualization" (i.e. heterosexually acquired infections predominate in recent years), "feminization" (i.e. new cases have been preferentially registered in women), "interiorization" (i.e. the epidemic has spread toward smaller municipalities, most of them located far away from the coast), and "pauperization" (i.e. new cases have been basically registered among the

Citation	Site	Population	Key findings
			poor and disenfranchised).
Burattini et al. 2000. Correlation between HIV and HCV in Brazilian prisoners : evidence for parenternal transmission inside prison. *Rev Saude Publica* 34(5): 431-6.	São Paulo	Prisoners	Prevalence for HIV was 16%. HIV infection increases with the time of imprisonment, peaking around three years after incarceration, linked with injection drug use.
Caiaffa et al. 2003. Estimation of the number of injecting drug users attending an outreach Syringe-Exchange Program and infection with Human Immunodeficiency Virus (HIV) and Hepatitis C Virus: the AjUDE-Brasil Project. *J Urban Health* 80(1): 106-44.	Porto Alegre, Rio Grande do Sul	IDUs attending a NEP	Using capture-recapture methods, the paper estimates that 317 IDUs have been attending the SEP (95% CI 235-467). Overall seroprevalence rate for HIV was 7.7%.
Carneiro et al. 2000. Design, implementation, and evaluation at entry of a prospective cohort study of homosexual and bisexual HIV-1 negative men in Belo Horizonte, Brazil: Project Horizonte. *J Acquir Immune Defic Syndr* 25(2) : 182-7.	Rio de Janeiro	Volunteers from a vaccine preparedness study	Eighteen seroconversions were observed. The incidence rates estimates were 1.75 per 100 and 1.99 per 100 person-years, for 36 and 48 months of follow-up, respectively.
Cassano et al. 2000. [Occupational classification of AIDS cases in Brazil, 1995] in Portuguese. *Cad Saude Publica* 16(suppl 1): 53-64.	Brazil	Secondary data	The paper highlights some professional groups were especially affected by HIV/AIDS spread, such as people working in personal hygiene services (e.g. hairdressers), health professionals, and people working in ports and maritime transportation. Prevention should be tailored to the need of such professional groups.
Castilho et al. 1994. A epidemiologia da AIDS no Brasil, in Parker, Bastos, Galvao & Stalin Pedrosa, *A AIDS no Brasil (1982-1992)*, Rio de Janeiro: Abia, IMS-UERJ, Relume-Dumará.	Brazil	Secondary data	The epidemiology of HIV/AIDS in the 80s is revised, highlighting the control of blood banks, the progressive increase of the number of AIDS cases among IDUs and the not so pronounced increase of cases due to heterosexual transmission. Median survival time was then close to 5 months, with a very high prevalence of disseminated candidiasis, tuberculosis and P. carinii pneumonia.
Chequer et al. 1992. Determinants of survival in adult Brazilian AIDS patients, 1982-1989. *AIDS* 6(5): 483-7.	Brazil	Secondary data	Median survival was 5.1 months, much shorter than in developed countries, and there was no improvement in survival for cases diagnosed more recently.
DeRiemer et al. 2000. HIV testing among tuberculosis patients in the era of antiretroviral therapy : a population-based study. *Int J Tuberc*	Rio de Janeiro	Tuberculosis cases reported to the Municipal Health	Patients with tuberculosis have been under-screened for HIV/AIDS in Rio. Voluntary testing and counseling have been basically offered to male patients with grave clinical presentations. Women and patients with

Citation	Site	Population	Key findings
Lung Dis 4(6): 519-27.		Secretariat	less serious medical conditions have been overlooked by health care providers.
Dhalia et al. 2000. A AIDS no Brasil : Situação atual e tendencias. *Boletim Epidemiológico AIDS* XIII(1).	Brazil	Secondary data	The paper summarizes previous findings published in the peer-reviewed and gray literature (i.e. reports, documents from the BMH, etc.; all of them available in this spreadsheet), offering the reader a digest of the major epidemic trends along the 80s and 90s.
