This is to certify that the
dissertation entitled

THE POLITICS OF ANTI-RETROVIRAL DRUGS IN AFRICA

presented by

ERIC RYAN LITTLE

has been accepted towards fulfillment
of the requirements for the

Ph.D. degree in Political Science

M Bratton

Major Professor's Signature

5/3/10

Date

DATE DUE	DATE DUE	DATE DUE

THE POLITICS OF ANTI-RETROVIRAL DRUGS IN AFRICA

By

Eric Ryan Little

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Political Science

2010

ABSTRACT

THE POLITICS OF ANTI-RETROVIRAL DRUGS IN AFRICA

By

Eric Ryan Little

This dissertation investigates the politics surrounding anti-retroviral drugs in Africa. The first article analyzes cross-national variation in ARV coverage. I report that state capacity is the most important predictor of more pervasive AIDS treatment programs, and regime type is not empirically important. The second article looks at sub-national variation in South Africa and Nigeria. I found that higher HIV prevalence and urban areas are more likely to have ARV resources. Electing members of the ruling party to executive and legislative positions makes it more likely that sub-national units will have ARV programs, suggesting that patronage networks are important predictors of ARV availability. The third article investigates citizen satisfaction with policy performance at the individual level using Afrobarometer data from twenty countries. Round 4 of the Afrobarometer asked more than 27,000 African citizens in 20 countries about their opinions, and their evaluation of their government's HIV/AIDS policy performance allows for the micro-level relationships to be investigated and modeled. Regression analysis suggests that the six most important predictors of citizens satisfaction with HIV/AIDS policy performance (in order) are health service satisfaction, perceived corruption, trust in the state's institutions, satisfaction with democracy, low HIV prevalence, and high ARV coverage.

ACKNOWLEDGEMENTS

I would like to thank Dr. Michael Bratton, Dr. Sandy Schneider, Dr. Ravi Bhavnani, and Dr. Michael Rip for their service on my guidance committee. I would also like to thank my fellow graduate students as well for their assistance, advice, and recommendations. Finally, and most importantly, I would like to thank my wife Maria for her constant love and support throughout the dissertation process.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

The Politics of ARVs in Africa: An Introduction

AIDS is undoubtedly one of the most staggering problems facing policy makers today around the globe. Recent data suggests that over thirty million world citizens are infected with the disease, of which over twenty two million are Africans (UNAIDS, 2009). The political and economic consequences stemming from the disease are staggering and have necessitated the largest international response to any health issue in the history of the world. This mobilization effort has involved domestic, bilateral and international organizations working together as part of an unprecedented effort. Responding to this crisis requires a matrix of policies capable of preventing further spread of the disease, testing people to ensure people know their status, and treating those already infected. Various pieces of the prevention response include marketing campaigns to educate the public about the disease, health education as part of academic curriculums, and the widespread availability of AIDS testing so that people know their status. Male circumcision to reduce transmission and provision of condoms are also part of this template. Even changing laws to decriminalize homosexuality, needle exchange programs, and blood testing for donors are part of best practices to reduce transmission for high risk groups. Over time response to the disease is beginning to transition from a piece meal crisis response to a more stable, robust approach with the goal of ensuring universal access to all of the primary policy interventions: treatment, prevention, testing, and care (Universal Access, 2009).

The multiple facets of this problem can be seen from the varying actors and organizations involved in this crisis: individual citizens, civil society groups, bureaucracies, state elites, international organizations, foreign donors, political leaders,

and multi-national pharmaceutical manufacturers are all involved in the HIV/AIDS policy area. From Washington to Geneva and Cairo to Cape Town, AIDS in Africa and what should be done about it has garnered enormous resources and attention in ways that many other African issues have been muted. Despite the longstanding prevalence of the AIDS crisis and its widespread consequences, political scientists have not investigated the politics surrounding the disease thoroughly. AIDS has an impact on every issue of African politics from agriculture to tax policy to institutional capacity, yet the literature is thin and largely undeveloped when one seeks encompassing explanations.

In 2001, Catherine Boone wrote in *Africa Today*, "Political Science as an academic discipline has been slow in grappling with the enormous implications of the AIDS crisis for much of the developing world," (Boone and Batsell, 2001). Boone presented a series of AIDS related sub-topics which political scientists could offer valuable research. As she put it, "Five research agendas for Africa are: variations in state response to the pandemic; the relationship between governments and NGOs; the AIDS challenge to neo-liberalism; AIDS and North-South tensions; and connections between AIDS and international security issues," (Boone and Batsell, 2001). The research plan below will focus heavily on the first of Boone's recommendations, focusing on variation in the state response through ARV treatment at multiple levels. Before discussing the political puzzle, I will first discuss the nature of AIDS treatment, the international response, and argue for why these resources fit somewhere between public and private goods.

What is AIDS treatment?

AIDS is treated with antiretroviral drugs (ARVs) which are defined as follows in *The Encyclopedia of Medicine:*

Antiretroviral drugs inhibit the production of retro-viruses—viruses composed of RNA rather than DNA. The best known of this group is HIV, the causative agent for AIDS. Antiretroviral drugs are virustatic agents which block the replication of the virus. The drugs are not curative; however continued use of these drugs, particularly in multi-drug regimens, significantly slow disease progression, (Antiretroviral, 1).

While these drugs cannot kill HIV, they slow its progression and can allow people to live for up to twenty years after HIV diagnosis. While ARVs are highly effective, they are also quite costly. This cost has dropped considerably from over $12,000 per person/year to between $120 and $500, but is still outside the reach of most individuals, let alone the poorest of the poor (Parker, 2007). As prices have continued to decrease, donors, activists, and members of the international community have urged the concept of universal access. According to Dr. Stephen Morrison from The Center for Strategic and International Studies, 2003 to 2008 represented a crisis response effort by the international community, led by the United States which resulted in millions of Africans receiving ARVs which are beginning to transition to a more stable and sustainable set of goals (Morrison, 2009). Millions more have also received treatment via other institutions including the World Health Organization (WHO) and United Nations AIDS program (UNAIDS).

ARVs are a considerable expense to whoever is footing the bill; however, a 2004 South African report indicated that the cost of ARV therapy was actually cheaper than not providing such treatment (Badri et. al, 2006). According to World Health Organization estimates, only 28% of Africans in need of these drugs have been able to access them despite the massive scale up efforts (Parker, 2007). Cross country variation is rampant as countries like Somalia have less than 1% ARV coverage, while Botswana has over 75% coverage (WHO, 2008). Comprehensive coverage data for African

countries is available from the World Health Organization. While the wealthy can buy these drugs on the international market, it is largely the poorest of the poor in Africa who are disproportionately unable to access these drugs.

Treatment Versus Prevention?

The relationship between treatment and prevention has evolved from one of contention to mutually beneficial. No one denies that prevention is always preferable to treatment. In order to successfully reduce the number of people infected that prevention is the long term answer if prevalence rates are to fall. This is true for individual patients as well as for policy makers. Treating AIDS patients is extremely costly for developing countries, and there is no doubt that without international support that treatment would only be accessible by wealthy individuals. There have, however, been major changes in how treatment is viewed as it has transitioned from impossibility in developing countries to an attainable and reachable goal.

According to renowned AIDS expert Paul Farmer, in 2001 an official in the U.S. Department of Treasury objected to distributing AIDS treatment in Africa because Africans would not understand the concept of time and would be unable to take their treatment at prescribed increments (Farmer, 2001). He put the availability of these medications in human rights terms when he wrote that, "We should be increasingly reluctant to reserve these therapies for the affluent, low-incidence regions of the world where most medical resources are concentrated. Excellence without equity looms as the chief human-rights dilemma of health care in the 21st century," (Farmer, 2001).

From such inauspicious beginnings, treatment has provided inarguable results. The first African public clinic providing AIDS medications was built in Gaborone,

Botswana in January of 2002 (Baragona, 1). As of late 2008, 44 percent of Africans in need of treatment were receiving these medications and an estimated 2.3 million African years of life had been added due to their availability, according to UNAIDS statistics. What can explain this transformation? A group of Harvard medical and epidemiological experts raised the following four points for combining treatment with prevention to maximize the overall response effectiveness (Adams et al, 2001):

1. *Treatment is essential to the 36 million people already infected with HIV, the vast majority of whom will die of AIDS without it.* This is the immediate humanitarian rationale for treatment.

2. *Treatment is necessary to optimize prevention efforts.* When treatment is not available, less incentive exists for an individual to take an HIV test, since HIV-positive status not only is associated with social stigmatization but also is tantamount to a death sentence. It is only when HIV testing is coupled with treatment that people have an incentive to be tested, thus enabling a rational response to AIDS: primary prevention for those who are HIV uninfected, and antiretroviral treatment for those who are HIV infected. Effective antiretroviral treatment of HIV-positive people also lowers the viral load within infected individuals, which in turn has a major effect in reducing the likelihood that they will transmit HIV infection to others (UNAIDS, 1999, Hart et al. 1999, Vernazza et al. 2000). Ultimately, then, appropriate treatment of infected individuals may become a major tool in AIDS prevention.

3. *Treatment is necessary to save the children -- and fabric -- of societies.* Without treatment, the number of adult deaths expected from AIDS is so great that the currently catastrophic figure of 13.2 million AIDS orphans will grow into an even more socially devastating wave in coming years (USAID, 2000). Without family support, these children often can not attend school, suffer from poverty and malnutrition, and become victims of violent and sexual crimes—all of which places them at high risk for acquiring AIDS and which threatens to mire them in increasingly desperate conditions. If the current lack of treatment continues, a demographic shift is predicted in the most severely afflicted parts of Africa such that teenagers will outnumber their elders by 2020 (U.S. Census, 2000).

This demographic shift may contribute directly to increase political instability and violence.

4. *Treatment is necessary for continuing economic development.* Without treatment, millions of
adults in the prime of their working lives will die of AIDS and take with them the skills and
knowledge base that are necessary for human and economic development (Bonnel, 2000). For example, in Zambia teachers are dying of AIDS almost as quickly as they are trained (UNICEF, 2000). **The loss of skilled workers is a major reason why AIDS will seriously reduce the rates of future economic growth** (Bonnel, 2000). The goal of simply preventing new HIV infections, without simultaneously offering treatment to prolong the lives of those already infected, has proved insufficient to appreciably mitigate these trends. Despite these arguments and despite the proven efficacy of presently available therapies, antiretroviral drug treatment remains inaccessible to most of the world's infected population.

As argued by these scientists, instead of thinking of treatment and prevention as an either/or proposition, an integrated comprehensive response is necessary as neither treatment or prevention alone is capable of greatest effectiveness. As Lamptey and Wilson (2005) state, these treatment and prevention responses are mutually reinforcing and have positive feedback loops for one another. Increased prevention leads to more affordable and sustainable treatment, and treatment makes prevention more accessible and effective as citizens are more likely to get tested with the availability of treatment. This allows health care workers greater opportunities to discuss prevention messages. The authors also cite that increased investment in infrastructure associated with enhancing treatment facilities can also benefit overall health systems. These authors also state that treatment is responsible for a short-term decline in AIDS deaths which buys time for prevention efforts to improve in effectiveness before concluding that both prevention and treatment require greater resources to have greatest impact. Also worthy of note are funding expansions treating other diseases based on early experiences by aid workers focused on AIDS. For instance the 2008 reauthorization for the President's

Emergency Plan for AIDS Relief (PEPFAR) which earmarked $39 billion for AIDS funding also included provisions for $5 billion to fight malaria as part of the President's Malaria Initiative as well as $4 billion for tuberculosis treatment (PEPFAR, 2009). This evidence suggests that although AIDS may be more expensive to treat than other diseases, initial successes and learning by policy practitioners in the field have led to more expansive efforts against other diseases.

Further bolstering the argument made by the Harvard experts is a series of articles that have investigated the cost effectiveness of AIDS treatment. One of the arguments against treatment is that it is costly compared to prevention or treating other curable diseases that are equally deadly in developing countries (Creese et al 2002). According to Freedberg (2001) treatment is a cost effective use of resources. Similar research has shown that AIDS treatment is cost effective as part of the overall response in Cote d'Ivoire (Goldie et al, 2006) and South Africa (Badri et al 2006). It is worth emphasizing that these articles were published in the prestigious publications like *The New England Journal of Medicine*, and that the overall trend in reviewed literature indicated support for treatment as part of a wider effort; these scientific findings dovetail with the international community's adopting this consensus that treating AIDS patients is one of the key pillars of their overall effort.

Goals and Justification of the AIDS Response

Based on these findings that treatment was cost effective, leading international organizations, working with country partners set some ambitious goals prioritizing treatment as part of their overall effort. According to Lamptey and Wilson (2005) the World Health Organization (WHO) set the goal of providing treatment to three million

people in low and middle income countries by 2005. The Global Fund to Prevent AIDS, Tuberculosis, and Malaria (GFATM) sought to treat 1.6 million people by 2007 in addition to efforts to provide over fifty million AIDS tests and comprehensive care for over one million AIDS orphans. Finally, the U.S. President's Emergency Plan for HIV/AIDS Relief (PEPFAR) sought to treat an additional two million people in addition to efforts to prevent seven million people from becoming infected and providing care for ten million additional HIV infected patients and orphans. With the first treatment clinic in Africa built in 2002, the speed of this escalation and the size of these goals were especially grand.

How were these goals justified by the international community? Stuckler and McKee (2008) discussed in *The Lancet* five key metaphors that apply to the increased focus on public health, and each applied to AIDS more specifically. They included considerations of how the disease threatened western foreign policy interests like increased trade, economic growth, and the stability of countries where AIDS is especially prevalent like sub-Saharan Africa. This explains advocacy for these policies by institutions like the Department of State and USAID among others. Similar to foreign policy was the notion that AIDS threatened security across the African continent with a common conception that AIDS could undermine African militaries (Whiteside et. al. 2006). This resonated particularly strongly with Bush Administration officials and U.S. Center for Disease Control officials who urged treatment support. Another metaphor for this investment was relief as charity which explains the focus on the issue by philanthropic groups like the Gates Foundation and other non-governmental organizations. Further validating these expenditures were groups advocating a health

response to promote investment. Groups worried that the virus could threaten economic development in developing states, and organizations like the IMF, World Bank, and the private sector supported health interventions along these lines according to Stuckler and McKee (2008). A final rationale for these interventions was the provision of global health as public health which explains the international support by institutions including the WHO and UN which established UNAIDS to specifically deal with the disease.

These five metaphors and the wide cast of advocates for these appropriations go a long way to explain the speed with which AIDS treatment was justified in a variety of venues. These justifications and initial successes also are dominant in explaining why, despite the current global financial crisis that AIDS treatment coverage continues to escalate rather than being reduced in scope. This is a sharp break with other past health interventions which largely disappeared in lean times when only the global health as charity narrative was used. PEPFAR for instance started off as a $15 billion dollar program that at the time of its launch seemed like little more than a State of the Union promise by President Bush. By the time it was reauthorized in 2008, it was expanded to include $39 billion for AIDS alone, in addition to expanded commitments for malaria and tuberculosis (PEPFAR, 2009).

ARVs: What Type of Goods Are They?

What is especially helpful from a social scientific perspective is the fact that the international community, through the various international and bi-lateral institutions offered health care funding support in every viable African country, according to WHO data. This means an inaccessible country like Somalia lacked AIDS treatment, but these appropriations were made in countries whether they were considered friends or foes of

the western world. With this support, one can make the case that treatment was made available and African governments all had the possibility of accepting this aid. There were countries that received greater or lesser aid, but it is worth noting that the overall treatment of international health aid was advocated for all countries, and the availability of treatment was universally available for individual states to seek through a variety of mechanisms including international grants and diplomatic efforts to garner bilateral aid. Also, all countries benefit from the knowledge gained and economies of scale which have resulted in the prices of the required medications dipping dramatically per capita as these efforts escalate (Parker, 2007).

Based on these commitments, and the fact that these programs continue to expand despite the international financial crisis, I would argue that international funding for AIDS is here to stay and that AIDS treatment is no longer exclusively a private good. Based on the wide variety of narratives used to justify public health and the fact that international assistance for health care has been accepted by more than forty African states, I would argue that these resources are available to some degree to every African nation-state. Still, with no country achieving 100 percent coverage, they cannot be considered a public good. How can we categorize this good that fits somewhere between public and private? Kapstein and Busby describe a term known as merit goods which they describe as, "the transformation of ARVs from private goods, which only a few victims of AIDS could afford, into merit goods or entitlements, defined as goods that should be made available to everyone, irrespective of their ability to pay for them," (2009, 2). As the Harvard experts advocate, restricting access to only some portion of patients able to pay for their own care will only allow the disease to spread more widely,

making exclusion detrimental to the overall goal of reducing further spread of the disease. Available data also indicates that despite the global financial crisis, resources have expanded rather than ebbed in flow showing the non-subtractable nature of resources provided for fighting the AIDS crisis. Chen et. al. (1999) argue that public health in the globalized age has become a public good, but ARV availability could only be qualified as a public good once coverage rates reach 100 percent. This is commensurate with Farmer's advocacy for increased availability of treatment based on a human rights based approach to this set of issues, which has emerged as an international norm as described by Kapstein and Busby (2009). This concept of merit goods will be used throughout the dissertation.

Domestic Ownership

Equally important is the agency with which countries could accept or reject this aid. As Jackson and Rosberg (1982) argued, the juridicial characteristics of statehood would prevent international intervention without at least tacit support from the individual states in question. As an example of this domestic ownership, despite PEPFAR being a bilateral, U.S. funded initiative, eighty six percent of the organizations that actually act on the ground to carry out these supported projects in 2008 were indigenous organizations (PEPFAR, 2009). South Africa under Mbeki vehemently denied the linkage between HIV and AIDS, but this did not prevent the country from accepting international aid, according to Patterson (2006). These statements were likely responsible for South Africa receiving less aid per capita than more proactive regimes like Uganda where political leadership was quicker to accept the underlying science of the disease. This probably explains why Uganda received the largest amount of

international assistance per AIDS patient in 2004 among African countries (Patterson, 166).

While international support by the NGOs dominated the headlines, domestic governments have also prioritized spending on health. According to WHO data, African states have taken on a large share of the bill for health in their countries, and health accounts for more that 5% of GDP spending on average by African governments (WHO, 2008). The international organizations involved has strongly emphasized that the overall response effort is nation-state owned and led (UNAIDS, 2009). Based on these and other examples that will be provided in the dissertation, I argue that despite focus on the role of foreign assistance, nation-states are in control of their own treatment programs, and greater or lesser international resource availability is both directly and indirectly influenced by the choices made by domestic governments. The South Africa/Uganda divide is an example of how domestic differences resulted in different levels of commitment by the international community. The commitments by African regimes to AIDS policy prioritization despite the universal availability of at least some resources by international institutions is the puzzle to be examined at several levels in the dissertation. With African governments owning responsibility for the AIDS response, and international institutions making these health resources available in some degree to all countries, why has there been such dramatic differences in levels of success scaling up AIDS treatment?

The Dissertation Puzzle

Several of the countries most successful at fighting the disease are among the weakest in economic and state capacity (Patterson 2006, 28). Why for instance an

economically weaker country like Botswana has the most robust treatment of any country with 76% of needy AIDS patients getting treated according to the WHO's 2006 data. Economically stronger and with greater health capacity, South Africa lags with barely more than 20% of AIDS patients having similar access. Explaining these divergent cross-national outcomes is the goal of the first article in this project.

Before proceeding, I will first articulate my specific research questions and define the part of the wide AIDS field that I will investigate. First, this project will explore the following question: at the country level, what are the political determinants of ARV coverage in the African context; in other words, why have some countries been able to treat more patients than others? A second research question disaggregates the analysis to the sub-national level: what explains the distribution of ARV resources when they are not available to all patients who require them? Third, and finally, at the individual level what explains satisfaction or dissatisfaction with AIDs policy responses? Each of these questions will be discussed in greater detail below. I should note here that although I recognize that AIDS treatment is only one part of the overall policy response, the scientific consensus indicates that treatment and prevention are mutually beneficial. In this inquiry I will focus almost exclusively on the treatment portion of this response. Further research on prevention would be a useful direction for further inquiry.

I would like to quickly summarize the direction of these inquiries before expanding upon them in greater detail in the individual articles. First, I plan to perform a macro-level statistical analysis addressing why some states have been more effective in scaling up ARV programs in Africa than others utilizing OLS regression. I would like to investigate what political factors lead to the divergent outcomes. For example, is ARV

implementation an outcome of regime type, democratic stability, or economic strength? This statistical analysis would represent the first article for the dissertation. Second, when countries cannot supply ARVs to all citizens, a common occurrence, what explains the distribution of these scarce resources? Are these decisions based on economic, political, or public health considerations? Again I will utilize statistical techniques, offering a comparative analysis of two countries. Finally, what explains the differences in citizen attitudes regarding these policy outcomes, either at the national or sub-national level? In other words, why are some people more or less satisfied with their government's response to the disease? While this is a very brief account of the research plan, I will develop these ideas in detail later in the individual articles.

Works Cited

Adams, Gregor et al. (2001). "Consensus Statement on Antiretroviral Treatment for AIDS in Poor Countries." Individual Members of the Faculty at Harvard University.

Antiretroviral Drugs. Definition. *Encyclopedia of Medicine.* http://www.enotes.com/medicine-encyclopedia/antiretroviral-drugs.

Badri M, Maartens G, Mandalia S, et al. (2006). "Cost-effectiveness of Highly Active Antiretroviral Therapy in South Africa." *PLoS* Med. 3:e4.

Baragona, Steve. (2005). "Study Examines Lessons Learned at Africa's First Public Antiretroviral Treatment Clinic," *Clinical Infectious Diseases.*

R. Bonnel (2000). "HIV/AIDS: Does it Increase or Decrease Growth in Africa?" Mimeo.
World Bank: Washington.

Boone, Catherine and Jake Batsell. (2001). "Politics and AIDS in Africa: Research Agendas in Political Science and International Relations," *Africa Today.*

Chen, Lincoln, Tim Evans, and Richard Cash. (1999). "Health as a Global Public Good."
In *Global Public Goods.* Edited by Inge Paul, Isabelle Grunberg, and Marc Stern. United Nations Development Program. New York: Oxford University Press.

Creese, Andrew, Katherine Floyd, Anita Alban, and Lorna Gulnness. (2002). "Cost-Effectiveness of HIV/AIDS Interventions in Africa: A Systematic Review of the Evidence." *The Lancet.* Vol. 359. P. 1635-1642.

Farmer, Paul. (2001). "The Major Infectious Diseases in the World –To Treat or Not to Treat?" *The New England Journal of Medicine.* Vol. 345. No. 3. July.

Freedberg, Kenneth et. al. (2001). "The Cost Effectiveness of Combination Antiretroviral
Therapy for HIV Disease." *The New England Journal of Medicine.* Vol. 344. No. 11. March.

Goldie SJ, Yazdanpanah Y, Losina E, et al. (2006). "Cost-Effectiveness of HIV treatment
in Resource-Poor Settings: the Case of Cote d'Ivoire." New England Journal of Medicine. Vol. 355:1141–1153.

Hart, C. *et al.* (1999). "Correlation of Human Immunodeficiency Virus Type 1 RNA Levels in Blood and the Female Genital Tract. *J Infectious Disease* 179:871-882.

Hess, Charlotte and Elinor Ostrom. (2007). *Understanding Knowledge as a Commons: From Theory to Practice.* Cambridge: MIT Press.

Jackson, Robert and Carl Rosberg. (1982). "Why Africa's Weak States Persist: The Empirical and the Juridicial in Statehood. *World Politics.* Vol. 35. No. 1. October. P. 1-24. Cambridge: Cambridge University Press.

Kapstein, Ethan and Josh Busby. 2009. "Making Markets for Merit Goods: The Political Economy of Antiretrovirals." Working Paper No. 179. Center for Global Development: Washington, D.C.

Lamptey, Peter and David Wilson. (2005). "Scaling up AIDS Treatment: What is the Potential Impact and What Are the Risks?" *PLoS.* Vol. 2 Issue 2. February.

Morrison, Stephen. (2009). "Using Measurement to Drive Results: The Case for a New Strategic Measurement Framework." *Center for Strategic and International Studies Commission on Smart Global Health Policy.*

Parker, Stephanie. (2007). *Big Pharma and Big Profits: Denying Access to AIDS Medication.* Africa Action.

Patterson, Amy. (2006). *The Politics of AIDS in Africa.* Boulder: Lynne Rienner Publishers.

PEPFAR. (2009). "PEPFAR: A Commitment Renewed." Updated September. Washington: PEPFAR. http://www.pepfar.gov/press/107735.htm

Stuckler, David and Martin McKee. (2008). "Five Metaphors About Global Health Policy."*The Lancet.* Vol. 372. July.

UNAIDS. (2009). *AIDS Epidemic Update.* Geneva: UNAIDS. http://data.unaids.org/pub/Report/2009/2009_epidemic_update_en.pdf

UNAIDS (1999). *HIV/AIDS Prevention in the Context of New Therapies.* Geneva: UNAIDS.

UNICEF. (2000). "The Progress of Nations." New York: UNICEF.

"Universal Access to HIV Treatment, Prevention, Care, and Support." (2009). N.A. UNAIDS. http://www.unaids.org/en/CountryResponses/UniversalAccess/default.asp

USAID. (2000). "Children on the Brink: Updated Estimates & Recommendations for Intervention. USAID: http://www.usaid.gov/press/releases/2000/childrenreport.pdf.

U.S. Census Bureau. (2000). "Monitoring the AIDS Pandemic Network. The Status and Trends of the HIV/AIDS Epidemics in the World."

P. Vernazza *et al.* (2000). Potent Antiretroviral Treatment of HIV infection Results in Suppression of the Seminal Shedding of HIV: the Swiss Cohort Study. *AIDS* 28:117-121.

Whiteside, Alan, Alex de Waal and Tsadkan Gebre-Tensae. (2006). "AIDS, Security, and
the Military in Africa." *African Affairs.* Vol. 105/419. Oxford: Oxford University Press.

WHO. 2008. "Antiretroviral Therapy Coverage Among People with Advanced HIV Infections."Geneva: WHO.
http://www.who.int/whosis/indicators/compendium/2008/3avr

The Political Determinants of ARV Coverage in Africa: A Cross National Analysis of States and Regimes

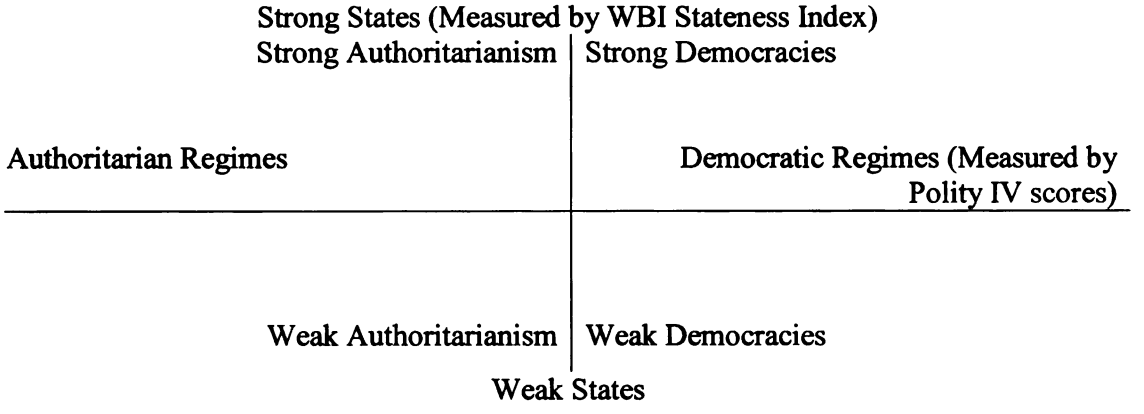
Introduction

The complexity of responding to HIV/AIDS in Africa can be seen from the varying actors and organizations involved in this crisis. Individual citizens, civil society groups, bureaucrats, state elites, international relief workers, foreign donors, political leaders, and multi-national pharmaceutical manufacturers are all involved in an unprecedented international response. From Washington to Geneva and Cairo to Cape Town, AIDS in Africa has garnered enormous resources and attention. Such a large scale effort has not occurred in a vacuum, and this article seeks to assess whether institutional rules or institutional capacity influence these policy responses, how these two characteristics influence one another, and finally, what components of the regime or state are most important to ensure policies focused on providing treatment to AIDS patients. In performing this analysis, focus in on AIDS treatment rather than prevention or other efforts, though AIDS treatment is representative of an overall policy response.

Before delving into research questions, these important concepts need to be defined and delineated. Institutional rules make up the regime. As Bratton and Chang (2006) describe it, the regime is, "the set of political procedures—sometimes called the rules of the political game—that determine who make decisions and how," (1060). Regimes vary from authoritarianism to democracies. Regimes are more transient than states, which have greater enduring power. Again, quoting Bratton and Chang (2006), the state is, "the bone structure of the body politic or the set of administrative institutions that claim a legitimate command over a bounded territory. States vary in their strength from

strong to weak, and in this analysis the focus is on formal political institutions. These two characteristics are illustrated in the diagram below.

Figure 1.1: States and Regimes Considered Together



Testing how state capacity affects human development is an important part of this paper, but it is not the only part of this project. Whether the relationship between regime type and state capacity is interactive is another important question. The testable hypothesis is that more democratic regimes and stronger states will have more robust ARV coverage. Looking at the figure above, that would involve a relationship where a scatter plot would indicate a linear relationship from lower left to upper right. Another interesting possibility is that strong authoritarian states may be more able to deploy the necessary resources that allow successful human development than weaker hybrid regimes. That would be shown if the scatter plot was more 'V' shaped with stronger states having more positive human development outcomes. In order to assess these relationships a three dimensional scatter plot will be necessary to assess these relationships, but this figure demonstrates the importance of testing these two independent variables side by side, increasing the dimensionality of governance and

providing greater leverage over our research question than bivariate modeling would provide. Whether or not these two independent variables are additive, reinforcing as an interaction term, or whether countries can have a stronger authoritarian regime that provides for greater human development outcomes is worthy of testing.

My research goal is firstly to explain the political factors that shape anti-retroviral drug (ARV) policy outcomes including the scope of such efforts. In other words, what are the political determinants of ARV coverage, and do democracies and stronger states provide these resources more robustly than other types of governments? This study performs a macro-level statistical analysis (OLS regression) addressing why some countries have been more effective than others in scaling up ARV programs in Africa.

