

FROM THE FIELD: STUDENT ESSAY

# Expanding Access to HIV Testing in Northern Minas Gerais, Brazil

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Brazil serves as a potent example of a nation striving to meet the public health-care needs of a complex and diverse society. To evaluate how a public hospital in Montes Claros, Brazil has attempted to reconcile HIV/AIDS outcome gaps, this study examined aspects of the demographic profiles of public health clients receiving HIV exams in the largest city in Northern Minas Gerais at two respective sites. Age, sex, and residential neighborhood for clients tested for HIV during an eight month period in 2007-2008 at HUCF and CTA were statistically compared. In comparison to CTA, the population served by HUCF included more women, people from rural areas, and youth (ages 10-16). These populations, who face inequities in access to HIV services on the national level in Brazil, were more likely to access testing at the hospital. This case study serves as an example to other municipalities of how it may be necessary to offer public health care services at diverse sites in order to provide access to target populations.

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## Introduction

This applied anthropological study took place in a complex industrial society, specifically in a city that has tripled in size due to waves of rural-to-urban migra-

tion over the past two decades. Our international research collaboration focused on a public university hospital serving the municipal and regional needs created by mass urbanization. Through participant observation in the laboratories and collaboration with on-site staff, the need to define the impact of the new Immunology Division on HIV+ clients in the municipality and region was identified. Dr. Jones has been collaborating with professors and researchers in this hospital since 1995, when she lived in the medical residency at the hospital and taught classes in medical anthropology at the corresponding university, the State University of Montes Claros (UNIMONTES). She has returned to study, teach and conduct research at the hospital seven times since then (two years total). Julia first met our collaborators during a service learning abroad program in 2007 led by Dr. Jones, and has returned three times (four months total) to conduct participant observation, data collection, and collaboration with our international partners. Through our meetings, we continuously defined and redefined our goals based on our collective needs, desires, skills and knowledge bases. In the course of these sessions we chose to focus on evaluating whether the massive expansion of the public university hospital had increased access to HIV testing for populations at high risk for social exclusion.

The Inter-American Development Foundation has clearly established that addressing diversity in meeting the social and economic development needs in multicultural and highly unequal societies is a major challenge. Brazil is widely known in development circles as the prime 20<sup>th</sup> Century Latin American example of a country with a complex process of unequal economic development. The exploded landscapes of the megacities of the industrial Central region, including cities such as Rio de Janeiro, Belo Horizonte, and Sao Paulo, feature architectural feats of size and glamour, global business and style, and fashionable neighborhoods that are often encircled by massive *favelas*, or legally and publically unrecognized neighborhoods where poverty and poor infrastructure reign. Rural-to-urban migration is often seen as the culprit, bringing massive waves of national immigrants who often arrive without familial, educational, or financial support. These immigrants may be seen as racially distinct or as ethnically similar to peoples who are already in discriminated groups (indigenous, afro-descendent, rural). Stigma and oppression, as well as a lack of structural capacities to meet the needs of urban population explosions, have led to great inequalities in access to social and public services, such as healthcare.

Merrill Singer, a prominent medical anthropologist, argues that a “discussion of specific health problems apart from macro level political and economic issues only serves to mystify social relationships that underlie environmental, occupational, nutritional, and experiential conditions” (1986: 129). These conditions are inherently connected to the inequalities pervasive in Brazil’s health care, specifically in regard to sexual health and the HIV/AIDS epidemic. There is growing recognition among social and hard scientists alike that the AIDS epidemic is not merely a biological or behavioral problem, but an epidemic manifested in cultural frameworks. This understanding is imperative in countries such as Brazil, containing the largest

population in Latin America and a third of all its HIV cases – by 2006, 620,000 cases of HIV/AIDS (KFF 2008).

Brazilian academics, public servants, and politicians are well aware of these and other inequalities, as issues of inequity served in many ways as the impetus for the reestablishment of the Brazilian democracy and development of the new constitution at the end of the 20<sup>th</sup> century. Ex-president Fernando Henrique Cardoso, a dependency theorist and one of the first Brazilian presidents after the return to democracy following Brazil's second military government (1965-1985), has often been quoted as stating that "Brazil is no longer an underdeveloped country. It is an unjust country." This lack of justice lies in the inequalities that exist in this country of contrasts. Though Brazil boasts one of the ten largest economies in the world, it also claims the most unequal distribution of income of any nation except South Africa (Advameg 2007). This economic stratification was the background for the new democracy in 1985, and the Brazilian Constitution of 1988; the latter specifically addressed inequalities in health care access by claiming that health care is not just a basic individual human right, but a responsibility of the country. *Sistema Único de Saúde* (SUS), a publicly-funded, rights-based health care policy, was the instrument by which to carry out the Constitution's promise of reconciling such inequalities. Despite SUS's success in serving 60% of the population, inequalities in health care access have been perpetuated, due to structural violence, exclusion, stigma, and ultimately, access. This case study presents evidence that in order to include certain potentially at risk populations, public officials need to consider factors affecting access.

