Towards Universal Access to HIV Treatment and Care in Lesotho: Key Challenges Facing the St. Rose Health Center, a Community Clinic

W. Michael Wong
Email: wmichaelwong@gmail.com

The Johns Hopkins Bloomberg School of Public Health:
Degree: Master's of Health Science, International Health
Advisors: William Brieger, Lawrence Moulton, William Weiss

United States Peace Corps, Lesotho:
Program: Community Health and Economic Development/Master's International
Advisors: Maria Finch, Majimisi Machai

ACRONYMS & ABBREVIATIONS

3TC	Lamivudine
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy
CBO	Community-Based Organization
CD4 Count	CD4+T-cell (T-lymphocyte bearing CD4 receptor)
CHAL	Christian Health Association of Lesotho
D4T	Stavudine
DNA	Deoxyribonucleic Acid
DTP3	Diphtheria–Tetanus Toxoid–Pertussis Vaccine
EFV	Efavirenz
GDP	Gross Domestic Product
GNI	Gross National Income
GoL	Government of Lesotho
HBC	Home-Based Care
HepB3	Hepatitis B Vaccine
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counseling
KYS	Know Your Status (Campaign)
LRC	Lesotho Red Cross
MCV	Measles Containing Vaccine
MoHSW	Ministry of Health and Social Welfare
NAC	National AIDS Commission
NDSO	National Drug Supply Organization
NVP	Nevirapine
OPD	Out Patient Department
PCR	Polymerase Chain Reaction
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother-To-Child Transmission (of HIV)
PPP	Purchasing Power Parity
SLR	Simple Logistic Regression
TB	Tuberculosis
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
UNGASS	United Nations General Assembly Special Session
VCT	Voluntary Counseling and Testing
VHW	Village Health Worker
WBC	Well Baby Clinic
WFP	World Food Program
WHO	World Health Organization

TABLE OF CONTENTS

INTRODUCTION

Development efforts in health in the developing world have developed over the course of many years; through experience gained and money spent, from the smallest efforts of the world's international organizations to the largest efforts of individuals living in the world's poorest countries. This paper represents a case-study of a single clinic in the country of Lesotho as it attempts to scale-up towards universal access to HIV/AIDS prevention, care and treatment within a constantly changing health systems environment, and adapt to new pressures and old ones amplified.

As with most countries in the Southern Africa region, Lesotho has an unusually high HIV prevalence in its general population. International donors and the Government of Lesotho (GoL) have increasingly committed themselves to creating an 'HIV/AIDS free society' through prevention, care, and treatment programs (1). The leadership, management, and control of this vision, however, have been inconsistent and fragmented. The evolution from acknowledgment to acceptance to action by the government has historically lacked clear direction (2).

One of the first efforts at creating a national strategic HIV/AIDS plan was spearheaded by the Lesotho Ministry of Health and Social Welfare in 2000, which resulted in the National AIDS Strategic Plans for 2000-2001 and 2003-2004. The plans managed to conceptualize the ideas for commitment to addressing HIV/AIDS in Lesotho but lacked details on international collaboration and coordination, specific national policies and programs and the actors who were to adopt them, sustainable international donor or internal funding sources, and formal commitments by any of its stakeholders.

By 2005 the Government of Lesotho had committed itself to the then current international standards and recommendations on HIV/AIDS, adopting the UN's 'three ones' principals as a guide and reference. It was in this same year that several significant changes in Lesotho's approach to HIV/AIDS emerged. The Lesotho National AIDS Commission (NAC) was established as a parastatal organization, designed as the policy setter and lead coordinator for all national HIV/AIDS related programs. Concurrently, a National HIV and AIDS policy and a new, broader, and more finely detailed National HIV and AIDS strategic plan, covering the period 2006-2011, were created.

The primary objective of this case-study is to track the evolution, from a health systems perspective, of a semi-rural clinic as it adjusts to its shifting foundations and expanding goals; from health care provider to HIV-centric, integrated health care center. The main focuses will be dictated by national policies, namely universal access to HIV care and treatment, and the clinic's efforts and adaptations in each of these fields. In addition, the underlying theme of rapid changes in the national health system and international response strategies will necessarily be included for both the driving and restraining effects they impose at the community level.

BACKGROUND

COUNTRY PROFILE

Lesotho is a small, mountainous, and landlocked country in the Southern Africa region completely surrounded by the Republic of South Africa. By area, it is roughly equivalent in size to the state of Maryland in the United States.

A kingdom historically, it is today governed largely by an elected prime minister and parliament, and its various incarnations. The political situation remains relatively stable.

HEALTH PROFILE

As of 2008 Lesotho had the third highest HIV prevalence in the world, behind only Botswana and Swaziland that likewise reside in the Southern Africa region. The three are separated only by South Africa, the country with the sixth highest prevalence (3). Lesotho has maintained its position as the country with the third highest HIV prevalence in the world since, at least, 2005 (4)(5)(6). In a country with HIV prevalence approaching 23% in the adult population, about five times the average of the World Health Organization (WHO) defined Africa Region, the effects resonate throughout its statistical data (2)(3).

From the year 2000 through 2006 the population of Lesotho increased from about 1.89 million to 1.99 million people (3). The total fertility rate (TFR) in 1990 was 4.9 and by 2006 had dropped to 3.5, while the annual growth rates from 1986-1996 and 1996-2006 were 1.5% and 1.3%, respectively (3). This rate of growth appears anomalous when compared to global averages over the same time periods; despite lower global averages for TFR (3.2 to 2.6, respectively), the annual growth rates from 1986-1996 and 1996-2006 were nearly identical, at 1.6% and 1.3%, respectively (3). Meanwhile, starting in 1996 and ending in 2006, life expectancy in Lesotho dropped precipitously from 62 to 42 years (3).

Mortality trends in Lesotho over the last two decades have regressed across a wide range of categories. The downward trend in life expectancy mentioned above is a reflection of a high neonatal mortality rate – 9th highest in the world, nearly twice the global average, a high and positive trend in infant mortality rate (3) – one of only nine countries in the world to do so – and a high under-5 mortality rate, both of which are, again, nearly twice the global average (3). The trend in adults far outpaces infants, as the adult mortality rate has nearly tripled, to 722 per 1000, in less than twenty years, a number that is currently almost four times the global average (3). For comparison, while the region around it, Sub-Saharan Africa, experienced a net average decrease in crude death rate, from 21 to 18 (per 1000) over the period 1970-2003, Lesotho's actually increased, the seventh highest positive change in the world over that same period, from 17 to 27 (per 1000) (7). These observed upward trends in mortality rates in Lesotho over an extended period of time can be described, at least in part, by cause-specific mortality data.