Dourado et al. 1997. Região Nordeste, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	Northeast region	Secondary data	Exception made to Bahia state (the southermost state of the region), the role of IDUs in the regional epidemic is negligible. The epidemic is still concentrated in main urban centers. Cases registered in gay/bisexual men had plateaued whereas the role of heterosexual transmission has progressively increased.
Ferreira et al. 2000. [Variables associated with underreporting of AIDS patients in Rio de Janeiro, Brazil, 1996] in Portuguese. *Rev Saude Publica* 34(2): 170-7.	Rio de Janeiro	Secondary data	AIDS cases were significantly underreported in Rio de Janeiro, especially among women. Underreport was less common in patients with multiple hospitalizations and treated in hospitals with dedicated surveillance systems.
Ferreira & Valente. 1997. Região Sul, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	South region	Secondary data	The epidemic was then on decline (a trend later reversed), especially in its southernmost state, Rio Grande do Sul, whereas still plateauing in Santa Catarina. A clear trend toward impoverished population could be observed in the early 90s. In the 90s, IDUs and, especially, heterosexuals, have been increasingly affected by HIV/AIDS spread, while AIDS incidence decreased in gay/bisexual men. Of special concern were the high HIV prevalence found in southern maternities (2.5-3.2%), suggesting an increase of the number of recent HIV infections, not yet registered by the AIDS surveillance system.
Fonseca et al. 2000. [AIDS and level of education in Brazil: temporal evolution] in Portuguese. *Cad Saude Publica* 16(suppl 1): 77-87.	Brazil	Secondary data	The paper show that, for women, incidence rates increased at a higher rate among those with lower educational level in all regions of the country. In the Southeast, the incidence rate for women with less education was already greater than for women with better educational background by 1989. Overall, the AIDS epidemic in Brazil began among people from well educated social strata and progressed through to the less educated population, especially among women.
Fonseca et al. 2003. [Social distribution of AIDS in Brazil, according to labor market participation, occupation and socioeconomic	Brazil	Secondary data	Among men, incidence rates increased in the first years of the epidemic in almost all occupational categories, decreasing thereafter among those classified in “non-manual” occupations. Among females, an annual

Citation	Site	Population	Key findings
status of cases from 1987 to 1998] in Portuguese. *Cad Saude Publica* 19(5): 1351-63.			increment was observed in almost all occupational strata, between 1987-1998. The higher relative increases were observed among those from lower socioeconomic strata, for both sexes. IDUs had the worst socioeconomic status, for both sexes, whereas gay/bisexual men the highest. The analysis highlighted a progressive change of the social gradient of the epidemic in the period, with a faster spread among those belonging to the lower socioeconomic strata.
Fonseca & Barreira. 2000. A evolução da mortalidade por AIDS no país, segundo sua distribuição geográfica. *Boletim Epidemiológico AIDS* XIII(3).	Brazil	Secondary data	AIDS deaths declined substantially for both women and men after 1996, much probably due to the introduction of HAART. Such findings contrast with previous findings (e.g. Lowndes et al., 2000), highlighting a decline for men but with a moderate decline for the period immediately not for women before 1996. The decline was observed in all Brazilian regions except the South where trends are far from clear, after 1996, but not for recent years (with the concurrent explanations of artifact vs. actual increase).
Fonseca & Castilho. 1997. Os casos de AIDS entre usuários de drogas injetáveis. *Boletim Epidemiológico AIDS* X(3).	Brazil	Secondary data	AIDS cases registered among injection drug users have been reported basically in young adults, significantly younger than cases reported among other populations. Cases registered among IDUs have a lower educational background vis-à-vis all other cases. These cases have a specific geographic pattern, concentrated in a small number of Brazilian states (then, basically concentrated in São Paulo) and in a small cluster of municipalities, most of them with high AIDS incidences when compared to those municipalities where the number of AIDS cases among IDUs is small.
