Bureaucratizing Epidemics: The Challenge of Institutional Bias in the United States and Brazil

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This paper examines the politics of government response to health epidemics in the United States and Brazil. Using a global structural approach, it explains why, despite their various similarities, Brazil has been a bit better at responding to both sexually transmitted (STDs), while the U.S. has been better at responding to non-STDs, such as the specter of avian flu and bioterrorism. The paper closes with a discussion of why democracies are biased in the types of epidemics they respond to and what this means for democratic equality and commitment to its citizenry.

INTRODUCTION

It is often intriguing to see how epidemics affect governments. In the Western Hemisphere, nations have varied in how they have responded to them. In this article, I explain how two similar nations in this region, Brazil and the United States, have responded to two different types of epidemics: the on-going challenge of HIV/AIDS and the resurgence/specter of non-STDs, such as Tuberculosis and Avian Bird Flu, respectively. I argue that Brazil has been much more successful at combating HIV/AIDS because of the government’s perception of its national significance and ability to increase Brazil’s reputation and influence in the world. AIDS has led to the creation of a massive bureaucratic institution, the National AIDS Program, which is exceedingly wealthy, autonomous, and influential at the domestic and international level. In contrast, the re-emergence of TB as a new epidemic and the government’s perception of it being controlled, coupled with Brazil’s inability to increase it’s global presence, has led to a continued reliance on decentralization for policy implementation. Decentralization has not been the best solution, however. TB continues to rise and is especially high among HIV positive and the poor.

In the United States, on the other hand, the same old story rings true: the federal government has responded aggressively through institution building and modernization towards non-STDs, such as the specter of Avian Bird flu and Bioterrorism, while relying on ineffective decentralized health institutions for HIV/AIDS. The threat of Avian Flu to our national security has elicited a very aggressive federal institutional response, leading to the expansion and modernization of federal agencies, such as the Department of Homeland Security, while increasing new streams of funding. Prospects of the Flu have dovetailed nicely into a new federal agenda strengthening the overall National Security Structure, which draws a lot of federal attention and commitment. This, in turn, has not only led to institution building and modernization but has also lead to proposed changes in the nature of inter-governmental relations, where the federal government plays a larger role in epidemic preparedness – rather than relying on federalism and decentralization, as in the past.

When it comes to AIDS, however, it’s an entirely different story: the federal government has not created a massive federal bureaucratic institution, as seen in Brazil. Nor has Washington tried to increase its presence at the state and municipal level. Decentralization and local health bureaucracies are still relied on. The problem is that despite the persistence (better yet,
resurgence) of HIV/AIDS as an urban disparity, there has been no sharp increase in federal spending to curb its spread, and federal funding through the CDC for key prevention programs continues to decrease. These outcomes are attributed to the decreased federal (and to a certain extent, societal) perception that HIV is no longer a national epidemic, coupled with the persistent institutionalization of Christian conservative moral views within government.

In my conclusion, I present some theoretical lessons and possibilities for future research. The key point to draw from the comparison between Brazil and the United States is the fact that epidemics elicit very different types of institutional responses. We should not assume that all kinds of epidemics will benefit from the same amount of political commitment to institution building. The consequence of such a belief is the emergence of institutional bias on how governments respond to epidemics. This, in turn, unmasks often overlooked institutional and policy inequalities in the type of citizen protected from such threats.

**Building Institutions for Public Health – The Horizontal and Vertical Challenges Within Decentralized Federations**

Within large, highly decentralized democratic federations, implementing public health programs has been a major challenge. Issues of interest group penetration, intra-bureaucratic collaboration, inter-governmental relations and weak sub-national institutional capacity continue to hamper the efficacy of public health programs. In this context, some researchers have found it advantageous to construct highly autonomous, centralized bureaucratic agencies that are capable of both implementing and monitoring policy. According to these scholars, creating new agencies for the sole purpose of eradicating a specific epidemic not only increases the government’s attention to the problem but also lends itself to the delegation of autonomy for policy implementation. This autonomy allows the government to implement policy from above, without the interference of conflicting interest group and sub-national (state and municipal) pressures.

This article concurs with these prepositions. As seen with the case of Brazil, constructing new, highly autonomous public health agencies can be beneficial to both the creation and implementation of policy. The construction of the National AIDS Program (NAP) in 1985 allowed the government to formulate policy and work with the states to achieve its goals. Furthermore, all prevention and treatment programs are financed and managed by an autonomous cadre of technocrats loyal to the NAP director, not sub-national government officials. This not only helps decrease corruption, which has, in other instances, constrained the federal government’s ability to implement policy, but it also increases bureaucratic cohesion while leading to the swift implementation of policy through state and municipal health agencies.

Less explored in the literature is the politics that goes into constructing these types of public health agencies. Some researchers have attributed presidential and political party interests to the creation of agencies for electoral gain and the control of policy agendas. Absent however is an analysis of how a combination of antecedent domestic and international pressures, coupled with the global incentives for bureaucratic reform, engenders federal elite perceptions of the presence of a “national” epidemic threat and motivates them to create new agencies to deal with the epidemic. This article therefore asserts that it is more important to focus on the emergence of federal elite perceptions of epidemics as credible national threats and the structural factors shaping these perceptions. This is more important than focusing on individual agency, that is, elite-based variables, such as elite willingness to incorporate the views of medical professionals,
establish causal stories, and define at-risk groups when constructing perceptions of national health threats.\(^5\)

**Figure 1.1 – Radar Diagram of Perceptions and State Building**

National Threat Perceptions and Incentives for Building Bureaucracy  
(High)  
Brazil (AIDS)  
Brazil (TB)  
United States (AIDS)  
Russia, South Africa, China & India (AIDS)  
(Domestic and International Pressures)  
(High)  
Global Incentives

Note that this argument may also help to explain initial federal bureaucratic responses to epidemics in other larger federations. In Russia, South Africa, China, and India, for example, when it came to AIDS, effective domestic and international pressures for bureaucratic creation were essentially absent.\(^6\) This may have led to the absence of immediate federal elite perceptions that AIDS was a pressing national threat and that government should create a new agency in response to it. Furthermore, and this was especially the case for the more isolationist Russian and Chinese governments, global pressures and incentives never played a major role in influencing national elite perceptions and incentives for building new bureaucracies.\(^7\) It seems that the absence of these two antecedent structural conditions during the initial epidemic outbreak contributed to the absence of elite perceptions that there was indeed a “national” threat and that government needed to immediately respond through institution building.