In the past decade, the AIDS epidemic has rapidly grown into inland Brazil and smaller, rural municipalities, expanding beyond the large cities where the problem was first recognized and condensed. This trend of the spread of the virus into rural areas corresponds with the tendency of the epidemic to spread rapidly in contexts of high poverty. According to Kerr-Pontes, "structural factors such as economic underdevelopment and poverty, population mobility and migration patterns, social stigma, and gender inequality are heavily associated with the spread of AIDS in Brazil" (2004: 320). Unfortunately, these same factors that cause vulnerability and lack of access also perpetuate it, creating an inescapable, cyclical patterns of structural violence, such that the more marginalized a population is, the lower the probability of change in behavior causing vulnerability (Scheper-Hughes 1993). Consequently, the spread of HIV is disproportionately rapid among already marginalized populations (Pisani 2000).

Testing for HIV, including aspects such as test location and wait period for result, is essential to control the spread of the virus. In order to combat HIV, it is imperative to not only understand the inequities of access and the populations most vulnerable to contracting HIV due to structural violence, but also design infrastructure and health care processes surrounding HIV prevention and control that address such inequalities. We hope that our findings help illuminate part of a process, based within a combined public university and healthcare setting that is successfully addressing issues of social inclusion within Brazil's larger movement towards social development.

## **Review of the Literature**

This study demonstrates how anthropological habits of thoughts and practice, especially those based in collaboration, can be applied to understanding disease and healing processes on macro-levels, such as within the context of national healthcare systems. Macro- and micro-scale forces in Brazil have excluded and increased HIV vulnerability in certain populations. “Structural violence is violence exerted systemically – that is, indirectly – by everyone who belongs to a certain social order” (Farmer 2004: 307). From Farmer (2005) to Lockhart (2008), anthropologists have increasingly used the term “structural violence” to address how history, political economy, and biology all interact to cause and perpetuate inequities in access, underdevelopment, poverty, racism, and the spread of AIDS. Despite its all-encompassing effect, structural violence affects populations differentially, and thus it is essential to recognize where the macro-structural forces manifest into sufferings of specific populations.

### *Women*

According to the 2007 AIDS Epidemic Update in December, there are approximately 33.2 million people living with AIDS, 46.4% of which are women. In Latin America, there are approximately 1.6 million people living with AIDS, 32% of which constituted women in 2007 (KFF 2008). In the past 17 years, the percentage of females living with HIV among all adults in Latin America has jumped approximately 10%, and the ratio of females to males continues to rapidly increase. According to the CTA, in Northern Minas Gerais alone, since 1993, there are an estimated 602 new HIV cases, 45.8% of which are women. The AIDS epidemic is clearly an immense problem within Brazil, particularly as it increasingly affects women in areas such as northern Minas Gerais.

Though AIDS has predominantly been recognized as a “disease of men” due to the 2:1 male-female ratio of infection in Latin America, the HIV/AIDS epidemic is evolving into a less gender specific disease as the rates of male infection decrease and the rates of female infection increase (Frasca 2003, Santos et al. 1998). For example, the male to female ratio for global HIV cases changed from 29:1 in 1985 to 4:1 in 1993 to 2:1 in 1998, and continues this converging trend (Haddad 1996, Santos et al. 1998). These trends are augmented in Brazil, where since 1991, AIDS has been the leading cause of death in females aged 20-35 (Haddad 1996, Santos et al. 1998).

Not only are women more vulnerable to contracting HIV biologically through vaginal and anal mucosa, the high concentrations of HIV in sperm, and the greater surface area exposed to bodily fluids in females’ reproductive systems, but women are further at risk due to economic, political, and cultural conditions (Frasca 2003: 14). Brazil serves as a powerful example in which “national events such as political transition from military to civilian rule, extension of international capital markets into the hinterlands, and mass urbanization have profoundly altered social rela-

tions including gender roles" (Rebhun 2004: 183). These changes have resulted in increased structural and literal violence against women, most dramatically represented by the relationship between female servants and men from landholding families. Only a few decades ago, lower status households in rural Brazil were able to establish ties to economically stable landholding families via sexual relations between high status men and low status women, ultimately leaving women at the sexual mercy of men (Rebhun 2004). This legacy continues as perpetuated male dominance allows for differential access to power (Farmer 1999).