The expected effects of pandemic levels of HIV prevalence on cause-specific mortality rates and, by extension, the aforementioned enhanced mortality rates, are consistent. Using the age-standardized mortality rates for non-communicable, cardio-vascular, cancer and injuries as causes of death, Lesotho differs from the respective global averages by no more than plus-28% and is, in fact, lower than or equal to the averages found in the WHOs Africa Region (3). Maternal mortality, despite being twice the global average, is almost identical to that found in the average of the WHOs Africa Region (3). Comparing Lesotho's HIV/AIDS cause-specific mortality rates of 1282 (per 100,000) to the global average of just 34 (per 100,000), high by any standard, reveals a

discrepancy in the burden of HIV of epidemic proportions (3)(8). When TB attributable deaths in HIV positive cases are included, that mortality rate climbs to 1329 (per 100,000), the third highest rate in the world, nearly six times the average of the WHOs Africa Region (3). High levels of mortality due to HIV combined with high and increasing HIV prevalence contributes heavily to the country's observed mortality trends (8).

Cause-specific mortality rates amongst children describe a state similarly affected by HIV; approximately 56% of Lesotho's children under-5 dies from the disease, compared to a global average of just 3% and an Africa Region average of 6.8% (3). In Lesotho, the other indicators used by the WHO to capture deaths in children under-5 are markedly lower than the global average, though the respective ratios are probably skewed by the unusually high proportion attributed to HIV.

HEALTH SYSTEMS PROFILE

The numbers describing the coverage of Lesotho's health services are on par or better than the WHOs Africa Region averages. For example, in Lesotho more births on average are attended by a skilled birth attendant (55%), more children are immunized for MCV, DTP3 and HepB3 (85%, 83% and 85%, respectively) by 1-years-old, and contraceptives are more prevalent (37%); while ART coverage (25%) is low, it is nearly identical to the average (exacerbating the effects on mortality trends in an area with such high HIV prevalence) (2)(3). Lesotho's workforce supporting its health services, in contrast, are much weaker than Africa Region averages; there is less than one physician

per 10000 people, compared to an average of two, and there are only six nurses per 10000 people, about half the average of 11 (3).

At the national level, health expenditures, as a percent of GDP, have decreased over time, shrinking from 6.2% in 2000 to just 5.5% in 2005. Steady annual growth in GDP meant that total expenditures on health over this same period actually increased, from $28USD to $41USD per capita (3). Government expenditures, meanwhile, have increased both as a percent of total expenditures on health (from 51% in 2000 to 56% in 2005) and as a percent of its total expenditures (from 6.3% in 2000 to 6.7% in 2005) (3); continued growth in GDP (7.2% in 2006) and increased budget allocations (and inflation and a weaker dollar) have meant an actual per capita increase in government expenditures on health over this same period, from $14USD to $23USD (3). The remainder of the total health expenditures in Lesotho is funded largely by private sources (44% in 2005) and external resources, which accounted for just 3.1% in 2000 and had climbed to 18.2% by 2005 (3).

National economics, however, provide little insight into the individual's experience within the health system. Lesotho's health services and access to them are largely delineated along three familiar lines: economic status, urban/rural residence and education.

A rapidly expanding economy has helped sustain Lesotho's 2006 GNI per capita of $4,340 (PPP int. $) at levels nearly twice the Africa Region average, though the actual situation for individuals across the socioeconomic spectrum of the population suggests an analysis of national averages to be premature (3)(9). Lesotho's most recent Gini index score was a rather high 63.2, signifying extensive asymmetrical distribution of the

reported $1.96 Billion USD in GNI for 2006 (9)(10). It was estimated that over the period starting in 1992 and ending in 2002, 43% of the population lived on less than one dollar per day (7). In Lesotho, ranked 149th (out of 177) on the Human Development Index of 2005, the poorest 20% of the population accounts for just 1.5% of the country's total consumption, while the richest 20% accounts for 66.5% and the richest 10% accounts for just under half (48.3%) (10).

The disparities of income distribution extend to access to health care; the large numbers of people living in poverty in Lesotho experience lowered levels of health coverage as well. In 2004, 33.7% of women in the lowest wealth quintile gave birth with a skilled attendant present, compared to 83.2% of women in the highest quintile (3). The under-5 mortality rate for those in the lowest wealth quintile (114 per 1000) is markedly higher than for those in the highest wealth quintile (82 per 1000) (3). Measles immunization coverage in 1-year-olds is nearly identical in the highest and lowest wealth quintiles, a tribute to the previously mentioned above-average coverage for immunizations in the country (3). A similar pattern emerges when examining residence profiles, which can also be used as an indicator for the inequities of health coverage in Lesotho.

Surveys taken in 1990, 2000 and 2006 show that the proportion of the population in Lesotho living in urban areas have remained small and largely unchanged (17%, 18% and 19%, respectively), while the Africa Region as a whole has shown a markedly greater march (in volume and % increase) toward the city over the same time period (32%, 36% and 38%, respectively) (3). The effects of low levels urban residence on the health profile of Lesotho's population as a whole is evident; births in urban areas are nearly

twice as likely to have a skilled attendant present over rural areas, and under-5 mortality rates are lower in the 19% of the population living in urban areas (104.6 vs. 86.2 per 1000) (3). Measles immunization coverage, meanwhile, remains slightly lower for those living in rural areas (83.8%) versus their urban counterparts (91.1%) (3). Lesotho's large rural population and its large population living in poverty, and the unequal levels of health care that they access, work beside – and often coexist with – the third and final factor to be mentioned here, education.

Adult literacy in Lesotho remains high, as the period 2000-2005 suggests 82.2% of the population is literate, well above the Africa Region average of 59.3% over that same period (3). Despite a higher net primary school enrolment ratio amongst males and females (81% and 88%, respectively) in Lesotho, compared to the Sub-Saharan Africa average, attendance for both remains low (62% and 68%, respectively), and only marginally better than the Sub-Saharan Africa average (60% and 56%) (7). Repetition rates for students attending primary school are high – fewer than 70% of students reach grade five – and the gross secondary school enrolment ratios for males and females (30% and 38%, respectively) is similar to the Sub-Saharan Africa average (7)(11). Pervasive, depressed levels of education are the greatest determinant of unequal access to health care in Lesotho.

There is a 3.5 fold difference between the lowest and highest education quintiles amongst women describing the probability of the presence of a skilled birth attendant at birth (3). In under-5 mortality the difference is two-fold between the same quintiles (3). Measles immunization coverage, finally, in 1-year-olds whose mother's are in the lowest education quintile is 74.2% compared to 85.2% in the highest (3).