In contrast, the creation of Brazil’s National AIDS Program in 1985 was the product of the government’s response to increased domestic and international pressures for change, coupled with the prospect of increasing its global recognition as a modern state that was 100% committed to combating epidemics.\(^8\) In contrast to other health threats, these factors contributed to the construction of federal elite perceptions that AIDS was an immanent national threat: that is, AIDS was penetrating all aspects of civil society, economy, and that a federal bureaucratic response was necessary.

The absence of this type of state building drives can lead to a weak federal government response to AIDS. As this article illustrates, in sharp contrast to Brazil, the United States did not engage in these types of state building activities when AIDS emerged. The absence of stern domestic and, especially, global incentives to consolidate its highly fragmented bureaucratic system- which was composed of the Department of Health and Human Services, the National Institutes of Health, the National Cancer Institute, and the Centers for Disease Control- created few incentives for the creation of a new agency solely committed to AIDS. Nor was there any...
move towards the consolidation of research and policy responsibilities divvied up between these agencies. Most importantly, these conditions did not lead to the emergence of federal elite perceptions that AIDS was a nationally significant threat, worthy of an immediate state building response.

The Role of Global Incentives

Yet another lesson that emerges from this study is the importance of how increased global attention to AIDS can influence a government’s interest in constructing new bureaucratic agencies. As seen in the Brazilian case, the increased internationalization and attention given to AIDS provided a new opportunity and incentive to build the National AIDS Program. These global incentives provided a unique window of opportunity for Brazil to reveal to the international community its commitment to combating epidemics. It was able to achieve this by creating and modernizing the National AIDS Program, an initiative that was recognized and praised by many international organizations and philanthropists.9

Conversely, in the U.S., these types of global incentives were never present, and with good reason. First, the US is an industrialized nation and as such was expected to be the global leader when it came to combating AIDS – though, as is well known, this never occurred.10 As an industrialized nation with a well established medical and public health infrastructure, the U.S. did not have the incentives to create and modernize new public health agencies in order to demonstrate it’s commitment to combating epidemics to the international community. Secondly, the U.S. simply did not have the experience of a burgeoning growth of domestic pressures for reforming the US public health service, as was the case in re-democratizing Brazil.

On the other hand, the US has a tendency to become very responsive to diseases which elites perceive as threatening the state of national security. In the past, this was certainly the case with syphilis and other venereal diseases, especially when they threatened America’s military capacity and security during WWII.11 Furthermore, it seems that institutional modernization through the merger of agencies and the creation of new programs will occur only when federal elites perceive of certain epidemics – even the specter of them – as nationally significant and when there is a pre-existing commitment to enhancing the federal infrastructure for disaster management. As we saw with the threat of avian flu earlier this year, its perception as a widespread national disease (in contrast to the initial perception of AIDS), when combined with the pre-existing efforts to strengthen our national disaster management system after Hurricane Katrina, created incentives to enhance the Department of Homeland Security (DHS)’s role in monitoring and anticipating a flu outbreak.

In the US context, therefore, the factors that contributed to federal perceptions of a nationally significant threat were slightly different from those found in Brazil. For while political elites viewed the flu as an impending epidemic, information acquired from abroad (mainly from Asia) of its quick spread contributed to the formation of this perception. Therefore, this case study suggests that future researchers should also take into consideration federal elite views and awareness of viral spread in other parts of the world as factors contributing to their perceptions of a nationally significant threat and to what extent this contributes to the creation of new public health agencies.
The Consequences of Centralized, Decentralized Bureaucracy

Nevertheless, it is important to mention that several problems can emerge from the creation of a highly centralized bureaucracy. First, and as seen most clearly with the case of Brazil, focusing too much on the construction of an institution can lead to an excessive amount of government attention to its maintenance and evolution. So much so that the government can easily overlook the need to respond in a likewise manner to other equally impending – if not more dire - health threats. As seen in Brazil, this problem can lead to a delayed federal institutional response to diseases such as tuberculosis, which has a much higher yearly incidence rate than AIDS (see the appendix). This notwithstanding, until very recently the Brazilian government showed a very lackluster commitment to both creating, financing, and modernizing federal and sub-national public health agencies for better policy implementation. But as discussed in the conclusion of this article, this can eventually unmask the inequitable bias in government attention to epidemics like TB that coincide with and, in some instances, feed off of AIDS.

And finally, just a brief note on the ongoing challenge of decentralization. As this article demonstrates, federal elites that perceive epidemics as being national health threats will certainly commit to federal institution building. However, for all the other health threats that are not perceived as such, they will almost always rely on decentralization and expect sub-national governments to bear the brunt of policy responsibility. This is especially the case in democratic federations where, like the United States and Brazil, decentralization has been viewed as the cornerstone to democratic deepening and where the tenants of federalism run untrammeled, even during natural disasters, as we saw with Hurricane Katrina. As discussed later in this article, however, the upshot is that governments often quickly decentralize sans the assurance that municipal health agencies are administratively and technically prepared to handle these responsibilities. Several scholars have discussed this problem at length and how, in particular, the fast paced timing of decentralization can lead to sub-optimal policy outcomes. This problem has been especially problematic for TB control in Brazil, as well as AIDS in the US.

This form of decentralization is not only a consequence of concomitant pressures for democratic deepening through decentralization, as was the case in Brazil, but more importantly is a consequence of the overt attention and focus given by federal elites to particular types of epidemics, such as AIDS in Brazil and the specter of avian flu in the US. The findings in this article therefore suggest that excessive federal attention to these types of epidemics can contribute to the dilemma of fast paced, poorly planned decentralization processes. This suggests that in the future governments should try to make sure that they are simultaneously committed to building and/or re-building pre-existing municipal health agencies charged with the responsibility of monitoring and curbing the spread of disease.

In closing, the main point I want to emphasize here is that the duration and quality of democracy can in no way predict the way in which federal elites will respond to epidemics. Both in long lasting (the US) and nascent (Brazilian) democracies, elites will vary in the types of state building strategies that they pursue in response to epidemics. This article closes by revisiting this issue and positing the bigger question as to what this means for both the quality and equality of representative democracy.
**BRAZIL**

**AIDS**

Brazil’s response to AIDS was initially marked with bewilderment. Contrary to what many would believe, there was an initial delay in the government’s response to the epidemic. Congressmen and Senators were perplexed as to where the virus came from. Meanwhile, the state of São Paulo responded by aggressively treating patients, disseminating information about the new disease, and working closely with both the church and civil society. Some would argue that São Paulo’s response created incentives for the federal government to respond. Yet I have argued elsewhere that although the government was initially somewhat hesitant to the new threat, the government’s aggressive response by 1983 was reflective of its long held tradition of controlling mysterious, morally significant diseases. Furthermore, this occurred despite the devolution revolution, if you will, that led to the rapid decentralization of health care management and services in 1988.