In Brazil, female sexuality is seen as both a dangerous force that needs to be controlled by men and a resource that a woman can use to ensure her economic survival (by enticing a man to support her). However, this economic dependence results in a further heightened susceptibility to contracting HIV. Gregg (2003) argues that since their sexuality is a valuable commodity, women may choose to underestimate medical warnings against risky sexual practices and thus be even more vulnerable to contracting sexual diseases. Furthermore, women who reach higher levels of independence by working outside the house and acquiring a steady income are viewed as more likely to be unfaithful by family and husbands alike, encouraging males to remain the sole source of income. Furthermore, Frasca states that Brazilian women are "less able to refuse sexual relations, are frequently victims of sexual violence and coercion, depend economically or emotionally on partners who often maintain additional sexual contacts, are culturally indoctrinated to serve or accept abuse, and are kept ignorant of matters involving sexuality" (2003: 14). This occurs within a context in which short-term, informal cohabitations are becoming more common, and male infidelity is prevalent (Rebhun 2004). Therefore, the cultural construction of gender roles dictates that as long as a male takes care of his family or short-term partner economically, infidelity is tolerated and accepted (whereas it is denounced if committed by women) and women are disempowered from protecting their reproductive health.

The disparities between women and men are further augmented by certain aspects of health care access. Despite the free distribution of antiretroviral drugs and protease inhibitors to all Brazilians starting in 1990, the AIDS mortality rate in women has only decreased 22%, where the rate of decrease amongst men is 36% (Santos et al. 1998). Furthermore, it has been indicated that women access public health services at later stages in illness than men (Santos et al. 1998). By the time women are diagnosed or receiving treatment in a hospital, their states of the illness are usually much more progressed than the average man's due to the fact that HIV positive women are less visible to AIDS organizations and their access is more limited to public health services. Due to these trends, the burden of HIV/AIDS is falling more heavily on women.

#### *Rural residence and poverty*

According to Farmer, "it is easy to document a growing 'outcome gap' between rich and poor and show that it is caused in part by differential access to increasingly effective technologies" (2005: 20). Due to increasingly unproductive land plots, competition for space, fluctuation of prices of agricultural products on the

global market, debt and dependence on private traders, and support of capitalist enterprise by the state, rural households are often more vulnerable to economic stress (Lockhart 2008). This stress is of particular prominence in the rural areas in and surrounding Montes Claros, where the cost of living is high due to the disparity in values of exported raw agricultural products and importation of processed foods between Montes Claros and the capitol city of Belo Horizonte. Forty percent of the rural population of Northern Minas is estimated to be living in poverty (Corrêa et al. 2004). Notably, “the spread of HIV epidemic among lower education as well as low-income populations is one of the most prominent characteristics of the current Brazilian AIDS epidemic” (Eyer-Silva 2005: 953). Not only does economic stress result in rural to urban migration, considered a strong diffusing factor for HIV, but also increased vulnerability of rural women from migrant communities (Kerr-Pontes 2004, Guimarães et al. 2007). Rapid influx of rural migrants against a fixed number of skilled labor opportunities is correlated to unemployment, crime, shortage of goods and services, and poverty. Poverty and lower socioeconomic status is undeniably a growing risk factor for unsafe sexual practices and higher vulnerability to contracting HIV. This tradition developed from poverty is perpetuated from one generation to another, continually placing rural residents at greater risk for contracting HIV.

Trends in the demographics of the HIV population also indicate that there are an increasing number of cases in smaller municipalities in Brazil. Smaller Brazilian communities and rural areas often lack the comprehensive health infrastructure and education to encourage healthcare access and HIV diagnosis, and patients from these areas are less likely to benefit from non-governmental organizations. For example, financial, transportation, and childcare issues may prevent individuals in rural communities from going to health clinics for testing, risk-reduction education, and condoms (Farmer 1999). In fact, despite the creation of free national health care in 1994, a significant minority of Brazilians still do not have access to health services. In a study including 34,239 individuals from 112,434 households across several Brazilian municipalities, 24% (8,338) did not have adequate access to healthcare (Mobarak 2003). The lack of resources and perceived need can lead to manifestation of large populations of undiagnosed individuals living in rural communities or municipalities (Eyer-Silva 2005). Furthermore, these individuals may be less likely to access HIV testing and treatment due to confidentiality issues that arise in small communities, which may further perpetuate the spread and diagnosis of HIV (Guimarães et al. 2007).