Although presented separately, Lesotho's socioeconomic demographics, health care system, and HIV prevalence overlap and interact, in many cases increasing risks and exploiting vulnerabilities (12). HIV prevalence is higher in poorly educated people while generalized poverty makes improving education difficult. As HIV prevalence continues to rise, the workforce in Lesotho, the hardest hit subpopulation (approximately 40% of men and women between the ages of 25-40 are HIV positive), will diminish without improved access to treatment, and poverty will continue to pervade (2)(13). The high level of poverty in Lesotho is considered a major force behind its high level of HIV prevalence – the cycle is self-sustaining and synergistic (13).

HIV PROFILE

NATIONAL RESPONSE

The response to the extended HIV epidemic in Lesotho by the Government of Lesotho was slow to start, suffered from numerous delays, and lacked coordination, support, and leadership. In 2000, the then Prime Minister officially declared HIV and AIDS a national emergency, 14 years after the first official AIDS case, five years after the estimated peak of new infections per year (approximately 40,000), and six years after prevalence first breached 20% in the general population, at a time when deaths due to HIV was nearly 10000 annum (1)(2). Efforts prior to this declaration included Information, Education and Communication (IEC) advocacy, counseling, home based care, surveillance and laboratory services, and various multi-sectoral activities. Known weaknesses hindering these programs included clear policy, strategy, and coordination mechanisms, and supplies and skilled staff (1).

By late 2000, the Government's Ministry of Health and Social Welfare developed a national response, the National AIDS Strategic Plan for 2000-2001 and 2003-2004 (1). The plan represented the first institutionalized effort for a coordinated HIV/AIDS approach and acknowledged the wide ranging impact of HIV on society, the main driving forces influencing the epidemic, and outlined a strategic framework for the future (1).

A coordinating body, the Lesotho National AIDS Coordinating Authority, a division within the government, was established in 2001 and was charged with the oversight and strategic planning of national HIV/AIDS activities (8). Soon thereafter, as international agencies continued to develop and refine their HIV international response recommendations, the still adolescent and untested Lesotho National AIDS Coordinating Authority's authority was effectively scrapped as the government shifted its responsibilities to a new body, the National AIDS Commission, a parastatal agency. This shift represented an evolving national strategy, dictated by the WHO's own shifting strategies and recommendations, and it's new 'three ones' policy framework (2). Additionally, the second and third 'ones', a national AIDS action framework, and monitoring and evaluation plan, were created in 2006 and outlined national strategies and goals for the period 2006-2011 (2)(14). The National AIDS Commission created in 2007 a Coordinated Framework for the National Response to HIV and AIDS to further clarify the new national approach.

The main goals of the government's response in the coming years, as outlined in the 2006-2011 strategic plan, have been distilled to four main focal areas: [1] to improve management, coordination, and support mechanisms through new policies and legislation, and enhanced coordination and evidenced-based planning; [2] to improve

prevention efforts through behavior change, HIV testing and counseling, prevention of mother to child transmission, and blood and tissue safety programs, and enhance access to post-exposure prophylaxis and sexually transmitted infection management; [3] to improve and expand treatment, care and support is priority; and [4] to improve impact mitigation by protecting vulnerable population groups, addressing the HIV-specific needs of women and girls, bringing sex workers, migrants, people with disabilities and herd boys into focus, enhancing HIV workplace programs, and identifying and rectifying cross-cutting issues (15).

Of particular note are three programs that resulted from this most recent strategic policy – the Know Your Status Campaign, a universal door-to-door testing program; increasingly decentralized ART services through the Ministry of Health and Social Welfare and its partners; and the Apparel Lesotho Alliance to Fight AIDS, an HIV workplace program – which were each highlighted in the 2008 UNGASS report on Lesotho Best Practices section (2).

DEMOGRAPHICS

The HIV situation in Lesotho is a general epidemic; HIV affects the population as a whole, though broad subcategories suggest disparate statistical trends based upon age, gender, and location. As recently as 2005 it was estimated that adults between the ages of 25-40 possess an HIV prevalence of nearly 40%, well above the national average of 23% (2). Of all people aged 15-24 infected with HIV, 71.9% are estimated to be female, a prevalence in that subpopulation of 14.9% (2). Early ages of sexual debut by both boys and girls (17.6% and 6.9% and, respectively, by the age of 15) and, by extension,

intergenerational sex between older men and young women in particular – exemplified by the wide discrepancy in HIV prevalence between adolescent females and males of the same age – are seen as a major drivers in the epidemic (2)(15)(16).

Statistics sorted by gender show that women possess higher HIV prevalence than men, and are estimated to make up as much as 56% of the total number of people living with HIV/AIDS in Lesotho (273,273) (2)(13). Some of this difference can be attributed to women's status in Lesotho (15): nearly half of men and women surveyed believe that men are justified in beating their partner for at least one of the five reasons presented to them (17); 7% and 10.9% of women and men, respectively, believed women had no right to refuse a man sex for any of the surveyed questions (17); and the existing legal environment, though modified as recently as 2006 to improve women's rights, continues to undermine women's equality (2).

Knowledge of AIDS in Lesotho remains high – over 90% of women and men surveyed had heard of it (17). Knowledge of prevention methods averages around 80%, though more women than men are familiar with them (17). Comprehensive knowledge about HIV/AIDS, however, in both men and women remains frightfully low (24.4% and 19.1%, respectively), and translating any knowledge into action has been elusive, as greater than 60% of 15-24 year olds polled in 2001 reported to have had more than one sexual partner in the previous 12 months in spite of knowledge that faithfulness to one partner protects from HIV (18). The gap between HIV knowledge and action in Lesotho is associated with demographic differences within the adult population and their use of HIV prevention methods (18). In knowledge of prevention methods and comprehensive knowledge of HIV there is a positive correlation between increasing wealth and

education in both women and men (17). The correlation between HIV knowledge and educational attainment is marked across a broad range of categories including knowledge of AIDS, knowledge of prevention methods, rejection of misconceptions, understanding of PMTCT, and comprehensive knowledge – women and men demonstrate increased understanding with each successive level of education (17).

Marriage status further highlights the gender inequality in HIV prevalence already described. 66.6% of women and 49.3% of men are or were married as of 2004. Of people in Lesotho who were or are currently married, women tend to have higher prevalence of HIV than men in the same situation (13). Part of this discrepancy may be due in part to the wide ranging presence of polygamy – as high as 23% by district – that averages 5.0% nationwide, and is an acknowledged driver of the epidemic (1)(2); the presence of polygamy in Lesotho likely contributes to the difference between women and men of this subcategory (16)(19).

