

# A Public Policy Approach to Local Models of HIV/AIDS Control in Brazil

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In low- and middle-income countries, the HIV/AIDS epidemic continues to spread among the most vulnerable groups,<sup>1</sup> notably the poor and women (with vulnerability defined as “the extent to which individuals are capable of making and effecting free and informed decisions about their life”<sup>2(p441)</sup>).<sup>3,4</sup> The global cumulative prevalence of HIV-infected people is 33.2 million persons. Countries of sub-Saharan Africa are particularly affected, with an HIV seroprevalence of 18% among young adults in some countries.<sup>1</sup> Where there are weak health care systems, control of the epidemic remains an unsolved issue.<sup>5</sup>

In Brazil, the HIV seroprevalence among young adults is estimated at 0.65%, and AIDS mortality has decreased significantly since 1997, when highly active antiretroviral therapy became available for free.<sup>6</sup> The Brazilian federal and local (state and municipal) AIDS programs are considered to be a model for low- and middle-income countries because they have developed a close cooperation between government, health services, and nongovernmental organization (NGO) actors (persons or groups involved in the formulation and implementation of policies and programs). The Ministry of Health defined ambitious prevention policies and provided free access to antiretroviral treatment.<sup>7–13</sup>

Implemented at 3 levels—federal, state, and municipal—the AIDS programs have been developed within the Brazilian universal health system (Systema Unico de Saude), impelled by the sanitariat movement.<sup>14–16</sup> This movement involved physicians, public health workers, and politicians who in the 1980s advocated and then implemented this new health system, which is based on prevention and free access to care. Programs have been established in 27 states and more than 400 municipalities. In these states and municipalities, several HIV/AIDS facilities have been implemented, including voluntary counseling and testing centers, specialized assistance

**Objectives.** We investigated involvement and cooperation patterns of local Brazilian AIDS program actors and the consequences of these patterns for program implementation and sustainability.

**Methods.** We performed a public policy analysis (documentary analysis, direct observation, semistructured interviews of health service and nongovernmental organization [NGO] actors) in 5 towns in 2 states, São Paulo and Pará.

**Results.** Patterns suggested 3 models. In model 1, local government, NGOs, and primary health care services were involved in AIDS programs with satisfactory response to new epidemiological trends but a risk that HIV/AIDS would become low priority. In model 2, mainly because of NGO activism, HIV/AIDS remained an exceptional issue, with limited responses to new epidemiological trends and program sustainability undermined by political instability. In model 3, involvement of public agencies and NGOs was limited, with inadequate response to epidemiological trends and poor mobilization threatening program sustainability.

**Conclusions.** Within a common national AIDS policy framework, the degree of involvement and cooperation between public and NGO actors deeply impacts population coverage and program sustainability. Specific processes are required to maintain actor mobilization without isolating AIDS programs. (*Am J Public Health*. 2009;99:1108–1115. doi:10.2105/AJPH.2008.138123)

services for ambulatory care, and hospital services.<sup>17</sup> Many NGOs, whether AIDS-specific (AIDS NGOs) or generalist, are involved in service provision and policy-making.<sup>18</sup>

During the past decade, the Brazilian epidemic has changed.<sup>13</sup> Initially, the epidemic affected mainly urban men of middle and upper classes in the southeastern part of the country. Thereafter, it affected more and more the poor<sup>19–21</sup> and women<sup>22,23</sup> and diffused throughout the country. The national AIDS program has also been confronted with the rising cost of antiretroviral drugs, making the sustainability of the existing programs questionable.<sup>24,25</sup> These changes require strategic evolution of the current AIDS policies.

To address these new trends, Brazil has, among recent initiatives, decentralized the handling of AIDS policies through *incentivos* (incentives), financial incentives allocated to states and municipalities that develop AIDS programs appropriate for the local epidemiological situation and integrated into the local

health system. Within the incentives policy framework, states and municipalities define their action plan yearly. Such plans are adopted by state or municipal health councils, composed equally of health care professionals, end-users, and local government representatives. After approval by the national program, the states and municipalities receive federal resources earmarked for AIDS programs.

The responses to these new trends in the HIV/AIDS epidemic have been studied by focusing on national AIDS policies, ignoring what happens at subnational levels.<sup>7–13</sup> Moreover, very few published articles have adopted a political science stance and public policy analysis to identify what happens at the front line, to assess how different actors cooperate, and to assess what consequences their cooperation induces for prevention of HIV infection, care of the patient, and sustainability of AIDS programs.

We studied how decentralized approaches to the HIV/AIDS epidemic in Brazil addressed the new trends of the epidemic, highlighting

positive effects and difficulties, and make recommendations for Brazilian policymakers and to other low- and middle-income countries.