Gomes. 1999. Mortalidade por AIDS no Brasil. *Boletim Epidemiológico AIDS* XII(1).	Brazil	Secondary data	This analysis made evident for the first time some trends addressed later by comprehensive analyses. Although limited by the availability of data and report delay, a decline of AIDS mortality was observed after the introduction of HAART. Two other trends were made evident for the first time: the proportional slower decline of AIDS in women (compared to men) and the “atypical” behavior of the southern region, where no defined trend was found (unlike all other Brazilian regions) and some AIDS incidence peaks (even after the introduction of HAART) were observed.
Gotlieb et al. 2000. O impacto da AIDS na	Brazil	Secondary data	For 1996, life expectancy was 67.63 for Brazil. The impact of AIDS on

Citation	Site	Population	Key findings
esperança de vida, Brasil, 1996. *Boletim Epidemiológico AIDS* XIII(2).			such expectancy was found to be 0.31 lost years overall and 1.04 for the city of São Paulo.
Grangeiro. 1994. O perfil socioeconômico dos casos de AIDS na cidade de São Paulo, in Parker, Bastos, Galvao & Stalin Pedrosa, *A AIDS no Brasil (1982-1992)*, Rio de Janeiro: Abia, IMS-UERJ, Relume-Dumará.	São Paulo	Secondary data	A pioneer paper addressing the process of the progressive "impoverishment" of the AIDS epidemic in Brazil. Using sociodemographic information and thematic maps the paper documents the progressive displacement of the epidemic toward disenfranchised neighborhoods and the selective recruitment of new AIDS cases from dispossessed social strata, as defined by their (lower) educational status and occupation (most of them unemployed or working in low-paid jobs).
Guerreiro et al. 2002. Survival of adult AIDS patients in a referente hospital of a metropolitan area in Brazil. *Rev Saude Publica* 36(3): 278-84.	Fortaleza , Ceara	Hospitalized patients	Higher educational level is a key protective factor for one year survival, thereafter survival depends basically on antiretroviral regimens.
Guimaraes. 2000. [Temporal trends in AIDS-associated opportunistic infections in Brazil, 1980-1999] in Portuguese. *Cad Saude Publica* 16(suppl 1): 21-36.	Brazil	Secondary data	Statistically significant decline of all opportunistic infections (OIs) in recent years, probably due to HAART. There are exceptions in such trends, i.e. tuberculosis and neurotoxoplasmosis have been increasing in the Northeast and Center-west. Using educational level as a proxy for socioeconomic status, the analyses shown that tuberculosis has been especially prevalent among those with lower socioeconomic status (lower educational background) while Kaposi sarcoma and P. carinii penumonia affected most those from higher social strata. The latter conditions became less prevalent in recent years due to the overall decline of AIDS-associated diseases and the fact new AIDS cases have been basically reported among the poorest.
Guimaraes et al. 2001. Retrovirus infections in a sample of injecting drug users in Rio de Janeiro City, Brazil : prevalence of HIV-1 subtypes, and co-infection with HTLV-I/II. *J Clin Virology* 21(2): 143-51.	Rio de Janeiro	IDUs	No new HIV infection was found using sensitive/less sensitive testing procedures for stored samples between 1994-6.
Guimaraes & Castilho. 1993. [The epidemiological aspects of HIV/AIDS in Brazil] in Portuguese. *Rev Soc Bras Med Trop* 26(2): 101-11.	Brazil	Secondary data	The paper discusses the relevant increase of AIDS cases among injection drug users and heterosexuals in the early 90s, specially in the Southeast.
Harrison et al. 1999. Incident HIV infection in a high-risk, homosexual, male cohort in Rio de	Rio de Janeiro	Volunteers of a vaccine preparedness	Overall, annual point seroincidence was found to be 3.1%. Incidence was significantly higher for those under 20 years old (8.4%).