Outside of marriage, multiple partners are common amongst men and women in Lesotho, a practice identified by the National Aids Commission as another major driver of the epidemic (15). Approximately 11% of women and 30.4% of men reported having two or more partners within the last twelve months in 2004 (17). Compounding the effects of this propensity to engage in sexual relations with multiple concurrent partners, less than half of women and men reported having used a condom during their last instance of higher risk sexual intercourse (17). This rate of condom use in adults, while low, is an improvement on associated behaviors in youth, as just 24% of both boys and girls between the ages of 15-24 reported using a condom at first sexual intercourse; intergenerational sex exacerbates this risk for young women (15)(17).

Despite relatively low numbers of people living in urban areas in Lesotho, approximately 18.2% of the total, these centers represent large concentrations of the HIV positive population (8); in rural Lesotho HIV prevalence has been estimated at 22% while urban prevalence is nearly 30% (13). Higher prevalence of HIV in urban areas contradicts inhabitants' documented better knowledge and access to HIV prevention methods, reduced misconceptions about HIV, better access to health care, delayed age of marriage, and reduced rates of polygamy and may be due to increased levels of sexual activity, greater rates of refused HIV testing, earlier age of sexual debut, decreased use of condoms, more frequent alcohol consumption by both men and women, and men with nearly twice as many lifetime sexual partners as their rural counterparts (17).

TREATMENT AND CARE

The funding source for treatment and care in Lesotho is a combination of local government spending and international donor agencies. In 2006-7, 14% of the total spent on HIV/AIDS programs in Lesotho was on treatment and care (2). Of that, 43% was allocated to ART (2). Treatment guidelines are compliant with the WHOs international standards (2). Decentralization of treatment services has been rapid, expanding from one site in 2002 to over 100 by 2004 (2). Unfortunately, this decentralization of services has not translated to equitable access to treatment, as the vast majority of people in Lesotho on ART are located in the district of Maseru (2).

Treatment coverage for people living with HIV in Lesotho is still low, but improving. It was estimated in 2007 that just over 80,000 people were in need of ART services, only 25% of whom were receiving treatment (2). This is a rapid improvement

on 2005, when it was estimated that just 10.2% of all people in need were receiving treatment (2). Over 90% of the population on treatment is adult, and almost two-thirds of these adults are women (2). HIV positive pregnant women receiving ART has steadily increased from 2005-2007 (from 5% to 31%) (2).

COMMUNITY PROFILE

The community of Peka is located on the south-western border of the Leribe district in Lesotho. It shares a border with South Africa and has an active border crossing enabling frequent cross-border, migratory traffic. It is also bisected by the only tar road running throughout the country, allowing for increased levels of non-resident access into the community and resident access outside of the community; approximately 15% of men and 10% of women from Leribe do not live in their household of residence (17). In a recent, but rough, village survey taken by the St. Rose Health Center's village health workers (VHWs) it was estimated that approximately 15,500 people are spread throughout the 36 villages (7 x Number of Households) of Peka.

ECONOMIC PROFILE

The steady decline of Lesotho's textile industry has contributed to high unemployment levels in the district today (53% of women and 48% of men reported not having worked in the 12 months prior to the survey) (11)(12)(17); many people were, until recently, factory workers in the textile industry of the neighboring city of Maputsoe. A large number of men, and to a lesser extent, women, from the district of Leribe are migrant workers living outside of Lesotho (8% and 2%, respectively) (17). Of those

people employed, the majority are in sales and services, skilled manual labor, or agriculture (17).

DEMOGRAPHICS

A 2004 Demographic and Health Survey revealed that women of the district of Leribe are on average better educated than 7 of Lesotho's 10 districts, though only an estimated 17% have completed primary school and just 3.5% secondary school (17). Men's statistics, equally better educated when compared with other districts, are markedly lower than women of the same district (17). By extension, female literacy rates in Leribe, 41%, are considerably higher when compared to men of their district (33.5%) (17).

The total fertility rate in Leribe is 3.6 for women between the ages of 15-49, approximately equal to the country wide WHO estimated average (5)(17). The average number of children born to women in Leribe aged 40-49 is 5.1, with nearly 41% of births spaced by 48 months or more and fewer than 4% of births taking place within 7-17 months of their last delivery (17). The age of first intercourse is around 19, the age of first birth begins at around 20, and teenage pregnancy remains extremely high (17.1% of girls aged 15-19 are either pregnant or already mothers) (17).

HIV PROFILE

Although few women or men in Leribe had received an HIV test within the last twelve months prior to the survey taken in 2004 (5.4% and 5.5%, respectively), knowledge of AIDS is high, as 96.6% percent of those surveyed had heard of it.

Knowledge of prevention methods, including PMTCT, is high, but higher in women than in men, despite the fact that comprehensive knowledge of AIDS remains low in both (29.3% and 20.9%, respectively) (17). As at the national level, turning knowledge into action in the district remains difficult - 11.1% of women reported having more than two sexual partners in the 12 months preceding the survey (2004) and just 41.8% used a condom during their last instance of high risk sexual intercourse (17). Men in Leribe reported a greater propensity for multiple partners, 30.4% (21.1% national average), though were more likely (48.8%) to have used a condom at the time of their last high risk sexual encounter (17).

Married men and women in Leribe have high levels of knowledge concerning contraceptive methods, as nearly 99% of both groups surveyed were familiar with at least one modern method (17). This knowledge, again, is not usually applied, as only 39.4% of married women reported using any modern method of contraception (17). This may be due in part to the low exposure to family planning messages experienced by both men and women in Leribe; 62.9% of men and 68.8% of women when surveyed had never heard a family planning message on the radio or television, or in a newspaper or magazine (17). Health centers in Leribe, another family planning entry point, are failing to discuss its methods and merits with female clients known to not be using contraception (fewer than 9% of such visitors are counseled) (17). Nearly half of men approve of family planning, though many believe condoms are a woman's responsibility, dislike them in general, or hold misconceptions about their use and effects (17).

In Leribe's context of high fertility rates, low age of sexual debut, high rates of teenage pregnancy, low contraceptive use, low rates of HIV testing, and propensity for

risky sexual behavior, statistics on sexual activity in general are of great importance; in generalized epidemics, heterosexual sex is recognized as one of the predominant drivers of new HIV infections (20). Sexual activity in both men and women of Leribe is high, as 39.7% of women and 46.5% of men surveyed reported having had intercourse in the four weeks preceding their interviews (17). These behaviors may be fueled in part by high levels of alcohol intake by both men and women (40.6% and 11.5%, respectively, in the three months prior to the same survey) (17).

The confluence of the factors mentioned above explains in part why the district of Leribe, in 2004, was estimated to have the highest HIV prevalence (~30%) of the ten districts that make up Lesotho (17). The St. Rose Health Center tested 364 people in the community of Peka in the latter half of 2007 for HIV, and 30 of 69 men (43%) and 82 of 295 women (28%) tested positive, proportions similar to the district average but sourced from a sample too small to compare conclusively.