Brazil’s institutional response to the AIDS epidemic was very unique. For in sharp contrast to tuberculosis and other health threats, it decided to create a brand new federal bureaucratic agency that would be autonomous, wealthy, and highly capable of implementing policy. In 1985, President José Sarney, who, mind you, was a conservative politician, created the National AIDS Program (NAP). The goal was to create a highly autonomous, technically specialized and experienced bureaucratic agency that could easily create and implement anti-AIDS prevention and treatment programs on its own. In contrast to the United States, it did not have to wait on the Congress or Senate for approval for the implementation of prevention and treatment programs. Sarney made it a point to ensure this, and he encountered absolutely no opposition to his plans.

The recruitment of NAP personnel based on technical competency and experience was important. Unlike most bureaucratic agencies, the first Director, Lair Guerra de Macedo (1986-1990), was a trained epidemiologist with extensive technocratic experience. She did not come from the dominant party, or the private sector. Subsequent directors of the NAP were recruited for their technical skills and experience (Galvão, 2000). With the exception of Eduardo Cortes (1990-92), who was criticized for his ineffective PR campaigns, the other directors, namely Lair Guerra de Macedo (again, from 1992-96), Paulo Teixeira (1996-2000), and Pedro Checquer (2000-present), were very experienced technocrats. As such, there has been very little leadership turnover since the NAP was established.

Sarney and subsequent presidents have also made sure that over the years the NAP has been very well financed. In addition to the two major World Bank loans, AIDS I (1994-98) for $160 million dollars, and AIDS II (1998-2002) which provided another $198 million, the government has been committed to financing the NAP. Having ample resources, the NAP has, in turn, given generously to the municipalities.

In addition to giving and receiving money, over the years the NAP has also worked hard to ensure that it continues to receive financial assistance from the federal government. In large part it has been successful in doing so by coordinating with other agencies to insure that there is no overlap in responsibility. It has also gone out of its way to make it very clear to the Ministry of Health and other programs, such as the National TB Program, that it runs its own show and has its own financial needs that must be addressed.
Unfortunately, this centralization has complicated NAP’s horizontal coordination with other health agencies. For example, it has not tried to coordinate with the National TB Program to help curb rising co-infection rates with HIV. Neither has sharing money and resources for helping combat TB been welcomed. Those working in the National TB Program’s commission have pointed out the fact that the NAP has been repeatedly unwilling to help the TB program. By doing this, the NAP wants to make it very clear that it is independent and has its own needs. Nevertheless, with the recent federal interest in TB, beginning mainly in 2004 through the new National Stop TB Campaign, the NAP has started showing interest in helping the National TB Program.

And finally, the NAP has sought to restrain federalism. Since the beginning, it has intentionally (and successfully) imposed its prevention and treatment programs onto municipal governments. Teixeira (1997) notes, for example, that the NAP believed that all states and municipalities had to implement its policy prescriptions from Brasilia, that they were, in a sense, calling the shots from above. Teixeira also notes that throughout the 1990s, the NAP often established municipal agencies working on monitoring HIV and implementing prevention/treatment projects, notwithstanding the expressed discontent of state and municipal health agencies. The centralized managerial authority of the NAP continues to this day. The relatively stable political conditions, especially under the presidency of Fernando H. Cardoso (1994-2000), combined with a very low turnover of political appointees to the NAP, has created a highly centralized agency that continues to formulate and implement policy, while imposing its will on sub-national health agencies and NGOs.

Nevertheless this does not mean that the NAP has remained completely isolated from civil society. If the NAP is not working with other agency heads then it’s certainly embedded in civil society. In 1987, shortly after its inception, the NAP created the National AIDS Commission, which actively sought representatives from civil society, including NGOs and the church. The representation of civil society has been vital for the NAP’s increased understanding of what it needs to do to improve. Some have even argued that the NAP began consulting with other federal agencies in Brazil for advice on how it can improve.

To this day the NAP continues to wield a considerable amount of influence. Its director, Pedro Checquer, has not only increased his control over domestic AIDS policy but has also become more involved in international AIDS policy. Furthermore, he has repeatedly critiqued the Bush administration’s stance towards HIV/AIDS (e.g., ABC and not helping prostitutes as a condition for grant assistance). Checquer has used Bush’s conditionality with regards to assisting prostitutes as an excuse to reject his offer of a very generous loan of $40 million dollars to combat AIDS in Brazil. Keep in mind that Checquer made this decision independently and that other agency directors supported him.

TB

TB re-emerged in civil society along with the spread of HIV (see appendix). In addition to AIDS, increased income inequality and poverty contributed to its resurgence. Yet in sharp contrast to the AIDS situation, the government did not initially perceive TB as a national health threat. Rather, it viewed it as something that had already been cured. It is important to recognize that the government had a very long tradition of containing TB through various federal public health campaigns. In fact, prior to the transition to authoritarianism in 1964, approximately 50% of all expenditures for public health went towards TB. And under the Vargas military
dictatorship (1930-45), a new federal institution was created specifically to curb its spread: The National TB Program was amply financed by the government and other international philanthropic organizations, such as the David Rockefeller Foundation.

These institutional responses, when combined with the introduction of Streptomycin in 1944, Para-aminosalicylic and Isoniazid in 1952, resulted in the precipitous decline in case and death rates, and contributed to the general belief that TB was under control. Consequently, during the last authoritarian wave (1964-85), TB was no longer perceived as a national health threat. Consequently, the government started to pay less attention to it.

It would not be until TB reached a new apogee in case and death rates that the federal government would start paying attention to it. The resurgence of TB was most problematic in the bigger, more congested cities, such as Rio and São Paulo (see appendix). By 1994, the TB growth rate was so high that the government could no longer avoid the situation. That year, it called for an “Emergency Plan for TB Control,” falling under the purview of the Ministry of Health. The Plan included a monetary transfer of approximately $R100 for each individual with TB, to health agencies at the municipal level. Any additional allocation of money would be based on agreements between the municipalities and the National Foundation of Health, which was part of the Ministry of Health. These intentions notwithstanding, officials from the World Health Organization (WHO) and the Pan-American Health Organization (PAHO) noted that the program was very poorly implemented and was not very helpful.