These questions are rooted in a research agenda proposed in 2001. In 2001, Catherine Boone wrote in *Africa Today*, "Political Science as an academic discipline has been slow in grappling with the enormous implications of the AIDS crisis for much of the developing world," (Boone and Batsell, 2001). Boone presented a series of AIDS related sub-topics which political scientists could offer valuable research. As she put it, "Five research agendas for Africa are: variations in state response to the pandemic; the relationship between governments and NGOs; the AIDS challenge to neo-liberalism; AIDS and North-South tensions; and connections between AIDS and international security issues," (Boone and Batsell, 2001). Clearly, and as the literature review will indicate the field is wide open for political scientists inquiring about AIDS from multiple angles aimed at a variety of research questions; the research below will focus heavily on the first of Boone's recommendations, focusing on variation in the national

responses to ARV treatment. I will next review important literature on the nature of African states and regimes before discussing the research design.

Literature Review

The literature review proceeds with a review of relevant literature on the African regime before a discussion of the African state follows. After this literature has been discussed, appropriate hypotheses, measures, and testing are discussed.

African Regime Literature

AIDS is obviously an important challenge for the African continent, but what is the political dimension in this project? This set of questions has substantive theoretic importance for political science scholars as well. One of the great debates within the field is the dialogue between scholars arguing that development promotes democracy (Lipset 1959) and authors who argue that these traits do not necessarily go together (Deutsch, 1961). Diamond (1992) retested Lipset's hypothesis with data showing that democratic regimes specifically increase human development. Diamond's focus on human development is also limited to cross tabs without a more in depth modeling component. AIDS treatment is a specific measure of human development, and it is an effective indicator that similarly evaluates whether public policy is geared towards improving public focused policy outcomes. Furthermore this debate is complicated by those who believe economic development underpins democratic endurance (Przeworski et al 2000) and those who have argued that inequality is an intermediary variable between democracy and development (Boix and Stokes 2003; Acemoglu and Robinson 2006).

Less work has been done to look at how regime type structures human development. Specifically, although some scholarship suggests a positive relationship (Gerring et al, 2005, Deacon 2003, Stasavage, 2005, Halperin et. al. 2005) between democratic regimes and more successful policy outcomes, other work indicates no relationship exists (Ross, 2006). A few authors have targeted the relationship between democracy and health specifically with a positive relationship found in several cases. Govindaraj and Rannan-Eliya (1994) found that when comparing communist and democratic regimes, democratic regimes had more favorable health outcomes in terms of infant mortality and life expectancy. Franco et al (2004) found similarly that states with greater political freedom also enjoyed better health outcomes as measured by life expectancy, infant mortality, and maternal mortality rates. Interestingly, Tsai (2006) found that among developing countries, democracies out performed non-democracies in health provision, even when controlling for health spending. As most of the literature suggests, there appears to be some sort of relationship between democracy and positive health outcomes.

Diamond and Morlino (2005) state in the introduction of their book that, "We can analyze democratic quality by what it achieves in terms of government responsiveness to the expectations, interests, needs and demands of citizens," (xxix). One of the important measures of democratic quality as they argue is vertical accountability, linking the fate of elected officials to how citizens evaluate their political choices (xviii). For a citizen infected with AIDS, what could be a more important need than life prolonging treatment? Seeking to explain the relationship between democracy and positive health outcomes, Vollmer and Ziegler (2009) argue that democratic regimes place higher

priority on redistributive policies including health care. They go on to state that democratic societies are able to overcome inequalities more effectively, leading to greater provision of these merit goods. In this way, their findings echo the framework developed by Diamond and Morlino as public demand for these resources are able to be met as democratic institutions serve as an interactive highway between regimes and citizens.

It is often assumed that democratic values will promote greater public focused policy outcomes. Sen (1981, 1999) argues that democratic regimes offer voters the opportunity to penalize ineffective leaders and that the free press allowed under democratic rule promotes greater information transparency. As Sen argues electoral considerations force politicians to respond to public demands, necessitating human development investment. Gerring et al's (2005) analysis focuses on several possible mechanisms that link democracy to human development: they considers electoral competition, the importance of a free press, the likelihood that civil society advocates for human development investment, the possibility that democratic regimes must provide some measure of equality, the likelihood that democratic taxing institutions allow for a mechanism of redistribution, and finally that democracy provides a more stable environment for the provision of public goods.

While the idea that more democratic regimes should produce greater human development outcomes has face validity, the empirical testing to this point does not necessarily verify this expectation according to Ross (2006). Ross's (2006) research argues that this relationship does not hold when one focuses on whether democracies provide better human development outcomes for the masses. Ross argues that although

the commonly accepted wisdom links democracy and human development, there is a lack of consideration of global health, the lack of focus on country specific effects, and missing data for the poorest of countries. With this conflicting finding, it provides an important opportunity for retesting which I can analyze in my first article.

With one of Gerring et al's (2005) findings showing that longer lasting democratic regimes result in greater human development outcomes, it is important to assess regime stability. This is especially important in Africa given the prevalence of hybrid regimes that sit between full democracies and authoritarian states as discussed by numerous authors including Bratton et. al. (2005), Diamond (2002), Schedler, (2002), van de Walle (2002) and Levitsky and Way (2002).

Gyimah-Boadi (2004) also argues for a connection between democratic transparency helping Africa's emerging democracies fight the AIDS epidemic (18-20). He argues that authoritarianism contributed to the emergence of the crisis, but that transparency has required states to admit and deal with the disease. Looking at the disease in a different way, Gyimah-Boadi argues that the disease threatens African democracy citing that less democratic regimes like Uganda have been more effective in AIDS policy than more democratic Botswana and South Africa. He claims that even weak political responsiveness and accountability, the key democratic values attributed by Diamond and Morlino (2005), have crippled the political response. More favorably, he views democracy as providing some opportunities for successful AIDS policy, mentioning democratic openness, civil society strengthening, bolstered rights for women, and economic liberalization. These characteristics, as he put it, "appears that the prospects of effective...control of the spread of the disease are better now than ever," (20).

Does the act of holding elections guarantee these results? Lindberg (2006) argues that elections in and of themselves increase the likelihood of liberalization regardless of flaws and that a three election cycle will increase the quality of democracy. As he argues, democratic practice enhances democratic values in a society. But is the procedure of elections enough to ensure public focused policy results? Is it the political space provided by elections that improves policy or the does increased competitiveness between parties that leads to these provisions? Dovetailing with this increased competition, Wantchekon (2003) indicates that competing parties often turn to clientelistic messages, but his findings suggest that women voters are especially swayed by public goods focused messages that lead one to belief that multi-party competition may drive up these types of public regarded commitments to a larger extent. Do public focused outcomes require competition and transitions in power in accordance with Huntington's (1991) two turnover test? As Reynolds (1999) argues, democratic institutions build an inclusionary ethos that can lead to these positive outcomes. As he states, electoral systems and institutional design are critical components that determine the success or failure of democratic experiments in Africa as states must overcome the realities of their multiethnic societies through successful inclusionary design.

African State Literature

Instead of looking at the regime and the authoritarian/democratic continuum, another important component of a country is its state structure. While more democratic regimes either do or do not allow for greater ARV provision, it is likely that the level of resources and institutional capabilities that a state has will be an important determinant of ARV provision. State focused scholarship argues that instead of the type of

government in place it is the strength of this government that matters most. Englebert (2000) has made the case that the development of state capacity structures the policy choices available to elites and, in turn, the quality of governance in respective countries. In other words, treating AIDS patients would only be possible in states that exceed a certain strength threshold. Englebert links the importance of capacity and economic development, one component of human development (2000, 30-37).

Villalon and Huxtable (1998) have echoed these sentiments from both Englebert and Patterson's work, summarizing them in five characteristics. Their categories include the African state holding five key traits, "a client status, a personalized identity, a centralized or overdeveloped morphology, a prebendal or rentier nature, and an extractive impulse," (11). In unpacking these terms, they discuss the African state as a clients, usually first as a client of the colonizing nation and then later as a client of either the United States or Soviet Union during the Cold War. In the post-Cold War era, the African state can no longer count on these relationships to ensure sustainable income (12). In terms of personalization, they discuss the dominance of an individual leader (12). In these countries where a single leader dominates the policy process, the lines between state and regime are often blurred. This relates well to our issue of inquiry, with Mbeki's dominance over South African AIDS policy during his regime a controversial example. They go on to describe the over-centralized and overdeveloped nature of the African state. As they describe it, the state employed too many people with the power concentrated on the center rather than a multi-layered structure that would empower local institutions (13). When using the term prebendal or rentier state, they refer to the state as the key distributional force in which the state plays the role of patron

and citizens serve as clients who are rewarded for their loyalty, either through resource or employment opportunities, thus using the nation's resources promote political stability (13). Finally, as they describe, the state serves as an extractive force with the goal of the state to focus on these activities rather than enhancing the state's capacity (14). Boone (2003) also focuses on the state and the variation in the strength of these institutions as reflective of local circumstances, often by rural political elites. Boone's research offers a bottom up approach to the state, which is often subject to top-down discussion.

Providing an example of such a top-down discussion is the work of Jackson and Rosberg (1982). Rather than focusing on the Weberian definition of the state which focuses on the monopoly over the legitimate use of force, with an emphasis on the military, police, and courts, these authors focus on two levels to explain why Africa's states have survived. They break the state into its empirical and juridical pieces. They argue that the African state exists largely on its juridical, or international law based status and that Africa's states are empirically weak where they function at all (4,5). They argue that the African state generally fails to hold stable communities where the nation-state is the dominant institution compared to ethnic groups (Posner, 2005) or local institutions (5). They go on to discuss the state's inability to fulfill the requirement of an effective government, capable of penetrating the state and reigning over the domain of its entire territory. They describe the individuals comprising the state as under-resourced, both in their level of capacity and their ability to deploy these limited tools. This fits with the Villalon and Huxtable notion of the state as overdeveloped with too many people with too centralized a structure; as they discuss, this overdevelopment

is further hindered by a lack of investment in resources (8). In summary, the empirical African state, which is what we are interested in their ability to provide for their individual citizens can be characterized as weak (12). As they describe, the juridical elements which can be characterized by international club membership more than any definition that beholds citizens to government. In this definition, boundaries and international recognition are what characterizes these traits, a minimalist definition that does nothing for citizen subject which they discuss in their conclusion (21).

Similarly focused on territorial definitions of the state, Jeffrey Herbst's (2000) research focuses on the lack of penetration of the African state and the inability of these states to effectively penetrate African societies. This project conceptualizes state penetration through roadways, which Herbst argues are inherently underdeveloped in most state structures. In his description the territories necessitated colonial institutions which ruled on the cheap; at independence these international boundaries, the juridical statehood described by Jackson and Rosberg (1982), were upheld by the international system and post-colonial state boundaries simply followed this pattern. As Herbst argues, the defined state often only reigns over the capital city rather than extending its reign over the full realm of its territory and possibly to a valued region containing an extractable resource as both Boone (2003) and Villalon and Huxtable (1998) described in their discussion on the role of states as extractive institutions.

The African state is described and well summed up by van de Walle (2003) as existing in a state of permanent crisis, and by Chabal and Daloz (1999) as disorderly. These characteristics well summarize the overall message described by the above state focused scholars. The relative weakness of the African state when compared to similar

institutions on other continents is not controversial. What is also clear is that not all African states are equal. As Patterson (2006) describes in her work on the African state and the AIDS crisis, she finds there is significant variation in terms of different individual characteristics; in her analysis there was variation in terms of centralization, neopatrimonialism, capacity, and stability (28). Though she was unable to discern a clear pattern along these characteristics in terms of how these state level measures influenced AIDS policy, what this project reveals is that African states, though relatively weak when compared to others, show significant variability across respective units.

If a relationship is found between state strength and ARV provision, what underlies such a relationship? Following Bratton and Chang (2006) this analysis will measure stateness using an index of five indicators from Kaufmann, Kraay, and Mastruzzi (2009) that focus on governance. They offer six indicators in total: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. The first, voice and accountability, is dropped as this freedom based measure is more a matter of regime type, our other primary independent variable. To develop our index of stateness, a simple average of the five components is taken. Once an initial relationship is established, models will be run to investigate which elements of stateness matter most, whether it is stability, governance effectiveness, effective regulations, the rule of law, or successful control of corruption that makes ARV provision possible.

As the literature suggests the state and its ability to project power varies across the continent. The strength of the state (Bratton and Chang, 2006) is as important of an inquiry in terms of its relationship to ARV provision as regime type, and comparing the

importance of these different vantage points systematically is the goal of the research design below.

Literature Synthesis and Research Design

Capturing the politics of ARV therapy will require investigation into several political factors and how these help shape this policy field. This study will try to explain levels of ARV coverage across African countries. One characteristic of ARVs is the fact they are a merit good of mass value to citizens suffering from AIDS. Other things being equal, a country's provision of these drugs serves as a proxy of government responsiveness, which should be enhanced by democratic institutions according to political science literature (Halperin et al 2005; Goetz and Jenkins 2004; Sen 1999). The state literature argues that greater state strength should also boost the likelihood of citizen focused public policy. As will be seen below many of the hypotheses seek to investigate whether democratic regimes and stronger states have been more responsive in providing ARVs than have non-democratic regimes, weaker countries. This is the goal of the first model below, probing whether it is the state, the regime, or some combination of these institutions that influence a country's ability to provide for its citizens. If regimes are dominant, what characteristics of democracies ensure these countries are more effective? If it is the state that matters most, what elements of the state matter most for this provision? Unpacking these concepts and building a research design capable of testing these questions is the goal of the research design outlined below.

All of the literature suggests that the country is an appropriate level of analysis for inquiry regarding ARV provision. Most readings suggest some sort of relationship

exists between democratic regimes and positive policy outcomes with all except Ross (2006) arguing that either human development or health specifically are improved by living in democratic regimes. Similarly, as Englebert (2000) argues, stronger states of greater capability should be more proficient at providing resources than weaker cases. Getting beyond the democracy/non-democracy regime and strong/weak state typologies, if relationships are found between states, regime, and the provision AIDS treatment, we need to ask: what specifically about these cases enhances these outcomes? In order to address these questions the formal political institutions and several characteristics of the state must be examined to seek out which building blocks are most important for ensuring drug provision. For instance, are regimes with multiple political parties more likely to provide ARVs? Is the rule of law the important component of the state that allows such provision? These hypotheses are listed below.

Dependent Variable

As a dependent variable measure, the World Health Organization has a database with ARV coverage as a percentage of the total number of advanced stage AIDS patients for forty two sub-Saharan African countries. Island nations are excluded from the dataset, but all other sub-Saharan countries are included for N=41. These measures are for 2006 and have been utilized by other researchers who consider them to be the best measure available of ARV coverage available at the cross national level. All of the variables included for this analysis are based on 2006 data.

Cross National Hypotheses

Based on the discussed gaps in the literature and the areas of inquiries listed above, several hypotheses are worthy of investigation. They include the following:

H_1: Countries with a more democratic regime will be more likely to have a better developed ARV program than those states with lower quality democracy.

This hypothesis allows for getting below the democracy/non-democracy typology to investigate deeper into this level of democracy and how it relates to ARVs. This hypothesis is rooted in Diamond's (1992) findings linking greater quality of democracy with higher levels of human development, and this test will investigate the relationship between AIDS policy outcomes and quality of democracy similarly. Both democracies and non-democracies will be considered in the analysis. Freedom House scores were considered, but due to their strong normative emphasis on democracy, polity IV data was selected to serve as the measure of regime type.

H_2: Countries with stronger states will be better able to provide ARVs and will have greater coverage than weaker states.

Focusing on state strength is based on the literature on the African state including Englebert (2000) and others. To measure the strength of a state, an index of stateness based on Kaufmann, Kraay, and Mastruzzi (2009) World Bank Indicators is used, similar to Bratton and Chang (2006).

Underlying Regime Hypotheses

H_3: Countries that have experienced longer periods of democracy will be more likely to have a better developed ARV program than in countries with shorter durations of democracy.

This hypothesis will allow for the investigation of whether democracy provides for greater political responsiveness. Length of uninterrupted democracy is coded in an available dataset from Lindberg (2006) and regime longevity is coded based on years

since a founding election as of 2006. With one of Gerring et al's (2005) findings showing that longer lasting democratic regimes result in greater human development outcomes, it is important to assess regime stability.

H_4: Countries experiencing executive turnover are more likely to have better developed ARV programs than those without such a history of turnovers.

One controversial aspect of democratic theory is whether two turnovers after a transition is sufficient in a definition of a consolidated democracy (Huntington, 1991). This hypothesis will inquire into whether countries with such turnovers, based in greater electoral competition make the merit goods, as measured by ARVs more important for candidates. Turnovers are recorded in the Lindberg dataset, and are added up as of 2006 elections. In the coding for this variable, Lindberg differentiates between turnovers that involved the election of a new party or candidate versus one in which the candidate was both new and of a new party. Lindberg refers to the former as half turnovers; in my coding for this project I elected to only include full turnovers in the data set, meaning that the transition changed both candidate and party in power rather than one or the other of these characteristics. This type of turnover represents a full transition rather than a simple change of administration.

H_5: Countries experiencing more competitive executive elections will be more likely to commit to ARV therapy than in states without competitive elections.

This is another hypothesis based on the notion that competitive elections will require greater public responsiveness as assessed by Wantchekon (2003). This hypothesis will test whether ARVs are one of these policy areas. Electoral results are available in the Lindberg dataset allowing for competitiveness to be measured. To measure this

characteristic, the percentage of the vote garnered by the winning party is coded; thus, a larger value is consistent with a larger percentage of votes garnered by the leading political party and a lower level of electoral competitiveness.

H_6: Countries with multiple political parties will have more successfully developed ARV programs than in states that few or dominant parties.

This is another hypothesis interested in the institutional structure and whether elections change the dynamic and multiparty systems develop more public regarded policies and stems from Lindberg's findings on democratic institutions increasing competition between parties over time as well as Wantchekon's (2003) findings linking public goods provision to vote choice. Effective number of political parties is available in a database from Lindberg (2006) and will be used to assess the competitiveness of a party system. Multi-party states are coded with a dummy variable to delineate single party from multi-party regimes.

Underlying State Hypotheses

H_7: Countries with greater political stability will be able to provide ARVs more effectively than states that are less stable. Stability is one of the aspects of the state Patterson considers in her analysis of African states and AIDS response, and though her findings are mixed, she only looks at four cases, and an expanded analysis that includes more than forty cases should allow for stronger evidence one way or the other. Stability is an index component from Kaufmann, Kraay, and Mastruzzi (2009).

H_8: Countries with greater governmental effectiveness should lead to greater ARV provision than in states with weaker governance.

This goes back to Herbst's (2000) notion that states that have effectively penetrated

their respective societies will be more able to govern, and these states should be more responsive to citizen needs. Governmental effectiveness is part of the Kaufmann, Kraay, and Mastruzzi (2009) World Bank Indicators Project.

H_9: Countries with greater regulatory quality will be more able to provide ARVs than states with weak regulatory policies.

In their construction of this measure, Kaufmann, Kraay, and Mastruzzi (2009) focus on the ability of a state to put in place investment and development friendly policies, and it is likely that greater development will yield the resources required for more public focused policies like ARV provision.

H_{10}: Countries with a stronger rule of law will be more able to provide ARVs for citizens than states with a weaker rule of law.

Bratton and Chang (2006) find that the development of a rule of law is the single most important building block for a democratic state. This hypothesis tests whether a strong rule of law also leads to greater ARV provision, the next step from governance to public friendly policy. This measure is also from Kaufmann, Kraay, and Mastruzzi (2009).

Control Variables:

As control variables, I include ethnic fragmentation to incorporate Lieberman's (2009) recent findings regarding ethnic barriers preventing more effective AIDS policy responses. I will measure this using the PREG (Posner, 2004) which captures whether greater numbers of participating politically relevant ethnic groups decrease effective HIV/AIDS policy response including ARV coverage as suggested by Lieberman (2009). Posner's measure is more relevant than the ethno-fractionalization index as it only

includes groups that participate in the political process rather than all ethnic constituencies, making it more politically relevant. I also incorporate data on the source of this funding to control for international interventions as well as health infrastructure. This measure controls for the percentage of funding coming from international donors. I can also control for HIV prevalence rates to control for relationships between higher need states and allocation of these resources; these measures are independent of the dependent variable measure. One would expect that states facing larger epidemics would be more likely to prioritize a robust AIDS response.

Statistical Analysis: Measures, Methods, and Models

For the regression analysis, N=40 as numerous island nations did not have ARV coverage data available from the World Health Organization. This removed four cases from consideration: Cape Verde, Comoros, Sao Tome and Principe, and the Seychelles. Additionally Swaziland was found to be an outlier and was subsequently dropped from the model. The Swaziland case was the only example of a relatively strong non democratic state which managed to provide ARVs more robustly than many of its counterparts. Swaziland's small size and unique standing makes it difficult to compare to other African cases, though follow up research with a wider data set would be a useful direction for future research.

Before we analyze the regression results, let us quickly discuss the methodology. First, the dependent variable is the percentage of AIDS patients receiving ARV treatment out of the total number of those who require this treatment.

Model 1 compares the importance of state and regime characteristics and their

influence on ARV coverage[1]. To assess regime type, we utilize polity IV data. The stateness index discussed below follows Bratton and Chang (2006) and is a mean of five components: political stability, governmental effectiveness, regulatory quality, control of corruption, and rule of law. These measures are established indicators developed by the World Bank, and they are some of the most important aspects of the state capacity concept.

Model 2 adds important control variables to assess the robustness of the state/regime findings[2]. PREG scores includes Lieberman's finding that ethnic barriers prevents effective AIDS policy using a respected measure developed by Posner (2004). I also control for the source and policy decisions regarding funding for health care funding with data sourced from the World Health Organization (WHO) for 2006. Health spending as a percentage of GDP was the best measure available as it best reflected the decisions available to policymakers in their country's respective economic contexts. Overall health spending was also tested but it was even less influential than health spending as a portion of GDP. Finally, we control for the burden of HIV across the various countries, again with data coming from the WHO.

---

[1] It should be noted that although polity IV scores were used to measure regime type and the World Bank indicators are used to assess state strength, Freedom House scores to measure regime type and Rotberg's (2009) Index of African Governance to assess state strength were also tested. The relationship discussed below in the first two models was robust across these other measures.

[2] Numerous other variables were considered as controls and were shown to have no relationship with ARV coverage. These include GDP per capita, % of the population that lived in urban areas, controls for both population and size of respective countries, and measures of the overall health care system quality like doctors per capita, hospital beds per capita, infant mortality. None of these variables were as important as those used in the models. Models were also run to seek out interaction terms between stateness and variables like percentage urban, democracy, ethnic diversity, hospital beds per capita, proportion of budget from international donors, and total spending. None of these interaction terms were deemed statistically significant.

Model 3 attempts to get below the aggregated measures of regime and state and investigates what components of these two concepts are most important for ARV coverage. Regime data comes from Lindberg (2006). Years of continuous democracy measures regime longevity. Number of turnovers assesses both regime longevity but also competitiveness within that life span. Competitiveness is a measure of the percentage of the party in power's share from the most recent executive election. Multi-party is a dummy variable assessing whether a state has multiple political parties in the regime. The components of the stateness index are the four components that were combined previously: political stability, governmental effectiveness, regulatory quality, and rule of law. Again data is taken from Kauffman, Kraay, and Mastruzzi (2009) and their World Bank Indicator Project.

Model 4 simply offers an attempt at a reduced model with the most empirically important disaggregated variables included. As will be discussed below, state strength was consistently the most important predictor of ARV coverage regardless of controls or level of aggregation. As was previously noted, this finding with state strength dominating over regime type was robust across numerous measures as well. Models 3 and 4 together provide evidence that state capacity components—political stability, governmental effectiveness, regulatory quality, the rule of law, and control of corruption—all stand together, both conceptually and in policy practice. In other words, effective state capacity requires each of these factors rather than a piece meal approach.

Table 1.1: OLS Regression Results for ARV Coverage

		Model 1	Model 2	Model 3	Model 4
	Constant	33.270***	31.85***	19.123	22.88*
		(4.653)	(9.28)	(21.06)	(12.983)
Regime	Polity IV Score	-0.165	-0.232	-	-
		(0.544)	(0.585)	-	-
	Years of Continuous Democracy	-	-	0.568	0.417
		-	-	(0.426)	(0.401)
	Number of Executive Turnovers	-	-	-3.169	-
		-	-	(4.446)	-
	Electoral Competitiveness	-	-	0.03	-
		-	-	(0.126)	-
	Multi-Party	-	-	3.796	-
		-	-	(17.742)	-
State	Stateness Index	15.327***	11.810**	-	-
		(4.738)	(5.219)	-	-
	Political Stability	-	-	-0.098	-
		-	-	(4.923)	-
	Government Effectiveness	-	-	9.142	6.719
		-	-	(13.202)	(5.575)
	Regulatory Quality	-	-	1.547	-
		-	-	(9.675)	-
	Rule of Law	-	-	-0.921	-
		-	-	(14.346)	-
Controls	PREG	-	-12.697	-	-14.807
		-	(11.028)	-	(10.680)
	Health Spending as a % of GDP		1.57	-	1.445
			(1.346)	-	(1.347)
	% External Health Spending	-	-0.224	-	-0.161
		-	(0.172)	-	(0.176)
	Logged HIV Prevalence	-	1.436	-	2.023
		-	(2.2526)	-	(2.524)
R Squared		0.256	0.379	0.32	0.39
Adjusted R Squared		0.216	0.259	0.145	0.272

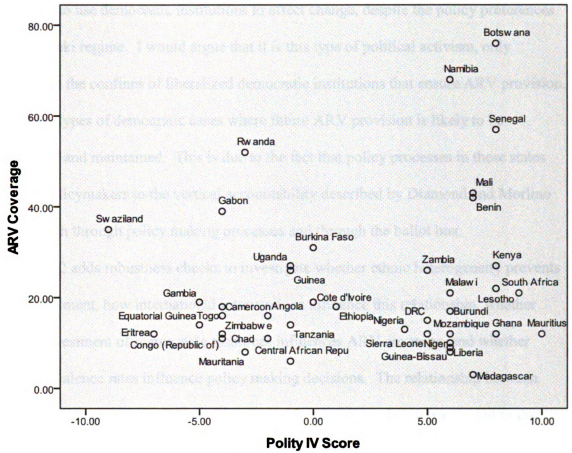
Dependent Variable= ARV Coverage

***=p<.01 **=p<.05 *=p<.1 Standard Errors in Parentheses

The first model tests the aggregate relationship between regime type, state strength, and ARV coverage. As the model indicates, the relationship is dominated by state

strength at first glance. Stronger states are much more likely to be able to provide drugs to needy patients than weaker states. The relationship between regime type and ARV coverage is more complicated than this initial model suggests, however. While the relationship between regime type and ARV coverage was more U-shaped with Swaziland in the model, we do not have enough cases to assess whether strong, authoritarian states are as capable of providing ARVs as strong democratic states, but the initial evidence suggests this. Further investigation of authoritarianism and ARV coverage would be useful in a wider analysis if more strong authoritarian countries were available in a wider data set. If this initial analysis is correct, this can be interpreted to mean that stronger democratic and authoritarian regimes are more effective at providing these resources than weaker hybrid regimes. This finding fits well with the strong relationship between state strength and seems to indicate that state strength more than regime type matters for ARV provision, though both variables are important.

Figure 1.2: Scatter Plot of Polity Scores and ARV Coverage

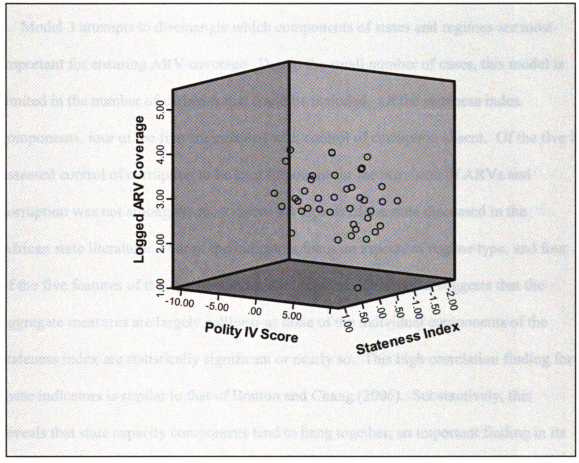


There is a further interpretation of this scatter plot that is important: while a country is not completely unable to provide these resources in hybrid regimes, in these types of countries, the decision whether to provide these resources is more tightly controlled by political leadership. I would argue that more democratic states provide political space where social capital and activism has been shown to exert pressure on policymakers to provide these resources. This is the case both in countries that have many patients requiring ARVs like Botswana and Namibia, but is also true for states with relatively low prevalence rates like Mali and Senegal. Madagascar has such low prevalence that the issue of AIDS treatment is likely farther down the list of policy priorities. Even in a

case where political leadership sought to block ARV provision, South African activists were able to use democratic institutions to effect change, despite the policy preferences of the Mbeki regime. I would argue that it is this type of political activism, only possible in the confines of liberalized democratic institutions that ensure ARV provision. It is these types of democratic cases where future ARV provision is likely to be prioritized and maintained. This is due to the fact that policy processes in these states subject policymakers to the vertical accountability described by Diamond and Morlino (2005) both through policy making processes and through the ballot box.

Model 2 adds robustness checks to investigate whether ethnic heterogeneity prevents AIDS treatment, how international interventions influence this relationship, whether greater investment of scarce state resources influences ARV coverage, and whether AIDS prevalence rates influence policy making decisions. The relationship between state and regime characteristics holds, even with these control variables added to the equation. Each of the controls is in the expected direction: greater ethnic diversity inhibits AIDS treatment as Lieberman (2009) suggests, though this relationship is not statistically significant. Spending by the international community is not an important driver of ARV coverage. Greater spending on health as a percentage of GDP increases ARV coverage, although this is not a statistically significant relationship. Also more HIV cases make it more likely that countries will develop more robust ARV programs. This relationship suggests that the worst hit countries have prioritized funding AIDS policy interventions than states that have lower prevalence rates. This makes sense for policy makers, both in African governments and for international donors who have prioritized the worst hit states ahead of states with lesser epidemics.