### *Youth*

According to the president of Population Research Institute, a non-profit research group whose to expose human rights abuses and encourages programs to help the poor become agents of their own development, “AIDS alone is devastating the heart of [countries afflicted with the HIV/AIDS epidemic], affecting people in the prime years of not only their economic production, but the prime years of reproduction” (Armas 2004, cited in Farmer 2005: xxvi). Though the median age of the HIV population in Brazil has remained in the thirties for many years, this num-



ber is steadily decreasing as the younger population's vulnerability to contracting HIV increases. In 2006, 41.1% of the sexually transmitted HIV cases in Brazil occurred among men between 13 to 24 years old (KFF 2008). Much of this trend can be attributed to the same issues of inequity of access that plague women and those from rural areas. According to the Kaiser Family Foundation, in Latin America, sexual health and HIV/AIDS education are not readily accessible for young people and teenagers (2008). Furthermore, though the trend of increasing cases of HIV+ youth can be partially attributed to lack of sexual health education and accessibility of condoms, the initiation of sexual behavior at a relatively early age is also a factor. In 1996 in Brazil, the average age of first sexual experience was 16 years and 4 months for girls and 15 years and 3 months for boys, and an estimated minimum of 60% of adolescents between age 16-19 were sexually active (Corrêa et al. 2004).

In a country in which the majority of the population is Catholic, purchasing condoms is not only stigmatized but forbidden by the Church, as it is considered to be a sign of pre-meditated sex. Furthermore, adolescents without a strong sense of community affiliation are less likely to have the support and guidance necessary for a healthy lifestyle and foresight in actions, which can be manifested as a lack of intimate, monogamous relationships and heightened risk of HIV infection (White 1999). Particularly among teenagers living in poverty, HIV is generally regarded as a comparatively inconsequential problem in the context of day-to-day life (Lockhart 2008). Conflicting messages given by the religious establishment and by the media (where sexual references are pervasive) are the background for unprotected sex among teenagers, further perpetuating the vulnerability of HIV contraction in this age group.

Teenage girls are particularly vulnerable as nearly a third of the 330 million girls and young women (ages 10-19) in developing countries are married by age 18 (Clark et al. 2006). In Brazil, a quarter to a third of young women marry in their teens. Married adolescents have high rates of HIV infection due to frequent unprotected sex with men of an older age and the false perception of marriage as protection from HIV. Clark et al. reported that 26% of female teenagers (ages 15-19) who were unmarried but sexually active had had unprotected sex in the previous week, and 13.1% had had more than 2 sexual partners in the past year (2006).

## **Methods**

### *Context*

This research was conducted over a period of five weeks in the summer of 2008. The main objective of this study was to explore demographic variables of individuals who received HIV tests in the past year in the university hospital HUCF (Hospital Universitário Clemente de Faria) and at the sexual health clinic, Centro de Testagem e Aconselhamento (CTA), both in Montes Claros, Minas Gerais, Brazil. Following participant observation and informal interviews with laboratory staff, statistical analyses were conducted to compare demographic profiles of those receiving the HIV tests at these two locations. The results of this comparison were

evaluated in the context of those populations most affected by HIV in Brazil, in order to find any correlation between the demographic profiles of those receiving HIV exams and those in most dire need of HIV diagnosis and care.

### *Location*

The state of Minas Gerais in southeastern Brazil includes 89 municipalities of 1.5 million inhabitants, a number rapidly increasing each year (Guimarães 2007). In the past decade, Brazil's urban populations have prodigiously grown due to rural to urban migration in search of better-paying jobs and educational opportunities. This increasing trend is particularly present in the northeast region of Minas Gerais, which experienced the largest urban population increase in the country in the 1980's (Kerr-Pontes 2004). Despite the existence of 56 large cities in northern Minas Gerais, there are only three centers for HIV testing and counseling, including CTA. Besides these centers, HIV exams are only conducted in private and public hospitals, which in many cases, are required to send the tests to private biomedical laboratories for analysis.