HIV AND HEALTH SERVICES

There are two clinics in Peka, both provide ART – St. Rose Health Center, funded by the GoL and the Christian Health Association of Lesotho (CHAL) and Peka Clinic, a government clinic. The Red Cross Lesotho also runs a local, volunteer staffed home-based care (HBC) program for people living with HIV/AIDS and orphans infected and/or affected by HIV/AIDS. The Know Your Status (KYS) campaign, a door-to-door HIV testing and counseling program designed by the Ministry of Health and Social Welfare (MoHSW) maintains a base of some 60 volunteers in the area and routinely holds door-to-door testing campaigns and testing events, while also testing at non-HIV related events

in the community. There are also numerous community-based organizations (CBOs) – both government registered and not – that provide support, mainly in the forms of clothing and food, to people living with HIV.

METHODS

Information on the St. Rose Health Center was collected over the course of the six months starting in March 2008. Interviews with staff were the primary source for this case-study and were conducted on an informal basis at the health center. One-on-one interviews were the main format, though in some instances group interviews were conducted. Simple compilations of the health center's numerous patient registers and a more detailed, but still simple (SLR), demographic analysis of the health center's ART patients were also performed. Data was copied from the health center's paper registers to an Excel spreadsheet and compiled and analyzed.

CLINIC PROFILE

HISTORY

In 1935 the St. Rose Dispensary was opened by the Sisters of the Holy Names of Jesus and Mary in Peka, Leribe. By 1960 it had grown into the St. Rose Clinic, and in 1973, with the addition of several new wings, it became a full Health Center, providing the community with outpatient services (OPD), pediatric vaccinations, maternal and child health care, orphan care, and pulmonary tuberculosis and leprosy treatments. The St. Rose Health Center was chosen in August of 2006 to introduce antiretroviral-treatment

(ART) and prevention-of-mother-to-child (PMTCT) services to its patients. Voluntary testing and counseling (VCT) was introduced in parallel, and aimed to promote awareness about knowing one's HIV status. The following year, 2007, the Know Your Status (KYS) campaign began to operate locally, maintaining a base within the Health Center; several KYS volunteers provide VCT services at the health center during daily operating hours.

GENERAL OPERATIONS

The St. Rose Health Center, a member of the Christian Health Association of Lesotho (CHAL), is considered a private health provider, although portions of its budget are now sourced from the Ministry of Health and Social Welfare (MoHSW). The National Drug Supply Organization (NDSO), a division of the MoHSW, supplies the health center with OPD drugs, ARVs, and HIV testing supplies while the MoHSW directly funds outreach activities and operating and maintenance costs and CHAL finances the annual salaries for the health center's staff.

The health center is staffed by one nurse clinician, one registered nurse, one enrolled nurse, two nurse assistants and one nurse midwife (as of June 2008) (Annex 1). There is also one expert patient, one Mothers-to-Mothers representative (a PMTCT outreach program), approximately 30 KYS HIV counselors and testers, and approximately 40 village health workers (VHW) who operate in and around the 36 villages of Peka (Annex 1). During operating hours there are at least two nurses on duty in addition to the expert patient, two KYS representatives and, on Mondays, Tuesdays, Wednesdays and Fridays, the Mothers-to-Mothers representative. The Health Center is

open five days a week and provides the following in addition to daily outpatient and maternity ward services:

Mondays: Well Baby (WBC) Day
Tuesdays: Antenatal Care (ANC), return visitors
Wednesdays: ANC, first visits
Thursdays: ART services
Fridays: Open

Statistics from the year 2007 demonstrate the intensity with which its community utilized these services:

OPD: 3,416 consultations
WBC: 55 children under the age of five registered for vaccinations
ANC: 228 mothers registered and cared for
ART: 184 patient's to-date since their introduction in 2006
VCT: 364 people tested (June-December 2007)
Deliveries: 181 deliveries performed at the maternity ward

As of February 2008 all services and drugs provided to the clients of the health center were made available free of charge, as mandated by the Ministry of Health and Social Welfare; the effects to date have been increased traffic on all days, but a decline in the use of the health center's maternity ward.

ANALYSIS

HIV TREATMENT AND CARE SERVICES

DIAGNOSIS

HIV status is diagnosed for most of the health center's patients, regardless of the nature of their consultation. During OPD and ANC, patient's Bukanas, or health books, are reviewed by the nurse and their HIV status is noted. If the patient's status is known to be positive, then the consultation proceeds as planned. If the patient's status is unknown, or the patient has not received an HIV test in the previous three months, the nurse begins the consultation with an opt-out HIV test approach, whereby the client must verbally decline the test. This is similar to the HTC approach adopted by several other countries in the Southern Africa region (21).

Prior to deliveries in the maternity ward, all mothers are tested for HIV. Children who present at the clinic for vaccinations are not generally given an HIV test and children under the age of 18 months, due to a lack of DNA-PCR blood draw training and testing kits, are never tested. Probable pediatric cases are referred to the district hospital for testing and, if necessary, initiation of treatment.

INITIATION OF TREATMENT AND CARE

The St. Rose Health Center began providing access to HIV/AIDS treatment for infected individuals in August 2006. A total of 184 patients have been initiated on treatment by the health center through June 2008, of which 156 remain active, the difference being attributable to death and defaulters (24 and 4, respectively).

Since the introduction of ART services, client initiation on ART was determined by CD4 counts below 200, or staff determined WHO clinical stages of 3 or 4. In January

of 2008 the National ART Guidelines were revised and advised health providers to initiate patients on ART with CD4 counts below a newer, higher threshold of 350 (effectively increasing the number of patients needing ART). Currently all patients in WHO stage 3 or 4, or with CD4 counts below 350 are initiated on ART at the health center. These guidelines are inline with current WHO standards for developing countries (22). Pediatrics have not, as of yet, been initiated onto ART by the health center's staff; probable cases are referred to the district hospital for treatment.

In July of 2008 the health center received the first of what it hopes to be monthly food donations from the World Food Program (WFP) for its ART patients. Home-based care is provided to some, but not all, of its ART patients by the Lesotho Red Cross (LRC) and its own Village Health Workers (VHWs); there is no formal coordination/referral system in place, and the exact numbers of ART patients at the health center receiving home-based care have never been collected. Home-based care options provided by the health center's VHWs include the provision of simple drugs like topical creams and pain-relieving medications, and nutritional (and adherence and prevention) education.