Figure 1.3: 3-D Scatter Plot of Polity Scores, Stateness Index, and Logged ARV Coverage



The 3-D scatter plot above well demonstrates the relationship between state and regime characteristics upon ARV coverage. Though the models are run with ARV coverage unlogged, logging ARV coverage provides a clearer visual picture of how state strength and regime type influence ARV coverage. Though testing for an interaction term between these variables was not statistically significant, the relationship was positive as the regression models suggest: greater state strength and more democratic regimes are best positioned to provide these resources to citizens. As this scatter plot suggests, the U shaped relationship between regime type and coverage continues, with increased state strength increasing the likelihood these resources are provided as one

moves from weaker to stronger states. Democracy appears to be important, though it is conditional upon state strength.

Model 3 attempts to disentangle which components of states and regimes are most important for ensuring ARV coverage. Due to the small number of cases, this model is limited in the number of variables that could be included. Of the stateness index components, four of the five are included with control of corruption absent. Of the five I assessed control of corruption to be least important for the provision of ARVs and corruption was not among the most discussed aspects of the state discussed in the African state literature. Four of the indicators focus on aspects of regime type, and four of the five features of the stateness index are included. This model suggests that the aggregate measures are largely collinear as none of the individual components of the stateness index are statistically significant or nearly so. This high correlation finding for these indicators is similar to that of Bratton and Chang (2006). Substantively, this reveals that state capacity components tend to hang together, an important finding in its own right. Of these measures governmental effectiveness and regulatory quality are the most important of the state strength measures with governmental effectiveness easily the most important. Longer lasting regimes are shown to have a positive relationship with ARV provision, and though the relationship is not statistically significant, it is one of the most important components when the standardized coefficients are evaluated. The relationship between turnovers and ARV coverage is negative, suggesting political competition makes it less likely ARVs will be provided. The small number of cases that have resulted in turnovers and the fact that many of the turnovers that have occurred happen to have occurred in island nations that lack ARV data make it difficult to assess

this relationship. I would argue that more cases are needed to properly assess whether Huntington's hypothesis about two turnovers defining a democratic transition influences ARV coverage. These findings suggest that although state strength and regime type are shown to be important predictors of ARV provision, it is the sum of the parts, both state strength and regime type that matter more than any individual disaggregated characteristic that is driving these relationships.

Model 4 seeks to provide a reduced model while including robustness checks. The most important state and regime variables are included with the four control variables. The reduced model features the most important component of state strength as the most important political variable: government effectiveness. We also see that governmental effectiveness is the most important part of stateness to ensure high levels of ARV provision. Although the control variables are in the expected direction, none of them are statistically significant. The finding related to governmental effectiveness suggests that those states with the best civil services that were already efficient in providing other social services are best able to provide AIDS treatment. The lack of statistical significance, however, sheds light on the fact that effective state capacity building will require investment to bolster each of the components rather than a focus on any one component. Governmental effectiveness is important, but it is only one piece of the puzzle. This relationship also has face validity, as the most effective states like Botswana and Namibia are also the most effective at providing ARVs.

Figure 1.4: Summary of Results and Analysis

Hypothesis	Expected Relationship	Actual Relationship	Statistical Significance
H1: More Democratic Regime → Greater ARV Provision	Positive	Negative	No
H2: Stronger States→ Greater ARV Provision	Positive	Positive	Yes
H3: Greater regime longevity→ Greater ARV Provision	Positive	Positive	No
H4: Executive turnovers→ Greater ARV Provision	Positive	Negative	No
H5: Electoral Competitiveness→ Greater ARV Provision	Positive	Positive	No
H6: Multiple Political Parties→ Greater ARV Provision	Positive	Positive	No
H7: Greater State Stability→ Greater ARV Provision	Positive	Negative	No
H8: Greater Governmental Effectiveness→ Greater ARV Provision	Positive	Positive	No
H9: Stronger Regulatory Policy→ Greater ARV Provision	Positive	Positive	No
H10: Stronger Rule of Law→ Greater ARV Provision	Positive	Negative	No

The overall goal in this article was to investigate whether democratic regimes and stronger states would create environments more conducive to the provision of ARVs. Additionally, it sought which national-level characteristics were most important for this provision; the literature suggests that democratic regimes would be obligated to pursue policies that are more public focused as policymakers must respond to public demands due to vertical accountability as suggested by Diamond and Morlino (2005). In the most democratic, strongest states, this appears to be exactly what is happening. The most democratic countries appear to be doing a better job than less democratic states.

Based on the number of democracies that fit this definition, this finding appears to be robust. The 3-D scatter plot suggests that African states and regimes are tied together, similar to the findings of Bratton and Chang (2006). It is in the cases where civil services are strongest and most capable that social service provision appears to be most effective.

What does this suggest for those interested in increasing treatment provision for all citizens inflicted with HIV/AIDS? Instead of focusing on piecemeal responses or viewing African regimes through democratic blinders, one must consider the overall strength or weakness of these states, as is indicated by the 3-D scatter plot above[3]. In other words, and as this graphic indicates, it is not exclusively the most democratic regimes that make it more likely that citizens who require treatment will be able to access it; rather, it is the stronger states on both ends of the political spectrum that are most effective at ARV provision versus weaker hybrid regimes that are less able to provide these resources. Examples of states that are less democratic but more effective in providing ARVs include Swaziland and Rwanda; Swaziland is a monarchy that faces one of the highest HIV prevalence rates in the world, but it has managed an effective ARV response to this disease. More democratic regimes that are most successful at providing ARVs include states like Botswana and Namibia, which have followed the more traditional model of open political space leading to public demand for these medications manifesting in governmental policy response. I have suggested above that such political space is more likely to lead to greater and more robust investments in

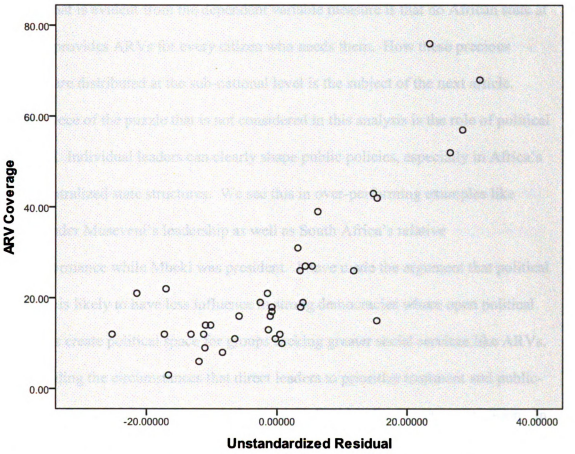
[3] It should be noted that in the regression analysis, statistical investigation did not reveal an interaction term between state strength and regime type, though the 3-D scatter plot suggests such a relationship exists, though it is non-linear.

ARV provision. Weaker hybrid regimes that have been less successful at such provision include Liberia and Mozambique among others where the state is simply too weak to play as significant a role in ARV provision. Both of these states are forced to rely on international funding for their ARV funding to a greater degree than other states with over forty percent of Liberian health spending and over fifty percent of Mozambique's health spending coming from foreign donors, according to World Health Organization data.

This smoother also explains fairly well why South Africa is often ridiculed for their ARV provision by the international community: the state has been able to scale up ARV provision on par with its other African counterparts, but it has not been as effective as one would expect considering its high capacity and high level of political rights. This is the quintessential case where open political space was used by citizen action groups to push a hesitant government to engage on the treatment issue, according to Patterson (2006) among others. Based on this model, one would predict that South Africa would be best positioned to bolster its ARV coverage than other states on the continent. Post-Mbeki South Africa appears to be doing just that (Dugger, 2009. The smoother also reveals states that have been able to do a successful job of providing drugs despite difficult political circumstances like Uganda and Zambia. As suggested, however, these types of commitments are likely to wax and wane with the establishment of new political leadership. In the strong democratic states, however, these commitments are more likely to be sustained as citizen groups advocate and use democratic institutions to ensure policies that focus on increasing citizen access to these vital resources.

Future Research

Figure 1.5: Scatter Plot of Unstandardized Residuals and ARV Coverage



There are several research questions not addressed in this analysis, and there is obviously a great deal of variance left to be explained. Above is a residual plot from model 4, which suggests that even the model with the greatest explanatory power is underspecified. What other factors could be driving ARV coverage? I would speculate that political leadership, a difficult concept to measure, remains a consistent important factor, regardless of regime type and state strength. As has been discussed, we see cases where lower capacity hybrid regimes have made the decision to more effectively tackle the disease like Uganda. This is an important as it points to the agency that African policymakers hold regardless of their economic means. It is not a coincidence that the

most democratic countries consistently opted to spend more of their resources on health care and public regarded outcomes than hybrid regimes, especially when HIV is a larger threat. What is evident from the dependent variable measure is that no African state at this point provides ARVs for every citizen who needs them. How these precious resources are distributed at the sub-national level is the subject of the next article. Another piece of the puzzle that is not considered in this analysis is the role of political leadership. Individual leaders can clearly shape public policies, especially in Africa's largely centralized state structures. We see this in over-performing examples like Uganda under Museveni's leadership as well as South Africa's relative underperformance while Mbeki was president. I have made the argument that political leadership is likely to have less influence in strong democracies where open political institutions create political space for groups seeking greater social services like ARVs. Understanding the circumstances that direct leaders to prioritize treatment and public-regarded policies more broadly would be a useful direction for future investigation. In order to situation leadership, however, one must also investigate the role of citizens and how the public views these policy responses. That will be the subject of the third article in this project.

Conclusion

To answer the title of this article, Africa's strongest states and most democratic regimes are more effective at providing ARVs than their peers. What this analysis suggests is that in order to most effectively improve the lives of African citizens over the long term, one must first build up the state by investment in state institutions if African countries are to eventually manage the AIDS issue with reduced reliance on the

international community. Instead of focusing exclusively on treating the symptoms through exclusively directing resources towards individual issues like AIDS treatment, and despite the noblest of intentions, taking a wider perspective and considering investment in enhancing African state capacity would appear to be a wise investment for the future of Africa's citizens.

What is also interesting is that while much literature has focused on the connection between elections and democratization moving towards consolidation, there has been less focus on the importance of state capacity as part of this process (Englebert, 2000). If one is interested in African states taking the next step, from focusing exclusively on democratization to actually providing merit goods and enhancing human security for a state's respective citizens through public-focused policy, the emphasis must broaden from an exclusively electoral focus to building the state's capacity, whether we are interested in the provision of ARVs or other necessary governmental interventions.

How can such capacity be built? Specifically in health care, this would involve reducing incentives for African health care workers to leave their countries once they are trained for better pay in other countries. Levy and Kpundeh (2004) writing on enhancing state capacity in African states discuss the importance of changes like administrative reform, budget transparency, enhancing the role of parliament as an oversight institution, strengthening anti-corruption institutions, and decentralization of services like education. As they argued in a 2004 presentation at the World Bank, the equation for successful African policy performance is as follows: Stabilization + Democracy + Capacity → Performance. As it relates to ARV availability, democracy and state strength have been shown to strongly influence policy performance, though

stability may be a pre-condition. Stabilized democratic regimes appear to be the best vehicle for such provision, but high levels of state capacity appear to be the most important individual component for African citizens to access these life prolonging medications.

Works Cited

Acemoglu, Daron and James Robinson. 2006. *The Economic Origins of Dictatorship and Democracy.* New York: Cambridge University Press.

Boix, Carles and Susan Stokes. 2003. "Endogenous Democratization," *World Politics*, 55, 4: 517-549.

Boone, Catherine and Jake Batsell. (2001). "Politics and AIDS in Africa: Research Agendas in Political Science and International Relations," *Africa Today.*

Boone, Catherine. 2003. *Political Topographies of the African State: Territorial Authority and Institutional Choice.* New York: Cambridge University Press.

Bratton, M., E. Gyimah-Boadi, and R. Mattes. 2005. *Public Opinion, Democracy and Market Reform in Africa.* Cambridge: Cambridge University Press.

Bratton, Michael and Eric Chang. 2006. "State Building and Democratization in Sub-Saharan Africa: Forwards, Backwards, or Together?" *Comparative Political Studies,* 39, 9: 1059-1083.

Chabal, P. and J. Daloz, 1999. *Africa Works: Disorder as a Political Instrument* (Oxford: James Curry Press.

Diamond, Larry. 1992. "Economic Development and Democracy Reconsidered," *American Behavioral Scientist* 35, 4/5: 450-499.

Diamond, Larry. 2002. "Thinking about Hybrid Regimes," *Journal of Democracy.* Vol. 13 No. 2.

Diamond, Larry and Leonardo Morlino. (2005). *Assessing the Quality of Democracy.* Baltimore: John Hopkins University Press.

Deacon, Robert. (2003). "Dictatorship, Democracy, and the Provision of Public Goods." Departmental Working Paper, University of California at Santa Barbara http://repositories.cdlib.org/ucsbecon/dwp/20-03.

Deutsch, Karl. 1961. "Social Mobilization and Political Development," *American Political Science Review* 55, 3: 493-514.

Dugger, Cylia. "Breaking With the Past, South Africa Issues Broad AIDS Policy," *New York Times.* 1 Dec. 2009. English Edition. Print.

Englebert, Pierre. 2000. *State Legitimacy and Development in Africa.* Boulder: Lynne Rienner.

Franco, Alvaro, Carlos Alvarez-Dardet, and Maria Teresa Ruiz. (2004). "Politics of Democracy on Health: An Ecological Study. *British Medical Journal.* Vol. 329. p.18-25.

Gerring, John, Strom Thacker, and Rodrigo Alfaro. *Democracy and Human Development.* Presented at the American Political Science Association Meetings, 2005. Washington, D.C.

Goetz, Anne and Robert Jenkins. (2004). *Reinventing Accountability: Making Democracy*
Work for Human Development. London: Palgrave McMillan.

Govindaraj, Ramesh and Ravindra Rannan-Eliya. (1994). *Democracy, Communism, and Health Status: A Cross National Study.* Data for Decision Making Project, Harvard School of Public Health.

Gyimah-Boadi, E. (2004). *Democratic Reform in Africa: The Quality of Progress.* Boulder: Lynne Rienner.

Halperin, Morton, Joseph Siegle, and Michael Weinstein. (2005). *The Democracy Advantage*: *How Democracies Promote Prosperity and Peace.* New York: Routledge.

Herbst, Jeffrey. 2000. *State and Power in Africa: Comparative Lessons in Authority and Control.* Princeton: Princeton University Press.

Huntington, Samuel. 1991. *The Third Wave: Democratization in the Late Twentieth Century*, Norman: University of Oklahoma Press.

Jackson, Robert and carl Rosberg. "Why Africa's Weak States Persist," *World Politics.* Vol 35 p. 1-24.

Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi. 2009. "Governance Matters VIII: Governance Indicators for 1996-2008". World Bank Policy Research June. Policy Working Paper 4978.

Levitsky, Steven and Lucan Way. 2002. "The Rise of Competitive Authoritarianism," *Journal of Democracy.* Vol. 13. No. 2.

Levy, Brian and Sahr Kpundeh. 2004. *Building State Capacity in Africa.* Washington, D.C.: World Bank Publications.

Lieberman, Evan. (2009). *Boundaries of Contagion: How Ethnic Politics Have Shaped Government Responses to AIDS.* Princeton: Princeton University Press.

Lindberg, Staffan. (2006). *Democracy and Elections in Africa.* Baltimore: John Hopkins University Press.

Lipset, Seymour Martin. 1959. "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *American Political Science Review*, 53, 1: 69-105.

Patterson, Amy. (ed.) (2005). *The African State and the AIDS Crisis.* Burlington: Ashgate.

Patterson, Amy. (2006). *The Politics of AIDS in Africa.* Boulder: Lynne Rienner Publishers.

Posner, Daniel. (2004). "Measuring Ethnic Fractionalization in Africa," *American Journal Of Political Science.* Vol. 48, Issue 4. p. 849-863.

Posner, Daniel. 2005. *Institutions and Ethnic Politics in Africa.* Cambridge: Cambridge University Press.

Przeworksi, Adam, Michael Alvarez, Jose Antonio Chiebub, and Fernando Limongi. 2000. *Democracy and Development: Political Institutions and Well-Being in the World.* New York: Cambridge University Press.

Reynolds, Andrew. (1999). *Electoral Systems and Democratization in Southern Africa.* Oxford: Oxford University Press.

Ross, Michael. 2006."Is Democracy Good for the Poor?" *American Journal of Political Science,* 50:4, October.

Schedler, Andrea. 2002. "Elections Without Democracy: The Menu of Manipulation," *Journal of Democracy.* Vol. 13 No. 2.

Sen, Amartya. 1981. *Poverty and Famines: An Essay on Entitlement and Deprivation:* New York: Oxford University Press.

Sen, Amartya. 1999. *Development as Freedom.* New York: Alfred A. Knopf.

Stasavage, David. 2005. "Democracy and Education Spending in Africa," *American Journal of Political Science.* Vol. 49. No. 2. 343-358.

Tsai, Ming-Chang. (2006). "Does Political Democracy Enhance Human Development in Developing Countries?" *American Journal of Economics and Sociology.* Vol 65. No 2. P. 233-268.

Van de Walle, Nicholas. 2001. *African Economies and the Politics of Permanent Crisis, 1979-1999.* Cambridge: Cambridge University Press.

Van de Walle, Nicholas. 2002. "Africa's Range of Regimes," *Journal of Democracy.* Vol. 13 No. 2.

Villalon, Leonardo and Phillip Huxtable. 1997. "The African State at a Critical Juncture: Between Disintegration and Reconfiguration. London: Lynne Rienner Publishing.

Vollmer, Sebastian and Maria Ziegler. (2009). "Political Institutions and Human Development." The World Bank, Policy Research Working Paper 4818.

Wantchekon, Leonard. (2003). "Clientelism and Voting Behavior: Evidence from a Field
Experiment in Benin," *World Politics* Vol 55. No. 3.

The Sub-National Politics of ARV Provision

Abstract

This paper is an analysis of the location of hospitals that provide antiretroviral drugs (henceforth ARVs) in South Africa and Nigeria. I review literature on distributive politics in Africa as well as public policy research on policy inequity and sub-national healthcare policy choices. As explanatory factors, I consider the various motivations of policy makers: political, economic, and public health. This paper also challenges the practice of researchers who rely exclusively on aggregate national statistics in comparative politics research, thus overlooking sub-national variation. By focusing analysis on administrative sub-units in two countries, I seek to show that institutions below the national level are critical in the fight against HIV/AIDS. Not surprisingly, initial results show that ARV provision is more likely where AIDS prevalence rates are higher. More interestingly, hospital provision of ARVs also appears to increase in states or provinces where citizens are represented by leaders who are members of the party in power. The latter finding suggests that African governments distribute public health resources along political lines, thus raising normative concerns and demonstrating the need for further political science research. Against expectations, the availability of oil revenues makes hospital provision of ARVs less likely; this implies that the "resource curse" may undermine the equitable provision of social services. The paper concludes with a discussion of steps necessary to improve the measurement of indicators and to further analyze the mix of influences on ARV provision in future research efforts.

Introduction

This paper evaluates why anti-retroviral drug supplying hospitals are located in certain sub-national regions and not in others. In doing so, I disaggregate the data into the provinces of South Africa and states of Nigeria to investigate the domestic distribution of ARVs. When discussed together sub-national territories will be termed as sub-units or sub-national units. Are hospital resources distributed equitably or are there political determinants to who gains access to ARVs? This is an important question for donors, governmental agencies, non-governmental organizations, and citizens; if these drugs are distributed along political lines, this would raise significant normative questions about ARV policy equity. I will build a model testing whether political, economic, or public health considerations are the factors driving policy performance. To build the model I address two fields of work: the literature on clientelism and neopatrimonialism from the African politics field and policy inequity research drawn mostly from the American state politics literature.

The sub-national unit (provinces in South Africa and states in Nigeria) is the unit of analysis. This is important for several reasons. First, sub-national analysis establishes the existence of variance below the national level, which has been established as important for explaining AIDS expenditures across all Indian states (Lieberman, 2008). If significant variance exists, it would indicate that the current trend in comparative politics of working exclusively at the national level on AIDS policy issues is missing a large part of the story and that future work will need to take a more encompassing approach. There are nine provinces in South Africa and thirty-seven states in Nigeria for a total of forty-six sub-units. Increasing the N from two to forty-six increases

leverage over the research question (King, Keohane, and Verba, 1994). Forty six cases also make quantitative analysis possible across the sub-units.

Second, this paper also offers the opportunity to look comparatively at the determining factors and mechanisms behind policy implementation and the relative importance of these factors. Table 1 below shows that 25 million sub-Saharan African citizens are infected with HIV/AIDS it is vital for the future of the African continent that these people gain access to life sustaining ARVs as a short term policy solution while longer term plans are developed and prevention efforts expanded. Of these citizens nearly 9 million live in the two nations discussed below. These two countries account for about forty percent of African HIV/AIDS cases and nearly twenty five percent of world-wide cases.

Table 2.1: HIV/AIDS Statistics and Features

Level of Analysis	Adults & children living with HIV/AIDS (prevalence)	Adult prevalence rate %	Adult & child deaths due to AIDS	ARV Therapy Coverage %
World Total[4]	37.8 million	1.1	2.9 million	42
Sub-Saharan Africa	25 million	7.5	2.2 million	22
Nigeria	3.6 million	3.1	310,000	13
South Africa	5.3 million	10.9	250,000	21

From a donor institution's perspective, it is important that access to HIV/AIDS treatment is as equitable as possible. Equitable delivery would mean that each individual patient would be equally likely to receive ARV therapy. This treatment could

[4] World Total and Sub-Saharan African Figures are from 2004 from CIA World Fact Book and the World Health Organization. Nigerian and South African statistics are from 2008 using CIA World Fact Book and the World Health Organization's statistics database http://apps.who.int/whosis/data/Search.jsp. ARV Coverage statistics are from the World Health Organization from 2008.

extend the life of a recipient patient by an average of 6.7 years, according to Chigwedere et al (2008). If political elites use ARV therapy as a form of patronage, that would raise important normative questions about whether these resources are distributed equitably. These questions stem from the Hobbesian ideal that all men are created equal (Hobbes, 1924). They are further codified by UNAIDS who codify that all patients should be treated equally, commensurate with a human rights based approach rooted in the idea that all citizens should have equal access to ARV treatment (Human Rights, 2010).

Contrasting these values, one can imagine political patrons distributing these resources along political lines. If distribution occurs along political lines, the ideals of human rights guiding ARV treatment would be undermined. This could necessitate greater oversight by donor institutions and civil society groups. AIDS is a transcendent and potentially crippling threat to future African political and economic development, and ARVs offer the possibility of slowing the worst effects from this threat while more effective long term solutions are developed.

Understanding how policies are being implemented is an important endeavor, and this paper attempts to model these phenomena. Methodologically, the sub-national unit as the level of analysis allows one to focus upon two countries while providing a large number of comparable units. In this case, looking at South Africa and Nigeria, we increase our N size from two to forty-six, providing greater leverage over our research question. As will be demonstrated by two diverse literatures focusing on distributive politics in Africa and public policy equity perspectives, established theory underpins modeling these concepts, and the available data make the development of a model possible. The relevant literatures will next be discussed.

Literature Review

Why Sub-National Units?

One of the key priorities for the World Health Organization is the strengthening of health systems within developing countries. In order to most effectively do this, the WHO has established a district and provincial health system as the most effective means to bolster capacity (Cassels, 1995). As Cassels argues, sub-national organization empowers team-oriented responses, promotes local ownership, and develops institutions that can respond more quickly than a purely nationally based structure (7). Citing numerous examples from around the world, Ashford et al (2004) make the case that the largest gap in terms of health care provision is between the rich and poor as they comparing across wealth quintiles within countries. As Ashford et al. argue, one of the most effective means for combating such variation is the establishment of more locally controlled institutions. They argue that such policies link health care providers to communities and promote implementation adapted to local circumstances.

Braveman and Tarimo (2002) establish that, although measures of sub-national variation are more limited than at the cross-national level, health inequity is rampant at the sub-national level. They build a case that income, gender, and ethnicity serve as effective proxies for individual access and that there are widening gaps of inequity between groups at the sub-national level, regardless of national level economic indicators. As Braveman and Tarimo suggest, growing inequality in access to health care at the national level puts greater pressure on governments competing for international business to cut spending on health care, widening sub-national inequality levels and promoting greater levels of health care inequality within countries (2002).

More provocatively, Pradhan et al (2001) makes the case that sub-national health care inequity exceeds national level variation. Pradhan et al. use height of individuals as a proxy for overall health of citizens, and they establish that sub-national income inequality is a better predictor of overall health outcomes than cross-national inequality.

Building on sub-national inequality findings, Gwatkin et al. (2007) divide health outcomes by quintiles based on economic standing. As Gwatkin et al. demonstrate, wealthier groups are much more likely to benefit from greater policy commitments, leading to greater policy performance for wealthier groups. Their findings are robust across regions and among numerous health outcomes, from childhood illness to attaining a health height. Also analyzing economic standing and based on household level data, Makinen et al. (2000) finds that wealthier patients are more able to access care and are more likely to receive medicines than poorer patients. Their results are based on survey research within eight developing countries. In their conclusion Makinen et al. call for an establishment of research indicators that most effectively capture this sub-national variation so that it may be more robustly cataloged and measured more effectively.

Furthermore, much of the work on HIV/AIDS has discussed how the disease would threaten the political fabric of the continent with almost exclusive focus on national level outcomes (de Waal, 2003, Peterson and Shellman, 2005, Singer, 2002). Political scientists fear that AIDS would weaken nation states to the point that increased international conflict would be inevitable.

While worst-case scenarios have not materialized, the weight of the disease appears to weigh most heavily at the sub-national level, according to work from Jeremy Weinstein (2006). Weinstein's research serves as an example of how the social fabric of African

societies—one of the primary assets of African countries according to Hyden (2006)—is undermined by the disease. Weinstein's study points to how HIV weakens both formal political institutions and informal societal values. Weinstein's study looks at subunits in Uganda and analyzes data on crime and HIV prevalence. This study finds that subunits with greater disease burden also suffer from larger crime rates. As Weinstein argues, this relationship suggests the disease weakens the social fabric of societies at the local level. This finding contrasts the expectations of scholars who anticipated macro-level, nation state conflict based on HIV/AIDS weakening national institutions. Such a macro-level relationship has failed to materialize, though Weinstein's findings suggest that HIV/AIDS resonates more saliently at local levels. Weinstein's work represents a new more complex view of the disease and merits further sub-national inquiry.

Further justification of sub-national inquiry is provided by state policy literature from American politics which uses state level analysis to understand policy development. In analyzing policy outputs across the American states, Erikson, Wright, and McIver find significant variation in terms of policy outcomes and public preferences across the American states (1993). These authors find that state level political ideology is a strong predictor of policy outcomes. This serves as example an indicating that sub-national research offers valuable conclusions for other levels of analysis. Ringquist and Garand (1999) suggest that state policy diversity is a function of the state level differences discussed by Erikson, Wright, and McIver as well as external forces like national level politics and policy learning from other states. Ringquist and Garand also find policy specific factors influence state policy change including focusing events and issue redefinition. Finally, Ringquist and Garand suggest there is variation in terms of how

innovative states are willing to be, largely based on state ideology. The work of Erikson, Wright, and McIver as well as the paper from Ringquist and Garand suggest empirical variation at the state level as well as the important lessons that sub-national research can provide for overall understanding of policy analysis.

The American politics literature provides some important evidence in terms of health policy at the state level. Barrilleaux (1998) finds that states expend varying amounts of resources on health across the states with political ideology, income, and state capacity as important predictor variables of health care spending. Hero (1998) finds that racial and ethnic diversity negatively influences not only health care spending, but health care outcomes as measured by infant mortality rates across the fifty states. Cantor (2006) also suggests American state health outcomes vary as a function of state capacity and income per capita at the state level. Cantor measures state capacity looking at hospitals and health care systems, concluding that significant variation in terms of both capacity and outcomes exist at the state level. Clearly, the work of Barrilleaux, Hero, and Cantor suggests that the state is an appropriate unit of analysis for health care inquiry.

The previous discussion of scholarship focused on sub-national variation provides evidence that when it comes to health care the inequality, the story extends into the sub-national context. The sub-national unit is not only relevant based on this inequality, but as Cassels suggests, sub-national empowerment is seen by international donors as a means to decrease inequitable trends. Furthermore, Weinstein's argument implies that the negative consequences of HIV/AIDS resonate differently within sub-national units. Finally, the American state politics literature suggests that political factors are important predictors of health care outcomes which vary across the American states. As will be

seen below, indicators for measuring sub-national health care responses are limited as Makanin et al. (2000) discuss, but variation nonetheless exists and is worthy of further empirical consideration. I will next discuss how sub-national variation in health care policy performance fits into the African context with reference to literature on clientelism within African states before an expanded discussion on policy inequity more generally.

African Politics and the Role of Clientelism

One would be remiss in discussing the distribution of highly valued, scarce resources in Africa without briefly summarizing the importance of patronage networks and the response of clients. The literature on the subject is pervasive as authors have cited the importance of neopatrimonial relations between the state and citizens (Bratton and van de Walle, 1997, Villalon 1998).

Roniger (2004) provides a definition suggesting that clientelism,

> implies mediated and selective access to resources and markets from which others are normally excluded. This access is conditioned on subordination, compliance or dependence on the good will of others. Those in control—patrons, subpatrons, and brokers—provide selective access to goods and opportunities and place themselves or their supporters in positions from which they can divert resources and services of favor. Their partners—clients—are expected to return their benefactors' help, politically and otherwise, by working for them at election times or boosting their patron's prestige and reputation," (353, 354).

Harold Lasswell described politics as who gets what, when, and how (Lasswell, 1936). Roniger's definition of clientelism goes a long way to describe how power relationships function across Africa. Citizens subjugate themselves to authority in order to access political goods. In other words, elites use their resources and often the resources of the state in order to legitimize themselves and their regimes. This type of

distribution leads to some citizens within a respective country included in the distribution of resources while others are not.