One of these public hospitals is HUCF, located in the largest city in northern Minas Gerais (Silva et al. 2007). This university hospital is the only all SUS (free to the public) hospital in the city. Due to several factors including a large migrant population and growing urban poverty, Montes Claros is experiencing the HIV epidemic intensely first hand. CTA provides HIV exams for over 750 patients per year, and HUCF hospital's biomedical laboratory conducted 353 in 2008. The hospital conducts exams for patients from over 145 different neighborhoods and several different cities outside of Montes Claros. Prior to late 2006, due to a lack of resource availability, HUCF did not conduct HIV tests within their own laboratory but rather sent blood samples to a biomedical laboratory in Belo Horizonte, the state capital, approximately 206 miles away. This resulted in a wait period of several days before the results of the HIV exam returned to HUCF, during which time the patient would be interred in the hospital. Not only did this process take an emotional toll on patients isolated from family, but this was a deterrent for populations unable or unwilling to leave home and familial obligations for days or to receive an HIV exam indiscreetly. Furthermore, by sending the exams to Belo Horizonte, the hospital lost an available hospital bed for days and paid approximately 18 American dollars (\$37.50 Brazilian real) per HIV exam.

Due to these economic and humanitarian issues, HUCF established its own immunology sector in late 2006, allowing the biomedical laboratory to conduct HIV tests within the hospital. Not only did this allow for HIV diagnosis within hours, but it saved the hospital approximately 12 American dollars (\$24.50 Brazilian real) per HIV exam. Since this is a new program in a rapidly expanding hospital, it is imperative to examine how on-site HIV testing has impacted the populations served, particularly in order to show the need for such a program in other hospitals currently without such testing capabilities.



*Research Team/Personnel*

The research team for this project consisted of an international collaboration between a faculty member and student from Elon University in North Carolina and staff members from HUCF in Montes Claros, Brazil. This bi-national team worked together on this project via e-mail for several months prior to and after data collection. Julia Elinor Roberts is an Honors Fellow at Elon University, who first visited the site as part of a Study Abroad program in 2007. Her mentor, Dr. Kimberly Marie Jones, a medical anthropologist, has conducted research, led study abroad groups, and taught periodically at UNIMONTES HUCF since 1995. Luçandra Ramos Espirito Santos, the director of HUCF's biomedical laboratory, was integral in hosting the meetings, orienting the Elon team to the laboratory, providing the initial database and other pertinent materials, and finding international references. Mauro José Guedes Roque, a biochemist in HUCF's laboratory, played an integral role in interpretation, collecting and analyzing the database, and orienting the student to basic laboratory procedures. Marise Fagundes Silveira, a statistician for HUCF, conducted the statistical analyses for the database. Amaro Sérgio Marques, director of the human relations efforts at HUCF, helped coordinate the project. Collaboration began in the spring of 2008 and continued for a year. During the initial meetings, the research question was refined to focus on the hospital's desire to examine the demographics of the clients accessing the new HIV testing service. June and July of 2008 were spent on site conducting participant observation in the laboratories and collecting and analyzing data from the first year of HIV testing at HUCF and the corresponding year at CTA. Julia returned to Montes Claros in summer 2009 to discuss and analyze findings with on-site collaborators.