By the time the re-democratization process began in 1985, the pressures for devolving TB policy were too overwhelming for the state to withstand. It completely decentralized TB policy in 1990, ending the famous National Campaign Against TB and Vargas’ famous National TB Program. The federal government retained the role of monitoring TB’s spread but not policy. While one could argue that decentralization was a better institutional response to TB (purely on accountability/efficiency grounds), the problem was that it was very poorly planed: it occurred at a lightening speed, sans the assurance that municipal governments were prepared for handling these new responsibilities.

This sudden decentralization of TB policy smacked of federal apathy and eagerness to wash its hands clean of any further responsibilities. Unfortunately, the municipalities were unprepared, administratively, medically, and especially financially to take over these policies. Consequently, the quality of TB care suffered and has continued to do so over the years. As I have argued elsewhere, this was a direct consequence of the fast-paced timing of decentralization and the state governments’ reluctance to work with the municipalities.

Despite these implementation problems, the 1994 Emergency Plan set the groundwork for a new federal perception that something needed to be done. Several new initiatives were taken. In 1998, for example, in response to the Emergency Plan’s poor performance, the National Council of Health created the National TB Plan. The goal of the new plan was to detect, by 2001, 92% of all cases and to cure at least 85% of them. In addition to striving to decrease incidence through DOTS (Directly Observed Treatment, Short-course) by 50% by 2007 and decrease mortality by 2/3, under the new Plan the Ministry of Health was responsible “for establishing standards for TB control, procuring and providing drugs, developing laboratory and treatment guidelines, coordinating the surveillance system, furnishing technical support to states and municipalities, and providing inter-sectoral coordination. The Ministry of Health “was keen on trying to insure inter-sectoral harmony between the federal, state, and municipal level for TB while advocating increased community participation in policy-making.”
If this was not enough, further initiatives would be taken by the Lula administration. In 2003, the government mobilized a new federal and civil societal coalition to intensify its commitment to TB. The new goal was to reach and maintain a detection rate above 70%, to cure at least 85% of all new cases, continue to implement DOTS treatment, and to maintain a decentralized form of health care treatment. In 2004, the administration met its goals: detections rates were indeed above 70%, cure rates above 73%, and 30 new public health professionals were hired and approximately 9,000 new ones trained.³⁶

To further insure government commitment to TB, in November 2004 the Lula administration created the National Stop-TB Campaign. Comprised of Ministry of Health officials, the business sector and NGOs, this initiative models the international Stop-TB campaign. So far it has been very successful in campaigning TB as a new national health threat. It has done so by enlisting the support of famous television and movie stars. In fact, at a national TB awareness day in Brasilia that year, a famous movie star was named the national TB Ambassador.³⁷ These types of initiatives are vital for increasing awareness of the TB problem and for drawing national and international attention to the ongoing TB problem.

The upshot to all of this is twofold: first, the new centralized response to TB is very late. And the fact that it has been dubbed as a new “Emergency” smacks of a federal realization that the government waited too long. Second, when compared to the NAP, the National TB program is very weak and does not have nearly as much money. It relies on a federal government aid that to this day still prioritizes giving to the NAP. Consequently, the National TB program has started applying for external funding, mainly from international financiers, such as the Global Fund.

And yet, even when it comes to applying for external assistance, the NAP still dominates. That is, applicant nations are required to create a Country Coordinating Mechanism (CCM), which is a consortium of government officials, the private sector, and civil societal representatives from NGOs (which, according to the Global Fund, should have the highest degree of representation) to formulate a grant application for funding. However, when the National TB Program created this CCM, the NAP was over-represented on the committee, which in turn limited the voice and influence of TB officials and more importantly, civil society.³⁸

In summation, there appears to be a clear institutional bias in favor of AIDS, not TB. The National AIDS Program has transformed into a huge organization that usurps most domestic and international funding while imposing its will and successfully voicing its views at the domestic and international level. Despite the recent interest in recentralizing the government’s response to TB though a national program and campaign, it still does not have nearly the amount of power and influence that the NAP does. Unfortunately, this limits the TB program’s ability to expand and to help sub-national governments cope with the worsening TB conditions at the urban level.

**National Threat Perceptions and the Globalization of Brazilian AIDS**

For a country that is often hailed as the model of how to respond to health epidemics, it is surprising to see this difference in government perception and response to AIDS versus TB. What accounts for this difference in institutional building? Two issues seem to stand out: First, government elite perceptions that AIDS was a new national health threat, threatening all segments of civil society, whereas TB was not. Second, AIDS provided a new opportunity for the government to increase is global reputation and influence on this issue. As in the past with syphilis and other health threats like malaria, AIDS provided a new window of opportunity for
the government and its scientists to show Brazil as a modern state wedded to scientific progress and equality in medical prevention and treatment.

Although AIDS was initially perceived as a “threat of luxury,” that is, a disease attributed to the affluent lifestyle of gay upper-middle income men, this perception, both within government and society, quickly changed once new information arose explicating the etiological cause of the disease. It soon became clear that the disease could be acquired by anyone in society. The role of NGOs was vital in supplying this information. Furthermore, the NGOs did an excellent job of incessantly pressuring the government to do something about the situation. Their ability to both inform and pressure the government was secured by their representation on the National Health Council, within the Ministry of Health, beginning in 1985, and the National AIDS Commission in the NAP. Through this venue, health officials and the President quickly learned that AIDS was affecting all segments of society. These pressures not only informed the government but also contributed to its overall sense of perception that AIDS was a national threat and that something needed to be done.

This perception that AIDS threatened all segments of society was reinforced by the political tradition of viewing all STDs as a collective rather than individualistic problem. Health ministers of the past viewed these illnesses as grander national issues, affecting all citizens equally, regardless of their gender and racial characteristics. This was especially the case with syphilis, where, historically, the central government blamed the insatiable desires of white Portuguese colonizers, rather than the indigenous or black population.

In contrast to the response AIDS received, TB was never perceived as a “national” health threat. Rather, as noted earlier, it was viewed as a controlled epidemic. Consequently, although the number of TB cases rose in tandem with (and some would argue, because of) the growing HIV problem, the former was never perceived as a national threat. It was, if anything, viewed as a negative side-effect of income inequality, poverty, and increased immigration to the cities.