Citation	Site	Population	Key findings
Janeiro, Brazil. *J Acquir Immune Defic Syndr* 21(5) : 408-12.		study in Rio	
Kallas et al. 1998. HIV seroprevalence and risk factors in a Brazillian prison. *Braz J Infect Dis* 2(4) : 197-204.	São Paulo	Inmates from a large São Paulo prison	13.7% were positive for HIV.Independent risk factors for HIV seropositivity: 1. Age less than 29 years-old; 2. Previous incarceration; 3. More than one sexual partner in last year 4. Intravenous drug use before incarceration
Kerr-Pontes et al. 1997. [Tuberculosis associated with AIDS: the situation in a northeastern region in Brazil] in Portuguese. *Rev Saude Publica* 31(4): 323-9.	Ceara	Outpatients from a reference center	Tuberculosis was found in ~31% of the patients and it was diagnosed by the first year after the AIDS diagnosis in ~77% of the cases. The proportion of AIDS cases with tuberculosis is significantly greater among men than among women. Tuberculosis was inversely associated with educational level, being especially prevalent among those with lower educational background.
Kritski et al. 1993. HIV infection in 567 active pulmonary tuberculosis patients in Brazil. *J Acquir Immune Defic Syndr* 6(9) : 1008-12.	Rio de Janeiro	Outpatients from a tuberculosis reference center	In a group of patients with tuberculosis the rate of HIV infection was 3.9% in 1987, 4.8% in 1988, and 5.2% in 1989, and did not differ by sex. It was highest (7.4%) in the 15- to 39-year age group.
Lemos & Valente. 2001. [AIDS mortality in the state of Rio de Janeiro] in Portuguese. *Cad Saude Publica* 17(4): 957-68.	Rio de Janeiro	All reported AIDS cases (secondary data)	AIDS mortality rate increased from 1991 to 1995, for both mean and women (especially in the latter). In 1995 AIDS was the 3rd most common cause of death among men and the 5th most common among women.
Lopes et al. 2001. [HIV, HPV, and syphilis prevalence in a women's penitentiary in the city of São Paulo] in Portuguese. *Cad Saude Publica* 17(6): 1473-80.	São Paulo	Imprisoned women	High prevalences for different STIs were found in this vulnerable population:14.5% for HIV; 16.3% for high oncogenic risk HPV; 4.8% for low oncogenic risk HPV, and 5.7 for syphilis.
Lowndes et al. 2000. Differential trends in mortality from AIDS in men and women in Brazil (1984-1995). *AIDS* 14(9): 1269-73.	Brazil	Secondary data	AIDS mortality increased between middle-80s and early 90s, but plateaued thereafter, even before the introduction of HAART. Mortality has been decreasing in men but not in women, especially affected in recent years. Women have been dying in younger ages than men.
Luiz & Costa. 2001. Sobre a correção do atraso dos casos de AIDS no Brasil. *Boletim Epidemiológico AIDS* XV(2).	Brazil	Secondary data	The authors discuss methods to adjust AIDS cases report delay, using methods proposed by Brookmeyer et al. and commenting former attempts to correct delay made by Struchiner and colleagues. (for instance Barbosa and Struchiner, 2002).
Marins et al. 2002. Sobrevivência atual dos	Brazil	Secondary data	Former published analyses (Chequer et al, this spreadsheet) showed that

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pacientes com AIDS. Evidências dos resultados de um esforço nacional. *Boletim Epidemiológico AIDS* XV(2).			the survival time after AIDS diagnosis was ~5 months in the 80s. The current analysis shows the median survival of AIDS cases increased dramatically after the introduction of HAART, for instance increasing from 16 months for cases diagnosed in 1995, to 58 months for those diagnosed in 1996. In the multivariate models treatment was the sole predictor of such substantial increase of survival time, especially triple therapy (with a weaker association between increase of survival time and the use of double therapy).
Martelli et al. 1997. Região Centro-Oeste, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	Center-West region	Secondary data	The epidemic in Center-West has been basically concentrated in its main cities, following the characteristic demographic pattern of the region, where scattered cities are immersed in vast geographic spaces with scant population. Heterosexual transmission has been the main component of the local epidemic in recent years, with a relevant role of IDUs in one of its states (Mato Grosso do Sul).
Matida & Marcopito. 2002. Aumento do tempo de sobrevida das crianças com AIDS – Brasil. *Boletim Epidemiológico AIDS* XV(2).	Brazil	Secondary data	The exploratory analyses of pediatric AIDS cases found an overall median survival time of 52.8 months, with a dramatic increase (roughly similar to the changes observed among adults) for those children diagnosed in recent years.