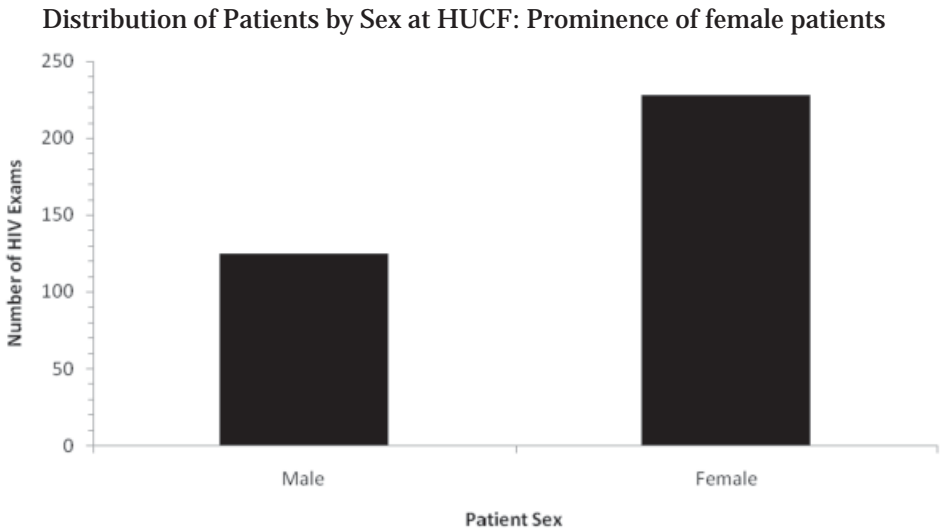
*Data collection and analysis*

As mentioned, before, during, and following data collection the international team met face to face several times and corresponded via email, allowing us to communicate needs, concerns, and the direction and status of the research. Preparatory work including IRB acceptance in the United States and in Brazil with the assistance of Amaro Sérgio Marques, allowed for effective collaboration in Brazil. Kimberly Marie Jones and Luçandra Ramos Espirito Santos would be the principal facilitators of the face to face meetings, helping to frame the data collection required. With the help of Mauro José Guedes Roque, I collected the patient name (which were later replaced with numbers), sex, age, neighborhood (or city, if outside of Montes Claros) of residence, and test result to enter in a database and summarize. With the assistance of Marise Fagundes Silveira, these values were then input into an SPSS file for all the HIV tests from the past year. This software was then used to compare the demographic profiles of clients received HIV tests at the hospital and sexual health clinic CTA using statistical analysis with qui-squared tests, chi squared tests, and p values. Meetings during and following data collection continued to assess the story behind our data, the questions behind our research analysis, and the ways this research may contribute to HUCF and contribute to the anthropological community. Jones and my consistent presence in the hospital and

team meetings allowed for rapport and comfort that greatly facilitated the team's ability to work together and each individual's capacity provide insight from drastically different perspectives toward a common goal.

### **Results**

These results bear great importance, not just for anthropologists, but for professionals involved in health care processes and infrastructure, as they demonstrate one possible way for public institutions to overcome structural violence – not only in Brazil, but also in other countries with stigmatized populations. Since research has identified groups of particular risk for disparities in access and health care outcomes, it is essential that public facilities respond by modifying infrastructure to maximize availability. As discussed, sex, geographic resident, and age can all have significant impacts on access to health care services and consequent outcomes due to their unique cultural implications. Our results indicate that other public hospitals should look to HUCF as a didactic example and consider offering on-site testing. Not only did HUCF's expansion allow for previously marginalized populations to access HIV testing, but by percentage of HIV tests, HUCF included more positive patients than CTA by 3.6% (Figure 1).



**Figure 1**

**Distribution of Patients by Sex at HUCF and CTA:  
Prominence of females at HUCF**

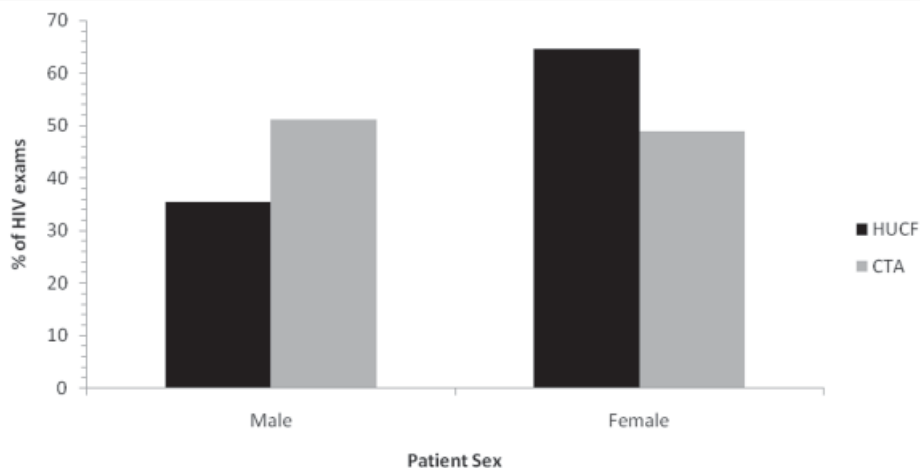


Figure 2

*HIV Exams: Sex*

In order to ensure sustainability in the response to the HIV epidemic in Brazil, it is essential to consider how modifications to infrastructure and health care processes surrounding HIV prevention and control address inequalities among women. Facilities that offer HIV testing must ensure that women can readily access services, from education to testing. Among all the HIV tests conducted in the past year at HUCF, a majority (64.6%) were women (Figure 1). Though CTA's population also included a substantial number of women (48.9%), it is important to note that HUCF served a significantly higher percentage of women (Figure 2). Despite the fact that CTA has been one of the principal sources for HIV exams in the regional area, the expansion of on-site HIV testing at the public hospital offered testing to more women who previously could not stay at the hospital for a test result (they could now use the hospital's free public transportation to the hospital for a test, whereas this is not available for CTA), were deterred by the lack of privacy perceived at a sexual health center, or faced other difficulties. Our results also bear importance when viewed in respect to the test results. Among the 4.8% of positive tests for HUCF, 58.8% were male compared to the 33.3% in CTA, though this difference was not statistically significant. Though HUCF was testing more women than CTA, its population included more positive men, which is of particular importance since male to female transmission is more likely than female to male (Table 2). Not only have men been referred to as the principal vectors of the virus, but women simultaneously have been more vulnerable to contracting the virus due to structural and literal violence.