Bratton and van de Walle (1997) discuss how clientelism manifests in African politics. As they discuss, African's political power is largely concentrated in the hands of individual leaders, a concept known as presidentialism (63). Leaders use patronage in the form of state resources to legitimate themselves and their regimes (66, 67). When concentrated presidential power is combined with clientelism and the distribution of state resources, these three features are known together as neopatrimonialism (63-68). Both the Bratton and van de Walle and Hyden descriptions refer to neopatrimonialism as one of the preeminent informal institutions of African politics.

As Bratton and van de Walle argue, however, "when patrimonial logic is internalized in the formal institution of neopatrimonial regimes, it provides essential operating codes for politics that are valued, recurring, and reproduced over time," (63). As Bratton and van de Walle detail, informal institutions resonate and become a dominant feature of formal institutions. Bratton and van de Walle also discuss the fact that although clientelism is controlled by the political center, it is not only a feature of the top of political regimes. Rather, "this [clientelism] happened at every level; at the top, the ruler's faithful political aristocracy was rewarded with prebendal control of public offices, monopoly rents, and the possibility of creating its own clientelist networks...Nor were patronage and clientelist benefits limited to the political aristocracy," (66). Instead of thinking of patronage networks exclusively in terms of relationships between individual rulers and citizens, multiple levels of governance exist within the formal institutions. This allows for potential patronage distribution not just

directly from top to bottom but throughout the multiple formal institutions of government. Neopatrimonial relations may be just as prominent in local and sub-national governance as at the national level.

Moreover, Villalon (1998) also mentions clientelism as one of the premiere features of the modern African state. As he describes it, patrons reward clients that help empowered regimes to consolidate control and promote political stability (13). Political goods are allocated with preferential treatment to loyal groups (13). As Wantchekon (2003) argues, clientelistic messages are especially salient at election time. Candidates seek electoral support, and clientelistic messages are often effective in increasing vote share, especially for the ruling party as individuals seek access to the state's resources. The concept of regimes utilizing state resources particularly at election time to sway voters towards the ruling regime is known as the political business cycle (Nordhaus et al. 1989). Through elections formal democratic institutions serve as a process through which African leaders legitimize themselves, with patron-client networks utilizing state resources as patronage. This phenomenon serves as yet another example of the informal institution known as clientelism subjugating formal elections.

As the political business cycle demonstrates, and Bratton and van de Walle discuss, neopatrimonialism can resonate in regimes, with or without elections. Bratton and van de Walle discuss the idea that clientelistic networks exist across regime types (77-82). Both Bratton and van de Walle and Roniger (2004) discuss the idea that increased levels of clientelism are negatively correlated with the development of democratic institutions. In other words, in order for countries to transition and become more democratic, clientelism and access to the state through patronage networks must be broken.

What does clientelism, such a key feature of African regimes, mean for African policy making processes? Hyden summarizes rather poignantly how clientelistic patronage networks have subjugated aggregate public policy in African countries:

> African countries do not have policy governments, but public institutions operating on the basis of patronage. These governments conduct their business not with a view to implementing officially agreed-upon policies, but look to rewarding individuals and groups that have shown exemplary loyalty or contributed to the political success of a government leader. In short, resources flow along very different paths than those that are identified in official statements, be that a policy announcement or the national budget. The result is that African governments tend to look to the past rather than to the future. To the extent that policies feature in politics, they are more often for window-dressing purposes than for real implementation, (229,230).

As Hyden argues, western notions of the policy making process apply less well in Africa given the predominance of clientelism. Rather than a focus on policy for development's sake, implementation more often follows the informal processes related to clientelism. Patron-client networks give rise to factionalism with groups loyal to the regime considered insiders while those who compete with the empowered regime left outside of patronage networks. This notion of political insiders and outsiders is described by Bratton and van de Walle with transitions away from neopatrimonialism towards liberalization and democracy often occurring as access to patronage wanes and factionalism can no longer be contained within the established networks (84).

Clientelism is antithetical to enhanced governance and democratization. As Hyden (2006) puts it, "Political rulers treat the exercise of power as an extension of their private realm....Clientelism is deemed problematic, especially in circles that are concerned with improving governance in African countries. It keeps African countries barely afloat, but it does not help them swim forward," (79).

In the political science literature on clientelism in Africa much of the focus has been

on resources like jobs, infrastructural projects like roads. But given the importance of ARV medications to infected citizens, I will investigate whether patron-client relations influence the distribution of AIDS treatment resources. With donor institutions focused on AIDS as an aid issue it is important to investigate whether African leaders have adapted ARV distribution programs to fit into their patronage needs. I investigate whether the resources used to fight HIV/AIDS have been distributed along political patronage lines. Specifically, have ARV programs been located in areas that are supportive of respective ruling regimes in sub-national units within South Africa and Nigeria? If so, how do patron-client networks function? As will be seen below, the sub-national unit is a salient unit of analysis, not only as was described above in terms of its variation, but also in terms of its function as a key layer of AIDS policy implementation. Whether ARV resources are distributed to actually fight the disease's effects, or whether medications are doled out as part of patron-client relations, usurping their intended purpose is to be determined empirically below.

Public Policy Research on Policy Inequity and Sub-National Politics from the American Perspective

The uneven distribution of political goods is not exclusively an African issue. There exists a large body of literature from American politics and comparative public policy that has looked at the issue of inequity in goods provision. Much of this literature has looked at health policy, but relevant work from other areas is also illuminating. I will briefly review some of the most pertinent literature before I integrate this with the AIDS literature and discuss the model.

Some of this literature looks at the U.S. from a cross-national perspective, focusing on why the U.S. has done so poorly relative to other developed countries in terms of health care outcomes (Raphael, 2007). Raphael analyzes what factors lead to poor public health outcomes and inequity across different segments of American society (2007). Raphael links racial and ethnic minorities and low income to poor health outcomes across a group of measures. Indicators include life expectancy and infant mortality rates among others. Raphael argues that public policy intervention which prioritizes equitable distribution of health resources to minority and impoverished groups are critical determinants of public health outcomes in the United States. As Raphael argues, "It is increasingly recognized that the quality of numerous social determinants of health are shaped by decisions governments make – that is, public policy– on how to allocate resources among the population," (Raphael 2003). As Raphael details, the U.S. has targeted minority and impoverished groups and the symptoms of health problems rather than the structural determinants and causes of inequality. Raphael's analysis suggests several important conclusions. First, public policy interventions are highly influential in determining social outcomes. Second, cleavages exist between groups with economic and minority status linked to whether citizens can access health interventions.

Rom (2008) also looks at the American states. He measures policy determinants according to political, economic, and demographic factors (324). Rom's categories were previously developed in Bailey and Rom (2004) to explain how states compete for redistributive resources (344, 345). Politically, Rom's analysis considered political culture, ideology, institutions, and public opinion finding that more conservative states

spend less on health than more liberal states. Economically, the model considers both cyclical and structural considerations finding that states with larger economies have more developed health care institutions. When economies perform better, states are more likely to expand health care institutions (Rom, 2008; p. 323). Demographically, Rom focused on state poverty rates with poorer people relying more heavily on the state for health care benefits. Overall state wealth is also important as wealthy states are more likely to offer larger payments and greater services (323). He also finds significant variation in terms of state spending per citizen on health policy implementation across the American states (328). Rom also finds that, in the United States, political disputes often exist between the states and the federal government over what must be provided and who must fund expenditures. As Rom argues, there will be questions on which the state and federal governments agree and others in which they conflict (321). Rom's findings suggest that health care outcomes are determined not only by social factors like those described by Raphael. Rather political, economic, and demographic variables together influence outcomes.

Schoen and Doty (2003) focus on five developed nations and public opinion survey responses by citizens about their health care experiences. Their project also indicates the existence of significant cross national variance in health care system design, even among the most developed nation. Their findings suggest that countries that provide universal health care have more equitable distribution of access to health resources than in countries like the U.S. where health care is largely an individual responsibility. Schoen and Doty find that countries that have developed public programs that prioritize equitable health care distribution like Canada and New Zealand have led to more

equitable outcomes than in countries like the U.S. that have not established equitable programs. When controlling for insurance access, they found that income was positively related to health care outcomes more strongly in the U.S. than in countries with universal health care. In universal health care cases the relationship between income and health care satisfaction were insignificant. This serves as yet another example of how government interventions can influence health care outcomes.

Evan Ringquist's work on environmental policy is a good example of the local dynamics involved with public policy implementation (Ringquist, 2005). He argues that racially underprivileged areas are more likely than other groups to have environmentally hazardous facilities built near them. His work also finds support for socioeconomically disadvantaged citizens more likely to have environmentally damaging institutions built near them. Ringquist finds that racial minority status is the most influential variable as it is more likely that environmentally damaging facilities will be built in areas inhabited by minorities. This paper makes it clear that racial and economic variables are important influencing forces behind policy equitability. Although environmental cases represent negative cases where location sites were chosen in impoverished and minority inhabited areas, the same logic could apply to more desirable institutions. This would mean that valuable resources like hospitals, police stations, and schools would be more likely to be prioritized in areas controlled by affluent and racial majority citizens[5].

[5] Gamble and Stone (2006) similarly looks at the role of racial and ethnic disparities in public health across the American states. While their focus is on issue framing using a qualitative research design, they make it clear that similar to Ringquist, issues of race and ethnicity are equally salient in public health policy debate. Their work is more historically and contextually focused, but their similar findings indicate that race and ethnicity are important issues for public health considerations, and I will attempt to build these issues into the model.

So what can be taken systematically from this unique and diverse set of public policy investigations? It is clear that racial, ethnic, and socio-economic considerations are important considerations that determine who has access to public programs. Variables that effectively measure these concepts will be necessary to model the placement of ARV hospitals. While there is less consistent support, Rom, Ringquist, and the Doty and Schoen papers also indicate that economic elements should also be taken into be tested. As these authors suggest it is a combination of political, economic, and demographic influences that determine who wins and who loses when goods are distributed.

Synthesizing the Literature

When one takes into account both the literature on clientelism and that on public policy inequity, several trends are clear. As both of these literatures discuss, not all citizens have equal access to political goods. The literature on clientelism suggests that maintaining access to the regime is a significant determining factor in one's ability to access political goods meaning that political variables are highly influential. Succinctly put, political insiders and those loyal to the regime will be more likely to gain political goods than those outside patronage networks. Hyden goes so far as to suggest that the policies themselves are constructed to serve the regime's needs rather than development based decision making.

The inequity literature also suggests that other cleavages exist that are influential in determining who is able to access goods. When considered together, the inequity literatures suggest that racial and ethnic minorities and economically disadvantaged citizens are less likely to be prioritized for distribution by their respective governments.

Rom (2008) helps to mesh these literatures in his division of variables into political, economic, and demographic categories.

One author has synthesized these questions to look at the effectiveness of AIDS policy at the sub-national level. Evan Lieberman looks at the effectiveness and diversity of policy outcomes across the states of India (2008). Similar to the literature on policy inequity, Lieberman (2008) confirms the importance of ethnicity in AIDS treatment availability. His work suggests that ethnically heterogeneous areas are less effective at developing effective AIDS policies. Though his theory is developed to explain cross-national variation in AIDS policy responses, he finds that less diverse areas were faster in developing HIV/AIDS policies. His work serves as yet another example of the sub-national variation in public policy, similar to the sub-national findings described by the literature that suggested sub-national variation in health care access on pages four through six (Cassels, 1995; Pradhan, 2001; Braveman and Tarimo, 2002; Ashford et al. 2004; and Gwatkin et al 2007).

More importantly, Lieberman describes a mechanism in which ethnically divided groups are unable to solve commitment problems. Rather, as Lieberman describes, political debates over responding to the disease break down into a blame game with the focus on how the disease evolved rather than on policy solutions (208). The development of policy programs to test for and treat AIDS patients would be synonymous with admission of the disease's existence. This type of stigma provides a barrier to effective policymaking. Caught in the middle of these debates, rational policymakers have sought to limit attention to the disease and blame other areas for the cause rather than delving into these controversial issues (216-220). Lieberman tests

these theories using both quantitative and qualitative analysis. His results suggest that areas with greater ethnic diversity and fractionalization spend less per capita on HIV/AIDS policy responses than areas that are less fractionalized (227, 228).

Lieberman's analysis puts together some of the key building blocks that have been discussed so far in this paper. Namely, there exists significant variation in terms of HIV/AIDS policy responses. Variation is not limited to the national level. Rather, sub-national variation is rampant as well. Lieberman and the literature on policy inequity suggest that ethnic and socio-economic statuses are largely determinant of individual access to these goods. Rather than focusing exclusively on inequity variables, the clientelism literature suggests that it access to patronage networks that is determinant of effective policy responses. When these ideas are combined, one can test what combination of these variables drives ARV provision at the sub-national level.

As WHO data suggests, no African country has managed to supply every citizen requiring ARVs with the necessary drugs. When this is the case, how are these scarce resources allocated? I intend to address this research question in by looking at sub-national ARV distribution across South Africa and Nigeria, countries selected for their critical geo-political importance on the continent. In the next section, the cases will be discussed.

Case Selection, Justification, and Discussion

First, from a geo-political perspective, South Africa and Nigeria are the largest and most dominant economies on the African continent as Figure 2 indicates. These two economies vastly outperform the economies of other African nations, and, as regional powers, their performance is critical to the economic welfare of the other nations in

southern and western Africa, respectively. Also, South Africa and Nigeria are two of the countries with the largest number of AIDS cases in the world.

Table 2.2: GDP and AIDS Data from South Africa and Nigeria

Country	GDP Adjusted for Purchase Power Parity	Sub-Saharan Africa Ranking	AIDS Cases	World Ranking
South Africa	$467.6 billion[6]	1st	5.3 million	1st
Nigeria	$294.8 billion	2nd	3.6 million	3rd

For this analysis I will look at all of the sub-national units within South Africa and Nigeria which combine for a total of forty six cases: thirty-seven states in Nigeria and nine provinces in South Africa.

Figure 2.1: Key Political Similarities and Differences Between South Africa and Nigeria

Similarities	South Africa	Nigeria
Governmental Type	Federal	Federal
Racial/Ethnic Cleavages	Yes; salient	Yes; salient
HIV Prevalence Variation	Sub-national variation	Sub-national variation
Multiple Parties	Yes	Yes
History of Political Violence	Yes	Yes
Differences		
Electoral System	Proportional Representation	First Past the Post
Judicial Independence	Independent	Non-Independent
Freedom House Category	Free	Partly Free
Historic Role of Military	Weak; No Coups	Strong; Numerous Coups
Economic Development	More Developed	Less Developed
Party System	One Party Dominant	Multiple Competitive Parties
HIV Prevalence	10.9%	3.1%

Table three reveals some important cross-national similarities and differences between these sets of cases. Underpinning the importance of sub-national politics is the

[6] Data from the CIA World Fact Book; Data are from South Africa and Nigeria.

fact that both South Africa and Nigeria are among the few federal governments in Africa. Both countries have salient historical cleavages with South Africa's history dominated by racial strife. Nigeria also has a history of ethically based political parties, according to Aborisade and Mundt (1998). Both have multiple political parties, and histories marred by political violence. South Africa and Nigeria have both demographically heterogeneous and historically relevant ethnic and racial divisions. Each also has significant variance among sub-national units in terms of HIV prevalence rates. Finally, with both countries relying economically on natural resources (oil in Nigeria and gold and platinum in South Africa) these similarities make for an interesting opportunity to analyze the role such natural resources play in AIDS policy implementation.

There are a few limitations to pairing these two countries. First, South Africa has a proportional representation electoral system, while Nigeria utilizes first past the post. South Africa has an independent judiciary, an institution that played a key role in ARV provision in that country as will be detailed below. Nigeria's judiciary is not independent. South Africa is considered by Freedom House to be a democracy, while Nigeria is considered to only be partially free. South Africa emerged as a democracy in 1994 following a long protracted elite pact process and has remained democratic. Nigeria's political history has involved a series of military coups, elite struggle, and a history of conflict between military and civilian leadership. While South Africa's political history has been filled with conflict as the country transitioned from white rule to a more representative regime, Nigeria's history has been through more fits and starts. Since the 1994 transition, South Africa has been more consolidated than that of Nigeria.

South Africa is also more economically developed and diversified than Nigeria. South Africa also has a more dominant single party than Nigeria. While HIV/AIDS is a significant problem in both countries and varies in prevalence across the country, it is more pervasive in South Africa than in Nigeria.

The HIV/AIDS Treatment Story in Nigeria and South Africa

The respective sub-national units play similar roles in both countries as will be discussed next. Both have national level committees that lead the Nigerian and South African AIDS responses, but the sub-national unit is the primary level of implementation of these national policy decisions, according to the World Health Organization (WHO, 2005, Progress Report, 2006).

In Nigeria, the state is the primary implementer of AIDS policy, and the various states of Nigeria suffer from an overall lack of capacity (WHO, 2005). The Nigerian states along with the federal government and local government areas share in the responsibility for health care service (Johnson, 2000). Vogel describes these responsibilities as follows:

> Health care provision in Nigeria is a concurrent responsibility of the three tiers of government in the country. However, because Nigeria operates a mixed economy, private providers of health care have a visible role to play in health care delivery. The federal government's role is mostly limited to coordinating the affairs of the university teaching hospitals, while the state government manages the various general hospitals and the local government focus on dispensaries, which are regulated by the federal government (Vogel, 1993, p. 18).

The federal government serves to provide overall policy goals and technical expertise, but actual financing and implementation of health care goals including HIV/AIDS policy is the responsibility of the individual states which leads to divergent outcomes, according to the same report. This report also states that hospitals are funding by a

combination of state sources, by for profit services, and through foreign donations with limited technical assistance from the federal government. According to their 2007 report to the UN, Nigeria's overall government expenditure on fighting AIDS was 7.4 billion naira with foreign donors spending 5.9 billion naira indicating that the government is the primary source of AIDS funding in the country (UNGASS, 2007). This means that over 55% of AIDS funding was from national sources. UNAIDS has stated that it is their goal to assist states in developing individual state agencies as they view states as the most effective unit for scaling up treatment efforts (UNAIDS, 2008). The vast majority of Nigerian state revenues come from the federal government with oil revenue accounting for the vast majority of this budgetary support (Aborisade and Mundt, 1998). Initially, ARVs were only available to those wealthy enough to purchase them privately, and the first government sanctioned ARV program did not begin until 2002 (Odutolu et al, 2006). Initial demand for drugs vastly exceeded supplies, and ARVs were distributed from only twenty five facilities nationwide. Most of these facilities were in either Abuja or Lagos. In 2006, Nigeria opened an additional 41 ARV facilities (Nigeria Opens, 2006). The country has set numerous targets for its AIDS treatment programs over the years, most notably that they strive to reach eighty percent treatment coverage to AIDS patients by 2010, a goal they are unlikely to reach (WHO, UNAIDS, & UNICEF, 2008). The country has expanded AIDS treatment facilities to 197 clinics, according to a list available from the National Agency for the Control of AIDS website.

In South Africa similarly the national government sets the national policy for fighting AIDS, and the provinces along with municipalities, the private sector, and community

organizations are responsible for the actual implementation of these policies, according to a 2006 governmental progress report to the UN General Assembly (2006). The South African government lists the following facts about the country's health care system:

> Public health consumes around 11% of the government's total budget, which is allocated and spent by the nine provinces. How these resources are allocated, and the standard of health care delivered, varies from province to province. With less resources and more poor people, cash-strapped provinces like the Eastern Cape face greater health challenges than wealthier provinces like Gauteng and the Western Cape (Health Care, 2009).

As can be seen here, the South African government describes the variation in health care availability across the provinces of the country. The South African government also lists the provinces as largely responsible for health care, as is described below. The following is taken from South Africa's Department of Information, describing provincial responsibilities for health care:

> Provincial health departments provide and manage comprehensive health services at all levels of care. The basis for these services is a district based PHC [Primary Health Care] model. The major emphasis in developing health services in South Africa at provincial level has been the shift from curative hospital-based healthcare to that provided in an integrated community-based manner.
>
> The provincial health departments are responsible for:
>
> - providing and/or rendering health services
> - formulating and implementing provincial health policy, standards and legislation
> - planning and managing a provincial health information system
> - researching health services to ensure efficiency and quality
> - controlling quality of health services and facilities
> - screening applications for licensing and inspecting private health facilities
> - coordinating the funding and financial management of district health authorities
> - consulting effectively on health matters at community level
> - ensuring that delegated functions are performed.
>
> The national department assists provincial health departments to develop service-transformation plans to reshape and resize the health services and develop appropriate,

adequately resourced and sustainable health service-delivery platforms, which are responsive to needs (Provincial Health, 2010).

As can be seen from the last part of this statement, the national department of health coordinates priorities across the country, but it is the provinces that are responsible for the day to day management of health care availability for citizens.

The history of ARV provision in South Africa is controversial and involved a lengthy history which will be briefly summarized. African National Congress leadership was initially unwilling to agree to provide ARVs citing cost. Despite their preferences the only province not under ANC control, Western Cape began a pilot ARV program in 1999 (Viall, 1999). A citizen action group known as the Treatment Action Campaign (TAC) files a Constitutional Court case against President Thabo Mbeki's government in 2001, claiming that drugs should be provided to HIV positive mothers to prevent disease transmission to unborn children (AVERT, 2010). The courts sided with TAC both initially and after a government appeal. This set of events serves as a key example of how democratic institutions paved the way towards ARV provision, despite the government's preferences. 2002 and 2003 saw the government block the implementation of a drafted national treatment plan (AVERT, 2010). TAC staged numerous demonstrations to protest these decisions, and it was not until 2005 that manufacturers were selected to provide ARVs as part of a comprehensive rollout operation (AVERT, 2010). By 2007, the government launched a new initiative with the goal of providing ARVs to eighty percent of those who needed them by the end of 2011 (Department of Health, 2007). Similar to Nigeria, the country has struggled to reach targeted goals for numbers of patients treated as established in this plan.

Similar to Nigeria as well, in South Africa there is significant variation in the level of

AIDS cases across the provinces of South Africa which necessitate different types of responses. While the UN stated that enhancing capacity was a key challenge to Nigerian scaling up of treatment efforts, a 2008 report suggested that bolstering provincial AIDS councils was among their goals to best enhance treatment efforts. South Africa was able to finance almost 70% of their own AIDS funding with donors accounting for about 30% of 2006 AIDS spending, according to the 2006 progress report. This is about 15% more than in Nigeria where donors account for a larger proportion of spending, however the key points are as follows: there exists key variation both in terms of burden of disease and effectiveness of policy implementation across the sub-national units in these two respective countries, and the sub-national unit is the key implementer of national level HIV/AIDS policy in both countries. I will next lay out my hypotheses, variables, and issues of measurement.

Variables, Measurement, and Hypotheses

Dependent Variable: I want to explain why ARV programs are available in certain sub-national units and not in others. It is important to note that the majority of the facilities discussed are not new institutions. Rather, ARV programs have been established in a small percentage of hospitals across these two countries. For example, there are over 23,000 total medical facilities across Nigeria (National Bureau, 2005). Of these, slightly less than 200 provide ARVs to the public, according to their national HIV/AIDS Agency (NACA, 2008). While the focus is on hospitals, it should be stressed that it is the ARV program that is the new institution. The policies calling for their distribution and the implementation did not occur until 2002 at the earliest in Nigeria.

My dependent variable indicator is the sub-unit population divided by the number of

ARV providing hospitals in each sub-national unit. This indicator cuts through the epidemiological complexity by focusing upon public policy choice based on the primary delivery mechanism for ARVs: the hospital. Lists of medical facilities are the best available source to assess the delivery of ARVs as these facilities are the institution that provides these medications[7]. The difficulty with the indicator is that it does not measure the variance in hospital capabilities or differentiate for size of these institutions. Still, I believe this indicator is the best measure that gets at the equity or inequity of citizen access to ARVs. I also recognize that it does not capture the full scope of what is required to provide ARVs, but this is a measure of institutional infrastructure which is what this paper attempts to model. In the regression analyses below, a linear transformation was performed so that citizens per hospital are in terms of hundreds of thousands of citizens per hospital. This was done to make interpretation of results easier as initial numbers had extremely large coefficient values.

Independent Variables: Independent variables are divided into several categories: political variables, economic variables, and public health variables. These variable measures are theoretically based on Rom's (2008) typology and also following Lieberman's (2008) conceptualization of in group/out group relations.

Political Variables

[7] A list of ARV facilities in Nigeria was taken from the National Agency for the Control of AIDS website. It was updated as of 2008, and I would consider it to be the most reliable source available. A similar list of facilities was taken from the South African Joint Civil Society Monitoring Forum's website. This list was updated as of August 2007, so the lists are based on similar time frames. This institution is a combination of several civil society organizations which claims to be dedicated to monitoring the government's implementation of the National Operational Plan.

To capture political dimensions across units, I code whether the chief executive in each sub-unit is of the same party as the party in power at the national level. These positions are filled by governors in Nigeria and premiers in South Africa. In both countries, these executives are responsible for signing state level bills into law, establishing sub-unit level cabinets, and implementing legislation passed by each sub-unit's legislative body. Lists of these individuals are readily available from numerous sources. I also measure the percentage of national legislators from each sub-unit who are members of the party in power. Coding for both sub-unit executives and legislators can be considered a proxy for sub-unit relations with the overall national government as one would expect better relations when all members are of the same political party. Both of these measures are coded as dummy variables, coded 1 for members of the ruling party and 0 for members of other political parties. This is based on the conceptualization of political in groups from Bratton and van de Walle and serves to capture elite level relations between these individual actors (1997).

Finally, I measure the percentage of provincial vote in the last presidential election[8] for the ruling party to see whether loyal sub-units are able to secure more hospitals for their units to fight AIDS. This assesses direct relations between the national government and citizens. When the presidential vote measure is combined with the other executive and legislative measures, this comprehensively captures relations between the national

[8] Because of the controversial nature of the 2007 Nigerian election, the results from the 2003 results were used. Final results from the 2007 election have not been accepted as the election was not considered free and fair. One limitation of the data available was that only votes from the People's Democratic Party and All Nigeria People's Party were available for coding. These parties received over 94% of votes in that election, but if other parties ran particularly strong in certain states, this variation is missing in my measures. This was a limitation in the data available. Raw data were taken from Ojameruaye (2003), but other parties involved in the contest were not coded.

government and the sub-units. Additionally, these political measures measure both which political players are salient and whether politically motivated patronage networks resonate in ARV distribution as the literature suggests.

Economic Variables

For a proxy of state economic interests influencing ARV provision, I use dummy variables to code for sub-units with significant natural resource revenues, namely those containing gold or platinum in South Africa and oil in Nigeria. The idea here is that sub-units with significant natural resource deposits will prioritize keeping workers healthy to ensure a steady flow of state revenue from these resources. For example, South African gold mining firms were among the first private sector (Faris, 2004). In states lacking these resources I would expect sub-units to be less focused on ARV provision. I also measure individual unit total budgetary spending[9] per capita. The budgetary data allows an assessment based on total spending on individual citizens. This measure captures the agency of policy makers and also helps to control for the availability of resources in given states.

Demographic and Public Health Variables

To measure the demographics of ethnicity, I use Demographics and Health (DHS) survey data from both Nigeria and South Africa to assess ethnic heterogeneity across the individual sub-units. Numerous measures were considered including census data as well as data from the Afrobarometer. The DHS surveys offered the largest data sets with over 7700 cases in the Nigerian data set and over 9000 in the South African set.

---

[9] Data were taken from the South African Treasury website and from the Business Environment and Competitiveness Across the Nigerian States Initiative, a project launched by the African Institute for Applied Economics since 2003. More information is available in the data source section of the paper's concluding references.

Although the DHS sub-unit samples are small (averaging around 200), they are larger than any other survey set available and were of superior quality to census data. The most recent census in Nigeria that actually released ethnic demographic data at the sub-unit level was from 1963. This was assessed to be out of date and likely politicized, and though I recognize the DHS data is imperfect, it was deemed the best measure of ethnicity available at the sub-national level. To measure ethnicity, the size of the largest ethnic group in each sub-unit is used. I also coded the size of second largest sub-unit, but exploratory analysis indicated that the size of the largest group was a more effective proxy. To measure a second public health variable, I include the HIV prevalence rates in each unit[10]. This measure of prevalence captures whether areas of greater disease burden are receiving greater institutional assistance.

Control Variables: I control for population density, dividing the population of individual units by the total land mass of respective areas. This was deemed necessary to account for differences between urban and rural access to hospitals, a challenge across the developing world.

These measurement choices are not without problems; some have been briefly mentioned, and I reemphasize them here. First, the indicator of the dependent variable takes into account hospital numbers, but does not capture the reach of hospital activities or the other services they provide which are critical for the success of ARV success. Also, the dummy variables for natural resource deposits are not perfectly specified, but they are theoretically based and represent the type of justifiable ignorance that dummy

[10] Sub-unit prevalence data was taken for South Africa from a 2005 Treatment Action Campaign document and from Nigeria from a 2005 Nigerian Federal Ministry of Health document. Both are included in the data reference section at the conclusion of the paper.

variables help capture (see for example Carsey and Wright, 1998). But each of these variables is measured in currently available datasets and these measures will be included in the bibliography.

To test hypotheses, I run OLS regression models. While the greatest contribution of this model is to offer an explanation of sub-national variation, it also helps us compare the independent variables systematically. For instance, if ethnicity is the main explanatory factor, Lieberman's (2008) conclusions about ethnic heterogeneity preventing effective policy implementation will be confirmed. But if political variables dominate, the clientelism literature will be demonstrated to have a better comparative fit. Again, to emphasize the point, this is an exploratory analysis to establish sub-national policy implementation variation. I will first discuss my hypotheses before discussing the regression results.

Hypotheses

Political Hypotheses

H_1: Sub-national units represented by executives of the same political party as the president will be more likely to have greater number of ARV providing hospitals than areas with governors from other parties.

H_2: Units represented by legislators that are of the same political party as the president will be more likely to have greater numbers of ARV providing hospitals than units that are represented by members of other political parties.

H_3: Citizens living in units which voted for the ruling regime in presidential elections will be more likely to receive ARV providing hospitals than in states that supported other candidates.