It would take burgeoning infection rates, international pressures and the obvious realization that TB was a problem, in order for it to be placed back on the national agenda. As noted earlier, this really did not take place until 1998, through the creation of the National TB Program, and later, the National Stop TB Campaign in 2003. Today, TB is on the national agenda but as mentioned earlier, it has emerged way too late.

The civil societal impulse driving TB’s national awareness also came rather late. TB never developed a very well organized and financed set of NGOs, as had been the case among homosexuals at the outset of the AIDS crisis. To this day there does not even exist one NGO in Brazil for TB awareness and policy. (Contrast this to the 100 plus NGOs that emerged only 4 years after the HIV virus was detected!) The composition of most TB constituents probably explains why: most were, and still are, the unorganized, uneducated poor – though later, many with HIV would develop TB as well. Although recently civil society has become more aware and involved (through the National Stop TB Campaign and other NGOs such as PELLAvida, which is an AIDS NGO), collective mobilization and its ability to put TB on the national agenda has taken some time.

And finally, going back to AIDS, yet another reason for why the government has been so committed to the NAP and AIDS policy has to do with the opportunities that the disease provides to increase the government’s legitimacy and influence in the international arena. The “global allure” of AIDS has without a doubt created incentives for the Brazilian government to publicize its aggressive anti-AIDS stance and unwavering commitment to equality in medical care.
One only needs to look at the recent praises that the Brazilian government has received from international organizations to obtain a sense of how popular their approach to AIDS has been. In May 2003, for example, the Bill & Melinda Gates Foundation awarded Brazil its Award for Global Health achievement. The award was given because of Brazil’s outstanding success in AIDS prevention and treatment. Further, the Gates foundation officially labeled the Brazilian approach as “the model” of how to respond to AIDS. Its popularity has been so influential that over 30 countries adopted Brazil’s approach. And what’s more, that same month the WTO officially decided to adopt the Brazilian model in its approach to AIDS.

The increased legitimacy and global popularity of the Brazilian model has had major spillover effects on the NAP’s participation in international affairs. It has strategically taken advantage of its global influence to bargain with international pharmaceutical companies for continued reductions in anti-viral medication prices and intellectual patent laws that are protected by the WTO. The recent threat issued to Abbot Pharmaceuticals for the production of the drug Kaletra provides a good example. Faced with escalating costs for the possibility of not being able to afford the acquisition of expensive AVs from Abbot, Pedro Chequer and President Lula successfully threatened Abbot into reducing its price for Kaletra from $1.17 Per capita in 2004 to $0.63 in 2005.

In addition to Pedro Chequer’s criticisms and engagement with the US and other nations that have, in his opinion, inadequately responded to AIDS, he has joined President Lula on a host of diplomatic missions to help African nations (mainly on the West coast) build their own pharmacies and laboratories for AIDS research and vaccine development: the relationship with the Southern African nations of Mozambique is a prime example. The NAP and Lula continue to help other nations in this region and in other countries like India. In a sense, it has become more and more expected that Brazil will take the lead in international assistance in AIDS relief.

All of these issues, i.e., global popularity, legitimacy, and international and domestic influence have contributed further incentives for the government to continue supporting the NAP. The organization’s continued prowess is the key to Brazil’s continued influence in the global arena. Through its construction and the policies that it has created, it has been able to show off to the world its unwavering commitment to combating AIDS in a cost-effective, efficient manner; moreover, it has been able to demonstrate its commitment to social equality in health prevention and treatment, especially for segments of society that are often discriminated against, such as homosexuals, prostitutes, and drug addicts.

**The United States**

**Avian Flu**

Similar to the institutional response to AIDS in Brazil, the US’s approach to the specter of avian flu has transformed into a federally-led, coordinated effort with the federal states. As discussed shortly, new measures have been taken to enhance the federal government’s role in preparing for a potential flu outbreak. The key issue here is that the “institutional” conditions for avian flu could not have been better: that is, preparing for the flu dovetailed into and drew from a new federal commitment to embolden our national security system and preparedness for disaster management.

Indeed, the current administration did not view the avian flu as a threat distinctive from any other natural and un-natural (e.g., biological) security threat. Instead, federal and local
responses were incorporated into a new National Preparedness System, which entails responding to all kinds of disasters that pose an immediate security threat. This initiative started after 9-11, and has not only led to the creation of new federal agencies such as the Department of Homeland Security, but also a host of other initiatives that serve to increase our preparation for disasters.

Prepping institutions for avian flu thus joined an already well established federal commitment to protecting the US from any kind of disaster. Consequently, our institutional prep for flu drew from the ample resources and knowledge of other sectors and divisions that fell under the Department of Homeland Security. This is extremely beneficial because this new wave of security led to an incessant reevaluation of the institutional resources, inter-agency, and the inter-governmental coordination mechanisms needed to aggressively respond to the flu or any other type of biological threat. Recently, moreover, preparing our institutions for the flu has benefited from the president’s call for a new “Culture of Preparedness,” where all segments of government, the private sector, and civil society take on the responsibility of working together to protect our nation from another disaster.

Because avian flu prep was incorporated into the broader National Preparedness System, it drew and developed out of an evolutionary federal management institutional structure that was heavily influenced by recent disasters, such as Hurricane Katrina. Indeed, there was no separate federal institutional response system for the flu. Rather, the NPS system designed for Katrina was the same for the flu and any other bio-terrorist event. While the NPS still holds onto the tenets of federalism, it entails a new institutional component that calls for a more centralized, anticipatory role in federal intervention. This new institutional innovation came as a direct reaction to the government’s inadequate federal institutional response to Katrina.

The new NPS system maintains the government’s long-standing federal response to disasters while including a new innovation that allows the government to intervene without the governors’ approval. Following President Bush’s Homeland Security Presidential Directive (HSPD-5), the Department of Homeland Security is the principle institution responsible for the NPS and coordinating the federal government’s response to a flu outbreak. Under this directive, the DHS has been delegated the responsibility of establishing two inter-agency and inter-governmental coordinating mechanisms that will facilitate response to the flu and other disasters: the NIMS (National Incident Management System) and the NRP (National Response Plan).

The NIMS calls for a standard system for coordinating and integrating the response of the government, the private sector, and other individual agencies into one unified response. NIMS builds on the federal response to disaster, where, as emphasized through the Stafford Act, it waits on the requests of state governments for assistance. This is the traditional “Pull” approach to federal assistance, where the states first approach FEMA (now DHS) for specific needs, and the DHS, in turn, orders the appropriate agency to meet these needs.