REGIMENS

The first line ART regimens available at the clinic are D4T+3TC+NVP and D4T+3TC+EFV, as recommended in the 2006 WHO ART guidelines (22). Patients are given one month supplies of ART. For those patients working outside of the country or who have demonstrated proper adherence practices, 2-3 month supplies are given.

PMTCT services are provided to all HIV positive mothers in the health center's maternity ward. The drug regimens and their timing in relation to the mother's pregnancy again follow the WHOs 2006 recommendations.

ADHERENCE/DEFAULTERS

For HIV positive patients that qualify for ART, prior to initiation of treatment they must go though three adherence sessions at the health center over the course of three weeks. After the completion of these adherence sessions, clients are registered in the health center's ART register, which records relevant background information and their respective drug regimens, and an appointment book, in which the patient's name is written in on the date of their next visit for the purpose of defaulter tracking; individuals that default are rarely, if ever, actively sought out by the health center.

Adherence at the health center is assessed for individual patients by the health center's nurses through pill counts when they visit the health center to pick up their drugs supplies. Adherence and prevention messages are provided on an ad-hoc basis to patients present at the health center, during group counseling sessions on ART dispensary days, and during one-on-one consultations when patients collect their monthly drugs supplies.

MONITORING

Patients that test positive are told to return on Wednesday – the nearest CD4 count machine is located at the district hospital, and blood drawn for this purpose by the health center is sent for analysis once every two weeks – for a blood draw for CD4 analysis and then the following Wednesday to receive their results. Patients that have CD4's between

350 and 500 and are in WHO stage 1 or 2 are instructed to return in six months for another CD4 count test. For those patients with CD4 results over 500, a repeat test the following year is advised.

PROGRAM MONITORING AND EVALUATION

All patients that are tested for HIV are recorded in an official HTC register, in which their home of residence, name, age, sex, marriage status, employment status and HIV status are recorded. The nurse also records the result of the test in the patient's Bukana. All patients initiated by the health center's staff onto ART are registered in an official ART register. ART patients' expected dates-of-return, simultaneously, are kept in a separate appointment book.

CHALLENGES AND RECOMMENDATIONS

DIAGNOSIS

Although recommended in international guidelines and mandated by the most current national ART guidelines, the effects of the health center's new opt-out HTC policy remains unknown (20). With the introduction of this new policy more people are being tested onsite, but there is little tracking of or active follow-up done on these people and little understanding of the impact on the initiation of treatment; increased access to HTC and HIV treatment can enforce HIV prevention messages and reduce HIV related stigma and discrimination, and any positive (or negative) effects that this policy may have within the community should be better understood (23)(24). In a country struggling to scale-up prevention and treatment services, any synergy of HIV-related efforts must be

exploited (24)(25). Due most likely to the health center's new no-fee policy, OPD consultations and related drug prescriptions have risen nearly three-fold in the first three months as compared to the same three months in the year previous, but how patients feel about 'mandatory' HTC, and their decision on whether to present at the clinic or not, or what they do after discovering their status, and the links between treatment and care, must be studied and incorporated into future evidence-based prevention, treatment and care programs.

A disproportionate number of adults (aged 15+) compared to children (aged <15) make up the population of people in Lesotho on ART (94% and 6%, respectively) (26). The increased identification – through the cumulative efforts of the country's testing centers – of HIV-positive children through HTC is a necessary step towards addressing this inequity; children make up an estimated 12% of the HIV-positive population in need of treatment and account for just 6% of the population on ART (26)(27). Testing of pediatrics at the health center is limited. Most under-5 babies that present on WBC day for vaccinations are not tested, and all babies under the age of 18 months cannot be tested using conventional antibody-based testing kits. Health center staff have been reluctant to test children under-5 due to lack of training and experience, and are unable to test children under the age of 18 months due to insufficient training to-date on DNA-PCR-based HIV testing and the unavailability of the associated testing kits. Testing of under-5's is an important component of PMTCT and the Well Baby Clinic day presents the health center with a unique opportunity to test and identify the serostatus of a portion of the under-5 population of the community and mitigate the possibility and/or impact of

future infections (20)(28). The availability of training and testing supplies are essential to the initiation of this.

> "We want to test all children under-five, but we still can't test children under-five years because we can only test children over 12 [without parent/guardian consent]. We haven't received enough training; we were only told how to do [DNA-PCR], we didn't actually do it. We still don't have the DNA-PCR testing kits." – KYS Volunteer

INITIATION OF TREATMENT AND CARE

The timely identification of HIV positive people and, thus, people in need of treatment is one of the greatest challenges for the health center. ART treatment can and does improve and extend the lives of HIV positive individuals – of the health center's ART patients who received CD4 counts after 12 months of treatment, 100% of them were reported to have increased.

Numbers from the latest UNGASS report on Lesotho (2007) suggest that just 25% of people in need of treatment are receiving it (2). Access to the health center is limited for many of the 36 villages in the official catchment area and ART initiates have been limited to those individuals who present themselves there (whether of their own volition or through outside referrals); a number of the villages are as far as 12 kilometers away from the health center, with little to no available or reliable transport over unpaved roads. Furthermore, the health center's 184 patients on its ART register are spread across a total of 61 different villages, suggesting that the actual catchment area of the health center is larger than the officially defined limits (Annex 2). There is an urgent need to expand physical access to the health center, either through improving transportation to the health

center and reducing its associated costs or, more realistically, improving the health center's access to the community by employing a task-shifting approach utilizing the health center's VHWs.

The registration system for HTC (identification of the HIV positive population), and its link to treatment, is weak. HIV positive people in the HTC register are not actively followed and the system remains passive in nature. Although routine checkups are recommended in the national guidelines for all HIV positive people, the health center does not have a system in place that ensures people in its HTC register comply with their respective repeat visits (20). The onus remains with the patient to take the initiative to visit the clinic for their routine checkups and the monitoring of their CD4 counts. This makes it difficult for the health center to identify those people in immediate need of ART, begin ART for patients at the earliest stages of qualification, and track the overall health status of the community's HIV positive population. The majority of the health center's initiates are based on CD4 counts, and most patients on the ART register begin treatment when their counts are already very low – men who qualify for ART at the health center have an average CD4 count of 119/9, women 140/10 (Annex 2). A stronger link between the identification of HIV positive people and treatment could help to improve the average CD4 counts of men and women initiating ART at the health center (20).