## METHODS

We conducted our field study primarily in 5 municipalities of 2 states with very different health and socioeconomic characteristics (Table 1). (Details are available as a supplement to the online version of this article at <http://www.ajph.org>.)

The state of São Paulo is the most affluent, urbanized Brazilian state. It benefits from plentiful health care infrastructures, and its health indicators are the best among the Brazilian states. Major social disparities still exist, with a poor population concentrated in urbanized areas (*favelas*).<sup>27</sup> The incidence of AIDS remains high (20.8 per 100 000), and the epidemic is spreading across the state.<sup>6</sup>

In São Paulo, we conducted the study in Guarulhos, a city with 1 million inhabitants and a suburb that includes a large poor population, and Ribeirão Preto, a city with 500 000 inhabitants and a rather affluent town in the interior that attracts many migrants.

The state of Pará (Amazonia) is sparsely populated, with a poor, rural population distributed over a large area. The health care infrastructure is deficient.<sup>26</sup> The incidence of HIV/AIDS remains lower than that in São Paulo.<sup>6</sup> Nevertheless, the epidemic is rapidly progressing. In this state, we conducted the study in Belém, the capital (1.2 million inhabitants);

Ananindeua (500 000 inhabitants), part of the state's principal agglomeration; and Santarém (300 000 inhabitants) located in the interior.

Data were collected in 2005 and 2006. We interviewed 76 public and nongovernmental operational actors in the AIDS programs and in the health care systems in a semidirected manner: 18 persons in each of 3 municipalities (Guarulhos, Ribeirão Preto, Belém) and 11 each in Santarém and Ananindeua. The persons we interviewed had identical professional roles in each case (details are available in the supplement to the online version of this article at <http://www.ajph.org>). We also used direct observation of the health care system and vulnerable groups.

We added a literature search (using terms "HIV," "health policy," "policy-making," "nongovernmental organizations," "prevention and control," "delivery of health care," and "Brazil") in MEDLINE, BIREME, SCIELO, JSTOR, and GLOBAL HEALTH databases and in the available gray literature (open source material that can usually be obtained through specialized channels and may not enter normal channels or systems of publication, distribution, bibliographic control, or acquisition by booksellers or subscription agents), for example, technical reports from government agencies or scientific research groups, working papers from research groups or committees, white papers, or preprints.

We analyzed the collected information with a systemic and strategic approach<sup>28</sup> (details are available in the supplement to the online version

of this article at <http://www.ajph.org>) that is highly effective for analyzing AIDS policies.<sup>29,30</sup> Our approach was not limited to institutional actors but also focused on nongovernmental actors,<sup>30</sup> who had been deeply involved in the Brazilian AIDS policy process and who had affected the whole health policy within the health councils.

The field data allowed us to define 3 models<sup>31</sup> (details are available in the supplement to the online version of this article at <http://www.ajph.org>) according to the involvement and cooperation patterns of local actors, and the consequences of these cooperation patterns for the prevention of HIV infection, care of patients, and sustainability of programs.

The analysis refers to the notions of exceptionalism and normalization<sup>32,33</sup> as defined by Rosenbrock et al.:

HIV infections and the outbreak of AIDS attracted not only special attention in all the countries impacted but also led to a high degree of readiness to try out innovative processes as well as to institutionalize matters and disburse large amounts of money—AIDS became the exception from many rules in health policy, prevention and patient care.<sup>33(p1608)</sup>

Normalization is a process in which a phenomenon that was previously considered as extraordinary loses this status and returns to the world of familiar and customary in terms of perception and action.<sup>33(p1613)</sup>

## RESULTS

Evidence collected by in-depth field studies in 5 cities of Brazil suggested that at least 3 different types of local approaches were at work in handling AIDS policies at the grassroots level. Table 2 presents the local actors involved in each model and their cooperative links. Table 3 outlines the effects that each of the 3 models had on prevention of HIV infection, care of patients, coverage, and sustainability of programs.

Model 1 describes the approach at work in the 2 towns of São Paulo state and in 1 town of Pará: exceptionalism, because of strong advocacy efforts of AIDS NGOs and their strong level of cooperation with the AIDS programs, has evolved to normalization as discrimination was lowered. This normalization facilitated close cooperation with primary health care services and the involvement of generalist NGOs, which resulted in the coverage of a large

**TABLE 1—Demographic, Sociosanitary, and AIDS Epidemiological Indicators in São Paulo and Pará, Brazil: 2005–2006**

	São Paulo State	Pará State
Population, millions	39.8	7.1
Urban population, %	94%	68%
Human development index	>0.850	0.700
Population living under the poverty threshold, %	12%	38%
Infant mortality rate per 1000 inhabitants	17	29
Number of medical doctors per 1000 inhabitants	2.53	1.07
AIDS incidence rate per 100 000 in 2006	20.8	13.1
AIDS-related deaths, 1980–2006	84 462	2524
Cumulated total AIDS cases, 1980–2007	181 641	7194

Sources. Pan American Health Organization,<sup>26</sup> Brazilian Ministry of Health (<http://www.aids.gov.br>).