The NRP, on the other hand, serves to coordinate the federal approach to state assistance. Also operating through the Stafford Act, it calls for all agency heads to adopt NIMS and more clearly specifies the conditions under which the federal government can intervene to provide assistance. It also allows the DHS to create PFO’s (Principle Field Officers), which work with the DHS Secretary to implement policy at the local level.

While the NPS system continues to uphold our federal approach to disaster relief, the lessons from Katrina has led to a new initiative within the NPS to increase the federal role and responsibility of the DHS. Realizing that much of the Katrina disaster could have been avoided through anticipatory intervention, DHS has now created a new Catastrophic Incident Annex.
This Annex allows the government to bypass the Stafford Act and intervene whenever it believes that sub-national governments are not prepared to respond to a disaster.

Currently, however, the Act is limited to the immediate deployment of resources for aid, such as vaccines and medical supplies. The government is still working out the finer details of how it will enforce the distribution of these resources at the local level, which, as you can imagine, has encountered staunch resistance from the governors and mayors. The end result, however, is the transition from a “Pull” system of federal assistance to a “Push” system of reforms, where the DHS is pushing resources onto the states without the states’ approval.

The administration had also hinted at the possibility of expanding the role of the military for a possible quarantine. While this would go against the precedent of not having the military involved in any type of domestic policing capacity because of the Posse Comitatus Act of 1878, Bush asked the Congress to overlook this act in 2005, and called for more “aggressive action.” Although no specific legislation has arisen, the fact that he proposed this suggested to some that he was using the flu as an opportunity to strengthen the federal government’s monitoring and policing powers. Recent interviews with staffers in the Congress who have worked with the Department of Defense (DOD) on this issue nevertheless indicate that the DOD is not interested in participating in such activities; it is, to them, purely President Bush’s idea.

These new federal institutional initiatives notwithstanding, from a broader level the government’s approach to a potential flu outbreak was to establish a clearer division of inter-governmental responsibility. The federal government viewed itself as committed to concomitantly enhancing federal and sub-national institutional capacity in anticipation of an outbreak. At the federal level, the focus was on monitoring the mutation of H151, financing the development of a vaccine and other necessary resources, engaging in partnerships with the private sector and sub-national governments (Department of Homeland Security, 2005). The DHS had emphasized that it would use all of the resources it had to anticipate the flu, while calling on the private sector and its citizens to be more alert, responsible, and responsive – which tied in nicely with the DHS’s new “Culture of Preparedness” (Department of Homeland Security, 2005).

President Bush and the congress were also committed to financing the states and municipalities’ flu-prep activities. Last year, Bush asked the Congress for $7.8 billion for the HHS. Early this year, it granted $3.8 billion, and the HHS received $3.3 billion of it. Projections for next year’s funding is much higher (see appendix). The HHS is using this money to monitor disease, develop vaccines and vaccine development capacity; stockpiling, to help coordinate federal-state preparedness activities while financing new outreach and awareness programs. The Congress and Senate continue to propose more money for pandemic prep, which the DHS, of course, continues to receive ample financial resources for.

Thus in summation, the government’s institutional approach to avian flu, bio-terrorism, and other types of disasters was to encapsulate it underneath the broader National Security and Preparedness Agenda. This entailed an increase in the federal government’s role in coordinating with sub-national governments for greater resource and institutional preparedness. At the same time, however, it is important to note that it introduced new institutional innovations that would give it more flexibility and opportunity to intervene in sub-national affairs before the states asked for federal assistance. This suggests that the government is finally trying to overcome the traditional hurdles of federalism for enhancing public health institutions and responsiveness.
AIDS

Unlike Brazil, the US never responded to AIDS by creating a new federal agency responsible for formulating health prevention and treatment policies. Instead, as in the past, its institutional response was first to rely on, and use, federalism and decentralization as a means to respond to the epidemic. As is well known, it took the Reagan administration 6 years (1987) to publicly acknowledge the AIDS crisis. Although several members of the congress (mainly democrats) successfully lobbied the administration through congressional hearings to increase funding for research, the administration did not construct a new agency for AIDS, like in Brazil, nor did it immediately assign new treatment and prevention measures.

Instead, what did emerge were responsive municipal health agencies. In the two largest cities with the highest prevalence rates, San Francisco and New York City, local and state health agencies were quite responsive. San Francisco was by far the most successful in responding to the needs of a well organized Gay community. In New York, where the gay community was not as well organized, the AIDS Institute, which was a state-run organization, took a very top-down, centrist approach and was very successful at implementing prevention and treatment programs.

Other cities would soon follow suit, though they were not initially as successful as San Francisco and New York.

Over time however, sub-national health agencies would face new crisis. The emergence of other AIDS victims not attributed to homosexual activity, such as IDUs (Intravenous Drug Users) and prostitutes began to weaken the influence and presence of the gay community. In addition, many cities were facing fiscal problems. All along, AIDS agencies and hospitals were not receiving enough support from the federal government. This was especially the case with the New York AIDS Institute during the late-1980s and early 1990s, when President Bush Sr. neglected to allocate additional money to New York and other cities for AIDS.

The highly decentralized institutional design for AIDS continued under the Clinton Administration. While funding for the CDC and state agencies gradually increased, both under Clinton and under Bush II, no new institutional innovations emerged: that is, the delegation of greater authority to a particular agency at the federal level. What is more, access to antiviral medications was restricted only to those with generous health insurance polices. Those that did not have insurance, especially the urban poor, often faced long waiting lists for medicines that were funded through the Ryan White programs (i.e., the Ryan White Comprehensive AIDS Resource Emergency Act, or CARE), implemented in 1990. The problem has been compounded by the fact that CARE and other funding through Medicaid and Medicare has not been sufficient to finance full – or even partial – access to complete anti-viral cocktails. This problem has contributed to very long waiting lists for those seeking treatment across several states, especially in larger cities.