The political hypotheses are based on the tradition of patronage networks in African politics (Bratton and van de Walle, 1997, Wantchekon, 2004). African politics are often characterized by centralized authority with resources largely distributed along clientelistic relationships (Villalon and Huxtable, 1997, Hyden 2006). This hypothesis tests whether such patronage networks exist in ARV treatment policy and whether these resources are distributed along politically-motivated lines, and if so which political actors are most salient in the distribution of these valuable resources. To assess these variables, party membership of executive leadership in each sub-unit was coded as either a member of the ruling regime or as a non-member. Legislative delegations were coded based on the percentage of legislators from a given unit and whether these members were of the same party as the ruling regime. To assess whether presidential election voting mattered data from the 2003 Nigerian presidential election and the 2004 South African presidential election are differentiated to see whether units whose majorities supported the ruling regime were more likely to receive ARVs.

Economic Hypotheses

H_4: Units where oil, gold, or platinum are mined will be more likely to have ARV hospitals than units that do not have these resources.

H_5: Units with higher overall spending per capita will have more ARV providing hospitals.

Oil in Nigeria and gold and platinum in South Africa are the most valuable resources in these two countries which provide valuable revenue to the sub-national governments and the national governments alike. Budgetary spending per capita was available for each sub-unit, although it is not exclusively health spending. This does provide a

measure of the available resources and proxies the general administrative capacity for individual sub-units. From a political economy perspective, it stands to reason that units with natural resources will be more likely to have more ARV providing hospitals than units without these resource deposits as governments have the incentive to keep these revenue generating citizens healthy to maximize production. For instance, in South Africa some of the first actors who supported ARV provision were mining companies which have gone to great lengths to keep their workers healthy and productive.

Demographic and Public Health Hypotheses

H_6: Sub-national units that have greater HIV prevalence rates are more likely to have more ARV providing hospitals than states with lower HIV prevalence rates.

H_7: Sub-units with more dominant ethnic groups are more likely to have more ARV hospitals than units with more heterogeneous ethnic composition.

This is based on the assumption that policy choices will be made to prioritize ARV assistance in areas that are heaviest hit with AIDS patients. H_6 stems from the desire, both by African elites and by international donors (that provide thirty and forty-five percent of the AIDS funding in these two respective countries) are going to require that distribution get to areas with the highest burden of disease, i.e. areas in greatest need of interventions. H_7 stems from Lieberman's (2008) analysis where he finds that ethnic heterogeneity creates in-group/out-group cleavages that limit AIDS treatment policy incentives. Dominant ethnic groups should make it easier for respective sub-units to solve these policy dilemmas and make provision of these resources possible to a larger degree than in more fractionalized regions. Although I hypothesize that patronage plays

a role in the allocation of these supplies, monitoring and evaluation by the international community should ensure that these areas receive care to some degree.

Establishing Sub-National Variation

Figure 2.2: Map of ARV Programs in Nigeria

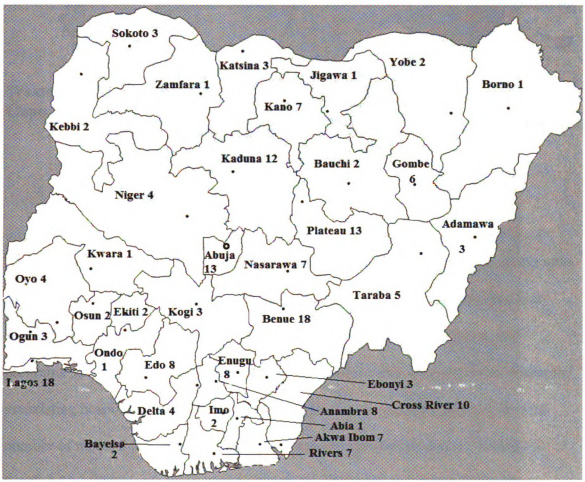
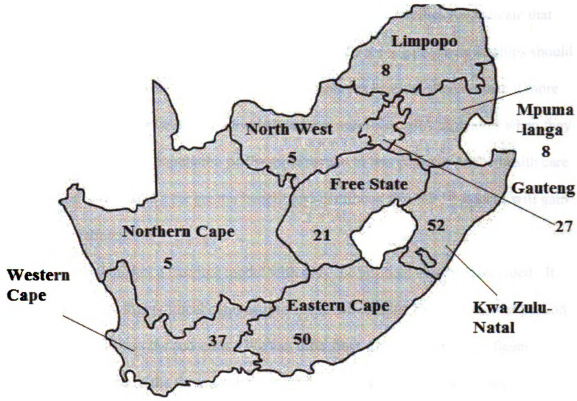


Figure 2.3: Map of ARV Programs in South Africa



As Maps 1 and 2 shows the distribution of hospitals with ARV programs across units and illustrates substantial variation within the two countries. It bears repeating that although the overall hospitals may have been built prior to democratization, ARV programs have been allocated within the last few years. ARV programs exist within the preexisting hospital structure, but they are only located in a small portion of the total number of medical facilities. Sub-national variation within each country is evident. South African provinces have more hospitals than Nigerian states, but this is not surprising given their higher HIV prevalence rates and more developed economy.

Regression Results

One point should be made before we get into the regression analysis. The signs of the coefficients make for confusing relationships. Negative coefficients indicate that fewer citizens are being served by a given hospital. These negative relationships should be viewed as normatively beneficial. Fewer citizens per hospital should make it more likely that a given individual will be able to access necessary ARV resources when they are needed. A smaller population per hospital results in less pressure on the health care system, and should make for greater benefit and likelihood that needy citizens will gain access to treatment.

Model 1 establishes a baseline model with only the political variables included. It illustrates the fact that political explanations alone can account for a substantial portion of the variance across the sub-units. We can infer from the strong and significant relationship on two of the three political variables that patronage is the driving explanation for the distribution of ARV resources. More precisely, the election and representation of intermediate (governors or MPs) political elites who are members of the ruling regime explains how ARV programs are allocated rather than votes for the president's political party in presidential elections as part of a more direct relationship.

Table 2.3: OLS Regression Results for Citizens Per Hospital

		Model 1	Model 2	Model 3
	Constant	31.47***	41.709***	35.87***
		(4.33)	(8.799)	(3.768)
Political	Governor's Party Same as President	-8.422**	-7.88**	-10.625***
		(3.348)	(3.553)	(3.173)
	% of Leg. Delegation Same Party as Pres.	-0.135***	-0.107***	-0.116***
		(0.04)	(0.037)	(0.036)
	Unit Vote Last Pres. Election	-0.071	-0.091	-
		(0.051)	(0.06)	-
Economic	Oil Producing State	-	5.912*	-
		-	(3.24)	-
	Gold Producing State	-	6.495	-
		-	(5.786)	-
	Platinum Producing State	-	4.267	-
		-	(6.166)	-
	LN Total State Spending Per Capita	-	-1.821	-
		-	(1.847)	-
Public Health	HIV Prevalence Rate	-	-109.397*	-113.636***
		-	(60.177)	(36.453)
Demographic	Size of Largest Ethnic Group	-	0.064	-
		-	(0.049)	-
Control	Population Density	-	-0.008**	-0.008***
		-	-0.003	(0.003)
R Squared		0.394	0.645	0.555
Adj. R Squared		0.350	0.543	0.512

Dependent Variable= Citizens Per Hospital (in Hundred Thousands of Citizens)

***=p<.01 **=p<.05 *=p<.1 Standard Errors in Parentheses[11]

Model 2 tests all hypotheses simultaneously. As we can see, the two political variables that were significant in the initial model remain the key drivers: having a governor and legislators who are members of the ruling party make it more likely that these resources will be allocated to a respective unit. Voting remains insignificant.

[11] To ensure cross-national influences were not driving the model, a dummy variable was used to compare the South African and Nigerian sub-units. This dummy variable was found to be statistically insignificant and is not included in the models. Residual plots were run to check for the influence of outliers, and none were found to influence results.

Turning to the economic predictors, there is evidence that spending on citizens does seem to have an effect on the availability of hospitals. The only apparent influential economic variable is the availability of oil, but the relationship runs in the opposite direction of what was hypothesized with oil resources making it less likely that hospitals will be developed. Neither gold nor platinum, resources found in South African provinces, seem to have an influence on ARV provision. Similarly we see that only one of the two public health variables has a statistically significant relationship with hospital allocation. Ethnic diversity does not seem to have much influence on whether or not hospitals are allocated to respective regions. It can be reported, however, that, as expected, states with greater burdens of disease are more likely to receive these resources, suggesting that some resources are being distributed to meet health needs. One also sees that population density is statistically significant, accounting for the fact that most of the hospitals available are in large population centers, a finding that Lieberman (2008) also found to be the case. Both projects reveal the shortage in treatment resources available in rural areas, a theme found in the health literature previously discussed.

Model 3 provides a reduced, parsimonious model that includes only the most influential variables. As we see the relationship is dominated by the two political variables, with more urban areas and areas with more HIV patients prioritized. The oil measure lost its statistical significance once other variables were dropped, so it is not included in the parsimonious model. These findings again suggest that patronage at the sub-national level is based largely on the election of intermediate political elites rather than a direct relationship between citizens and the political center. This model suggests

that although a response based on public health is salient that patronage and distributing resources based on membership in the ruling party plays a significant role in determining who gains access.

What is especially interesting from these findings is that variables from each of our major theoretical categories are statistically significant, according to model 2. African politics scholars would not be surprised that among political variables, electing members of the ruling party is one of the best strategies to ensure ARV hospital provision. These findings lend support to Patterson's (2005) argument about the importance of executive leadership in AIDS policy treatment; we see that although policies in both of these countries are set at the national level, having implementing authorities at the sub-unit level makes a difference. One of the challenges to the overall AIDS response is ensuring not only that sub-national units have the capacity to perform to the specifications of national level plans, but also that effective working relationships exist between the multiple tiers of governance. The findings suggest that intermediate elites play a key role as mid-level patrons distributing resources on behalf of the regime in power. As this model suggests, these relationships are important to ensure that sub-national units gain access to these important resources, translating from policy development to actual local level implementation. These findings also point to the role of legislative and sub-national unit executives in the policy process: as Hyden's discussion of patronage substituting for an effective policy process suggests, legislators and sub-unit executives play a role, not as policy developers but rather as resource seekers on behalf of their constituencies. Rather than the patronage process being exclusively dominated by one big man at the top, there exists an entire class of big men,

all seeking their portion of these resources, both as patron to their constituencies, but also as clients of national leadership. In American politics these resources might be considered pork barrel projects, but as Hyden discusses, the line between state and regime is often even more blurred. In the African case, the informal institutions of clientelism appear to have overtaken the formal institutions. This is especially true in the Nigerian case, although it is as well to an increasing degree in South Africa.

Units with more AIDS patients receive greater ARV provision. Surprisingly, the size of the largest ethnic group is not statistically significant, but it would be important in future research to develop improved measures of ethnic representation and saliency as the limitations of the measures may be obscuring the importance of these results. Political and ethnic lines are also not independent features, and I suspect that ethnic and political party in and out groups may be largely entangled in ways that are not included in Lieberman's (2008) analysis.

Lastly, in terms of the economic hypotheses, the model provides some interesting and surprising findings. First, budgetary spending is not statistically significant which is unexpected. Furthermore, oil is statistically significant, although contrary to the hypothesized relationship. My hypothesis was based on the idea that units would likely develop these institutions to protect the citizens that provided the economic fuel for these units to maximize production. This was a relatively confounding finding until one considers the findings on revenue and natural resources by Snyder and Bhavnani (2005). As these authors argue, when units can garner large sums of funding from natural resources, especially those that require interaction between the sub-national unit government and multi-national corporations rather than more lootable, alluvial

resources, units lack the incentive to build institutions that provide tax revenue, thus bypassing need to build social services (ibid). When the resource is both non-lootable, and is extracted using industrial extraction, these authors argue that low risk to the state. Furthermore, with the incentive to tax removed, these units lack the incentive to build either coercive or social welfare institutions (ibid). This helps to explain why ARV hospitals are less available in the Niger Delta region; if oil required large numbers of local workers the incentive structure would likely be different and would likely behave more like gold mining in South Africa. This suggests that the lack of these resources is another data point of the limited availability of state resources being provided in this conflict-ridden region.

Discussion, Implications, and Future Research

These results yield both good and bad news for interested public policy officials. The good news is that ARV providing hospitals are more likely to be built where there are citizens who need them. Nigerian and South African officials can proudly show these results to potential donors and their own citizens. Although this result was expected, it is reassuring that pressing social need is among the key explanatory variables.

The bad news is that, unfortunately, these same decisions are being made with hospital resources distributed along patronage lines. While this type of distribution is not unique to ARVs, it is a concern for donors interested in maximizing their contributions for public health purposes. This finding also shows that although patronage is often viewed as rewarding support between the big man and his subjects, numerous mid-level big men, represented by sub-unit executives and legislators play an intermediary role, striving to bring home these assets to their constituents as they seek to

consolidate their power. Although one would want to analyze a larger data set before reaching definitive conclusions, it appears likely that patronage networks, an important feature in African politics, extends prominently into ARV distribution. This is extremely problematic for donors, and is worthy of further future inquiry. It also points to the importance of the monitoring and evaluation processes as international donors should place emphasis when dealing with recipient governments on equitable distribution of resources. Some emphasis has been placed on this type of equitable distribution, but most emphasis has been put on gender. Gender an important component, but these preliminary findings suggest that areas that do not elect members of the ruling party may be disadvantaged when allocation decisions are made. If this relationship is further verified, donors should add the inclusion of these political minorities in the distribution coordinating mechanisms and include political considerations in their monitoring and evaluation of these ARV programs.

Of most concerning is the role of oil in this relationship. This relationship shows that hospital treatment is lacking especially in oil producing areas. Such findings seem to illustrate feedback loops existing in these oil producing areas where oil is part of a vicious cycle between nonresponsive governments and needy AIDS infected citizens. This outcome may be an element of the resource curse that is less developed and worthy of further inquiry. These findings demonstrate that each of the model's categories—politics, economics, and public health—are all important in modeling sub-national AIDS policy implementation. Although this is not a complete model, these initial results indicate that this framework is an effective starting point.

Although the findings of this research yields some interesting results, forty-five

percent of variation remains unexplained in the most parsimonious model. Other variables will need to be tested to increase the utility of this model. Similarly, ethnic variables were not significant, likely due to the weakness of the measures used. Future work will need to incorporate new and better measures of ethnicity at the sub-national level.

The findings also will require more investigation into whether the source of funding matters. Even relatively wealthy African countries like South Africa and Nigeria that provide a majority of their own funding get a portion of their funding from foreign donors, and other African countries garner an even larger portion of their AIDS spending from foreign donor sources. It would be interesting to see whether the source of funding determines how it is spent at the sub-national level. To do this, more budgetary data will be needed, and greater transparency by not only national, but sub-national governments will be important.

To improve the quality of the model more units in other countries need to be considered, and mechanisms underlying how these decision making processes are made, from national level plans to policy implementation will be needed in future research. It is impossible to generalize to the continent based on such a limited data set, and tracking dollars and decision making processes would make for more robust conclusions. Finally, it is important to acknowledge that hospitals are but one distribution mechanism of importance in fighting AIDS. As other scholars have discussed, there are a great many other important institutions including personnel, drug provision, and reducing costs that are critical to the future requirement of mass AIDS treatment in Africa and across the globe. These other institutions would need to be considered in developing a

more expansive model of AIDS policy (Kombe et al 2004, Oloriegbe, 2007).

Conclusion

This paper set out to consider whether political, economic, or public health variables drove ARV hospital provision for AIDS patients in Nigeria and South Africa. This model showed that aspects of each of these categories play a role in determining where ARVs are distributed. Most importantly, this paper establishes the existence of sub-national variation. Looking back at our hypotheses, we find some support for governors and legislative representation playing a role in ARV policy choice (H1 and H2). Voting for the president does not appear to be an influential factor driving resource allocation (H3). We do not see budgetary spending has an influential relationship on resource distribution (H5).

Oil (H4) is the only natural resource that appears to play a substantial role in the distribution of these resources, although it hampers availability rather than ensuring it. These findings point to the dyadic relationship that oil creates between governments and multi-nationals. With large sums from oil revenue, governments do not have the incentive to provide anti-AIDs resources to citizens. This, along with the concerns from the resource curse literature paints a very bleak picture for oil producing countries in fighting AIDS.

Greater burden of disease (H6) appears to be a key driver for the allocation of greater hospital resources. It also is clear that city dwellers are more likely to gain access to ARVs than rural citizens. Ethnicity (H7) does not appear to be an influential factor, according to the models. As was discussed this may be due to the limited measures available as well as potential relationships between ethnic and political lines.

Based on these findings, where will we see people receiving the most robust ARV treatment programs? Areas are more likely to successfully develop these programs when their political representation is able to bring them more patronage. There are exceptions with areas with greatest HIV prevalence and urban areas gaining resources as well. However, it should be noted that patronage networks discussed by African politics scholars are not immune from involving themselves when these resources are distributed. While severe policy inequity at the national level exists, the sub-national level appears to have even greater disparities, which supports Pradhan's (2001) findings. As Pradhan and the other public health authors suggest is that wealthy citizens will find a way to access these resources, but the poor are particularly vulnerable to these practices. What this analysis suggests is that being poor and outside of the patron-client networks may be the worst place of all. Also, these findings add to Lieberman's findings that such in and out group cleavages matter and extend beyond ethnic lines with access to the ruling regime playing an important role in who gains access to these provisions.

While there remains more work to be done, these findings indicate large inequities in terms of ARV access *at the sub-national level.* Most disturbing is that political patronage appears to be playing into this discussion as resources are being distributed to those who support the party in power with legislators and governors serving as clients of the central governments. What resonates most clearly from this work is that political science has a great deal to say about ARV policy equity and policy choice, and that more work is needed to pin down the specific mechanisms that underpin these relationships.

Data Sources:

South African Electoral Commission Website with electoral breakdown by region: http://www.elections.org.za/Results/natperprov.asp

South African data on ARV hospitals: Martin, Gayle. 2003. "A Comparative Analysis of the Financing of HIV/AIDS Programs."

South African antiretroviral drug hospital availability by province: Western Cape Department of Health: December 2004: http://www.tac.org.za/Documents/ARVRollout/arvstats.htm

South African ARV Hospital List by Province: Published on Joint Civil Society Monitoring Forum (http://www.jcsmf.org.za) http://www.jcsmf.org.za/node/21.

South African natural resource distribution: South African Department of Energy. N.A. Operating Gold Mines and Recovery Plants in South Africa. 2006.

Nigerian ARV hospitals: Oloriegbe, Dr. Ibrahim. "Impact, Challenges, and Long-Term Implications of Antiretroviral Therapy Program in Nigeria." Health Reform Foundation of Nigeria. August, 2007.
http://www.naca.gov.ng/index.php?option=com_content&task=view&id=157&Itemid=191

Nigerian Total List of Health Facilities: National Bureau of Statistics. Social Statistics in Nigeria, 2005.

Nigerian Electoral Data: http://africanelections.tripod.com/ng.html#2003_Presidential_Election

Nigerian Oil Distribution: United Nations Development Report. N.A. 2006. Abuja, Nigeria.

Nigerian State Economic Data: http://www.aiae-nigeria.org/becans/berreports.htm Nigerian Electoral Data from 2003: Ojameruaye, Emmanuel. "Some Significant Outcomes of the 2003

Nigerian Presidential Elections." International Federation for Education and Self Help: Phoenix. http://www.waado.org/NigerDelta/Politics/2003Elections/President-election/NigerDelta-OjameruayeII.html

Works Cited:

Aborisade, Oladimeji and Robert Mundt. 1998. *Politics of Nigeria.* Redwood City, CA: Addison Wesley.

Ashford, Lori, Davidson Gwatkin, and Abdo Yazbeck. 2004. "Designing Health and Population Programs to Reach the Poor," Washington, D.C.: Population Reference Bureau.

AVERT. "HIV and AIDS in South Africa." 2010. Online. http://www.avert.org/aidssouthafrica.htm.

Barilleaux, Charles. 1998. "The Politics of State Health and Welfare Reforms." In *Governing Partners*, ed. Russell L. Hanson. Boulder, CO: Westview Press.

Bratton, Michael and Nicholas van de Walle. 1997. *Democratic Experiments in Africa: Regime Transitions in Comparative Perspective.* Cambridge, MA: Cambridge University Press.

Braveman, Paula, and Eleuther Tarimo. 2002. "Social Inequalities in Health Within Countries: Not Only an Issue for Affluent Nations," *Social Science and Medicine.* Vol. 54: 1621-1635.

Cantor, Joel. 2006. "State Health Policy." In *The State of the States*, ed. Carl E. Van Horn. Washington, DC: Congressional Quarterly Press.

Carsey, Thomas and Gerald Wright. 1998. "State and National Factors in Gubernatorial Elections." *American Journal of Political Science.* Vol. 42 No. 3: 994-1002.

Cassels, Andrew and Katja Janovsky. 1995. "Strengthening Health Management in Districts and Provinces," Geneva: World Health Organization.

Chigwedere, Pride et al. 2008. "Estimating the Lost Benefits on Antiretroviral Drug Use in South Africa." *Journal of Acquired Immune Deficiency Syndrome.* Vol. 49 No. 4: 410-415.

De Waal, Alex. 2003. "How will HIV/AIDS Transform African Governance?" *African Affairs* Vol. 102. P. 1-23.

Erikson, Robert S., Gerald C. Wright, and John P. McIver. 1993. *Statehouse Democracy.*
York: Cambridge University Press.

Faris, Stephan. 2004. "Deadly Denial." *Time Magazine Europe.* Accessed Online 4 May 2010. http://www.time.com/time/europe/html/040419/aids.html

Gamble, Vanessa and Deborah Stone. 2006. "U.S. Policy on Health Inequities: The Interplay of Politics and Research." *Journal of Health Politics, Policy and Law.* Vol. 31, No. 1: 93-126.

Gwatkin, Davidson, et al. 2007. "Socio-Economic Differences in Health, Nutrition, and Population Within Developing Countries," The World Bank: Health, Nutrition, and Population.

"Health Care in South Africa." 2009. Accessed Online 19 Feb. 2010. http://www.southafrica.info/about/health/health.htm

Hero, Rodney. E. 1998. *Faces of Inequality: Social Diversity in American Politics*, New York: Oxford University Press.

Hobbes, Thomas. 1924. *The Leviathan.* New York: P.F. Collier & Son

"Human Rights and HIV." UNAIDS. N.D. N.A. Online. http://www.unaids.org/en/PolicyAndPractice/HumanRights/default.asp

Hyden, Goran. 2006. *African Politics in Comparative Perspective.* New York: Cambridge University Press.

Johnson, David. 2000. "Nigeria: Health Briefing Paper," DFID's Health Systems Resource Center for the UK Department for International Development

King, Gary. Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research.* Princeton: Princeton University Press.

Kombe, Gilbert, David Galaty, and Chizoba Nwagbara. 2004. "Scaling up Antiretroviral Treatment in the Public Sector in Nigeria: A Comprehensive Analysis of Resource Requirements." Bethesda, MD: Partners for Health Reform.

Lasswell, Harold. (1936) *Politics: Who gets What, When, and How.* McGraw-Hill, New York.

Lieberman, Evan. 2009. *Boundaries of Contagion: How Ethnic Politics Have Shaped Government Responses to AIDS.* Princeton, NJ: Princeton University Press.

Makinen, M. et al. 2000. "Inequalities in Health Care Use and Expenditures: Empirical Data from Eight Developing Countries and Countries in Transition," *Bulletin of the World Health Organization.* Vol. 78. No. 1. Geneva: World Health Organization.

Nordhaus, William, Alberto Alesina, and Charles L. Schultze. (1989). "Alternative Approaches to the Political Business Cycle," *Brookings Papers on Economic*

Activity,
Vol. 1989, No.2, pp. 1-68. The Brookings Institution.

Oloriegbe, Ibrahim. 2007. "Impact, Challenges, and Long Term Implications of Antiretroviral Therapy Programs in Nigeria." Abuja, Nigeria: Health Reform Foundation of Nigeria.

Patterson, Amy, ed. 2005. *The African State and the AIDS Crisis.* Burlington, VT: Ashgate.

Patterson, Amy. 2006. *The Politics of AIDS in Africa.* Boulder, CO: Lynne Rienner Publishers.

Peterson, S. and S. Shellman. 2005. "AIDS and Violent Conflict: The Indirect Effects of Disease on National Security. Manuscript, College of William and Mary.

Pradhan, Menno, David Sahn, and Stephen Younger. 2001. "Decomposing World Health
Inequality. Tinbergen Institute.

Progress Report on Declaration of Commitment on HIV and AIDS. 2006. N.A. Prepared for the UN Special Session on HIV and AIDS.
http://data.unaids.org/pub/Report/2008/south_africa_2008_country_progress_report_en.pdf

"Provincial Health Departments." 2010. South African Government Information. http://www.info.gov.za/aboutsa/health.htm#Provincial.

"Public Opinion and HIV/AIDS: Facing up to the Future." N.A. 2004. Afrobarometer Briefing Paper Number 12. Michigan State University.
<http://afrobarometer.org/papers/AfrobriefNo12.pdf.>

Odutolu, O, Ahonsi, B.A, Gboun, M & Jolayemi, O.M (2006) 'AIDS in Nigeria: A nation
on the threshold'. Chapter 11: The National Response to HIV/AIDS. Harvard Center for Population and Development Studies.

Raphael, Dennis. 2003. "Towards the Future: Policy and Community Actions to Promote
Population Health." *In Health and social justice: a reader on Politics, Ideology, and Inequity in the Distribution of Disease.* Ed. Richard Hofrichter. San Francisco, CA: Jossey Bass. Pp. 453–68.

Raphael, Dennis. 2007. "Public Policies and the Problematic USA Population Health Profile." *Health Policy* Vol. 84: 101–111.

Roniger, Luis. 2004. "Political Clientelism, Democracy, and Market Economy." *Comparative Politics*, Vol. 36, No. 3 (Apr., 2004), pp. 353-375.

"Nigeria Opens 41 New AIDS Treatment Centers." *Reuters News Service.* 14 March 2006. Online. http://www.aegis.com/news/re/2006/RE060316.html

Ringquist, Evan J., and James C. Garand. 1999. "Policy Change in the American States."
In *American State and Local Politics*, ed. Ronald E. Weber and Paul Brace. New York: Chatham House.

Ringquist, Evan. 2005. "Assessing Evidence of Environmental Inequities: A Meta-Analysis." *Journal of Policy Analysis and Management.* Vol. 24, No. 2: 223–247.

Rom, Mark. 2007. "State Health and Welfare Programs." In *Politics In the American States: A Comparative Analysis.* Eds. Virginia Gray and Russell Hanson. Washington, D.C.: CQ Press. (9th Edition).

Schoen, Cathy and Michelle Doty. 2004. "Inequities in Access to Medical Care in Five Countries: Findings for the 2001 Commonwealth Fund International Health Policy Survey." *Health Policy.* Vol. 67: 309-322.

Singer, P.W. 2002. "AIDS and International Security. *Survival,* 44(1), 145-158.

Snyder, Richard and Ravi Bhavnani. 2005. "Diamonds, Blood, and Taxes: A Revenue-Centered Framework for Explaining Political Order." *Journal of Conflict Resolution.* Vol. 49. No. 4. Pp. 563-597.

UNAIDS. 2008. Nigeria: Country Situation. N.A.
http://data.unaids.org/pub/FactSheet/2008/sa08_nie_en.pdf

UNAIDS. 2008. South Africa: Country Situation.
http://data.unaids.org/pub/FactSheet/2008/sa08_soa_en.pdf

UNGASS. 2007. "United Nations General Assembly Special Session Report on Nigeria."
http://cfs.unaids.org/country_factsheet.aspx?ISO=NIE

Viall, Jenny and Joyful Mlamli. 1999. "Cape Will Give Pregnant Women AZT." African
News Service. Online. http://www.aegis.com/news/ads/1999/AD990023.html.

Villalon, Leonardo and Phillip Huxtable. 1997. "The African State at a Critical Juncture: Between Disintegration and Reconfiguration. London: Lynne Rienner Publishing.

Vogel, Ronald. 1993. "Financing Health Care in Sub-Saharan Africa," N.C.: Greenwood
Press.

Wantchekon, Leonard. 2003. "Clientelism and Voting Behavior: Evidence from a Field Experiment in Benin," *World Politics* Vol 55. No. 3.

Weinstein, Jeremy. 2006. "AIDS Security and Social Stability," Manuscript, Stanford University. http://www.stanford.edu/~jweinst/files/Crime_DEC06_FINAL.pdf

World Health Organization. 2005. N.A. "Nigeria: Summary Country Profile for HIV/AIDS Treatment Scale-Up." Geneva: WHO.

WHO, UNAIDS & UNICEF (2008) 'Towards universal access: scaling up priority HIV/AIDS interventions in the health sector'.

The Micro-Foundations of Public Satisfaction with HIV/AIDS Policy Performance: Lessons from Afrobarometer Round 4

Abstract:

This paper investigates what factors lead to increased citizen satisfaction with their government's response to HIV/AIDS? Recent investigation of ARV policy across Africa revealed the strength of states more than regime type that influences the level of ARV coverage across African countries. Further modeling revealed that although ARV hospitals are distributed to a larger degree in urban and areas with high levels of HIV/AIDS, patronage networks persist with those areas represented by elected members of the party in power more likely to receive ARV facilities. Is the availability of ARVs an influential predictor of citizen satisfaction? Round 4 of the Afrobarometer asked more than 27,000 African citizens in 20 countries about their opinions, and their evaluation of their government's HIV/AIDS policy performance allows for the micro-level relationships to be investigated and modeled. Regression analysis suggests that the six most important predictors of citizens satisfaction with HIV/AIDS policy performance (in order) are health service satisfaction, perceived corruption, trust in the state's institutions, satisfaction with democracy, low HIV prevalence, and high ARV coverage.

Introduction

This paper investigates why some African citizens are more satisfied with their respective government's response to the HIV/AIDS crisis than others. This research follows cross-national and sub-national investigation and provides an opportunity to re-test previously established relationships with disaggregated, individual level data. Before embarking on new research, it is important to quickly revisit the earlier macro-level results on which this study is based.

Previous investigation established that at the cross-national level, ARV coverage was dependent on the strength of a respective state rather than regime type. In other words, a state with an effective bureaucracy, established infrastructure, and the capability to provide other basic social services was more likely to scale up ARV distribution to a larger degree than weaker states. This state strength or stateness was measured using the Kauffman, Kraay, and Mastruzzi World Bank Institute indicators (2009). Several of their indicators—political stability, governmental effectiveness, regulatory quality, rule of law, and control of corruption were combined into an index of stateness which was previously used by Bratton and Chang (2006). This stateness index was found to be a strong positive predictor of ARV coverage while regime type was not found to have a strong relationship with coverage.