The effects of changing national policies at the health center are unknown. The numbers of people presenting at WBC, OPD, and ANC days have increased over the period since the introduction of free consultations and drugs at the health center. The opportunity to capture this increasing proportion of the population by integrating these services, according to international guidelines, with PMTCT would greatly improve the

opportunity to access ART for mothers and their children (28)(29). The number of pregnant women, in contrast, giving birth at the maternity ward has declined dramatically, possibly due to a perceived drop in quality of service associated with free treatment. This has serious implications in reducing the community's access to PMTCT treatments and increasing the number of preventable HIV-positive children in this subpopulation; while the percent of HIV-infected mothers receiving PMTCT remains low (12%), the number of new infections in Lesotho as a result of mother-to-child-transmission (10%) will remain high (26)(30). Although the health center has trained a number of village-based traditional birth attendants (TBAs) on PMTCT, health center staff estimates that fewer than 40% of home births are performed by TBAs they have trained. Of those mothers that present at the health center for ANC but decline maternity ward services, PMTCT prophylaxis is provided for at-home use; PMTCT use and efficacy for these new mothers is monitored on a limited basis and an active follow-up program should be instated to validate this approach as a viable PMTCT option for the health center. Integrating PMTCT with WBC, OPD and ANC services to reduce MTCT rates, actively tracking HIV positive mothers and infants born to HIV positive women, the expansion of PMTCT education to all village-based TBAs, and the availability of PMTCT prophylaxis at the village level are essential next steps to capturing the large – and increasing – portion of the population giving birth at home (29)(31).

> "Since my arrival [at the health center] there have been fewer deliveries [performed at the health center] after the services became free. But we give out prophylaxis and we ask the mothers to bring back the empty containers [for counting purposes]. But still there aren't many babies receiving prophylaxis. 100% [of the babies] born here receive it, most attending ANC use it. Still, many mothers never even come to the clinic." – Nurse Midwife

The effects, if any, that changing national policies will have on ART initiates by the health center and the total volume of patients on ART are still too new to be understood. The number of HIV positive people receiving treatment and care within the community are unlikely to be improved despite these changes, so long as door-to-door testing and home-based care coordination and referral systems are not put in place at the health center (15)(31)(32)(33).

Results from testing done in the villages surrounding the health center by the Know Your Status campaign (KYS) are not shared with the health center for obvious – but not necessarily pragmatic – confidentiality reasons (26). Similarly, the health center does not inform the Lesotho Red Cross (LRC) or its own Village Health Workers (VHWs) of the names and locations of individuals on its ART register. The gap, therefore, between identification to treatment to care is dependent on, and hindered by, a number of factors.

People identified in the surrounding community by members of the KYS campaign as being HIV positive are only, at best, referred to the health center for follow-up and may never present for any number of reasons: the person may not be referred to the health center at all, the person may be unable to access (physically and/or monetarily)

the health center, the person may deny their own status, or the person may not wish their family/friends/spouse to know their status (HIV-related stigma and discrimination).

Additionally, people on the health center's ART register are not automatically funneled into their local home-based care options. The health center can provide the ART patient with a name of a VHW or LRC member in their area that they can access for care but, again, the responsibility remains with the patient to seek help. The reasons that may prevent a patient from doing so are similar to the ones mentioned above: the person may not be referred by the health center at all, the person may not have an accessible home-based care option in their village, the person may deny their own status and not seek help, or the person may not wish their family/friends/spouse to know their status (HIV-related stigma and discrimination), and thus avoid seeking help.

Finally, the health center does not maintain an updated list of active LRC home-based care volunteers or the villages in which they operate. Of the health center's VHWs, a list is maintained, but the levels of individual's home-based care knowledge and commitment varies greatly. In addition, their whereabouts are not always known; referrals from the health center to home-based care options within the village may be inaccurate and limit HIV positive individual's access to care. In the future, VHWs should be utilized by the health center's staff for their task-shifting capabilities and tapped for their potential to create a broader, community-based ART program (33)(34).

PROCUREMENT

The national drug ordering and procurement system has failed to consistently provide the quantity of ART drugs required by the health center. Drug orders for ARTs

are submitted once a month by the health center to the NDSO. The order forms consist of a running total of current ART patients and their current drug regimens, the number of people tested for HIV, including the number testing positive in the month prior, and any additional requests. Drug orders are delivered at the end of each month, and these drug deliveries are often incomplete or inadequate for the health center's needs; procurement is a problem for the health center and is likely a reflection of the country's existing national-level procurement issues (35).

In months when the supply of ART drugs at the health center are insufficient for filling the prescriptions of their patients, staff are forced to either send the patient to the district hospital for their drugs or visit surrounding clinics, health centers and hospitals themselves to solicit the drugs their patients need. These shortfalls in supplies may result in a client suspending their treatment, or defaulting on their treatment altogether, and is an additional obstacle towards universal access to ARTs within the community. In other cases, as during the six months when the clinic did not receive a single order of co-trimoxazole, patient health is potentially directly affected (22).

> "We have no drugs. They don't deliver them on time. And they don't deliver enough every time. Sometimes we order 200 boxes of Trimune 30, but they only deliver 20 or 30 [boxes]. They don't give us the amount we request. And there are patients that must wait to start treatment because of this." – Expert Patient

The inconsistent and inadequate supply of drugs is seen by the health center's staff as a major challenge toward universal access to HIV treatment and care in the area. Persistent misgivings concerning the drug supply system resulted in a six month delay in

the health center's adoption of the new, broader, national ART initiation guidelines when they were introduced in January 2008; the fear of being unable to meet the increased demand, and the resulting complications that would ensue was a serious deterrent for the staff.

ADHERANCE/DEFAULTERS

Adherence and defaulting at the health center are problematic. In the two years since introducing ART therapy 13% of the health center's initiates have passed away, 2% have defaulted, or missed their scheduled ART drug regimen pickup by more than a month, and 6% have displayed poor adherence practices. There is a need for targeted ART education during village outreach using statistics from the ART register, as preliminary analysis of the data suggests the possibility of marked differences in ART outcomes between men and women – although men make up just 35% of the health center's ART register they account for nearly 50% of deaths and 40% of defaulters. Greater understanding of the socioeconomic demographics of ART patients displaying poor adherence and/or defaulting is an essential first step to improving adherence education; evidenced-based approaches are considered critical components of the most current National HIV/AIDS Strategic Plan (15).

Efforts to increase adherence, according to recommendations put forth by international organizations and national policies, in the health center's ART population have been met with some resistance (2)(15)(22)(31)(36). First, people on treatment are generally reluctant to bring family members, friends and/or spouses to their adherence counseling sessions, schedule regular meetings with their local PLWHA groups, or attend

PLWHA meetings held at the health center. The health center must find ways to decrease their patients' apprehensions by identifying and rectifying the underlying reasons – particularly those related to stigma and discrimination – driving them; the presence of HIV-related stigma and discrimination has been shown to result in delays in disclosure to others and/or in the initiation of HIV treatment, care or support (37)(38)(39)(40)(41). Second, the requirement of three adherence sessions prior to the initiation of treatment is viewed negatively by the health center's staff; it is believed that it is a deterrent for some and delays treatment for all. Access to the health center is, again, difficult for many of its clients and three repeat visits in three weeks are prohibitive. Task-shifting anti-stigma and discrimination education and adherence lessons to health center VHWs is a viable option and may help increase community and familial support and reduce the effects of limited access (33)(42).