**TABLE 2—Properties of 3 Models of HIV/AIDS Control in Brazil**

	Normalization and Integration	Persistence of Exceptionalism <sup>a</sup> and Isolation	Impossible Exceptionalism <sup>a</sup>
Discrimination against HIV-seropositive persons	Weak in family, quarter, and health care system	Strong in family and quarter; frequent in health care system	Strong in family and quarter; frequent in health care system
Main actors of the HIV/AIDS policy	Local authorities, municipal and state AIDS programs, generalist and AIDS NGOs, primary health care services, VCTs, SASS, and hospitals	Municipal and state AIDS programs, AIDS NGOs, VCTs, and SASS	Municipal AIDS programs, VCTs, and SASS
Capacity of AIDS programs to negotiate	State: strong Municipal: moderate or strong	State: moderate or weak Municipal: weak	State: moderate or weak Municipal: weak
Activities of NGOs involved in the AIDS policy	Main activity: dispensing of services by generalist and AIDS NGOs	Main activity: activism and advocacy by AIDS NGOs	Only activity: dispensing of services by generalist NGOs
Design and implementation of the AIDS programs	Consensual with local arrangements between NGOs and local government	Contradictory with government and other actors of the health care system	Contradictory with government and other actors of the health care system
Cooperation between AIDS programs and primary health care services	Strong	Weak	None

Notes. VCT = voluntary counseling and testing center; SAS = specialized assistance service (i.e., ambulatory care for HIV-seropositive patients); NGO = nongovernmental organization. AIDS NGOs focus exclusively on HIV/AIDS.

<sup>a</sup>Exceptionalism as defined by Rosenbrock et al.<sup>33</sup>

proportion of the population. However, these trends might jeopardize the long-term sustainability of the program itself, because many primary health care service units and generalist NGOs did not consider HIV infection to be a health priority.

Model 2 describes the approach at work in 1 of the municipalities of Pará. The exceptionalist status of AIDS programs that existed initially still persisted at the time of the study, as AIDS NGOs and AIDS programs succeeded in maintaining the HIV/AIDS epidemic as an exceptional problem. But it resulted in the isolation of these AIDS actors operating within the health system and led to a lower coverage of the poor population.

Model 3 describes the approach at work in 1 city of Pará and also in smaller municipalities of the 2 states; it was very different from the first 2 models. AIDS had only recently become a matter of public concern, and there were no strong AIDS NGOs. The key actor instead was an administrative one, the AIDS program itself, and it depended greatly on the influence of political actors. In such a context,

exceptionalism had no chance to emerge. The issue of HIV/AIDS was managed only by administrative actors. There were difficulties in trying to cover large parts of the poor population and in safeguarding the sustainability of any AIDS policy.

**From Exceptionalism to Normalization and Integration**

*Actors and patterns of cooperation in model 1.* In this approach, several major groups cooperated closely in implementing the AIDS policy in a context of little discrimination against persons living with HIV/AIDS. These groups included local, state, and municipal authorities; municipal and state AIDS programs; generalist and AIDS NGOs; and operational health units including voluntary counseling and testing centers and specialized assistance services for ambulatory care, hospital infectious disease departments, maternity units, and primary health care services.

State and municipal governments and state programs gave intensive support to the municipal AIDS programs so that the latter were

considered reliable and relevant partners when program staff were negotiating with other actors. The NGOs, many of them well organized, maintained close partnerships with the staff of AIDS programs and with local government heads.

The profile of AIDS NGOs has evolved over the years. Although at the beginning they intensively lobbied local authorities, their demands were gradually met, to the point that, at the time of the study, AIDS program leaders sometimes criticized NGO activists for their lack of lobbying efforts. The activists allocated their attention to improving the way health care was operationally managed, an issue mainly discussed at the state level during periodic state AIDS NGO forums (meetings of NGOs with state AIDS program personnel).