**Results of HIV Exams at HUCF and CTA:  
Prominence of positive results at HUCF**

Exam Result	HUCF	CTA	Total
Negative (n)	336	754	1090
Negative (%)	95.2	98.8	97.7
Positive (n)	17	9	26
Positive (%)	4.8	1.2	2.3
Total (n)	353	763	1116

**Table 1**

**Distribution of HIV+ Diagnoses by Sex at HUCF and CTA:  
Prominence of HIV+ men at HUCF**

Sex	HUCF	CTA	Total
Male (n)	10	3	13
Male (%)	58.8	33.3	50
Female (n)	7	6	13
Female (%)	41.2	66.7	50
Total (n)	17	9	26

**Table 2**

**Distribution of HIV+ Diagnoses by Residence at HUCF and CTA:  
Prominence of patients from outside Montes Claros at HUCF**

Residence	HUCF	CTA	Total
Montes Claros (n)	8	8	16
Montes Claros (%)	47.1	88.9	61.5
Other City (n)	9	1	10
Other City (%)	52.9	11.1	38.5
Total (n)	17	9	26

**Table 3**

*HIV Exams: Location*

Geographic residence plays a significant role in availability of resources, access, and consequent outcomes in health care. The level of development (indicated by job availability, salary ranges, public and private investments, and quality of public services) varies in rural and urban areas. In Brazil, a country notorious for significant economic stratification, these geographic differences lead to striking contrasts, prominently represented by the poorer *favelas* and rural areas that reside beside rapidly developing, highly populated cities. Of all the HIV tests conducted at the university hospital, 17.6% of patients lived outside Montes Claros, despite the fact that only 6% of the city’s population lives in rural areas. This percentage was much higher than that for CTA. Despite the fact that CTA serves a broad population, only 3.1% of residents came from outside of Montes Claros (Figure 3) (Silva et al 2007). Also, among the 4.8% of positive cases in HUCF, 52.9% were outside of Montes Claros, greater than the 11.1% for CTA, though not of statistical significance (Figure 3). Yet these results are important in that the expansion of on-site HIV testing at HUCF has reached a population that not only has been acknowledged as at risk, but also has been previously underserved through the former options for testing in public hospital(s) or the sexual health center.

Distribution of Patients by City of Residence at HUCF and CTA:  
Prominence of patients from outside Montes Claros at HUCF

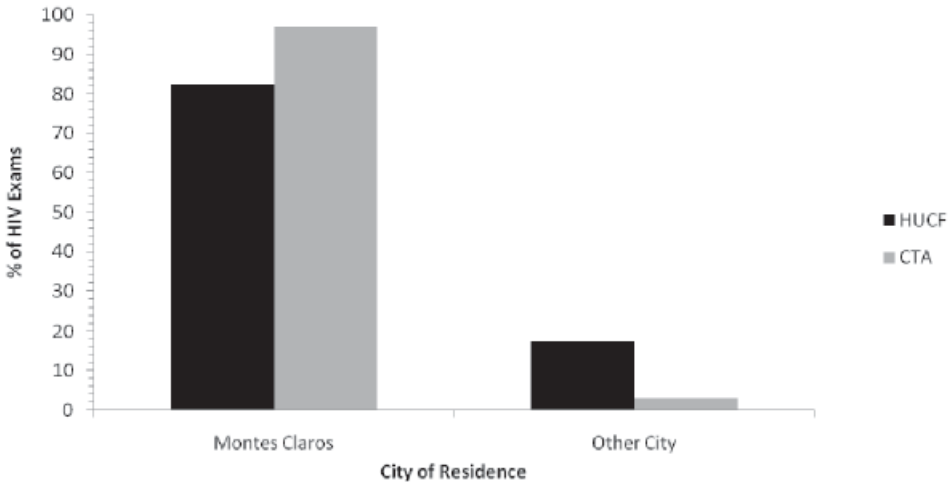


Figure 3

Distribution of Patients by Age at HUCF and CTA:  
Prominence of youth (ages 10-15) at HUCF