Matsushita & Santana. 2001. Uma análise da incidência dos casos de AIDS por faixa etária. *Boletim Epidemiológico AIDS* XV(2).	Brazil	Secondary data	The paper shows Brazilian AIDS epidemic is plateauing with no discernible specific pattern for those aged 50+. Thus, the findings refute former hypothesis of a higher AIDS incidence for senior individuals in recent years.
Menesia et al. 2001. [Survival of AIDS patients in a city in southeastern Brazil] in Portuguese. *Rev Panam Salud Publica* 10(1): 29-36.	Ribeirao Preto, São Paulo	Outpatients and hospitalized patients with AIDS	A dramatic increase of survival was observed after the introduction of HAART: median survival (in days) increased from 260 days (1991-5) to 864 days (1996-7).
Mesquita et al. 2001. Trends of HIV infection among injection drug users in Brazil in the 1990s: the impact of changes in pattern of drug use. *J Acquir Immune Defic Syndr* 28(3): 298-302.	Santos, São Paulo	IDUs	Serial cross-sectional studies (1991-2; 1994-6; 1999) highlighted a decline in seroprevalence for HIV (63%->42%). Such decline parallels the increase crack cocaine smoking and the decrease of injection frequencies across the years.
Moraes et al. 1997. São Paulo, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	São Paulo	Secondary data	The epidemic reached its peak in 1993, declining thereafter, especially among men. The epidemic has spread all over the state, but so far the southern border of São Paulo state has been relatively spared. IDUs

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			have been a key exposure category in the state, with a relative decline after 1990.
Nogueira et al. 2001a. Successful prevention of HIV transmission from mother to infant in Brazil using a multidisciplinary team approach. *Braz J Infect Dis* 5(2) : 78-86.	Rio de Janeiro	Women being followed-up in a reference maternity	Compliance with *intrapartum* treatment, infant treatment and use of formula was ~ 88%. HIV vertical transmission rate was 2.75%, comparable to countries with the most effective prevention programs. The only risk factor significantly associated with transmission was a failure to use zidovudine *intrapartum*.
Nogueira et al. 2001b. Assessment of a rapid HIV test strategy during labor : a pilot study from Rio de Janeiro, Brazil. *J Hum Virology* 4(5): 278-82.	Rio de Janeiro	Women delivering in three public maternities	Rapid tests, confirmed by regular blood tests, showed a prevalence of 1.5% for HIV.
Penna. 1997. Espirito Santo, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	Espirito Santo	Secondary data	The epidemic in Espírito Santo is very concentrated, so far basically limited to a dozen municipalities. Cases registered among heterosexuals have been increasing and a modest increase in the number of cases in IDUs was observed in recent years.
Penna. 1997. Rio de Janeiro, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	Rio de Janeiro	Secondary data	The epidemic is basically concentrated in the metropolitan area of Rio de Janeiro and the area under its direct influence. In recent years, the epidemic has spread toward the metropolitan surrounding belt of impoverished municipalities. The role of IDUs in the Rio de Janeiro AIDS epidemic has been restricted, contrasting with the neighbor state of São Paulo, where IDUs have had a predominant role.
Proietti & Caiaffa. 1997. Minas Gerais, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	Minas Gerais	Secondary data	Minas Gerais AIDS epidemic presents a very heterogeneous geographic pattern. Initially, the epidemic was largely concentrated in its metropolitan area (Belo Horizonte), but evolved toward main medium-sized cities. The role of IDUs in the global epidemic is relevant in some areas, but negligible in smaller cities.
Santo et al. 2000. [AIDS as underlying and associated causes of death, State of S. Paulo, Brazil, 1998] in Portuguese. *Rev Saude Publica* 34(6): 581-8.	São Paulo	All reported AIDS cases (secondary data)	AIDS was the 10th leading cause of death (2.0%) in 1998, with a mortality rate of 13.1/100,000. AIDS was the second leading cause of death among men aged 20-34 and women aged 25-34 years. Median age at death for women was significantly lower than men.