In these towns, there was little public ostracism of HIV-seropositive persons, and the AIDS policy was originated by consensus and quickly legitimized by health councils. At the operational level, primary health care service units were strongly involved in the prevention of HIV/AIDS. Because of the public support,

**TABLE 3—Impact of 3 Models on the HIV/AIDS Policy Control in Brazil**

	Normalization and Integration	Persistence of Exceptionalism <sup>a</sup> and Isolation	Impossible Exceptionalism <sup>a</sup>
Mobilization of human and financial resources	Very good	Fair	Weak
Prevention	Targets the poor and vulnerable groups (MSM, sex workers) Diversified range of prevention tools Effective prevention of vertical transmission	Targets mainly vulnerable groups Limited range of prevention tools Limited prevention of vertical transmission	Mainly targets groups cared for by generalist NGOs Very limited range of preventive tools Very limited prevention of vertical transmission
Barriers to prevention	Weak cooperation between primary care and NGOs Weak cooperation between AIDS programs and hospital services	Stigmatization in the health care system Poor territorial coverage by NGOs	Stigmatization in the health care system Poor territorial coverage by NGOs
Care	Fairly uniform health care structures Effective treatment of opportunistic infections; antiretroviral drugs available	Wide variety of health care structures Inadequate treatment of opportunistic infections; antiretroviral drugs available	Fairly uniform health care structures Inadequate treatment of opportunistic infections; antiretroviral drugs available
Prevention and care coverage	General population including the poor and groups at risk	Especially vulnerable groups	Limited; the poor reached via generalist NGOs
Response to the spread of the epidemic	Among poor: good Inside the country: limited Among women: good	Among poor: limited Inside the country: limited Among women: limited	Among poor: limited Inside the country: poor Among women: poor
Factors undermining program sustainability	Banalization	Political instability	Few actors involved, most of them poorly mobilized

Note. MSM=men who have sex with men; NGOs=nongovernmental organizations.  
<sup>a</sup>Exceptionalism as defined by Rosenbrock et al.<sup>33</sup>

these programs received the explicit political support that AIDS programs benefit from, with cooperative relationships among the actors.

Persons in the primary, secondary, and tertiary health care levels acted in a somewhat collective way. Public health physicians also helped to integrate HIV prevention, screening, and care. Because of their different cultures and methods of operation, field cooperation between primary health care services and NGOs remained unusual, impacting the rational coverage of the population.

*Public health consequences, strengths and weaknesses of model 1.* Local government support and the negotiation capacity of the AIDS programs facilitated the allocation of financial and human resources.

In the field of prevention, the fact that primary health care service structures were directly involved increased the coverage of

the population, especially in areas of poverty. Several NGOs targeted specific vulnerable groups such as sex workers, or men who have sex with men. Other NGOs and religious charities were more open to wider segments of the population.

Thus, multiple groups were taking an active role in the prevention of HIV infection, relying on a wide variety of actions (male and female condoms, health education, and so on). Primary health care service and maternity units together ensured a rather efficient level of mother–child transmission prevention (more than 70% of pregnant women had access to testing and, if necessary, treatment).

Antiretroviral drugs and treatments for opportunistic infections were widely available, and care structures had been improved because of the focus of NGOs and public actors on

antiretroviral drug availability and care provision. This focus may have delayed the onset of a local prevention policy targeting the new trends toward different populations. However, the response to these trends became fairly satisfactory.

After years of exceptionalism, the AIDS program was undergoing a process of normalization. Overall, this had a beneficial impact on the number of people served. However, there is a risk that the epidemic may be considered a rather banal phenomenon. The advocacy activities of AIDS NGOs often decline, and the population at large, many end-user representatives in health councils, primary health care service personnel, and decision-makers no longer consider the HIV/AIDS epidemic to be a priority, regardless of the size of a local epidemic.

**TABLE 4—Strengths, Weaknesses, and Recommendations for 3 Models of HIV/AIDS Control in Brazil**

	Normalization and Integration	Persistence of Exceptionalism <sup>a</sup> and Isolation	Impossible Exceptionalism
Main strengths	HIV/AIDS issues and priorities are considered as relevant by all 3 levels of the Brazilian health system: federal, state, and municipal. HIV-seropositive patients have access to each level of the health system. The combined involvement of primary health care services and generalist NGOs induces a large coverage of the population. Consensus between decision-makers supports short-term stability of the AIDS program.	Policymakers are the targets of strong advocacy by pressure groups to capture scarce financial and human resources. Ability to maintain HIV/AIDS matter as a priority of health policy. Effective protection of discriminated groups.	Strong and effective generalist NGOs cover poor population areas. Generalist NGOs are effective at incorporating HIV issues into a broader approach of health education.
Main weaknesses	The risk of overnormalization of HIV/AIDS matter may lead to the decline of HIV/AIDS as a health priority even though epidemic is spreading. AIDS NGOs focus on treatment issues of some most vulnerable groups rather than prevention. The dysfunction of primary health care services impacts the quality of prevention and care. Weak cooperation between NGOs and primary health care services. Contradiction between coverage and long-term sustainability.	Conflicting relations between AIDS program and local authority delay or prevent the involvement of other actors of health system in HIV/AIDS policy. The noninvolvement of primary health care services induces a thin coverage of the poor population and women. Discrepancy between generalist NGOs and AIDS NGOs. Contradiction between political mobilization and coverage.	Lack of advocacy. Poor ability to involve other health structures in the HIV/AIDS policy. Lack of human and financial resources because of poor ability to capture them locally. Absence of NGOs dedicated to HIV matter exclusively.
Recommendations	To maintain a direct national funding of NGOs focused on advocacy and dealing with the poor general population. To develop advantages for primary health care providers of involvements in the HIV/AIDS area. To focus information campaign on local community leaders and representatives of end-users within health councils.	To develop tools of testing and prevention (such as rapid tests) at every level of health system to balance the noninvolvement of primary health care services. To carry on fights against discrimination as a top priority inside the health system. To foster the involvement of primary health care services in the HIV area and of infectious diseases physicians in primary health care. To provide professional benefits for primary health care workers who are involved in the AIDS policy.	At national and state level, to support the involvement of strong generalist NGOs, to sustain local and informal groups to organize, to train local health professionals in HIV/AIDS prevention and care. Locally, to strengthen cooperation between generalists, NGOs, and health professionals. To carry on fights against discrimination as a top priority inside the health system.