In addition to the lack of new federal institutional initiatives, government response to AIDS has been hampered because of the high degree of bureaucratic fragmentation and competition between agencies. At the beginning and even today, there was some sense of competition between the NIH, CDC, and HHS over research and policy recommendations. This was especially problematic during the first few years of the government’s response to AIDS. Over the years, while the role of each administration has become clearer, it is still difficult to coordinate AIDS policy among these three branches. And note that this contrasts sharply from the Brazilian case, as all research, prevention, and treatment services are conducted by the National AIDS Program.
The current institutional structure under Bush is the same. No new federal programs or institutions- both at the federal and sub-national level- have been created. If anything, the war and the specter of bioterrorism and avian flu, coupled with increased global pressures for more funding contributions to the Global Fund, PEPFAR (President’s Emergency Plan for AIDS Relief), and other international organizations for AIDS, has forced the administration to focus more on global rather than domestic AIDS issues. Pundits of the administration have picked up on this problem.\textsuperscript{66} While funding for the CDC remains constant, there has not been any marked increase in prevention and treatment programs. Actually, the Bush administration just last year called for a reduction in key prevention programs for NGOs in major urban cities. This administration’s focus is on prevention for those that are already HIV positive.\textsuperscript{67}

Thus, in sum, the federal government’s response to AIDS has never been as centrally institutionalized as we saw in Brazil. While funding for prevention and treatment programs has, of course, increased over the years, the US never constructed a new federal bureaucratic program to combat AIDS, nor did she propose any new institutional innovations. Decentralization has always been the name of the game. But unfortunately, it has not led to a complete eradication of AIDS cases. There are still more AIDS cases in the US than there are in Brazil.

But why does this matter? It matters because AIDS has re-emerged as an urban epidemic in the US.\textsuperscript{68} While it certainly is not as widespread as it was during the 1980s, it has resurfaced in the urban cities, especially among the Black population.\textsuperscript{69} Researchers have attributed this sudden rise in HIV infection among Black men and especially women to increases in poverty, drug addiction, and poor access to health care. HIV rates among Hispanics have also increased over the years, for similar reasons, though more from IDU. The point is that the AIDS problem has not gone away and that both the federal government and civil society need to do a lot more in order to address this issue.

**NATIONAL SECURITY AND THE ENDURING MORAL DILEMMA**

It is puzzling to see the United States being so biased in its institutional response to epidemics. Why has it been so institutionally innovative to the mere specter of avian flu and bioterrorism but yet so lackluster when it comes to STDs? There are several possible reasons.

First, as noted earlier, the president and government officials have perceived the threat of avian flu as yet another National Security issue. Just look at the opening lines of a publication that was recently disseminated by the White House on its current strategy towards the flu: “[the plan] will be consistent with the National Security Strategy and the National Strategy for Homeland Security” (Homeland Security Council, 2005).\textsuperscript{70} This immediately suggests that there is more to preparing for a potential avian flu outbreak. It is, rather, an extension of the government’s already well established commitment to strengthening our National Security defenses against both natural (flu) and un-natural catastrophes – e.g., bioterrorism.\textsuperscript{71}

In addition to rebuilding our institutions for the sake of greater National Security, certain exogenous shocks forced the government to reevaluate its institutional preparedness. Indeed, the Katrina incident and the government’s lackluster response to New Orleans underscored the institutional challenges to a more effective federal response. This, in turn, created new incentives for the administration, Congress, and the Senate to modernize its national and sub-national institutional preparedness.\textsuperscript{72}

Finally, there’s the simple fact that the government and society was simply full of fear and uncertainty. Incessant reports in the news of new human infections around the world,
coupled with its recent emergence in Europe, had intensified our fears and uncertainty. This was surely enough to create incentives for the government to respond and to continuously work with civil society to reassure them that things were under control.

When it comes to AIDS though, it’s an entirely different issue. Of course, it is much different from the specter of avian flu and bioterrorism simply because it’s nothing “new,” “foreign,” or “mysterious.” Rather, it’s been here for quite some time, and the epidemic has subsided in number, save for some select municipalities, mainly in New York.

There are two issues that this problem raises. The first is that unfortunately it’s the perception, both by the federal government and civil society, that AIDS is no longer a “national” epidemic that has led to a reduced emphasis from the federal government on increasing AIDS prevention and education. Worst still, there are fewer and fewer incentives for the most vulnerable to be more cautious. As noted earlier, the current administration’s recent reluctance to finance key prevention campaigns organized by NGOs for those that do not have HIV seems to suggest that HIV is not perceived as an urgent matter: that the government does not need to reach out to the uninfected to prohibit further spread.

Second, some analysts have noted that the most vulnerable citizens simply don’t worry about getting infected because a) fewer and fewer of their friends are dying from AIDS and b) they believe that they can get full access to AV medication. The general perception in society that HIV is something “treatable” and the belief that if one has full access to AV cocktails, one can live a normal life has generated fewer incentives to be more careful. This is a false and deadly assumption. First of all, the HIV virus is still mutating, and the recent death of a young man last year in New York that was undergoing a full antiviral regimen shows that the HIV virus is becoming more resistant to medication. Second, not all health insurance plans provide sufficient coverage for all cocktails. And if the number of drugs needed for a mutating virus increases, so to will its costs.

Lastly, there is the seemingly never ending “moral dilemma” in American AIDS politics. Since its inception, the incessant battle of interests between the Christian conservative right (which is mainly affiliated with the Republican Party) and the more liberal Democratic Party have delayed and at times stymied our response to HIV. Very influential Christian conservatives in the Congress and Senate have, since the initial outbreak, failed to support key prevention measures, such as much needed sex education programs, the mass production and distribution of clean needles for IDUs, and the free distribution of condoms. In contrast, in Brazil, all of these prevention programs have always been provided by the government, free of charge!

Do these moral tenants and obstacles persist under the current administration? They sure do. Take for instance the Bush administration’s recent stance towards prostitution. Currently the administration will not fund any NGO program that fails to sign a letter of intent not to assist prostitutes in need of HIV services. This law applies to both domestic and international financial assistance. Aside from this, the administration continues to push only abstinence as a key approach to HIV prevention. Further, it has to this day, not pushed for increased sexual education for avoiding STDs, while, as noted earlier, it has not allowed the CDC to fund NGOs that are engaged in such activities. And finally, government officials have recently noticed that the administration has asked the CDC to remove from its website the discussion of how condom usage prevents the spread of HIV.

There are many other examples of how President Bush and the conservative right in the House and Senate continue to obstruct the implementation of key HIV prevention programs. This has led to a host of policies that do not address the root cause of HIV, especially within certain
segments of society, such as young homosexuals. One of the biggest problems that we have right now is the “down-low” problem among young Black homosexuals. This is where young men engage in unprotected sex and refrain from informing their girlfriends or wives out of fear of being exposed. The gay stigma among African American men is extremely high and the fear of being socially exposed, losing ones friends or even physically abused is enough to engage in clandestine, unprotected sexual behavior. The Bush administration is aware of this. And yet it has not proposed any type of federal policy that directly addresses this issue.