Santoro-Lopes et al. 1998. Gender and survival after AIDS in Rio de Janeiro, Brazil. *J Acquir Immune Defic Syndr* 19(4) : 403-7.	Rio de Janeiro	Cohort of AIDS patients	During the study period, 20% patients developed AIDS. There were no gender-related differences regarding the access to antiretroviral therapy or to prophylaxis for P. carinii pneumonia. Survival was shorter among women after adjustment for age and AIDS-defining condition. Adjusting

Citation	Site	Population	Key findings
			for CD4+ and CD8+ counts reduced the difference between genders.
Santoro-Lopes et al. 2002. Reduced risk of tuberculosis among Brazilian patients with advanced human immunodeficiency virus infection treated with highly active antiretroviral therapy. *Clin Infect Dis* 34(4): 543-6.	Rio de Janeiro	Hospitalized patients	Patients from a high-incidence area have lower tuberculosis incidence while under HAART.
Santos. 1996. A AIDS entre mulheres no Estado de São Paulo, in Parker & Galvao, *Quebrando o Silêncio: Mulheres e AIDS no Brasil*, São Paulo: Relume-Dumará.	São Paulo	Secondary data	Highlights the key role of women who are partners of both IDUs and bisexual men and the impact of the progressive increase in the number of women living with HIV/AIDS on mother to child transmission of HIV.
Sawyer et al. 1997. Aspectos demográficos da epidemia de AIDS no Brasil, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	Brazil	Secondary data	The paper highlights the significant increase of survival time for AIDS cases diagnosed in the 90s vis-à-vis those diagnosed in the 80s. Scenarios were constructed aiming to assess the impact of AIDS on mortality. The most conservative scenarios hypothesize AIDS would have a moderate impact on mortality in Brazil, unlike what was taking place in Sub-Saharan Africa.
Schechter et al. 2000. Identification of a high-risk heterosexual population for HIV prevention trials in Rio de Janeiro, Brazil. *J Acquir Immune Defic Syndr* 21(5) : 408-12.	Rio de Janeiro	Heterosexual males and females attending a VCT center in Rio	The estimated HIV seroincidence was 1.9 and 2.8 per 100 person-years among heterosexual women and men, respectively.
Sutmoller et al. 1997. The Rio de Janeiro HIV vaccine site-II. Recruitment strategies and socio-demographic data of a HIV negative homosexual and bisexual male cohort in Rio de Janeiro, Brazil. *Mem Inst Oswaldo Cruz* 92(1): 39-46.	Rio de Janeiro	318 potential participants of a vaccine preparedness study	Seropositivity for STDs was: HIV: 23% Syphilis: 32% Hepatitis B: 46% 200 HIV-negative participants were recruited.
Szwarcwald et al. 1997. O mapa ecológico do Brasil, 1982-1994, in Ministerio da Saude, *A Epidemia da AIDS no Brasil: Situação e Tendencias*, Brasilia: Ministerio de Saude.	Brazil	Secondary data	Pioneer paper showing the progressive geographic spread of the epidemic toward smaller cities, most of them located far away from the Brazilian coastal line (forging the concept of "interiorization"). Specific spatio-temporal analyses were carried for São Paulo and Northeast. For São Paulo, a pattern of "in situ" growth was found for gay/bisexual men and IDUs, whereas a pattern of relevant spatial growth toward geographic vicinities was made evident for cases due to heterosexual transmission. On the other hand, a restricted geographic spread was made evident for the Northeast region. Of special concern was the

Citation	Site	Population	Key findings
			persistence of cases due to blood transfusion is some localities in the Northeast.
Szwarcwald et al. 1998. The dynamics of the AIDS epidemic in Brazil : A space-time analysis in the period 1987-1995. *Braz J Infect Dis* 2(4) : 175-86.	Brazil	Secondary data	The epidemic spread in a fast pace between 1987-1992, but reached a plateau thereafter. In this period, the epidemic plateaued in gay men, but continued to rise in IDUs. AIDSincidence increased in recent years among heterosexuals and in smaller municipalities, highlighting a shift in the dynamics of the epidemic toward the socially vulnerable.