Note. NGOs = nongovernmental organizations.

<sup>a</sup>Exceptionalism as defined by Rosenbrock et al.<sup>33</sup>

**Persistent Exceptionalism and Isolation**

*Actors and patterns of cooperation in model 2.*

In the municipality described by model 2, discrimination against HIV-seropositive persons was more severe than in the municipalities described by model 1. Fewer actors were strongly involved in implementing the AIDS policy, but included state and municipal AIDS programs, AIDS NGOs, voluntary counseling and testing centers, and specialized assistance services for ambulatory care. They shared the same concern: to ensure that HIV/AIDS

remained a priority despite scarce resources and the fact that other actors had different short-term priorities and agendas.

Municipal and state AIDS programs had poor cooperative links and were only slightly supported by municipal and state governments. AIDS NGOs were, thus, key partners for local programs. Together, they attempted to make the epidemic an exceptional civil and health problem demanding an exceptional public response. The activism of NGOs, supported by the national AIDS program and locally

relayed by the media, was essential to maintain pressure on local authorities and health services.

Primary health care services appeared unwilling to become involved in the HIV/AIDS programs because of strong discrimination against people living with HIV/AIDS in the areas where the primary health care service facilities were located, hostility or indifference on the part of local government, and the fear of strong pressure from AIDS NGOs to obtain better care for HIV-infected persons in a

context of scarce human and financial resources.

*Public health consequences, strengths and weaknesses of model 2.* The prevention policy tended to target only some vulnerable groups. In turn, these groups formed NGOs focusing only on HIV/AIDS. They were the cornerstone of the prevention policy, through condom distribution and health education, because primary health care services participated little in prevention campaigns. Primary health care services only received stocks of condoms that health care workers and physicians working in these facilities considered insufficient and randomly distributed.

As a consequence, the population coverage was partial. Persistent strong discrimination also contributed to underdiagnosis of HIV infection, including among pregnant women.

Antiretroviral drugs were available, supplied by the federal authorities, but drugs for opportunistic infections, which were locally supplied, were often lacking. Finally, hospital care was sometimes delayed by a lack of beds. However, NGO activism helped to overcome these obstacles, through pressure via media and recourse to judicial proceedings based on the Brazilian constitution guaranteeing the right to health.

AIDS policies poorly fit the new epidemiological trends, owing to the weak involvement of primary health care services, the focus by AIDS NGOs on some vulnerable groups (men who have sex with men, sex workers), and the inadequate number and limited capacity of NGOs focusing on the poor or on women.

Programs described by this model were not progressing toward normalization but perpetuated exceptionalism, a temporal pattern in sharp contrast with that of model 1. The actors in the AIDS program were still mobilized, and this contributed to the sustainability of the programs. However, the exceptionalism also led to isolation of the AIDS program within the health care system and poor coverage of the population.

### **No Exceptionalism and An AIDS Program With No Alliances**

*Actors and patterns of cooperation in model 3.* Where there was strong discrimination against people living with HIV/AIDS and in the absence of powerful AIDS NGOs, the actors were

the municipal AIDS programs and the operational units (voluntary counseling and testing centers and specialized assistance services for ambulatory care). The development of the AIDS programs relied on public administrators and health care professionals.

Although they benefited from the *incentivos* policy, the AIDS programs remained closely dependent on the municipal authorities. Because of divergent priorities or political conflicts among authorities, the relationship between municipal and state programs oscillated between cooperation and defiance.