At the sub-national level, investigation revealed that sub-national units represented by executives and legislators of the party in power are more likely to receive ARV resources than areas represented by other political parties. Additionally, areas with a greater burden of disease are prioritized as HIV prevalence is positively related to sub-

national ARV provision. Lastly, a positive relationship was found between greater population density and ARV programs, suggesting that more urban areas have been prioritized.

Taken together the cross-national and sub-national findings provide some insight into why some Africans are more likely to receive ARVs than others. Citizens living in stronger states who have access to patronage resources are more likely to receive treatment than those residing in weaker countries and those who do not support the party in power. A weakness of the past inquiries is the fact that statistical analyses were based on relatively small samples with N sizes between forty and fifty. Would these macro-level relationships hold if one had larger data sets to draw upon? An additional question is whether state strength or patronage access is the more important predictor of ARV coverage. Fortunately, the Afrobarometer provides a data set allowing for micro-level inquiry. Round 4 data include over 27,000 citizen surveys taken from twenty countries across Africa. This large number allows for disaggregated investigation at the individual level. An additional strength of Afrobarometer data is that it allows for the inclusion of more variables and many more degrees of freedom than previous research. Previous findings were based on macro and meso-level units of analysis, and Afrobarometer data allows for micro-level testing of previously articulated relationships.

Previous research focused on ARV coverage as a dependent variable to answer the question: what political components lead to scaled up AIDS treatment resources? As will be detailed later, this paper is based on the idea that citizens will evaluate their government's policy performance more favorably when they see anti-AIDS policies implemented more effectively. Namely, individuals who interact with anti-AIDS

institutions should be more satisfied than those who do not. One of the goals of this paper is to see whether (and to what degree) the availability of ARVs drives citizen satisfaction with their government's handling of the HIV/AIDS crisis. In the introductory chapter of the dissertation, the argument was made that AIDS treatment serves as a proxy for an overall response to the disease. In other words, countries that have effectively scaled up treatment have also expanded prevention, awareness, and testing services in accordance with international best practices. To what degree do Africans interact with these efforts, and does this interaction with anti-AIDS responses shape whether citizens are satisfied with the performance of these policies at the individual level? Are countries that have invested in fighting HIV/AIDS rewarded with greater citizen satisfaction?

In order to answer these questions, individual level data will be used. One example of this type of individual level interaction is the story of Ms. Trisca Mkanda, a primary school teacher in Malawi. Her story is not unusual and provides an individual level account of how anti-AIDS policies are beneficial. Here is how she describes her experience:

> I got very sick in 2004 after the birth of my second child. I lost a lot of weight and could only walk with the support of a stick. When my HIV test revealed I was HIV positive and had an AIDS related condition, the hospital started my treatment on ARVs. I am now better and have resumed my teaching job. No-one would suspect I have HIV if they see how healthy I look. My child is also in good health since she started taking the ARVs, (DFID, 1).

Trisca Mkanda is one of over 70,000 Malawians who have received ARVs from over 440,000 who suffer from HIV. Her example provides a snapshot of not only the individual level benefits of effective anti-AIDS policies, but the positive externalities

which extend to both her family and community through her increased productivity as a teacher. Trisca is a member of an AIDS support group which is funded through Malawi's National AIDS Commission.

Gertrude Tandandi, who runs the Tikondane AIDS Support Group provides a broader account of how these groups make a difference:

> ARVs are free of charge in hospitals. However, our group visits a lot of sick and poor people who can't afford the bus fare to go to the district hospital. Bringing ARVs to the rural community where the majority of Malawians live would save a lot of lives. We see a lot of helpless orphans in the villages that either live with their grandparents or siblings after the death of their parents. More parents and guardians would be able to be more productive and take care of their children if these life saving drugs became easily accessible, (DFID, 1).

This group is one of hundred across the continent working to prevent the worst effects of HIV/AIDS, and provides just one example of effective anti-AIDS policy in action. Effective policy requires a host of interventions, and ARVs are only one tool available. Policies including prevention campaigns through education, condom provision, and male circumcision which decrease disease spread. Testing and counseling so individuals know their HIV status is another important component. The last line of defense is ARV treatment. The goal of this project is to understand what factors lead citizens to evaluate their governments' HIV/AIDS policies as effective. Before specifying a research design, literature on public opinion and satisfaction with social service provision will be reviewed. The overall goal of this paper is to answer what factors drive citizen satisfaction with their government's response to HIV/AIDS.

Literature Review

Three literatures are brought to bear on our subject matter. First, public opinion literature relating to social service provision in Africa is discussed. Second, literature discussing both regime type and state strength is brought to bear. Third, literature on

political cleavages in Africa is also discussed. A brief synthesis of these literatures then follows.

Public Opinion and Social Service Provision

The literature review is organized with social service provision discussed more generally before focusing on health and HIV/AIDS policy specifically. Bratton, Mattes, and Gyimah-Boadi (2005) provide valuable context for how social service provision and public satisfaction with policy performance fit together. Firstly, from a demand perspective, African citizens view economic problems as the most important problem facing their countries that they want their governments to address[12] (99). Immediately following economic problems is the provision of social services like health services, education, the rule of law, clean water, and AIDS treatment (99). As Bratton et al. report, there is a great deal of variation in terms of what problems citizens list among the three most important problems they would like to see solved. They found that only citizens in Botswana mentioned HIV/AIDS as one of the top ten problems for governments (102). The authors also reported that public demand for health services exceeded the importance placed on health provision by donor institutions (103). As should be clear from these results, demand for health care and social services more generally is quite high across Africa.

While African citizens view health as a key development challenge, Bratton et al. also find that sixty-five percent of Africans would like their governments to be the supplier of health care resources rather than private or faith based institutions (109, 110). Citizens were also asked where they turn for healthcare when they encounter shortages

[12] These findings were based on survey data collected in 12 countries from 28,795 citizens from Afrobarometer Round I surveys.

(138). Exposing citizen vulnerability when healthcare is unavailable, more than thirty percent of citizens had no other source when healthcare was needed. Nearly forty percent turned to their families to help provide in times of need, the most frequent response (138). Leaning on one's family is an understandable short-term response, but when dealing with a chronic disease like HIV/AIDS, leaning on family is a sub-optimal strategy. These individuals cannot provide the type of medical expertise or treatment required, though this is a rational response. Another interesting finding is that despite citizens indicating their preference for governmental provision of health care services, people were more likely to seek healthcare from markets than they were from governmental institutions (138). There appears to be significant variation across countries as only a few countries like South Africa have robust market-based health institutions. Private health care facilities are generally restricted to those who either can afford to purchase insurance or are based on cash for services arrangements largely unavailable to the poor. People want their governments to provide healthcare and simultaneously seek non-governmental answers in times of shortage. This trend points to a striking pattern: the supply of healthcare by African governments is not meeting public demand for these resources. In other words, although Africans want their governments to provide, these institutions have thus far been unable to meet healthcare needs.

In terms of policy performance, Bratton et al. find that Africans are more satisfied with social service provision than they are with economic reforms (238). Sixty-two percent of citizens claim their governments are doing "fairly well" or "very well" at preventing AIDS, the largest rate of satisfaction with any individual policy area (239).

Fifty-four percent report similar satisfaction with health service provision (239). As Bratton et al. analyze their data, they suggest that these findings are based on low public expectations and marginal improvements. The finding that in times of shortage only ten percent of Africans turn to governments for health care indicates individuals are not especially satisfied with their healthcare systems, providing further evidence that supply is not meeting demand. Bratton et al. (2005) provides robust evidence of limited satisfaction with health care availability at the individual level.

What accounts for the variance in satisfaction across individuals? Bratton (2007) explores what determines public satisfaction with both health and educational services utilizing Afrobarometer Round III data. He finds that ease of access is a critical component leading to positive citizen evaluation. High fees detract from citizen satisfaction. Corruption also detracts from satisfaction, although paying a bribe actually leads to improved satisfaction. Of most importance is the finding that citizens link their satisfaction with health and educational services to their overall evaluation of democracy. This linkage of social services and overall evaluation of democracy points to the critical nature of these resources to citizens.

Bratton found that the availability of health care and increased quality of these services was the most important determinant of satisfaction with healthcare services (22). Not surprisingly, satisfaction was also determined by social structure (24). Specifically, greater levels of poverty detract from satisfaction with healthcare services. The negative relationship between poverty and satisfaction was the second most important predictor, behind only the positive relationship between ease of access and increased levels of satisfaction (24). Bratton assesses perceived corruption to negatively

influence one's satisfaction with healthcare availability (24). The high cost of healthcare was the next most important concern as increased perception of costs led to decreased satisfaction with healthcare (24).

Bratton goes on to link the importance of positive provision of these public services to increased satisfaction with democracy—a measure he suggests may indicate citizens evaluate service provision and democracy using similar reasoning (26, 27). As Bratton puts it, "satisfaction with basic social services also contributes to building a mass constituency for democracy," (28). Citizens want to see an overall increase in the quality of these services with a focus on responsiveness in particular (29). As Bratton suggests, people are willing to pay for services as long as quality continues to improve. The findings from Bratton (2007) provide evidence supporting those discussed from Bratton et al. (2005).

Though Bratton et al. (2005) and Bratton (2007) make references to HIV/AIDS several authors have specifically analyzed citizen satisfaction with HIV/AIDS policy specifically. Afrobarometer Briefing Paper Number Twelve provides some descriptive statistics related to citizen experience with the disease utilizing data from Afrobarometer Round II (2004). The data suggest tremendous variance across countries, similar to Round I findings. For instance, eighty-five percent of Ugandans indicate they know someone who died of the AIDS virus (1). Of the fifteen countries included in this round of surveys, six countries had less than twenty percent of citizens indicate that they knew someone who died of the disease (1). This included high HIV prevalence countries like South Africa and Lesotho. These data suggest that stigma related to AIDS varies across countries, and stigma is likely responsible for gap between positive response and high

HIV prevalence statistics. When stigma is less pervasive, citizens appear more willing to answer positively indicating their knowledge of people who died of the disease. The paper suggests that higher levels of educational attainment and people exposed to technology were more likely to report knowing someone who had died of the disease (2).

In terms of how HIV/AIDS is viewed as a policy priority, there is again tremendous variance across countries. Thirty percent of Botswana citizens and twenty-eight percent of Namibians consider AIDS a policy priority when asked to mention the three most important problems facing their country (4). This high rate is in sharp contrast to seven countries where less than five percent of citizens prioritize the disease (4). Again, this pattern includes both high and low prevalence states. When asked whether greater resources should be allocated towards AIDS versus focusing on other problems, citizens were divided (6). In three countries, citizens wanted more resources for AIDS while in four others citizens wanted less resources allocated to AIDS compared to other issues. The most common pattern was similarly divided values with near equal numbers of citizens wanting more and fewer resources allocated towards fighting AIDS. This pattern was evident in eight cases. What is most clear from this article is the cross-national variation both in terms of citizen experience with the disease and in terms of their comparative demand for governmental intervention.

Whiteside et al. (2002) also analyze the Afrobarometer data on HIV/AIDS. These authors find that the Afrobarometer questions are valid and reliable when compared to epidemiological data like HIV prevalence rates. The authors find high correlations between people reporting knowing someone who died of the disease and HIV

prevalence. This paper also indicates that although people report widespread experience with the disease, they do not list it highly as a policy priority compared to other concerns like increasing employment opportunities and improving the economy. The authors speculate on the causes of this cross-national trend, arguing that citizens may view AIDS as family problem. Another possible cause is discussed. The authors hypothesize that citizens are rationally listing AIDS below other policy issues that are more immediate like jobs. Whiteside et al. also report that a high number of Africans list health rather than AIDS as a policy priority. These health responses correlate with those who claimed knowing someone who had died of AIDS, suggesting that many of these individuals are equating health with AIDS. Overall, Whiteside et al. suggests that the Afrobarometer questions on AIDS are both valid and reliable when compared to the epidemiological data. It also suggests that significant variation exits across countries in terms of the demand for greater governmental AIDS response.

Lieberman (2009) models whether citizens think more resources should be utilized to combat the AIDS virus even if it means less money on other projects. This research suggests that greater ethnic fractionalization makes it less likely for people to prefer greater funding spent on HIV/AIDS (276, 277). He also finds that greater GDP per capita has a negative relationship with demand for increased AIDS funding (277). As Lieberman summarizes his key finding on ethnic boundaries he writes that, "Ethnic political competition—a standard axis for conflict over public policy—has mediated demands for, and in turn the supply of, AIDS policies across countries," (276).

Youde (2009) performs statistical analysis investigates what factors lead to high levels of satisfaction with HIV/AIDS policy performance across the Afrobarometer

countries. This was measured using an Afrobarometer question which asked citizens how satisfied they were with the government's performance related to HIV/AIDS policy. Youde finds that people who are more informed about the news and have an interest in public affairs are more likely to support governmental efforts. Individuals who know someone who has died of the disease also increases the likelihood of someone supporting governmental intervention. People who assess the government as being more democratic are similarly more likely to applaud AIDS efforts. The strongest relationship Youde finds relates to other health services: if one is satisfied with the government's overall effort on other health services, they are much more likely to approve of a government's AIDS response effort. Youde includes dummy variables for each country in subsequent models which are consistently positive and statistically significant. This finding suggests high levels of cross-national variation. As Youde summarizes his findings he writes that, "We see that Africans generally think their governments are doing a good job combating the AIDS epidemic, but that these evaluations vary along informational and experiential lines. More information leads to more support. More experience with democracy and AIDS leads to more support," (232). A linkage between how citizens evaluate social services and democracy is consistent with Bratton's (2007) assessment. Youde also finds that support for AIDS policies is linked to support to other effective policy responses like health care more generally as well as positive evaluation of economic reforms. He also suggests that Africans evaluate AIDS in the same manner as they would assess other policy performance. The analysis suggests that AIDS is not unique with citizens willing to reveal their true feelings. Youde's analysis suggests citizens assess their government's

handling of AIDS similar to other political issues, indicating that HIV/AIDS has entered, "the realm of normal politics," (232). This finding conflicts with Lieberman's argument which argues that ethnic boundaries resonate on HIV/AIDS issues to a larger degree than on other policy issues. Contrastingly, Youde makes the case that citizens can assess policy performance related to the disease similarly to other political issues.

What key points can be taken from the public opinion and AIDS literature? First, the authors agree that the Afrobarometer data provides reliable and valid questions that African citizens were willing to answer truthfully. Second, a great deal of variation exists at the cross-national level in terms of satisfaction with HIV/AIDS policy. Both Bratton (2007) and Youde (2009) point to the importance of an effective AIDS response as it relates to citizens' evaluation of their countries as democracies: citizens link effective AIDS response with effective governance. This suggests the high stakes for governments in their management of the HIV/AIDS crisis. Whiteside (2002), Bratton (2007) and Youde (2009) all agree that AIDS responses are integrally tied to the overall evaluation of health care service provision. Whiteside suggests that citizens consider AIDS and health similarly and mix the two terms together when revealing the most important challenges facing their countries (2002). Both Bratton (2007) and Youde (2009) indicate that in evaluating their satisfaction with their government's response to the disease, citizens who assess their health care system more favorably also are satisfied with AIDS responses specifically.

Before moving on to discuss methods and testing, two other literatures need to be considered: those covering the role of regimes and states in Africa, and another which focuses on political cleavages on the continent. State and regime literature will next be

discusses.

Literature on Political Regimes

Political science research has been conducted investigating how regime type structures human development. Specifically, some scholarship suggests a positive relationship (Gerring et al, 2005, Deacon 2003, Stasavage, 2005, Halperin et. al. 2005) between democratic regimes and more successful policy outcomes, other work indicates no relationship exists (Ross, 2006). A few authors have targeted the relationship between democracy and health specifically with a positive relationship found in several cases. Govindaraj and Rannan-Eliya (1994) found that when comparing communist and democratic regimes, democratic regimes had more favorable health outcomes in terms of infant mortality and life expectancy. Franco et al (2004) found similarly that states with greater political freedom also enjoyed better health outcomes as measured by life expectancy, infant mortality, and maternal mortality rates. Interestingly, Tsai (2006) found that among developing countries, democracies out performed non-democracies in health provision, even when controlling for health spending. As most of the literature suggests, there appears to be some sort of relationship between democracy and positive health outcomes.

Diamond and Morlino (2005) state in the introduction of their book that, "We can analyze democratic quality by what it achieves in terms of government responsiveness to the expectations, interests, needs and demands of citizens," (xxix). One of the important measures of democratic quality as they argue is vertical accountability, linking the fate of elected officials to how citizens evaluate their political choices (xviii). For a citizen infected with AIDS, what could be a more important need than life prolonging

treatment? Seeking to explain the relationship between democracy and positive health outcomes, Vollmer and Ziegler (2009) argue that democratic regimes place higher priority on redistributive policies including health care. They go on to state that democratic societies are able to overcome inequalities more effectively, leading to greater provision of public goods. In this way, their findings echo the framework developed by Diamond and Morlino as public demand for these resources are able to be met as democratic institutions serve as an interactive highway between regimes and citizens.

It is often assumed that democratic values will promote greater public focused policy outcomes. Sen (1981, 1999) argues that democratic regimes offer voters the opportunity to penalize ineffective leaders and that the free press allowed under democratic rule promotes greater information transparency. Gerring et al's (2005) analysis focuses on several possible mechanisms that link democracy to human development: they considers electoral competition, the importance of a free press, the likelihood that civil society advocates for human development investment, the possibility that democratic regimes must provide some measure of equality, the likelihood that democratic taxing institutions allow for a mechanism of redistribution, and finally that democracy provides a more stable environment for the provision of public goods.

While the idea that more democratic regimes should produce greater human development outcomes has face validity, the empirical testing to this point does not necessarily verify this expectation according to Ross (2006). Ross's (2006) research argues that this relationship does not hold when one focuses on whether democracies provide better human development outcomes for the masses. Ross argues that although

the commonly accepted wisdom links democracy and human development, there is a lack of consideration of global health, the lack of focus on country specific effects, and missing data for the poorest of countries. With this conflicting finding, it provides an important opportunity for retesting which I can analyze in my first article.

With one of Gerring et al's (2005) findings showing that longer lasting democratic regimes result in greater human development outcomes, it is important to assess regime stability. This is especially important in Africa given the prevalence of hybrid regimes that sit between full democracies and authoritarian states as discussed by numerous authors including Bratton et al. (2005), Diamond (2002), Schedler, (2002), van de Walle (2002) and Levitsky and Way (2002).

Gyimah-Boadi (2004) also argues for a connection between democratic transparency helping Africa's emerging democracies fight the AIDS epidemic (18-20). He argues that authoritarianism contributed to the emergence of the crisis, but that transparency has required states to admit and deal with the disease. Looking at the disease in a different way, Gyimah-Boadi argues that the disease threatens African democracy citing that less democratic regimes like Uganda have been more effective in AIDS policy than more democratic Botswana and South Africa. He claims that even weak political responsiveness and accountability, the key democratic values attributed by Diamond and Morlino (2005), have crippled the political response. More favorably, he views democracy as providing some opportunities for successful AIDS policy, mentioning democratic openness, civil society strengthening, and enhanced rights for women among important developments.

The preponderance of evidence from the regime literature tends to suggest that

Africans living in democracies should benefit from more robust and effective AIDS responses. As Bratton et al. (2005) suggest in their evaluation of public opinion data, citizens can effectively evaluate the performance of several regime characteristics (247). This finding suggests that overall evaluation and satisfaction with a respective regime can be measured at the individual level, a point that will be discussed in greater detail later. The literature on the modern African state will next be considered.

African State Literature

Instead of looking at the regime and the authoritarian/democratic continuum, another important component of a country is its state structure. While more democratic regimes either do or do not allow for more robust AIDS response, it is likely that the level of resources and institutional capabilities that a state has will be an important determinant of a government's response. State focused scholarship argues that instead of the type of government in place it is the strength of this government that matters most. Englebert (2000) has made the case that the development of state capacity structures the policy choices available to elites and, in turn, the quality of governance in respective countries. In other words, effective AIDS intervention would only be possible in states that exceed a certain strength threshold. Englebert links the importance of capacity and economic development, one component of human development (2000, 30-37).

Villalon and Huxtable (1998) have echoed these sentiments, summarizing the modern African state in five characteristics. Their categories include the African state holding five key traits, "a client status, a personalized identity, a centralized or overdeveloped morphology, a prebendal or rentier nature, and an extractive impulse," (11). In

unpacking these terms, they discuss the African state as a clients, usually first as a client of the colonizing nation and then later as a client of either the United States or Soviet Union during the Cold War. In the post-Cold War era, the African state can no longer count on these relationships to ensure sustainable income (12). In terms of personalization, they discuss the dominance of an individual leader (12). In these countries where a single leader dominates the policy process, the lines between state and regime are often blurred. This relates well to our issue of inquiry, with Mbeki's dominance over South African AIDS policy during his regime a controversial example. They go on to describe the over-centralized and overdeveloped nature of the African state. As they describe it, the state employed too many people with the power concentrated on the center rather than a multi-layered structure that would empower local institutions (13). When using the term prebendal or rentier state, they refer to the state as the key distributional force in which the state plays the role of patron and citizens serve as clients who are rewarded for their loyalty, either through resource or employment opportunities, thus using the nation's resources promote political stability (13). Finally, as they describe, the state serves as an extractive force with the goal of the state to focus on these activities rather than enhancing the state's capacity (14). Boone (2003) also focuses on the state and the variation in the strength of these institutions as reflective of local circumstances, often by rural political elites. Boone's research offers a bottom up approach to the state, which is often subject to top-down discussion.

Providing an example of such a top-down discussion is the work of Jackson and Rosberg (1982). Rather than focusing on the Weberian definition of the state which focuses on the monopoly over the legitimate use of force, with an emphasis on the

military, police, and courts, these authors focus on two levels to explain why Africa's states have survived. They break the state into its empirical and juridical pieces. The authors argue that the African state exists largely on its juridical, or international law based status and that Africa's states are empirically weak where they function at all (4,5). Jackson and Rosberg argue that the African state generally fails to hold stable communities where the nation-state is the dominant institution compared to ethnic groups (Posner, 2005) or local institutions (5). They go on to discuss the state's inability to fulfill the requirement of an effective government, capable of penetrating the state and reigning over the domain of its entire territory. They describe the individuals comprising the state as under-resourced, both in their level of capacity and their ability to deploy these limited tools. This fits with the Villalon and Huxtable notion of the state as overdeveloped with too many people with too centralized a structure; as they discuss, this overdevelopment is further hindered by a lack of investment in resources (8). In summary, the empirical African state, which is what we are interested in their ability to provide for their individual citizens can be characterized as weak (12). As they describe, the juridical elements which can be characterized by international club membership more than any definition that beholds citizens to government. In this definition, boundaries and international recognition are what characterizes these traits, a minimalist definition that does nothing for citizen subject which they discuss in their conclusion (21).

Similarly focused on territorial definitions of the state, Jeffrey Herbst's (2000) research focuses on the lack of penetration of the African state and the inability of these states to effectively penetrate African societies. This project conceptualizes state

penetration through roadways, which Herbst argues are inherently underdeveloped in most state structures. In his description the territories necessitated colonial institutions which ruled on the cheap; at independence these international boundaries, the juridical statehood described by Jackson and Rosberg (1982), were upheld by the international system and post-colonial state boundaries simply followed this pattern. As Herbst argues, the defined state often only reigns over the capital city rather than extending its reign over the full realm of its territory and possibly to a valued region containing an extractable resource as both Boone (2003) and Villalon and Huxtable (1998) described in their discussion on the role of states as extractive institutions.

As Patterson (2006) describes in her work on the African state and the AIDS crisis, she finds there is significant variation in terms of different individual characteristics; in her analysis there was variation in terms of centralization, neopatrimonialism, capacity, and stability (28). Though she was unable to discern a clear pattern along these characteristics in terms of how these state level measures influenced AIDS policy, what this project reveals is that African states, though relatively weak when compared to others, show significant variability across respective units.

If a relationship is found between state strength and AIDS response, what underlies such a relationship? Bratton et al. (2005) suggest that an assessment of state effectiveness can be measured at the individual level. Though I will not get into specific measures in this section, it should suffice to say that individual Africans are able to assess the effectiveness of their states at the individual level. As the literature suggests the state and its ability to project power varies across the continent. The strength of the state (Bratton and Chang, 2006) is as important of an inquiry in terms of its relationship

to AIDS responses as regime type, and comparing the importance of these different vantage points at the individual level is an important part of this project.

One final literature must be brought to bear before one can encapsulate how these pieces fit together. The next section will detail the literature on clientelism in Africa before the literature in synthesized.

the Role of Political and Ethnic Cleavages

One would be remiss in discussing the distribution of highly valued, scarce resources in Africa without briefly summarizing the importance of patronage networks and the response of clients. The literature on the subject is pervasive as authors have cited the importance of neopatrimonial relations between the state and citizens (Bratton and van de Walle, 1997, Villalon 1998).

(2004) provides a definition suggesting that clientelism,

> implies mediated and selective access to resources and markets from which others are normally excluded. This access is conditioned on subordination, compliance or dependence on the good will of others. Those in control—patrons, subpatrons, and brokers—provide selective access to goods and opportunities and place themselves or their supporters in positions from which they can divert resources and services of favor. Their partners—clients—are expected to return their benefactors' help, politically and otherwise, by working for them at election times or boosting their patron's prestige and reputation," (353, 354).

Harold Lasswell described politics as who gets what, when, and how (Lasswell, 1936). Roniger's definition of clientelism goes a long way to describe how power relationships function across Africa. Citizens subjugate themselves to authority in order to access public goods. In other words, elites use their resources and often the resources of the state in order to legitimize themselves and their regimes. This type of distribution leads to some citizens within a respective country included in the distribution of

resources while others are not.

Bratton and van de Walle (1997) discuss how clientelism manifests in African politics. As they discuss, African's political power is largely concentrated in the hands of individual leaders, a concept known as presidentialism (63). Leaders use patronage in the form of state resources to legitimate themselves and their regimes (66, 67). When concentrated presidential power is combined with clientelism and the distribution of state resources, these three features are known together as neopatrimonialism (63-68). Both the Bratton and van de Walle and Hyden descriptions refer to neopatrimonialism as one of the preeminent informal institutions of African politics.

As Bratton and van de Walle argue, however, "when patrimonial logic is internalized in the formal institution of neopatrimonial regimes, it provides essential operating codes for politics that are valued, recurring, and reproduced over time," (63). As Bratton and van de Walle detail, informal institutions resonate and become a dominant feature of formal institutions. Bratton and van de Walle also discuss the fact that although clientelism is controlled by the political center, it is not only a feature of the top of political regimes. Rather, "this [clientelism] happened at every level; at the top, the ruler's faithful political aristocracy was rewarded with prebendal control of public offices, monopoly rents, and the possibility of creating its own clientelist networks...Nor were patronage and clientelist benefits limited to the political aristocracy," (66). Instead of thinking of patronage networks exclusively in terms of relationships between individual rulers and citizens, multiple levels of governance exist within the formal institutions. This allows for potential patronage distribution not just directly from top to bottom but throughout the multiple formal institutions of

government. Neopatrimonial relations may be just as prominent in local and sub-national governance as at the national level.

Moreover, Villalon (1998) also mentions clientelism as one of the premiere features of the modern African state. As he describes it, patrons reward clients that help empowered regimes to consolidate control and promote political stability (13). Public goods are allocated with preferential treatment to loyal groups (13). As Wantchekon (2003) argues, clientelistic messages are especially salient at election time. Candidates seek electoral support, and clientelistic messages are often effective in increasing vote share, especially for the ruling party as individuals seek access to the state's resources. The concept of regimes utilizing state resources particularly at election time to sway voters towards the ruling regime is known as the political business cycle (Nordhaus et al. 1989). Through elections formal democratic institutions serve as a process through which African leaders legitimize themselves, with patron-client networks utilizing state resources as patronage. This phenomenon serves as yet another example of the informal institution known as clientelism subjugating formal elections.

As the political business cycle demonstrates, and Bratton and van de Walle discuss, neopatrimonialism can resonate in regimes, with or without elections. Bratton and van de Walle discuss the idea that clientelistic networks exist across regime types (77-82). Both Bratton and van de Walle and Roniger (2004) discuss the idea that increased levels of clientelism are negatively correlated with the development of democratic institutions. In other words, in order for countries to transition and become more democratic, clientelism and access to the state through patronage networks must be broken.

What does clientelism, such a key feature of African regimes, mean for African

policy making processes? Hyden summarizes rather poignantly how clientelistic patronage networks have subjugated aggregate public policy in African countries:

> African countries do not have policy governments, but public institutions operating on the basis of patronage. These governments conduct their business not with a view to implementing officially agreed-upon policies, but look to rewarding individuals and groups that have shown exemplary loyalty or contributed to the political success of a government leader. In short, resources flow along very different paths than those that are identified in official statements, be that a policy announcement or the national budget. The result is that African governments tend to look to the past rather than to the future. To the extent that policies feature in politics, they are more often for window-dressing purposes than for real implementation, (229,230).

As Hyden argues, western notions of the policy making process apply less well in Africa given the predominance of clientelism. Rather than a focus on policy for development's sake, implementation more often follows the informal processes related to clientelism. Patron-client networks give rise to factionalism with groups loyal to the regime considered insiders while those who compete with the empowered regime left outside of patronage networks. This notion of political insiders and outsiders is described by Bratton and van de Walle with transitions away from neopatrimonialism towards liberalization and democracy often occurring as access to patronage wanes and factionalism can no longer be contained within the established networks (84).

Clientelism is antithetical to enhanced governance and democratization. As Hyden (2006) puts it, "Political rulers treat the exercise of power as an extension of their private realm....Clientelism is deemed problematic, especially in circles that are concerned with improving governance in African countries. It keeps African countries barely afloat, but it does not help them swim forward," (79).