Szwarcwald et al. 1999. Estimativa do número de órfãos decorrente da AIDS materna, Brasil: 1987-1999. Uma nota técnica. *Boletim Epidemiológico AIDS* XII(4).	Brazil	Secondary data	Szwarcwald et al. present here one of the estimates included in the series of estimates of the number of adults and children living with HIV/AIDS in Brazil. But, unlike other estimates made by the same group (reanalyzing data from Brazilian surveillance systems), this one used major demographic data from the National Institute of Geography and Statistics (IBGE). The authors estimate approximately 30,000 children were orphaned due to maternal AIDS between 1987 and 1999.
Szwarcwald et al. 2000a. [Estimated number of orphans due to maternal AIDS deaths, 1987-1999] in Portuguese. *Cad Saude Publica* 16(suppl 1): 129-34.	Brazil	Secondary data	The paper proposes a method to estimate the number of orphans due to maternal AIDS and apply it to the Brazilian context. The number of AIDS orphans for 1987-99 was estimated as ~30,000.
Szwarcwald et al. 2000b. [Socioeconomic differences in HIV risk behaviors among Brazilian military conscripts] in Portuguese. *Cad Saude Publica* 16(suppl 1): 113-28.	Brazil	Military conscripts	Data were analyzed for three broad strata: the first one comprising conscripts from the North and Center-west regions, a second one including conscripts from the South and a third one congregating conscripts from Brazilian largest metropolitan areas (e.g. São Paulo and Rio). Data were of special concern for conscripts from the North/Center-west, who had the worst socieconomic indicators, reported highest levels of sexual risk behaviors, STIs, and higher levels of HIV infection. Conscripts from Rio/SP had the best social indicators, lowest levels of reported STD and lowest HIV infection rates. Low educational level was shown to be a key predictor of risky behaviors, reported STIs and actual HIV infection.
Szwarcwald et al. 2000c. [The spread of the AIDS epidemic in Brazil from 1987 to 1996: a spatial analysis] in Portuguese. *Cad Saude Publica* 16(suppl 1): 7-19.	Brazil	Secondary data	In recent years the epidemic has been spreading vigorously in the South and, in a lesser extent, in the North. On the other hand, the epidemic has plateaued in the Southeast. Women has been specially affected in recent years and heterosexual transmission has largely replaced men with other men unprotected intercourse as the main way HIV has spread in the 90s.

Citation	Site	Population	Key findings
			Injection drug users have had a key role in middle-size cities, especially in the southern and southeastern regions. Although still a urban phenomenon, the epidemic has spread toward rural localities. Contrasting with its beginnings in affluent communities, the epidemic has spread toward deprived areas, basically fuelled by heterosexual transmission.
Szwarcwald et al. 2000. Projeto de vigilância sentinela do HIV : Uma apreciação da amostragem e dos resultados obtidos no período de 1997-9 em serviços de DST e Pronto-Socorros. *Boletim Epidemiológico AIDS* XIII(3).	Brazil	Secondary data	A consistent decline in HIV prevalence was observed for STDs clinics in recent years (late 90s) for all age ranges, except women aged 30-49 years. On the other hand, a comparable decline was not found for those patients seeking care in ERs, exception made for those aged 13-29 years old, for both sexes. The male/female sex ratio among people diagnosed with HIV in recent years in both STD clinics and ERs showed no clear pattern, oscillating around a relatively large range of 1.3-2,6 men for each women infected with HIV.
Szwarcwald et al. 2001. [AIDS epidemic dynamics in the municipality of Rio de Janeiro] in Portuguese. *Cad Saude Publica* 17(5): 1123-40.	Rio de Janeiro	Secondary data	Overall, adult AIDS cases disseminated from a cluster located around the harbor area toward the east. For gay men in situ growth predominated and a decreasing spread was observed in recent years. Among heterosexuals, the epidemic spread vigorously in the late 80s/early 90s. A cluster of high incidence rates in women was found in deprived communities. For pediatric cases, correlation was found between AIDS incidence rates and poverty levels in the respective municipal districts.