Preventive measures were mostly implemented by generalist NGOs who acted as service providers of municipal administrations, often limiting their activity to the distribution of condoms. Their agenda was not focused on HIV/AIDS, and their advocacy was very weak.

Despite various initiatives by the actors of the AIDS programs, primary health care services and maternity clinics were poorly involved in the policy.

*Public health consequences, strengths and weaknesses of model 3.* The absence of AIDS NGOs, the fragility of the AIDS program without the support of local authorities, and the lack of pressure by generalist NGOs explain why funding of AIDS programs at the local level was inadequate. Even if generalist NGOs provided the poor with some access to AIDS programs, the territorial coverage of the programs remained limited. The weak involvement of maternity clinics and primary health care services did not allow improvement of the access to care and prevention.

Antiretroviral drugs were fairly accessible, but the supply of drugs for opportunistic infections was irregular. The lack of physicians involved in the AIDS program led to delays in diagnosis and care.

Thus, the new trends of the HIV/AIDS epidemic were poorly addressed in the communities described by this model. In the absence of AIDS NGOs, the sustainability of the AIDS program was clearly threatened.

## **DISCUSSION**

Table 4 summarizes the strengths and weaknesses of the HIV/AIDS programs we studied and provides recommendations for decision-makers.

The successful accomplishments of the Brazilian AIDS programs are obvious,<sup>34–36</sup> and the AIDS policies have positively affected the whole health system. These successes were at least partly because of the role of AIDS NGOs, the decentralization of programs, and the integration of the AIDS programs within the health system. However, our study highlights the local heterogeneity of AIDS programs within the national framework because of the varied degrees of discrimination against people living with HIV/AIDS, which sometimes differed from one municipality to another in the same state, the local health system capacities, and the local cooperation among health actors, on which our public policy research was focused.

Nongovernmental organizations, notably AIDS NGOs, appeared to be essential to ensure a strong mobilization in the initial phases of programs. In their absence, the implementation and sustainability of AIDS programs were very difficult (model 3). The NGOs also had an impact on territorial coverage and sustainability of the programs, both of which differed according to their local activities and patterns of cooperation with other actors. The programs described by model 1 showed the risk of “institutionalization” of AIDS NGOs with the loss of their advocacy role and its consequences for sustainability. Programs in model 2 highlighted the risk of isolation of the AIDS actors within the local health system as a consequence of exceptionalism and its negative impact on the coverage of poor populations.

The decentralization process, which had many positive effects on AIDS policies, may also undermine political mobilization and hinder the functioning of local programs where there is strong discrimination with weak actors involved in AIDS policy (model 3) and poor support from local authorities (models 2 and 3). The decentralization may also foster over-normalization because of local redefinition of health priorities, notably when primary health care services are involved in the AIDS policy (model 1).

Cooperation of actors involved in AIDS policy with other operational health actors is difficult. In the programs of model 1, this cooperation allowed coverage of large numbers of the poor population, but it might jeopardize the long-term sustainability of the

programs. In the programs of models 2 and 3, this cooperation was weak or absent, and this negatively affected service provision and the care of the HIV patient.

Finally, in each model, a major issue is to ensure both coverage of the poor population and the sustainability of the program.

### Recommendations

At least 3 recommendations may be made for the programs described by all models. First, direct federal funding for NGOs should be maintained because it helps to ensure their independence from local authorities. Second, cooperation between operational public actors should be enhanced by the involvement of infectious disease physicians in the primary health care service units. Similarly, local cooperation between AIDS NGOs and primary health care services could be developed under the supervision of AIDS programs. Finally, AIDS NGOs should be encouraged by financial means to focus on new vulnerable groups.

In the programs described by model 1, the normalization process allowed an efficient integration among actors involved in the prevention of HIV infection and care of AIDS patients. But the activism of NGOs should be sustained to maintain pressure on local political authorities so that they maintain their support of HIV-infected persons. The focus of information campaigns on community leaders and representatives of end-users in health councils seemed to be important as they played a role in overnormalization.

In the programs described by model 2, for operational health units such as primary health care services, involvement in AIDS programs has a cost (additional workload, pressure from AIDS NGOs) but may also have benefits in terms of resources, education, and research. To foster the involvement of these units, it would be useful to ensure that they will receive benefits, as they will have to support the cost.

In the programs described by model 3, strong generalist NGOs may favorably affect the AIDS programs if they help inexperienced groups organize themselves to create AIDS NGOs and cooperate more closely with health professionals.