Anderson and Guillory (1997) suggest that political winners and losers can be assessed at the individual level, similar to how Bratton and van de Walle (1997) describe

access to patronage networks. Anderson and Guillory code individuals as political minority or majority members based on whom they supported in the last election. Bratton et al. (2005) suggests that similar assessments can be made based on whether an individual citizen indicates they are close to the political party that won the last national election (260). The concept of political cleavage groups allows for an individual level assessment of access to patronage networks. Such a measure is based on the notion of clientelism as playing a key role in who gains access to resources and who is restricted from such access based on the assumption that ruling party support will be rewarded through access to political patronage.

Literature Synthesis

The literature described above comes from a variety of sources: literature on individual policy performance of social service provision, literature on the role of the state and regime in Africa, and the role of clientelism have all been discussed.

First, the public opinion literature suggests that individual level respondents will honestly assess AIDS policy performance. Bratton (2007) and Youde (2009) suggest that Africans assess AIDS policy performance similar to how they evaluate other policies. It is clear from the public opinion research that AIDS and health more generally are important to citizens, with demand for effective responses high and satisfaction on HIV/AIDS responses higher than for other policy issues according to Bratton et al. (2005). The literature on the role of the regime and the state in Africa suggests that when more democratic, stronger countries should be more effective at provision of these types of political goods than weaker, non-democratic countries. Bratton et al. (2005) further indicates satisfaction with state and regime characteristics

can be assessed at the individual level (247).

Clientelism also plays a key role in African politics. As Bratton and van de Walle assess, access to patronage networks is often based on one's access to the regime. Previous inquiry makes the case that access to locally based patrons is an effective predictor of one's likelihood of AIDS resource distribution. Anderson and Guillory (1997) suggest that individuals can be divided into political majority and minority statuses on their support of the regime during the most recent election.

The Afrobarometer data allow for these various considerations to be assessed at the individual level. Youde (2009) provides an initial model of individual evaluation of policy performance. Although this is an effective first cut, Bratton et al (2005) suggest that state and regime considerations can be measured reliably at the individual level. Based on the findings from earlier dissertation work and Strand, Mattes, and Kinney (2008) the effectiveness of the state and regime should be revisited with individual level Afrobarometer data. Furthermore, Anderson and Guillory provide a method for assessing the role of clientelism in determining who can access resources. Youde included HIV prevalence rates in his analysis, and he also included dummy variables at the country level which were all strongly significant.

Youde's analysis provides an effective first attempt, but as the literature review suggests, other variables should be included to test several potentially important factors: first, the regime and state literature suggests that individual interaction with the regime and state may influence their satisfaction with HIV/AIDS responses. Second, one's political status as a member of the majority or not is an important consideration for determining one's satisfaction with AIDS policy. Additionally, improved data allows

for greater specification than the country level dummy variables he utilizes. Though including HIV prevalence rates is important, the inclusion of ARV coverage, a more robust measure of government response to the disease may improve specificity. HIV prevalence may capture one's lived experience with the disease, but the availability of ARVs would demonstrate tangible distribution of goods. Individual satisfaction with AIDS policy would likely increase if ARVs were available.

What follows is an attempt to put these concepts together. Do individual assessments of the state and regime follow the cross-national findings suggested previously in cross-national analysis? Do citizens who supported the regime in power have greater satisfaction with their government's AIDS response than those from political minorities, similar to sub-national findings? Can a model be developed that encapsulates these research questions and provide greater explanatory power than Youde's model (2009)? The next section will detail the variables used, how these variables will be measured, and a set of hypotheses aimed at achieving this goal.

Data, Variables, Measures, and Hypotheses

Data

The section below provides information on data sources. The vast majority of data for this project comes from surveys in Afrobarometer Round 4. Surveys were conducted from 2008 to 2009. Data is available for twenty African countries, the largest number included to date by the Afrobarometer with over 27,000 citizens surveyed in total. Most previous literature utilizes data from Rounds 1 and 2, though Youde's model is based on round 3 data. This project will be among the first to utilize the expanded twenty country data set from round 4 as it relates to satisfaction with HIV/AIDS interventions.

Survey questions allow assessment of citizen attitudes in a number of areas including demographic influences, service accessibility, knowing someone who has died of the disease, and opinions on health service provision overall. Data related to these questions allow for combining some of the most important predictors from Bratton's (2007) and Youde's (2009) empirical models.

There are several additional questions available that can bring even greater leverage over our research question. Bratton et al. (2005) suggests that individual assessments of states, regimes, and governments can be effective predictors for policy performance satisfaction (247). In this analysis, dependent variables include commitment to democracy, perception of democracy, support for economic reforms, and satisfaction with structural adjustment (247). Individual measure assessments of state, regime, and governmental effectiveness can just as easily be used to consider whether citizens' evaluations of these institutions influence their evaluation of HIV/AIDS responses. By utilizing measures of individual assessments of these individual institutions, it will be possible to incorporate concepts that influenced ARV coverage at the cross-national level. In changing levels of analysis, I am assuming that African citizens should view policy performance more favorably if their governments have been more successful in combating the AIDS crisis. Citizen evaluation of policy performance is assumed to be at least partially based on whether citizens see anti-AIDS resources as work. The individual level evaluations of state and regime allow for integrating the concepts as discussed in the state and regime literature above.

Anderson and Guillory (1997) provide a useful measure of political access to the ruling regime. They divide citizens into whether they voted for the ruling party in power

during the most recent election provides an example of how political winner and loser cleavages can be delineated. Individuals are coded in terms of their support for the ruling party in the most recent elections. This measure takes into account previous findings from previous sub-national research based in the literature related to clientelism in Africa.

In addition to individual level analysis, country fixed effects taking into account ARV coverage and HIV prevalence rates will be included. Governmental responses to HIV/AIDS have increased dramatically in the last few years, at least in terms of ARV coverage.

Forty-four percent of Africans who need AIDS treatment have access as of 2009 (UNAIDS, 2009). Adding ARV coverage should provide improved specificity to the dummy variables in Youde's (2009) model, the vast majority of which were found to be statistically significant.

Measures and Variables

Variables are broken into several categories. The dependent variable will be discussed first before independent variables are unpacked. Independent variables are broken down into several categories: social structural variables, state capacity, regime type, political cleavage measures, and variables that get assess individual experience with HIV/AIDS and health services more broadly. Once the variables are parsed into categories and justified, hypotheses will be developed in the next section of the paper.

Dependent Variable

In this analysis, we seek to explain citizen satisfaction with their government's policy performance related to HIV/AIDS. Rather than seeking to proxy ARV coverage, the

goal of this inquiry is evaluation of what drives citizen satisfaction with policy performance. Capturing citizen satisfaction with HIV/AIDS policy performance allows us to investigate whether ARV availability or other variables influence how citizens evaluate HIV/AIDS interventions. The dependent variable for this study asks the following: How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Combating HIV/AIDS? Responses range on a four point scale from very well to very badly. Below is a distribution of this variable for 20 African countries in 2008 and 2009.

Table 3.1: Frequency of Citizen Responses Regarding Government HIV/AIDS Policy Performance

		Frequency	Percent	Cumulative Percent
Valid	Missing	26	.1	.1
	Very Badly	2927	10.6	10.7
	Fairly Badly	3702	13.4	24.0
	Fairly Well	11219	40.5	64.5
	Very Well	7776	28.1	92.6
	Don't know/Haven't heard enough	2063	7.4	100.0
	Total	27713	100.0	

As we can see, most African citizens, nearly seventy percent, assess their governments to be doing a good job handling the disease. This finding dovetails with past Afrobarometer findings which suggest that citizens are more satisfied with their governments on their response to HIV/AIDS than on other political issues (Bratton et al 2005). Satisfaction is similar to Round three findings in 2005 which found similarly that about seventy percent of citizens across the continent were satisfied with their governments HIV/AIDS policies (Bratton, 2007). This represents a small increase since 2000 where sixty-two percent of citizens were satisfied with AIDS responses (Bratton et

al. 2005). This table also indicates an N exceeding 27,000, meaning we have the degrees of freedom required to include numerous variables. This allows for investigation into a wider variety of measures than in previous cross-national or sub-national inquiries.

Social Structural Variables

Demographic variables are selected from Bratton's model of satisfaction with health care policy performance (2007). Bratton includes gender, residential location, educational attainment, and poverty as social structural variables. His empirical model reveals that women are less likely to be satisfied with health services. This is likely to be especially true as HIV/AIDS disproportionately impacts women, and women's health services are especially lacking across the continent. Rural citizens are more satisfied as well. Urbanites are more likely to have increased expectations of social service delivery and are likely to be less satisfied as these expectations go unfulfilled. Bratton also finds that more educated citizens and people living in poverty are less satisfied with health care services. As AIDS is a specific health care intervention, my expectation is that similar relationships will occur in terms of HIV.

Gender, education, and rural dwelling are all coded in the Afrobarometer data. To assess poverty, I will use a question asking citizens to assess their present living conditions. This question is coded into five parts ranging from very good to very bad. Youde used the same question in his empirical model and found a moderately strong relationship suggesting that increased levels of poverty decrease satisfaction with government performance (2009). This finding is similar to Bratton who also found a strong relationship between higher levels of poverty and dissatisfaction with the

government on health service provision.

Individual Assessments of the State

At the individual level the goal is to seek out whether an individual's interaction with state agencies and their trust of the state institutions generally influence satisfaction with HIV/AIDS interventions specifically. In order to assess institutional trust, an index is constructed from questions on trust in the court system, the police, and their national electoral system. Taken together, these questions will be used to measure whether citizens trust their respective states.

A second component of the state that may influence citizen assessment of their respective state's institutions is corruption. Do citizens assess the members of governmental institutions as corrupt, and if so, does a perception of corruption influence satisfaction with policy performance? The Afrobarometer includes questions asking citizens to assess the proportion of officials from several institutions who are corrupt, ranging from none to all. Institutions include the office of the presidency, parliament, tax officials, and judges, among others. This measure of perceived corruption is based on the work of Bratton et al. (2005) who used a similar index to capture the influence of corruption on commitment to democracy (247).

Taken together these measures of institutional trust and perceived corruption are used to measure how individuals perceive their governments. These measures seek to capture whether individuals perceive their state institutions as both trustworthy and honest.

Individual Assessments of the Regime

In assessing the regime, the goal is to answer whether individual assessment of the regime influences their satisfaction with policy performance. At the aggregate country

level, a positive relationship existed between more democratic regimes and greater ARV provision, although this relationship was not statistically significant. Do these relationships exist at the individual level? Specifically, do individuals assess democratic regimes as prone to providing more satisfactory social services? The public health literature suggests that at the country level, democratic regimes lead to greater service provision. Here we seek whether such patterns exist at the individual level.

To assess citizen-regime interaction, several measures are included. First, an index of political rights is constructed. This index is based on questions which ask individuals whether they have freedom to say what they think, freedom to join the political group of their choosing, and freedom to select their own candidate at election time. Taken together these questions can be used to measure whether citizens believe political rights are being delivered by the regime in power. This index is used by Bratton et al. (2005) in a similarly constructed fashion.

Another question used to assess citizen-regime relations is whether citizens view their electoral processes as free and fair. This incorporates whether citizens view elections as providing the type of vertical accountability described by Diamond and Morlino (2005). Another component of citizen-regime relations is whether citizens believe they have to be careful about they say. In other words, do citizens believe they have freedom of speech? This question specifically asks about political speech and provides a more specific measure than the political rights question used in the index described above.

Lastly, a measure is included to assess citizen satisfaction with democracy. A question asks citizens whether satisfied they are with how democracy works in their

country. This question seeks to answer whether citizens are satisfied with democracy, and responses range on a four point scale from very unsatisfied to very satisfied with democracy.

The Role of Political Cleavages

This set of variables seeks to assess whether political cleavages influence citizen satisfaction with HIV/AIDS performance. Political cleavages here refer to ethnic or political affiliation determining who accesses these resources. Measures of political cleavages seek to include two divergent concepts: political clientelism in Africa and Lieberman's findings that ethnic heterogeneity prevents effective policy making. Taken together, included measures seek whether political clientelism based on access to the regime in power influences satisfaction with HIV/AIDS interventions or whether ethnic considerations are more salient. To measure political clientelism, citizens were asked which party they would vote for in a hypothetical future election. This variable is coded into those who support the party in power, similar to the political winner/loser dimension developed by Anderson and Guillory (1997). Previously reviewed literature on clientelism suggests that distribution of state resources through neopatrimonial networks is a positive predictor of loyalty to the party in power. This winner/loser measure seeks to capture whether clientelism leads to a gap between those who are and who are not able to access state resources[13]. Bratton et al. (2005) suggest there is significant variation in citizen satisfaction with a variety of institutions based on their political winner/loser status (260). Previous research indicated that political clientelism at the sub-national level was a strong predictor of ARV program distribution. Areas

[13] In future research it would be useful to control for the ethnic group in power to investigate whether this influences citizen satisfaction.

inhabited by citizens that elected executives and parliamentarians of the party in power were more likely to receive ARV programs than areas that elected opposition parties.

The other important political cleavage measure seeks to include Lieberman's argument that ethnic politics dominate effective policy making. Lieberman argues that ethnic heterogeneity prevents effective policy making. First, citizens are asked which ethnic group they associate with. Subsequent Afrobarometer questions ask citizens to compare their ethnic group's economic position to others, their relative political power compared to other ethnic groups, and whether their group is treated fairly by the government. These three questions are combined into an index of ethnic treatment which scales together. Previous inquiry did not reveal the type of ethnic influences found by Lieberman at the country or sub-national levels. Including ethnicity seeks whether group membership is influential in policy satisfaction.

Health Experiences

No African country has managed to provide an effective AIDS response that provides resources to every citizen. This set of variables seeks to answer whether empowered governments allocate these scarce, highly-valued commodities to the benefit or detriment of certain segments of society, leading to increased policy satisfaction.

At the Individual Level

This set of variables seeks to assess whether individual experience with the overall health care system and with HIV/AIDS specifically influence satisfaction with HIV/AIDS responses. First, a measure is included that asks how satisfied citizens are with the provision of basic health services. One would expect that greater satisfaction with health services would correlate with greater satisfaction with HIV/AIDS policy

specifically as most countries developed their HIV/AIDS responses utilizing long-standing health care institutions. Both Youde (2009) and Bratton (2007) find that overall satisfaction with health services is a strong predictor of HIV/AIDS satisfaction. Additionally, an Afrobarometer question asks citizens whether they know anyone who has died of HIV/AIDS. Youde (2009) finds that knowledge of someone who died of HIV/AIDS makes citizens more likely to look favorably on their government's effort to combat the disease.

At the Area Level

To assess a citizen's access to health care resources, Afrobarometer interviewers coded whether a health clinic existed within each research unit. Although we cannot control for the quality of these facilities or whether they have ARV resources, Bratton (2007) finds that the availability of a clinic has a positive influence on satisfaction with health services (24). Including this variable investigates whether clinics are considered by individuals when they are asked to assess HIV/AIDS interventions.

At the Country Level

Two measures are included to assess whether individual satisfaction with their government's HIV/AIDs response is influenced by national level influences. First, HIV prevalence rates are included. Youde (2009) finds a negative relationship between national level HIV prevalence and individual satisfaction with government responses (229). This finding provides evidence that citizens are able to assess the role of HIV/AIDS in their lives. Second, based on Youde's evidence that national level measures can influence citizen satisfaction, ARV coverage is also included. Both of these variables are included as country level fixed effects.

Hypotheses

In this section the variables will be put into context. Hypotheses are categorized in the following groups: social structure, attitudes toward the state, attitudes toward the regime, political cleavages, individual attitudes about health services, and country fixed effects.

Social Structural Hypotheses

H_1: Individuals who assess their living conditions positively will be more likely to view governmental performance at combating HIV/AIDS favorably.

H_2: Women will be less likely to approve of governmental HIV/AIDS performance than men.

H_3: Education will be negatively related to approval of governmental HIV/AIDS performance.

H_4: Rural citizens will be more satisfied with governmental HIV/AIDS interventions than city dwellers.

State Based Hypotheses

H_5: Individuals who trust state institutions are more likely to be satisfied with their government's HIV/AIDS performance.

H_6: Individuals perceptions of official corruption will undermine satisfaction with the government's HIV/AIDS performance.

Regime Based Hypotheses

H_7: Individuals who believe regimes are providing political rights will be more likely

to view governmental HIV/AIDS performance favorably.

H_8: Individuals who believe elections are free and fair will be more likely to view governmental HIV/AIDS performance favorably.

H_9: Citizens who believe they can speak freely will assess governmental HIV/AIDS performance more favorably.

H_{10}: Citizens who support democracy will be more likely to be satisfied with governmental HIV/AIDS performance.

Political Cleavage Hypotheses

H_{11}: Political winners will be more likely to view governmental HIV/AIDS performance favorably than political losers.

H_{12}: Citizens who identify their ethnic group as being treated better than or equal will view governmental HIV/AIDS interventions more favorably than those who claim their ethnic group is not treated equally.

Citizen Level Health and AIDS Experience

H_{13}: Citizens with favorable evaluation of health care services generally will also have more favorable evaluations of governmental HIV/AIDS performance than those who evaluate health care less favorably.

H_{14}: Citizens who know people who have died of HIV/AIDS will look more favorably on governmental HIV/AIDS performance than those who do not claim to know anyone who died of the disease.

Area Level Health Experience

H_{15}: Citizens living in areas that have a health clinic will be more likely to have favorable evaluations of governmental HIV/AIDS performance than those who live in areas without hospital services.

National Level Health Care Hypotheses

H_{16}: Citizens living in countries with higher HIV prevalence rates will have less favorable view of governmental HIV/AIDS performance than citizens who live in countries with lower HIV prevalence rates.

H_{17}: Citizens living in countries with higher ARV coverage rates will have more favorable evaluations of governmental HIV/AIDS performance than citizens who live in countries lower ARV coverage rates.

Descriptive Statistics

Table 3.2 Descriptive Statistics for Independent Variables

	N	Range	Mean	Std. Deviation	Variance
Q4b. Your present living conditions	27713	10	2.65	1.250	1.562
Q101. Gender of respondent	27713	1	1.50	.500	.250
Q89. Education of respondent	27713	100	3.27	3.916	15.334
Urban or Rural Primary Sampling Unit	27713	1	1.62	.485	.236
Institutional Trust Index 49C 49G 49H	27713	10.00	2.0830	1.64591	2.709
Perceived Corruption Index 50 A-G	27713	10.00	2.7533	2.57254	6.618
Perceived Political Rights Index 15 A-C	27713	10.00	3.6254	1.06190	1.128
Q71. Elections free and fair	27713	10	3.45	1.971	3.886
Q46. How often careful what you say	27713	10	2.07	1.853	3.433
Q43. Satisfaction with democracy	27713	10	3.05	2.074	4.303
POLWINNER	18756	1.00	.5940	.49109	.241
Ethnic Treatment Index 80 81 82	27713	10.00	3.0439	1.68045	2.824
Q57g. Handling improving basic health services	27713	10	2.77	1.412	1.993
EA-FAC-D. Health Clinic in the PSU/EA	27713	9	.72	.977	.954
Q95. Know died of AIDS	27713	10	.66	1.622	2.632
HIV Prevalence	26449	23.80	8.7525	7.55935	57.144
ARV Coverage	26449	73.00	27.0557	18.82732	354.468

Before running the empirical models, it is useful to report descriptive statistics of the indexes for citizens across twenty African countries. See table 3.3. Variables are listed in the previously developed categories. First, we see that the average African assesses his or herself as living in a little less than average living conditions. As many men as women were included in the sample. The average person completed primary education. More rural than urban respondents were included in the samples, reflecting the overall total population within these countries.

When asked about their level of trust of three political institutions—the national electoral commission, the court system, and the police—the most frequent response can

be described as lukewarm. Institutional trust responses range from "not at all" to "a lot" along a four point scale. The average citizen trusts institutions somewhat. When asked about their perception of corruption across a variety of government officials, the average African citizen believes that some to most government officials are corrupt. When institutional trust is compared to corruption, it appears that Africans trust institutions more than they trust those who run them.

When asked about political rights, African citizens have a somewhat more positive outlook. Perceived political rights are scaled from one to four with four indicating citizens believe they are completely free. As one can see, the average is over 3.6, suggesting that the average citizen believes they are quite free. A similar average of 3.45 reflects that Africans believe their election processes are largely free and fair. Free speech is less apparent with the average response suggesting that Africans must often be careful what they say. Overall, the average African reports fair satisfaction with democracy, which is reflective of the individual questions about different democratic components.

In terms of ethnic group treatment, most Africans feel their ethnic group is treated similarly to others. Ethnic treatment ranges from one to five with a one indicating their group is treated better than others. Interestingly, more citizens believe their group is advantaged compared to others rather than disadvantaged. Citizens were also asked which political party they would vote for if an election was held tomorrow for president. This variable was coded one for citizens who selected the ruling party and zero for other political parties. As we can see, nearly sixty percent of African citizens polled suggested they would support the ruling party in their respective countries.

Several questions asked citizens about their interaction with health services. When asked about their government's performance on providing basic health services, the average score was between fairly badly and fairly well, which I argue reflects an average performance evaluation. More than sixty percent of survey participants lived in areas with health clinics within the survey area. Nearly thirty five percent of those surveyed said they knew someone who had died of HIV/AIDS, a figure that reflects a willingness to discuss this difficult topic. Country level statistics reflect that the average citizen lived in a country with over eight percent HIV prevalence with just more than one quarter of those who needed ARVs receiving these medications.

In the next section regression models are listed followed by a brief summary of results. Analysis and unpacking these relationships follows thereafter. Bold numbers reflect the rank order of individual variable's explanatory power based on standardized coefficients which are not shown. Results are briefly summarized and analysis follows thereafter.

Table 3.3: OLS Regression Results for Citizen Satisfaction with HIV/AIDS Policy Performance

		Model 1	Model 2
	Constant	1.379	1.427
		(0.055)***	(0.077)***
Social/Structural	Present Living Conditions	-0.013	-
		(0.009)	-
	Women	-0.005	-
		(0.022)	-
	Education	-0.007**	-0.009
		(0.003)	(0.007)
	Rural Citizens	0.035	-
		(0.023)	-
State Capacity	Institutional Trust Index	0.095*** (3)	0.097*** (3)
		(0.009)	(0.012)
	Perceived Corruption	0.062*** (2)	0.063*** (2)
		(0.005)	(0.007)
Regime Type	Perceived Political Rights	0.077***	0.078***
		(0.012)	(0.017)
	Elections Free and Fair	0.020***	0.020**
		(0.007)	(0.008)
	Freedom of Speech	0.027***	0.028***
		(0.007)	(0.008)
	Satisfaction with Democracy	0.055*** (5)	0.055*** (5)
		(0.006)	(0.009)
Political Cleavages	Political Winners	-0.046*	-0.048*
		(0.024)	(0.025)
	Ethnic Treatment Index	0.012	-
		(0.008)	-
Citizen Level Health	Eval. Basic Health Services	0.364*** (1)	0.362*** (1)
		(0.009)	(0.014)
	Know Person Died of HIV/AIDS	-0.015**	-0.014*
		(0.007)	(0.009)
Area Level Health	Health Clinic in the Area	-0.009	-
		(0.009)	-
National Level Health	HIV Prevalence	-0.015*** (4)	-0.015*** (4)
		(0.002)	(0.002)
	ARV Coverage	0.005*** (6)	0.005*** (6)
		(0.001)	(0.001)
R Squared		0.152	0.152
Adjusted R Squared		0.151	0.151

Model 1 provides a baseline model that includes all of the previously listed measures tested simultaneously[14]. As one can see, this model explains about fifteen percent of variance. Of the social structural variables, only education has a statistically significant influence on citizen evaluation of HIV/AIDS performance. As hypothesized, more educated citizens are less satisfied with their governments. None of the other measures from this category of independent variables was statistically significant. We see that the state capacity variables are among the strongest predictors of citizen satisfaction with perceived corruption and increased institutional trust both leading to greater satisfaction. The surprising positive relationship between perceived corruption and increasingly positive performance evaluation will be unpacked below. We see that each of the regime type variables has a positive and statistically significant relationship with more favorable performance evaluation. Political winners are less satisfied, and no discernable relationship exists between ethnic group affiliation and HIV/AIDS policy evaluation. Among the health variables we see that the strongest predictor of citizen satisfaction is individual evaluations of overall health service delivery. This finding suggests that individuals may nest their evaluation of HIV/AIDS policy within overall health service performance evaluation. Individuals that know someone who had died of the disease are less likely to assess their country's HIV/AIDS performance as effective. Health clinics did not play a role in how individuals evaluated AIDS policy performance. Both national level variables were important predictors with both HIV prevalence and ARV coverage among the most significant predictors across individuals, reflecting that citizens do perceive the effectiveness of HIV/AIDS policies when they

[14] Bold numbers in each model reflect the rank order of the strength of relationships based on standardized coefficients (not shown).

see them in action.

In model 2 I remove the variables that were not statistically significant and provide a more parsimonious model of AIDS policy satisfaction at the individual level. Removing insignificant variables does not reduce explanatory power significantly. Education is kept in the model as it is nearly statistically significant. The same variables remain influential predictors, and the same six variables continue to drive the model. Based on standardized coefficients (not shown) satisfaction with basic health care services remains the most important predictor, followed by citizen interaction with state institutions. Regime level indicators remain significant with individuals who believe they live in under a more democratic regime more satisfied with AIDS policy performance. We also see that country level measures indicate that citizens are more likely to be satisfied when HIV prevalence is lower and ARV coverage is higher. Model 2 was slightly heteroskedastic, so robust standard errors are reported in this model to correct for heteroskedasticity. Now that models have been specified, the next section provides further analysis of these results.

Discussion and Analysis

In terms of the state capacity variables, one can see that both institutional trust and perceived corruption are among the most important variables in the model. Greater institutional trust and increased perception of corruption are important predictors of satisfaction with governmental HIV/AIDS responses. In other words, citizens who trust their states are most satisfied with how these institutions have handled the AIDS crisis. The increased perceived corruption finding is surprising. I interpret this to be based on the anomalously high levels of citizen satisfaction with HIV/AIDS policy performance

alongside high levels of perceived corruption. When they are asked about satisfaction with policy performance on other policy areas, HIV/AIDS policy performance is consistently higher than is support for other policy areas. Further evaluation reveals that in countries where HIV/AIDS is less salient due to lower HIV prevalence rates, like in parts of West Africa and in Madagascar, citizens are more likely to state that HIV/AIDS policy is more effective than in high salience, high prevalence countries. In cases like Uganda, and the countries in southern Africa where HIV/AIDS policy is of higher salience as part of daily life, respondents report greater variance within these settings. In low salience countries, individuals may be evaluating these policies more favorably due to a lack of information or lack of preference while simultaneously wanting to provide the least offensive response.

The other possibility is that HIV/AIDS policy is rife with corruption. When I included a measure to test *experienced* corruption, a weak negative relationship exists, but this does not seem to drive HIV/AIDS policy performance evaluation. Anecdotal evidence supports that HIV/AIDS service delivery is fairly corrupt with examples ranging from stolen funds and medications to ineffective counterfeit drugs (Jones, 2005, Tayler and Dickenson, 2005). Though corruption is a barrier to effective policy performance, this peculiar finding is due in large part to high levels of HIV/AIDS policy support rather than high levels of corruption driving the model. It also may suggest that citizens are willing to tolerate a sizeable amount of corruption as long as they see their governments functioning effectively. When they see their governments working, citizens may view these types of relationships at clientelism; it is only when service delivery breaks down that they view these processes as corrupt. The strength of the

relationship between institutional trust and high levels of policy performance satisfaction also bolsters previous work which found similarly that the strength of state institutions was a critical predictor of country-level ARV coverage.

Among the regime type measures, all of these variables are statistically significant, though satisfaction with democracy is the only one that is among the top variables in terms of explanatory power. All four indicators similarly indicate that citizens who assess their regimes as more democratic also believe their respective regimes are handing the AIDS crisis more effectively. People who believe they have greater political rights, those who assess elections as free and fair, individuals who believe they can speak freely, and citizens who are more satisfied with democracy are also more satisfied with their government's efforts related to HIV/AIDS. Taken together regime type findings indicate that African citizens evaluate health services as an important component of governmental service delivery, suggesting that governments that effectively allocate resources will be rewarded with more loyal, satisfied citizens.

When one looks at the political cleavage measures, we see that an individual's political status (as measured by expressed closeness to the ruling party) is more important than individual assessment of how one's ethnic group is treated. Although neither of these variables is an especially strong of predictor compared to the other categories, these findings call to question Lieberman's findings related to ethnic boundaries. At the individual level, political affiliation with the ruling party is a better predictor of HIV/AIDS policy satisfaction than one's assessment of how their ethnic group is treated. Surprisingly, individuals who support the ruling party are less satisfied with HIV/AIDS policy. This unexpected finding suggests that like greater educational

attainment, supporters of the ruling party place increased expectations on what their governments can achieve. When these governments are unable to deliver services to these individuals, a gap develops as supply fails to meet demand, leading to decreased policy satisfaction among ruling party supporters. The implication from this finding indicates that policy performance trumps loyalty when such a gap develops. Loyalty to the ruling party requires continued effective policy performance, or citizens will reconsider their political allegiance.

In terms of citizen level interaction with health care institutions, citizen satisfaction with the provision of basic health services is the strongest predictor of citizen satisfaction with HIV/AIDS interventions. This relationship confirms that citizens think of HIV/AIDS and health somewhat interchangeably. The strong relationship between health and HIV/AIDS performance also suggests that better health care institutions lead to better AIDS policy effectiveness as well. This interpretation is based on the idea that citizen satisfaction is most tightly tied to overall evaluation of the health care system at the individual level, and overall ARV coverage at the national level is similarly tied to state institutional strength. Taken together, these results indicate that HIV/AIDS policy performance is nested within the overall health system at the country level and within one's interaction with these institutions at the individual level. We also see that knowing someone who died of AIDS negatively influences a citizen's view of their government's performance, contrasting Youde's earlier findings. This finding makes sense as citizens would be less satisfied with health policies when those close to them die of HIV/AIDS—losing someone to the disease would increase saliency of the disease and provide a concrete negative experience for a person to judge policy performance.