Szwarcwald et al. 2002. Estimativa do número de crianças (0-14 anos) infectadas pelo HIV, Brazil, 2000. *Boletim Epidemiológico AIDS* XV(1).	Brazil	Secondary data	The paper estimates that roughly 12,800 children (aged 0-14 y) were living as of 2000.
Szwarcwald & Carvalho. 2001. Estimativa do número de pessoas de 15 a 49 infectadas pelo HIV, Brasil, 1998: Uma nota técnica. *Boletim Epidemiológico AIDS* XV(1).	Brazil	Secondary data	The paper is an update of the former estimates published in 2000 by Szwarcwald & Castilho, using the same techniques and procedures. The number of people living with HIV/AIDS was estimated as ~600,000 individuals as of 2000.
Szwarcwald & Castilho. 2000. [Estimated number of HIV-infected individuals aged 15-49 in Brazil, 1998] in Portuguese. *Cad Saude Publica* 16(suppl 1): 135-41.	Brazil	Secondary data	The paper estimates the number of HIV-infected individuals from 15 to 49 years of age in Brazil in 1998 based on sentinel surveillance in pregnant women. Different statistical procedures were used to address biases of original data. The point estimate was 536,000 HIV-infected adults with a 68% CI (470.689 - 603.305).

Citation	Site	Population	Key findings
Telles et al. 1997. Risk behavior and HIV seroprevalence among injecting drug users in Rio de Janeiro, Brazil. *AIDS* 11(suppl 1): S35-42.	Rio de Janeiro	Three serial cross-sectional studies targeting IDUs (n_1 = 479, n_2 = 138, n_3 = 110)	Overall HIV seroprevalence was found to be ~25%. HIV seroprevalence remained significantly lower in the most deprived sample.
Tess et al. 1998a. Infant feeding and risk of mother-to-child transmission of HIV-1 in São Paulo State, Brazil. *J Acquir Immune Defic Syndr* 19(2) : 189-94.	São Paulo	Clients from obstetric and pediatric facilities in 4 cities, São Paulo	Among breastfed children the risk of transmission of HIV-1 was 21%, compared with 13% among children artificially fed. Breastfeeding was independently associated with mother-to-child transmission of HIV-1 after controlling for stage of maternal HIV-1 disease.
Tess et al. 1998b. Breastfeeding, genetic, obstetric and other risk factors associated with mother-to-child transmission of HIV-1 in São Paulo State, Brazil. *AIDS* 12(5): 513-20.	São Paulo	Clients from obstetric and pediatric facilities in 4 cities, São Paulo	Transmission risk from HIV-infected mothers to their babies was found to be 16%.
Turchi et al. 2002. Genetic diversity and HIV-1 incidence estimation among cocaine users in São Paulo, Brazil. *J Acquir Immune Defic Syndr* 30(5): 527-32.	São Paulo	Clients attending drug treatment services	HIV-1 seroprevalence was 4.9% and the estimated incidence was 0.71% per year.
Vermelho et al. 1999. Epidemiologia da transmissão vertical do HIV no Brasil. *Boletim Epidemiológico AIDS* XII(3).	Brazil	Secondary data	The vast majority of AIDS pediatric cases are due to mother to child transmission. Over the years, infections due to contaminated blood or blood products declined to levels close to zero. From 1983 to 1999, ~5,800 pediatric cases. Roughly 4,600 were due to mother to child transmission of HIV. Cases have been reported later in the poorer Brazilian regions (North and Northeast) probably due to less than optimal access to care and laboratory diagnostic tools. A substantial majority of mothers became infected due to unprotected sex with multiple and/or bisexual male partners. In the southeast and especially in the south the shared injection of illicit drugs is a key factor for the spread of HIV, comprising women who inject themselves and/or are sexual partners of male injectors.
Zanetta et al. 1999. HIV infection and related risk behaviours in a disadvantaged youth institution of São Paulo, Brazil. *Int J STD AIDS* 10(2): 98-104.	São Paulo	Reference institution for homeless and offender youth	HIV prevalence was found to be 2.6% for males and 10.3% for females.