### Conclusions

Few published articles have considered the transferability of the Brazilian AIDS program to other countries.<sup>12,13,37,38</sup> They have pointed out some specific aspects of the Brazilian response affecting this transferability: the strengths of the public health system; the mobilization of civil society, which played a major role in the development and sustainability of AIDS programs; the role of the sanitariat movement; and a specific sexual culture, as analyzed by Parker et al.<sup>39</sup>

Our study leads to complementary conclusions. Our study of Brazilian AIDS programs focused on actors and patterns of cooperation that were at work in the AIDS programs of nearly all countries. We described the dynamic of decentralization within AIDS programs that face new epidemiological trends and, in some parts of the country, rather severe discrimination and relative scarcity of human and financial resources as in many other emerging and developing countries. Such countries may benefit from similar analysis to better adapt their AIDS programs to the local context and take advantage of the successful Brazilian experience.

We hope that our models of local responses and recommendations will help strengthen HIV/AIDS programs in Brazil and other low- and middle-income countries. ■

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### Contributors

G. Le Loup developed the protocol and performed field and documentary work, data analysis, and redaction of the article. A. de Assis and M.H. Costa-Couto participated in the field and documentary work and contributed to the data analysis. J.C. Thoenig and B. Larouzé developed the protocol, and contributed to the data analysis and revision of the article. S. Fleury and K. Camargo developed the protocol and revised the article.

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The project was approved by the ethics committee of the Rio de Janeiro State University and by the Brazilian committee of research ethics.

### References

1. Joint United Nations Programme on HIV/AIDS. *The AIDS Epidemic Update 2007*. Geneva, Switzerland: World Health Organization; 2007.
2. Mann JM, Tarantola DJM, eds. *AIDS in the World II: Global Dimensions, Social Roots and Responses*. New York, NY: Oxford University Press; 1996.
3. Lopman B, Lewis J, Nyamukapa C, Mushati P, Chandivana S, Gregson S. HIV incidence and poverty in Manicaland, Zimbabwe: is HIV becoming a disease of the poor? *AIDS*. 2007;21(Suppl 7):S57–S66.
4. Hernández-Rosete D, García OM, Bernal E, Castañeda X, Lemp G. Migration and ruralization of AIDS: reports on vulnerability of indigenous communities in Mexico [in Spanish]. *Rev Saude Publica*. 2008; 42:131–138.
5. Beck EJ, Maye N, Whiteside AW, eds. *The HIV Pandemic: Local and Global Implications*. New York, NY: Oxford University Press; 2008.
6. Ministerio da Saude. Monitoraids. Available at: <http://sistemas.aids.gov.br/monitoraids2/aidsi/frames.htm>. Accessed January 24, 2009.
7. Levi GC, Vitoria MA. Fighting against AIDS: the Brazilian experience. *AIDS*. 2002;16:2373–2383.
8. Galvão J. Brazil and access to HIV/AIDS drugs: a question of human rights and public health. *Am J Public Health*. 2005;95:1110–1116.
9. Wogart JP, Calcagnotto G. Brazil's fight against AIDS and its implications for global health governance. *Health Q*. 2006;9:76–89.
10. Mesquita F, Doneda D, Gandolfi F, et al. Brazilian response to the human immunodeficiency virus/acquired immunodeficiency syndrome epidemic among injection drug users. *Clin Infect Dis*. 2003;37(Suppl 5):S382–S385.
11. Galvão J. Access to antiretroviral drugs in Brazil. *Lancet*. 2002;360:1862–1865.
12. Ford N, Wilson D, Costa Chaves G, Lotrowska M, Kijitwachakul K. Sustaining access to antiretroviral therapy in the less-developed world: lessons from Brazil and Thailand. *AIDS*. 2007;21(Suppl 4):S21–S29.
13. Berkman A, Garcia J, Muñoz-Laboy M, Paiva V, Parker R. A critical analysis of the Brazilian response to HIV/AIDS: lessons learned for controlling and mitigating the epidemic in developing countries. *Am J Public Health*. 2005;95:1162–1172.
14. Weyland K. Social movements and the state: the politics of health reform in Brazil. *World Dev*. 1995; 23:1699–1712.