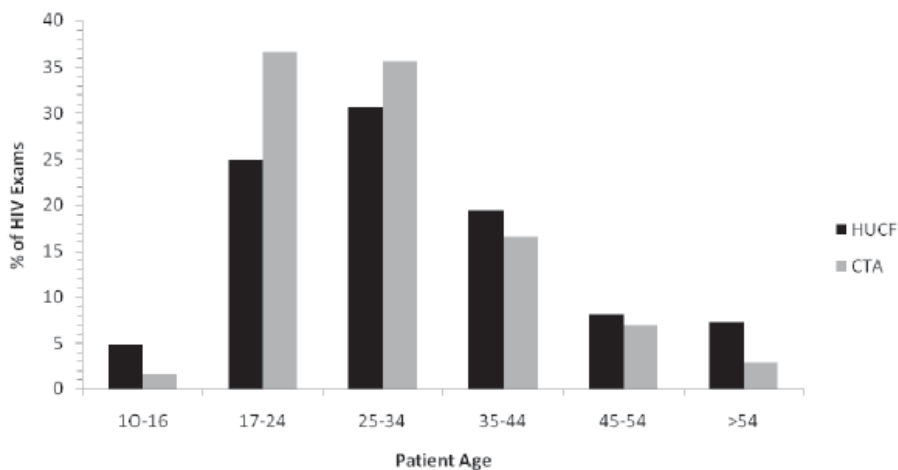


Figure 4

#### *HIV Exams: Age*

The age of an individual has a significant effect on the timing of sexual activity, education level, belief in the value or importance of testing, and other factors inherently related to HIV risk. Our results from HUCF and CTA indicate that the majority of patients seeking HIV tests are between the ages of 17 and 34, with CTA conducting more tests within these age ranges. Since CTA offers and conducts a significant number of HIV tests and is a recognized sexual health center in the community, it is evidently readily accessible and acceptable to access within this young and mid-aged population. The significance of our results is that HUCF's population contained more children and teenagers aged 10-16, more adults aged 35-54, and a significantly highly number of elders aged greater than 54 (Figure 4). This indicates that HUCF is reaching youth who are at risk due to intricately related cultural factors, as well as elders who are at risk due to HIV's perception as a "young person's disease" and other complex variables. The availability of on-site, more private testing at the public hospital allowed for these two previously underserved groups to be included.

### **Conclusion**

Reconciling inequities in access is one of the most pressing issues in health care and represents a battle not solely grounded in medicine, but in human rights. According to Universal Declaration of Human Rights, Article 25, everyone has the right to "a standard of living adequate for the health and well-being of himself and of his family, including... medical care and necessary social services" (1948, p. 7).



Article 27 further argues that everyone has a right to “share in scientific advancement and its benefits” (1948, p. 7). These rights are undeniably applicable to the HIV/AIDS epidemic in Brazil: it is a *human right* of all its citizens, whether female, poor or young, to freely and practically access HIV testing.

These issues of access and inequity are inextricably connected to cultural context. According to Farmer, structural factors from economic status to location and demographic factors from sex to age can be viewed as “vectors that converge in the bodies and lives of individuals” such that a higher convergence of factors correlates to higher risk of contracting disease (1996, p. 91). In the case of HUCF, with the newly established on-site HIV testing, the hospital successfully served individuals with such a high convergence: HIV positive men, women, people from rural areas, and youth. The ability to offer on-site HIV testing and immediate results in a more discrete location provided access to populations previously underserved due to financial, transportation, and childcare issues that prevented these individuals from using the off-site service at the hospital or going to the sexual health clinic for testing. Not only did the new on-site laboratory at the hospital serve more women, children, and residents of rural populations than CTA, but it had a greater percentage of positive exams.

These feats of closing the “outcome gaps” are of particular importance for HUCF and other hospitals serving HIV-afflicted populations, since access to HIV diagnosis, treatment, and care as such services are often less accessible to stigmatized sectors. Since HUCF’s mission is to “serve as a center of reference for specific areas of action” including HIV, this case study serves as indication that the hospital is successfully reaching this goal and further providing didactic models to similar health care facilities (Silva et al. 2007). HUCF may also now serve as a reference for international collaboration, as this research is an example of a successful research team that was able to collaborate across geographic and cultural borders through anthropology. Communication, patience, and understanding allowed us to breach linguistic and cultural barriers through anthropological professionalism. In order to combat the HIV epidemic, it is essential that other public facilities use HUCF as a didactic example for its ability to reach marginalized, previously underserved populations through infrastructure modification. If other facilities can replicate such expansion of access, it would help us to better understand how modifications to infrastructure and health care processes surrounding HIV prevention and control can address inequalities. Ultimately, this case study demonstrates one possible way for public institutions to overcome structural violence not only in Brazil but in other countries with stigmatized populations.

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