The existence of a health care facility within the surrounding area is not a significant predictor of policy satisfaction. The lack of a relationship between the proximity of clinics and policy performance was a surprising finding. This finding indicates that when citizens think about HIV/AIDS, they consider their government's policy performance along more expansive lines than just their immediate local areas. The lack of relationship between clinics and HIV/AIDS policy evaluation may also indicate that clinics do not enter a citizen's mind when asked about HIV/AIDS policy, potentially due to citizens evaluating these clinics as ineffective.

Country level fixed effects were among the most important predictors of HIV/AIDS policy satisfaction. Citizens who live in countries with higher HIV prevalence rates are less satisfied than citizens who live in countries with lower prevalence. One can think of this indicator of an individual's day to day experience with the disease: where HIV prevalence is higher one would expect citizens to experience HIV/AIDS more readily as part of their day to day lives. Similarly, greater availability of ARVs is also among the most important explanatory variables. Living in countries that have prioritized AIDS treatment makes citizens more likely to be satisfied with governmental efforts related to the disease. These findings remained statistically significant even when country was included in robustness testing, which suggests that policy output resonates with individuals when they consider policy performance.

When citizens think about HIV/AIDS policy, health generally has a strong influence upon their opinions. Where healthcare is more readily available, citizens tend to be more satisfied. These findings give credence to the argument that stronger, higher capacity states are better able to respond to the AIDS issue leading to greater citizen

satisfaction. It is not surprising that Botswana is the country with the highest levels of citizen satisfaction. Botswana also was the most effective country at ARV coverage during cross-national analysis and has set the African standard for an effective policy response. This is contrasted by Nigeria where citizens are less satisfied, both with HIV/AIDS policy specifically and health service delivery more generally. At the country level, Nigeria has only allocated ARVs to 13 percent of those who need them; contrastingly, Botswana has managed nearly eighty percent coverage. These national level output measures appear to resonate at the individual level as well.

When citizens evaluate HIV/AIDS policy, country level measures of HIV prevalence and ARV coverage are two of the strongest predictors of citizen satisfaction. Citizens living in low HIV prevalence and higher ARV coverage countries are more satisfied than others. Such low prevalence and expanded ARV programs are the direct output measures of governmental action. The fact that these variables are among the most salient predictors make it clear that citizens know effective policy when they see it, whether that is through effective AIDS prevention campaigns, availability of condoms, or through greater testing and ARV treatment efforts. When citizens see these programs, they not only benefit from a lessened burden of disease and effective treatment efforts, but they also are willing to credit their governments for improved policy performance.

Figure 3.1: Summary of Results and Analysis

Hypothesis	Expected Relationship	Actual Relationship	Statistical Significance	Strongest Predictors
H1: Wealthier Self Assessment → Greater HIV/AIDS Policy Performance	Positive	Negative	No	-
H2: Women → Less Satisfaction with HIV/AIDS Policy Performance	Negative	Negative	No	-
H3: Greater Education → Less Satisfaction with HIV/AIDS Policy Performance	Negative	Negative	Yes	-
H4:Rural Citizens → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	No	-
H5: Greater Institutional Trust→ Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	Yes	3
H6: Less Perceived Corruption→ Greater Satisfaction with HIV/AIDS Policy Performance	Negative	Positive	Yes	2
H7: Greater Political Rights→ Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	Yes	-
H8:Free and Fair Elections → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	Yes	-
H9: Free Speech → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	Yes	-
H10: Greater Support for Democracy → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	Yes	5
H11: Support for Ruling Party → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Negative	Yes	-
H12: Greater Ethnic Self Assessment → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	No	-
H13: Greater Health Provision Satisfaction → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	Yes	1
H14: Knowing AIDS Victim → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Negative	Yes	-
H15: Living Near a Clinic → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	No	-
H16: Greater HIV Prevalence in Country → Less Satisfaction with HIV/AIDS Policy Performance	Negative	Negative	Yes	4
H17: Greater ARV Coverage → Greater Satisfaction with HIV/AIDS Policy Performance	Positive	Positive	Yes	6

The table above provides a summary of the relationships from model one. The model revealed a couple surprising findings that conflict with the hypothesized relationships. The surprising finding related to corruption has been previously discussed. Another surprised was that support for the ruling party does not lead individuals to be more satisfied with HIV/AIDS policy once other variables are considered. Ruling party support actually decreases citizen satisfaction. This is assessed similar to education and urbanization which leads citizens to increase their expectations which may lead to decreased satisfaction. This set of variables gives further credence to the discussion related to high levels of support for HIV/AIDS policy simultaneously existing with high levels of perceived corruption: in low prevalence countries where people lack education and live in rural areas, HIV/AIDS is of lower salience compared to other more immediately pressing economic concerns like increasing job opportunities, narrowing income gaps, and keeping prices low. When citizens' basic needs are more effectively met and they gain education and move to cities, their expectations for other services increase. This leads to greater variance as it relates to HIV/AIDS policy performance evaluation which becomes more a product of policy effectiveness.

The other finding that defied expectations was the negative relationship between knowing someone who died of HIV/AIDS and policy assessment. Youde (2009) reported a positive relationship between these variables, which he assessed to indicate citizen willingness to move beyond AIDS stigma. Contrasting this finding, and more intuitively, the above analysis indicates that citizens who know someone who died of the disease look less favorably on their government's response to the disease.

Although two relationships were found that contrasted with hypothesized expectations, the model does tell a compelling story. First, citizen interaction with the state is critical to determining their satisfaction with policy performance. This satisfaction is rooted in a person's interaction with health care facilities, but it extends beyond health care to include state institutions writ large. One can also see that individuals who believe they are being supplied with more democratic regimes have a more favorable view of HIV/AIDS policy. This clarifies findings from earlier cross-national analysis which revealed that the relationship between regime type and AIDS policy was more muddled. At the individual level, individuals link effective HIV/AIDS policy as a specific example of service delivery, which they evaluate along similar lines as they evaluate the supply of democracy more broadly.

In terms of political cleavages, we see that political party membership rather than ethnic affiliation is the key variable, contrasting Lieberman's findings related to ethnic barriers preventing effective policy making. The models suggest that African citizens view AIDS policy similarly to other policy issues and are as willing to assess their governments on this issue as they are others. On whether citizens evaluate HIV/AIDS similar to other issues, this analysis agrees with Youde (2009).

In terms of the most important factors that influence citizen satisfaction with HIV/AIDS policy performance, the most important factor is building an effective health care system. Citizens who are satisfied with health care are more satisfied with HIV/AIDS policy efforts. Strong health care institutions may be better able to adapt to emerging crises like HIV/AIDS than weak health care institutions. While health care institutions specifically are the most important individual factor, a stronger state

generally is also important. An effective crisis response will require more than additional clinics—staffing, equipping, and long term operational planning are all also required. Greater state institutional trust and decreased experienced corruption lead to greater satisfaction with policy performance. Citizens who believe they live under a more democratic regime are also more satisfied with policy performance. Finally, citizens are more satisfied when they see live in countries that have effectively managed the disease, both in terms of reduced burden of disease and in terms of ARV provision. This suggests that citizen policy performance evaluation is largely reflective of policy effectiveness. Rather than focus on ethnic barriers, citizens are able to assess the effectiveness of policy performance and evaluate policy effectiveness as a reflection of its outputs. This is based on the results which suggest that country level policy efforts which lead to lower HIV prevalence and increased ARV coverage are among the most important predictors of high levels of citizen satisfaction.

Micro level analysis confirms many of the findings from cross-national and sub-national inquiry. The capacity of state institutions has greater explanatory power than regime characteristics. This is true both at the national level as well as the individual level of analysis. Sub-national distribution of ARVs as political patronage appears to raise expectations among citizens as those who support the ruling party are less satisfied with HIV/AIDS interventions than others. Another key finding is the importance of acquiring knowledge and experience leading to increased citizen demand for public attentive policy: those who are more educated, wealthier, and those who live in urban areas are more likely to be dissatisfied with their governments. This trend is likely due to their increased expectations once they engage with their governments in a more

connected manner.

In summary, when asked about HIV/AIDS policy, citizens consider this issue as a specific component of health service delivery. Their evaluation is based largely on their interaction with state institutions. Where they evaluate these institutions as trustworthy and effective, both in terms of their interactions and in terms of the outputs provided, they are more likely to evaluate policy performance favorably. How citizens evaluate HIV/AIDS policy performance is especially important because individuals consider this and health more generally using the same type of thinking as they evaluate democracy. Where they see more effective healthcare, they are more satisfied with democracy with their interaction with institutions linking HIV/AIDS and democracy policy evaluation.

Conclusion

What do these findings reveal about the relationship between citizens and African governments as it relates to HIV/AIDS policy? The most important linkage appears to be between citizens and the state—both in terms of health care service quality specifically and trust in state institutions more broadly. Citizens are satisfied with HIV/AIDS policy performance where the state is strong, effective, and citizens trust that state actors as trustworthy. Strong, responsive institutions paired with democratic regimes lead to more robust policy responses. Botswana provides a concrete example where these important pillars have led to the most effective HIV/AIDS response in Africa. Under these circumstances, when HIV prevalence is lowered through effective prevention programs and those who contract the disease can access treatment, citizens are more satisfied, largely due to the effectiveness of the policy outputs themselves. Effective policy provision provides governments with satisfied citizens, and citizens

with the resources they need. The story of Trisca Mkanda provides one individual level example of effective treatment can lead to positive externalities for the individual, the government, and society as a whole.

ARVs are a specific type of good. ARV resources offer a highly valuable commodity capable of lengthening the lives of those infected by the disease. Especially in areas where citizens do not interact with the state on a regular basis, the distribution of these resources offers governments a unique opportunity to provide for citizens in a new and meaningful way. Such provision could offer states the chance to bridge the gap between individuals and states—leading to increased political consolidation. Fifteen years ago, ARV provision in Africa seemed an impossible goal. The next step is to build on the progress already made, maximize efficiency of every dollar spent, building and linking institutions between HIV/AIDS and broader health systems to avoid siloed responses, and moving from a short term crisis response to an established, forward looking long term model. In order to achieve these goals, the first and most meaningful goal must be to build more responsive, higher capacity states across the continent of Africa.

Works Cited

Afrobarometer Briefing Paper No. 12. N.A. "Public Opinion and HIV/AIDS: Facing Up to the Future." http://afrobarometer.org/papers/AfrobriefNo12.pdf

Anderson, Christopher and Christine Guillory. 1997. "Political Institutions and Satisfaction with Democracy: A Cross National Analysis of Consensus and Majoritarian Systems." *The American Political Science Review,* Vol. 91, No. 1: 66-81.

Boone, Catherine and Jake Batsell. 2001. "Politics and AIDS in Africa: Research Agendas in Political Science and International Relations," *Africa Today.*

Boone, Catherine. 2003. *Political Topographies of the African State: Territorial Authority and Institutional Choice.* New York: Cambridge University Press.

Bratton, Michael and Nicholas van de Walle. 1997. *Democratic Experiments in Africa: Regime Transitions in Comparative Perspective.* Cambridge, MA: Cambridge University Press.

Bratton, M., E. Gyimah-Boadi, and R. Mattes. 2005. *Public Opinion, Democracy and Market Reform in Africa.* Cambridge: Cambridge University Press.

Bratton, Michael and Eric Chang. 2006. "State Building and Democratization in Sub-Saharan Africa: Forwards, Backwards, or Together?" *Comparative Political Studies,* 39, 9: 1059-1083.

Bratton, Michael. 2007. "Are You Being Served? Popular Satisfaction with Health and Education Services in Africa." In *Democratic Deficits: Addressing Challenges to Sustainability and Consolidation Around the World.* Gary Bland and Cynthia Arnson, editors. Woodrow Wilson International Center for Scholars: Washington D.C. p. 37-66.

Diamond, Larry. 1992. "Economic Development and Democracy Reconsidered," *American Behavioral Scientist* 35, 4/5: 450-499.

Diamond, Larry. 2002. "Thinking about Hybrid Regimes," *Journal of Democracy.* Vol. 13 No. 2.

Diamond, Larry and Leonardo Morlino. 2005. *Assessing the Quality of Democracy.* Baltimore: John Hopkins University Press.

Deacon, Robert. 2003. "Dictatorship, Democracy, and the Provision of Public Goods." Departmental Working Paper, University of California at Santa Barbara http://repositories.cdlib.org/ucsbecon/dwp/20-03.

Deutsch, Karl. 1961. "Social Mobilization and Political Development," *American Political Science Review* 55, 3: 493-514.

Englebert, Pierre. 2000. *State Legitimacy and Development in Africa.* Boulder: Lynne Rienner.

Franco, Alvaro, Carlos Alvarez-Dardet, and Maria Teresa Ruiz. 2004. "Politics of Democracy on Health: An Ecological Study. *British Medical Journal.* Vol. 329. p.18-25.

Gerring, John, Strom Thacker, and Rodrigo Alfaro. 2005. *Democracy and Human Development.* Presented at the American Political Science Association Meetings. Washington, D.C.

Govindaraj, Ramesh and Ravindra Rannan-Eliya. 1994. *Democracy, Communism, and Health Status: A Cross National Study.* Data for Decision Making Project, Harvard School of Public Health.

Gyimah-Boadi, E. 2004. *Democratic Reform in Africa: The Quality of Progress.* Boulder: Lynne Rienner.

Halperin, Morton, Joseph Siegle, and Michael Weinstein. 2005. *The Democracy Advantage*: *How Democracies Promote Prosperity and Peace.* New York: Routledge.

Herbst, Jeffrey. 2000. *State and Power in Africa: Comparative Lessons in Authority and Control.* Princeton: Princeton University Press.

Hyden, Goran. 2006. *African Politics in Comparative Perspective*. New York: Cambridge University Press.

Jackson, Robert and carl Rosberg. "Why Africa's Weak States Persist," *World Politics.* Vol 35 1-24.

Jones, Peris. 2005. "On a Never Ending Waiting List: Toward Equitable Access to Anti-Retroviral Treatment? Experiences from Zambia." *Health and Human Rights.* Vol 8. No.2.

Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi. 2009. "Governance Matters VIII: Governance Indicators for 1996-2008". World Bank Policy Research June. Policy Working Paper 4978.

Lasswell, Harold. (1936) *Politics: Who gets What, When, and How*. McGraw-Hill, New York.

Levitsky, Steven and Lucan Way. 2002. "The Rise of Competitive Authoritarianism," *Journal of Democracy.* Vol. 13. No. 2.

Levy, Brian and Sahr Kpundeh. 2004. *Building State Capacity in Africa.* Washington, D.C.: World Bank Publications.

Lieberman, Evan. 2009. *Boundaries of Contagion: How Ethnic Politics Have Shaped Government Responses to AIDS.* Princeton: Princeton University Press.

Lipset, Seymour Martin. 1959. "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *American Political Science Review*, 53, 1: 69-105.

Nordhaus, William, Alberto Alesina, and Charles L. Schultze. (1989). "Alternative Approaches to the Political Business Cycle," *Brookings Papers on Economic Activity,*
Vol. 1989, No.2, pp. 1-68. The Brookings Institution.

Patterson, Amy. 2005. *The African State and the AIDS Crisis.* Burlington: Ashgate.

Patterson, Amy. 2006. *The Politics of AIDS in Africa.* Boulder: Lynne Rienner Publishers.

Posner, Daniel. 2004. "Measuring Ethnic Fractionalization in Africa," *American Journal Of Political Science.* Vol. 48, Issue 4. p. 849-863.

Posner, Daniel. 2005. *Institutions and Ethnic Politics in Africa.* Cambridge: Cambridge University Press.

Roniger, Luis. 2004. "Political Clientelism, Democracy, and Market Economy." *Comparative Politics*, Vol. 36, No. 3 (Apr., 2004), pp. 353-375.

Ross, Michael. 2006."Is Democracy Good for the Poor?" *American Journal of Political Science,* 50:4, October.

Schedler, Andrea. 2002. "Elections Without Democracy: The Menu of Manipulation," *Journal of Democracy.* Vol. 13 No. 2.

Sen, Amartya. 1981. *Poverty and Famines: An Essay on Entitlement and Deprivation:* New York: Oxford University Press.

Sen, Amartya. 1999. *Development as Freedom.* New York: Alfred A. Knopf.

Stasavage, David. 2005. "Democracy and Education Spending in Africa," *American Journal of Political Science.* Vol. 49. No. 2. 343-358.

Strand, Per, Mary Kinney, and Robert Mattes. 2008. "Politics and Political Outcomes on Children Affected by HIV/AIDS in Africa." *Institute of Development Studies*

Bulletin. Vol. 39 No. 5.

Taylor, Elizabeth and Clare Dickenson. "The Link Between Corruption and HIV/AIDS."
Global Corruption Report 2006. Transparency International: Washington, D.C.

Tsai, Ming-Chang. 2006. "Does Political Democracy Enhance Human Development in Developing Countries?" *American Journal of Economics and Sociology.* Vol 65. No 2. P. 233-268.

UNAIDS. 2009. "Towards Universal Access: Scaling up Priority HIV/AIDS Interventions in the Health Sector." Progress Report 2009. World Health Organization, UNAIDS, UNICEF.

Van de Walle, Nicholas. 2001. *African Economies and the Politics of Permanent Crisis, 1979-1999.* Cambridge: Cambridge University Press.

Van de Walle, Nicholas. 2002. "Africa's Range of Regimes," *Journal of Democracy.* Vol. 13 No. 2.

Villalon, Leonardo and Phillip Huxtable. 1997. "The African State at a Critical Juncture: Between Disintegration and Reconfiguration. London: Lynne Rienner Publishing.

Vollmer, Sebastian and Maria Ziegler. 2009. "Political Institutions and Human Development." The World Bank, Policy Research Working Paper 4818.

Wantchekon, Leonard. 2003. "Clientelism and Voting Behavior: Evidence from a Field Experiment in Benin," *World Politics* Vol 55. No. 3.

Whiteside, Alan, Robert Mattes, and Ryan Manning. 2002. "Examining HIV/AIDS in Southern Africa Through the Eyes of Ordinary Southern Africans." Afrobarometer Working Paper No.12. http://afrobarometer.org/papers/AfropaperNo21.pdf

Youde, Jeremy. 2009. 'Government AIDS Policies and Public Opinion in Africa', Politikon, 36: 2, 219 —235.

The Politics of ARVs in Africa: Concluding Remarks

The concluding section of this paper seeks to meet several goals. First, I aim to briefly summarize the overall project and its results. In doing so I discuss the relevance of results both theoretically and substantively to contextualize where this project fits into the overall literature. Finally, I will offer some comments on the project's limitations and potential future direction.

Project Summary

When I began thinking about this project my goals were to answer several substantive questions:

1. What explained cross national variance in anti-retroviral drug provision?
2. What determined distribution of ARV programs at the sub-national level?
3. What explained citizen satisfaction with HIV/AIDS policy performance, and to what degree were ARVs part of this story?

This research agenda had been discussed and advanced within the health economics literature, and some effort had been made within the field of political science. The only large scale empirical work that I was aware of was Evan Lieberman's work. Very little work had focused on ARVs specifically as most work was focused on the HIV/AIDS efforts more generally. Much of this work had focused on the effects of the disease rather than explaining policy response variance. Although a great deal remains unexplained, I believe this project has advanced an empirically interesting and substantively important line of research. This effort should be useful not only for those interested in the politics of ARV distribution, but also for those interested in public service delivery in developing countries most generally.

In answering the first research question, I found that state capacity more so than regime type influences an African country's ability to provide ARVs. This finding suggests that stronger, higher capacity states yield a more effective HIV/AIDS policy response. This finding fits in with Pierre Englebert's results which suggest that enhanced state capacity provides a larger menu of policy options available to policymakers in developing states (2000). Substantively, the state capacity finding provides evidence that building state capacity offers a long term goal which would help to combat not only HIV/AIDS but the other governance challenges facing the developing world. As we know from recent historical events, state building is not easy. However, as states are able to take on greater responsibilities, the costs for donors begin to decrease as domestic governments are able to shoulder the burden of governance.

As an anecdotal account of the research project, I should note that the finding on the importance of state capacity grew out of what was expected to be a control variable. When governmental effectiveness proved to not only be statistically important but the driving force in my initial cross-national modeling, it was clear that considering state capacity would be an important part of the larger project moving forward. This variable turned out to be consistently important at both the cross-national and individual levels of analysis. In my opinion, this is the most important substantive result to come out of this dissertation.

The second article sought to explain how resources are allocated within countries, given the fact that no African country has been able to provide ARVs to every citizen that requires these medications. In order to answer this question, sub-national units in South Africa and Nigeria were considered. The results were much stronger than in the

cross-national section of the paper, and suggested that ARV programs were allocated to urban areas and areas with higher HIV prevalence rates. More interestingly, regions that were represented by members of the ruling party were more likely to have ARV programs than regions which were represented by minority parties. This political representation finding suggests that patronage networks are important in ARV distribution, at least at the elite level when resource allocation decisions are made. This finding fit with Goran Hyden's characterization of the policy process in Africa as more focused on the distribution of resources along patronage lines rather than to solve policy problems in pursuit of development (2006). Substantively, the existence of elite level patronage decisions influencing ARV distribution provides evidence that international donor institutions would benefit if they consider political representation in their monitoring and evaluation practices. Current practices pay similar attention to gender and income, but if ARVs are distributed through patronage networks, it is important to consider this phenomenon when considering equitable treatment access. If developing equitable resource distribution is important to these organizations, political access to patronage networks appears salient.

The third paper focused on public opinion and sought to explain individual satisfaction with HIV/AIDS policy performance. The goal here was to see to what degree the availability of ARVs influenced individual perceptions. Were citizens more satisfied when they saw ARV programs? Results indicated that ARV coverage and HIV prevalence rates, measures I argue measure the effectiveness of respective policy responses, are important predictors of HIV/AIDS policy performance satisfaction. This bolsters the case for ARVs as it suggests the tangible political rewards available for

leaders willing to invest in these efforts. Further evidence suggested that state characteristics like trust in institutions are important predictors of policy satisfaction. The relationship between institutional trust and policy performance satisfaction fits with the cross-national relationship between state capacity and ARV coverage. Together these findings provide strong evidence for the importance of strong, effective state institutions at both the micro and macro levels of analysis. When such institutions exist and function effectively, policies yield more effective outputs which leads to greater citizen satisfaction. In other words, effective institutions provide the highways that make effective policy outputs possible. Greater citizen satisfaction is especially important as results suggest that citizens evaluate HIV/AIDS policy along the same lines as they evaluate the supply of democracy: when they are satisfied with HIV/AIDS and health policy, they are more likely to be satisfied with the effectiveness of democracy.

Another interesting finding that contradicted expectations was the negative relationship between citizens who said they supported the ruling party and HIV/AIDS policy performance satisfaction. Originally I considered that this finding contradicted with the sub-national analysis which revealed the existence of patronage networks. Rather, I would argue that it suggests that such patronage related to ARVs exists at the elite level where allocation decisions are made. The lack of mass level patronage suggests that policy performance trumps political loyalty, an important finding in its own right. Further investigation into political patronage at the local level would be a useful future research direction, though such an effort would require field level observation. Answering exactly how individuals make their way from a positive HIV test to accessing ARVs is not a question I am prepared to answer at this time. Those

types of individual level decision processes would require fieldwork to investigate whether mass level patronage or bribery are part of the story. Anecdotal evidence from Afrobarometer Round 3 does suggest that more than twenty five percent of people are asked to pay bribes when they interact with health institutions (Bratton, 2007). Based on this dissertation research, however, I can only suggest that elite level patronage exists and merely speculate on mass level patronage relations.

Researching citizen policy performance satisfaction also suggests people are more critical of governmental efforts when policies are most salient for them. The modal response was that governments were doing pretty well combating HIV/AIDS, but greater support or dissatisfaction was evident in countries where HIV/AIDS was of greatest salience due to higher HIV prevalence rates. In low prevalence countries, citizens who are less affected by the disease have no reason for dissatisfaction. This partially explains why support for HIV/AIDS policies exceeds support for other policy efforts for Africans. As salience increases, people develop stronger opinions, and the general trend is for greater knowledge to lead to increasing dissatisfaction. I would argue that this helps to explain the negative relationship between educational attainment, urbanization, and even political support for the ruling party. As people gain education, live in cities, and support the ruling party, they sharpen their opinions about policy performance, and they generally are less satisfied as their expectations rise. Now that results have been summarized I will discuss some of the limitations of the project and some future directions for research.

Limitations and Future Research

One of the issues I struggled with in working through this project was where to place

political leadership in the story. It is strikingly absent from the statistical analysis. We know that individual leaders and their preferences matter to a larger degree in Africa than in other contexts. However, I would argue that individual leaders can only enhance or prevent policy responses so much and for so long. South Africa's history provides a good example. Mbeki's unwillingness to engage HIV/AIDS issues might have prevented an effective policy response in the short term; however, strong independent institutions provided a venue through which to overturn the regime's preferences as civil society utilized the court system. Once Mbeki left office, South Africa has launched a more robust HIV/AIDS policy than previously existed. This is as much in spite of President Zuma's leadership as it is because of it which provides an example of institutions being more important than leadership. South Africa provides a case where political leadership's unwillingness to engage HIV/AIDS was trumped by strong, independent institutions and civil society engagement, as exemplified by the Treatment Action Campaign.

In other contexts we have seen examples where effective leadership can make a difference, but even Uganda, which has been noted for its effective HIV/AIDS response under Museveni's leadership, has only been able to achieve so much given its institutional weakness. I would argue that building strong institutions provides leadership a wider array of choices and broader engagement opportunities as Englebert argues. Botswana provides the quintessential example where the institutional capability led to increasingly effective policy. Leadership matters, but I argue the institutions are more important, and enhance a respective leader's toolbox. Finding new and innovative methods for measuring how leadership and institutions interact would be a useful

direction for future research.

Data limitations were a constant consideration working through the dissertation. In a perfect world, I would have ARV availability data at the country, sub-national, and individual levels measured using the same unit which would allow for multi-level modeling to be developed. Although significant variance exists at all of the levels of analysis observed, it would be interesting to know where the greatest amount of variance lies. My hunch would be that sub-national variance exceeds cross national in terms of ARV availability as elites can access ARVs on international markets. For example, one would expect an HIV-infected wealthy citizen to be as able to purchase ARVs on the open market, whereas impoverished individuals lack these options.

In order to significantly enhance my dissertation, two immediate directions jump to mind. The first would be to spend several months observing ARV programs in the field to understand the relationship and decision making processes at the local and national levels. I have made the case that African countries have significant power in these decision making dynamics, but situating how international organizations and non-governmental organizations function on the ground cannot be verified without traveling to these countries. Field observation would allow for interviewing ARV personnel, country level HIV/AIDS committee members, and non-governmental workers. Observation would be especially useful to understand the linkages between prevention and treatment as prevention campaign efforts must take on the culturally sensitive taboo issues like sex, condoms, and the role of women in society. Observation would also allow investigation of how political elites view ARV medications and how individuals access these programs. Such work would provide greater context and would allow for

more individual level examples. A case study chapter based on observing in several clinics would greatly enhance this project, a limitation that I readily admit.

The second course of action would be to spend some time building up some new methodological tools. The first cross-national article could be improved with some non-linear regression techniques. I am not completely convinced that regime type is as insignificant at the country level as the paper suggests. The individual level model suggests that individuals who believe they live under more democratic regimes are more satisfied with HIV/AIDS policy performance, though this relationship is not all that influential. If I had six more months to pursue this project and the funding available, I believe the field based course of action would be more beneficial. Critiquing my own work, I believe the limited context that can be drawn from books and database searches is a greater weakness of this project than the lack of empirical specificity.

There are other directions future research could pursue as well. It would be valuable to contextualize how HIV/AIDS efforts have benefitted or hindered other health care policies. One would expect that political learning must be occurring both across countries and in generating knowledge of value to for other health care interventions. The scope of the HIV/AIDS response is truly without precedent, and trying to understand how these efforts have helped or hindered other health and development programs would be useful. For instance, efforts to combat malaria and drug resistant tuberculosis have grown out of initial AIDS efforts. Seeking whether AIDS efforts have limited the scope of other development programs would also be useful.

Another assumption that would benefit from further research is providing greater context regarding the international pharmaceutical companies and the role of the private

sector in anti-AIDS policy. Anecdotal evidence suggests that the private sector is engaged to a much larger degree in some of these countries than in others. For instance, Anglo-American Gold in South Africa has one of the most expansive ARV treatment programs on the continent which provides medications not only to mine workers and their families. These efforts also provide testing, counseling, and treatment services for sex workers who reside in areas around the mine areas. These types of efforts are important; however, they are not the norm across the continent. In the sub-national chapter, I did not find evidence of similar efforts by oil companies operating in the Niger Delta of Nigeria. Greater private sector engagement would benefit large segments of society, the companies themselves, and would likely bear lessons that could enhance public sector efficiency. Developing research that could take into account why these efforts have occurred so irregularly across the continent would be useful.

Concluding Remarks

We live in a globalized society where HIV/AIDS in Africa is important for international markets, security, and governance. This issue has received unprecedented attention by the world community and is beginning to receive similar attention by social scientists. Just in the course of researching this topic over the last couple of years, many more books and better research on the social science surrounding the disease has begun to emerge. Fighting HIV/AIDS will continue to require new, innovative, and increasing interdisciplinary efforts. The task at hand is transitioning from crisis response to a long term, entrenched, and forward looking plan to attack HIV/AIDS. This must occur both on the ground in Africa and in our research agendas which can potentially yield important actionable lessons. It is only through these efforts that we can expect

improved policy performance and less people to suffer from this awful, dreaded disease. HIV/AIDS is likely to remain one of the leading development challenges for Africa for the foreseeable future. Every step that enhances our knowledge of the disease provides one more tool in the scientific toolbox which will enhance the ability to combat this disease. The people of Africa fighting AIDS require such an effort, and as scientists we should continue to strive towards advancing an agenda surrounding the politics of the AIDS response.

Works Cited

Bratton, Michael. 2007. "Are You Being Served? Popular Satisfaction with Health and Education Services in Africa." In *Democratic Deficits: Addressing Challenges to Sustainability and Consolidation Around the World.* Gary Bland and Cynthia Arnson, editors. Woodrow Wilson International Center for Scholars: Washington D.C. p. 37-66.

Englebert, Pierre. 2000. *State Legitimacy and Development in Africa*. Boulder: Lynne Rienner.

Hyden, Goran. 2006. *African Politics in Comparative Perspective*. New York: Cambridge University Press.