15. Fleury S, Bolinguer G, Campos G. *Reforma Sanitaria: Brasil e Italia*. São Paulo, Brazil: Hucitec/Centro Brasileiro de Estudos de Saude; 1988.
16. Fleury S. Reshaping health care in Latin America: toward fairness? In: Fleury S, Belmartino S, Baris E, eds. *Reshaping Health Care in Latin America*. Ottawa, Ontario: The International Development Research Center; 2000.
17. Bastos FI, Kerrigan D, Malta M, Carneiro-da-Cunha C, Strathdee S. Treatment for HIV/AIDS in Brazil: strengths, challenges, and opportunities for operations research. *AIDS Science*. 2001;1. Available at: <http://aidsscience.org/Articles/aidsscience012.pdf>. Accessed January 3, 2008.
18. Galvão J. As respostas das organizações não-governamentais brasileiras frente à epidemia de HIV/AIDS [The Brazilian NGOs' response to the HIV/AIDS epidemic]. In: Zahar J, ed. *Políticas, Instituições e AIDS [Policies, Institutions and AIDS]*. Rio de Janeiro, Brazil: Associação Brasileira Interdisciplinar de AIDS; 1997.
19. Parker R, Camargo KR Jr. Poverty and HIV/AIDS: anthropological and sociological aspects [in Portuguese]. *Cad Saude Publica*. 2000;16(suppl 1):89–102.
20. Bastos FI, Szwarcwald CL. AIDS e pauperização: principais conceitos e evidências empíricas [AIDS and pauperization: principal concepts and empirical evidence]. *Cad Saude Publica*. 2000;16(suppl 1):65–76.
21. Guimaraes PN, Martin D, Quirino J. AIDS in rural Minas Gerais state (Southeastern Brazil): a cultural approach [in Portuguese]. *Rev Saude Publica*. 2007;41:412–418.
22. Chacham AS, Maia MB, Greco M, Silva AP, Greco DB. Autonomy and susceptibility to HIV/AIDS among young women living in a slum in Belo Horizonte, Brazil. *AIDS Care*. 2007;19(suppl 1):S12–S22.
23. Segurado AC, Miranda SD, Latorre MD; Brazilian Enhancing Care Initiative Team. Evaluation of the care of women living with HIV/AIDS in São Paulo, Brazil. *AIDS Patient Care STDS*. 2003;17:85–93.
24. Nunn AS, Fonseca EM, Bastos FI, Gruskin S, Salomon JA. Evolution of antiretroviral drug costs in Brazil in the context of free and universal access to AIDS treatment. *PLoS Med*. 2007;4:e305.
25. Greco DB, Simão M. Brazilian policy of universal access to AIDS treatment: sustainability challenges and perspectives. *AIDS*. 2007;21(suppl 4):S37–S45.
26. *Profile of the Health Service System of Brazil*. Washington, DC: Pan American Health Organization; 2001.
27. Rolnik R. *Territorial Exclusion and Violence: The Case of São Paulo, Brazil*. Washington DC: Woodrow Wilson International Center for Scholars; 1999. Comparative Urban Studies Occasional Papers Series, 26.
28. Crozier M, Thoenig JC. The regulation of complex organized systems. *Adm Sci Q*. 1976;21:547–570.
29. Setbon M. *Pouvoirs Contre SIDA [Powers Against AIDS]*. Paris, France: Seuil; 1993.
30. Thoenig JC. Politiques publiques et action publique [Public policies and public action]. *Revue Internationale de Politique Comparée*. 1998;2:188–203.
31. Boudon R, Besnard P, Cherkaoui M, Lécuyer BP. *Dictionnaire de Sociologie*. Paris, France: Larousse; 2003.
32. Bayer R. Public health policy and the AIDS epidemic. An end to HIV exceptionalism? *N Engl J Med*. 1991;324:1500–1504.
33. Rosenbrock R, Dubois-Arber F, Moers M, Pinell P, Schaeffer D, Setbon M. The normalization of AIDS in Western European countries. *Soc Sci Med*. 2000;50:1607–1629.
34. Marins JR, Jamal LF, Chen SY, et al. Dramatic improvement in survival among adult Brazilian AIDS patients. *AIDS*. 2003;17:1675–1682.
35. Teixeira PR, Vitoria MA, Barcarolo J. The Brazilian experience in providing universal access to antiretroviral therapy. In: Moatti JP, Coriat B, Souteyrand Y, Barnett T, Dumoulin J, Flori YA, eds. *Economics of AIDS and Access to HIV/AIDS Care in Developing Countries. Issues and Challenges*. Paris, France: Agence Nationale de Recherche contre le SIDA; 2003:109–135.
36. de Brito AM, de Sousa JL, Luna CF, Dourado I. Trends in maternal-infant transmission of AIDS after antiretroviral therapy in Brazil [in Portuguese]. *Rev Saude Publica*. 2006;40(suppl):18–22.
37. Paiva V, Pupo LR, Barboza R. The right to prevention and the challenges of reducing vulnerability to HIV in Brazil [in Portuguese]. *Rev Saude Publica*. 2006;40(suppl):109–119.
38. Oliveira-Cruz V, Kowalski J, McPake B. Viewpoint: the Brazilian HIV/AIDS 'success story'—can others do it? *Trop Med Int Health*. 2004;9:292–297.
39. Parker RG. Within four walls: Brazilian sexual culture and HIV/AIDS. In: Parker RG, Aggleton P, eds. *Culture, Society and Sexuality. A Reader*. London, England: University College London Press; 1999.