Again, in sharp contrast to the U.S. government, the Brazilian government has not shied away from addressing these issues. In fact, it has created several new public awareness campaigns targeted specifically to young homosexuals (Brazil, National AIDS Program, 2006). Furthermore, it has started to reach out by providing counseling to families that have been torn over this issue. Current and future US administrations should take note of this program and realize that if it is going to be more effective in its response to AIDS, it needs to better address the needs of homosexuals, prostitutes and the IDU community and to, above all, push aside any moral constraints that continue to limit the government’s ability to address the HIV problem.

CONCLUSION

In this article, I have compared Brazil and the United States in order to demonstrate an often overlooked issue in how governments respond to epidemics: the challenge of institutional bias. Simply put, this is when democratic governments decide to emphasize institution building for some epidemics but not others.

While governments may readily design and pass new policy designs, often the “type” of epidemic present determines the types of federal agencies that are created. Moreover, it determines which policies will be effectively implemented. As we saw in Brazil and the United States, the type of bureaucracy that arose was largely determined by the different views and preferences that elites assigned to the type of epidemic that emerged. In this case, epidemics that were perceived as threatening the nation (avian flu in the US) and were perceived as both nationally and globally significant (AIDS in Brazil) received strong federal attention, either through new federal institutional innovations that enhanced the center’s role (the US), or the creation of new agencies (Brazil). Those that met neither of these conditions, such as AIDS in the US and TB in Brazil, have never prompted these kinds of institution building responses.

There are several other theoretical and empirical issues that this comparison has raised. First, researchers interested in understanding – and to a certain extent, predicting – domestic institutional capacity for reforming public health policies will need to better understand the endogenous and exogenous resources that their federal bureaucracies have to take on. This is especially important as new health threats emerge or old ones, such as HIV, mutate. This can include the domestic and international monetary resources that institutions have, as well as the delegation of new levels of authority and policy-making autonomy given to them. But understanding the differences in the amount of resources that different types of bureaucracies have will require that future researchers focus more on the contrasting elite perceptions and priorities assigned to certain kinds of epidemics. This type of analysis will allow us to better understand why some bureaucracies are endowed with ample resources while others are not.

Second, focusing on epidemic institutions – that is, federal agencies - as the dependent variable gives us a better sense of the lingering domestic inequalities in prevention and treatment programs. Understanding the different priorities that elites assign to these institutions explains
why some victims of disease, such as the poor, do not receive nearly as much government support as those diseases that are perceived by government officials and influential segments of society as more important, both at the domestic and international level. This discrepancy is most vividly seen with TB in Brazil and AIDS in the US. Future research will therefore need to look more closely at the contrasting policy effects that institutions have and what this means for health equality and the quality of democracies.

Lastly, all of this suggests that we cannot fully understand a government’s commitment to protecting all of its citizens from epidemics until we start analyzing and comparing the nature of domestic health institutions - not policy. This approach reveals the biases that governments have towards epidemics and, consequently, to its citizens.

Indeed, a very much unchartered area of research is how the distributional affects of institutions magnify the ongoing (and arguably discriminatory) biases that governments have towards certain segments of civil society. When seen in this light, this approach paints a very different picture of Brazil, as well as the US. For while Brazil may be the global model for AIDS, this is certainly not the case for TB and other health threats, such as malaria. Likewise, the United States may be great when it comes to National Security and defense from bioterrorism and the flu, but lackluster when it comes to lingering – and indeed burgeoning - epidemics in our often forgotten urban slums.

Future scholars concerned with better understanding the nature and capacity of domestic public health institutions stand to gain by examining how different types of epidemics affect state building in different ways. Not all epidemics affect nations the same way. Because of this, future comparative researchers trying to understand why they see variations in institutional response to different types of epidemics both within and across nations stand to gain from taking this type of approach. This, in turn, will provide a more accurate description of just how committed democracies are to their citizens when new health threats emerge.

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4 By the term “national threat,” I mean to say that federal elites view the epidemic as one that will have an immediate impact on all segments of civil society and economy, not just a small, marginalized at-risk group.


7 Steven Solnick, “Civil Society Under Putin,” presentation given at the Davis Center for Russian Studies, Harvard University, (March 2005)


9 One should note, however, that this race to join the global community – and possibly become the global leader through an aggressive response to disease is nothing new. In the past, Brazil did exactly the same thing with syphilis, especially when new global movements emerged – mainly out of Western Europe – to construct highly centralized bureaucracies treating syphilis from a purely objective (non-moralistic), scientific approach; on this note, see Gómez (forthcoming).


16 My thanks to former President Fernando H. Cardoso for explaining this situation to me. Interviewed by author in November, (2005).


Interview with Ezio Santos Filho, member of the national commission for TB and co-chair of the Global Fund Country Coordinating Mechanism for TB; interviewed in November, 2005.


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Dilene Raimundo Do Nascimento, “A Aids no Final do Século XX,” in As Pestes do Século XX: tuberculose e Aids no Brasil, uma história comparada (Fiocruz Press, 2005)


50 Interview with senior White House official, February 2006.
52 Ibid
53 Ibid
54 Ibid
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58 Ibid
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64 Kaiser Foundation, National ADAP Monitoring Project Data Analysis (Kaiser Foundation Publications, 2004).
73 Byron Spice, “Troubling Rise Seen in HIV Infections; More than a Million Americans Carry Virus,” Pittsburgh Post-Gazette, (June 14, 2005)
75 Adam Clymer, “Critics Say Government Deleted Sexual Material from Web Sites to Push Abstinence,” New York Times, Section A; Column 1; national Desk, (November 26, 2002), 18
APPENDIX

AIDS Cases and Deaths in the US and Brazil
(1980 - present)

US Population - 295
Brazil Population - 186

US AIDS Cases
US AIDS Deaths
Brazil AIDS Cases
Brazil AIDS Deaths

Source: Authors calculations from various official sources

Brazil - Number of Cases and Deaths from HIV/AIDS and TB, 1980-2003

TB (cases)
AIDS (cases)
TB (deaths)
AIDS (deaths)

Source: Ministerio de Saude, various years

Source: Boletim DST/AIDS, 2005, Rio Secretaria de Estado de Saúde

US Congressional Appropriations for Bird Flu (2005-07) ($millions)

Source: Congressional Research Service, 2006
Brazil - Sao Paul: Total TB and AIDS Cases (1987-2005)

Source: Boletim Epidemiologico, Destado de Sao Paulo, 2005