Health center staff also identified the side-effects frequently associated with ART as a reason affecting patients' adherence and defaulting. The newly available nutritional supplementation provided by the WFP may help mitigate some of these effects, but task-shifting to VHWs adherence education, specifically regarding side-effects, has proven effective (22)(33). Of note, an observed local side-effect of the WFP program has been the increased number of people voluntarily testing for HIV at the health center *hoping* to test positive and, thus, qualifying for food aid; the local attitudes toward this program must be quantified immediately to better understand the potential for a harmful knock-on effect on behavior and risk-taking and the possibility that its final result may be to negatively impact the overall health status of the community.

Finally, patients in denial about their HIV status, specifically young adults and women and men between the ages of 20-30 attending traditional healers or churches, were singled out by clinic staff as target groups displaying particularly poor adherence and/or defaulting. Essential to the scale-up of ART services at the health center in the future is the establishment of an active collaboration between the health center, its staff and its patients, and these organizations and the individuals that subscribe to them, in order to provide up-to-date HIV-related education while integrating them into the health center's existing services (43).

> "20-30 year olds in Lesotho seem to believe in myths. People 20-30 [years old] in Lesotho tend to believe in traditional healers, and when they visit them they are told to stop all other medicines because [the traditional healers] believe [traditional and western medicines] cannot work together. Yesterday, I met a lady who said her father, a traditional healer, didn't want her to take ARTs. So, she has to hide her pills. Most of the Born-Again Christians will tell you that to take a pill is a sin. 'God never got a pill from a doctor,' they say." – Enrolled Nurse

MONITORING

Fewer than 10% of the health center's ART patients received repeat CD4 counts after 12 months of treatment, and nearly 11% of ART initiates never received a baseline CD4 count at the beginning of their treatments. The lack of an onsite CD4 count machine results in delays in the implementation of treatment and may prevent the initiation of treatment altogether.

Blood analyses for CD4 counts are done at the district hospital (which performs the CD4 count analyses for every ART center in the district), and are only collected from

the health center once every two weeks. Patients who test positive for HIV and require a CD4 count analysis on any day except the one day every fortnight before the health center's scheduled specimen pick-up must return to the health center for their blood draw and then return again a week later to receive their results. This is both cost and time prohibitive for most of the health center's patients and contributes negatively to ART access in the community (26). Coupled with the passive system in place, where the onus of monitoring the patient's CD4 count is on the patient, the health center's ability to actively and regularly track the health statuses of their patients is limited.

> "Other health centers around the area don't give ART. They refer them here. People come from very far. Not having a CD4 count machine makes it very difficult, and collections are only every fortnight. So, sometimes the line is too long [for everyone to have their blood drawn], they don't come back at all, or we have to refer them to the district hospital." – Nurse Midwife

PROGRAM MONITORING AND EVALUATION

There are separate registers for OPD, ANC, ART, HTC, WBC, and maternity ward patients. Although they record similar information, the registers are not linked; the information in each of the registers is not compiled on a monthly or yearly basis, and provide little to no statistical information for the staff. The district Ministry of Health is supposed to collect the data from each of these registers and provide feedback and tabulated data to the health center, but this has not yet been done to date.

CONCLUSION

The St. Rose Health Center in Peka, Leribe in the Kingdom of Lesotho is at one of the decentralized centers of the country's generalized HIV epidemic. The population of Lesotho continues to endure extreme HIV prevalence, the third highest in the world, and statistics indicate significant variability according to age, gender, location, level of education, and wealth (2)(3)(17). In the past, efforts to prevent future infections, provide treatment and care to those already infected and mitigate the impact of those affected have been delayed and disinterested.

The Government of Lesotho has expressed willingness, but demonstrated a lack of continuity, consistency or commitment, to address the problem HIV/AIDS poses to its people. The current structural environment is weaker than other nations in the region, but an improvement on years past. Major changes in the leadership paradigm and overall vision of how HIV/AIDS should be handled have resulted in a national approach that mimics international recommendations and has proved successful (to various degrees) in other countries. As the WHOs 'three ones' approach evolves towards becoming a reality in Lesotho, the decisions made at the national level have had a downstream effect on its health care providers and, hopefully, its people.

A demonstration of the Government of Lesotho's increased commitment to providing treatment and care, one of four major pillars outlined in their latest strategic HIV/AIDS plan, has been the provision, through decentralization, of free ART services. These services became available in the community of Peka when, in August of 2006, the St. Rose Health Center was chosen by the Ministry of Health and Social Welfare to host them. In the two years since the introduction of ART at the St. Rose Health Center, there have been individual successes, but numerous programmatic challenges; until national

structural and human capacities are improved, local efforts toward universal access to ART services will likely continue to fall short of their stated goals (44).

A total of 184 patients have been initiated onto ART by the health center's staff in the two years since its introduction. This is a small fraction of the number in need. The program at the health center must continue to adapt to shifting national policies while simultaneously overcoming indigenous systematic weaknesses to improve access to ART for the community. Key challenges faced by the health center include:

- **Limited resources, including staff and supplies**
- **Poor coordination, both within the health center and between the health center and village-based health care providers**
- **Little formalized knowledge of the local drivers of the epidemic; the reasons for poor adherence and defaulting; and the limiting factors for access to the health center**
- **A changing health systems environment that has had and will have unknown effects on services in general, and ART services specifically**

Overcoming these challenges will take time and dedication; however, with an eye towards universal access, efforts can be undertaken to overcome them. A number of themes emerged that can address several of the health center's ART challenges:

- **Task-shifting ART-related responsibilities from the health center to its own village health workers**
- **Establishing a formal referral/coordination system between HTC services, both at the health center and in the community, the health center, and home-based care groups**

- **Gathering and using data and statistics on the impact of new policies; the demographics of ART patients; the demographics of HIV positive people in the community; and the underlying behavioral issues driving the local epidemic and the continued stigma and discrimination related to HIV as a guide for future ART-related efforts**
- **Creating a stronger link between HTC, specifically, and all services in general, and ART at the health center**

The St. Rose Health Center serves a large population, yet the number of ART patients on its register is relatively low; there remains much to be done before the goal of universal access to HIV/AIDS services is achieved. The health center is operating in a shifting health systems environment and fighting against local pressures such as poverty, poor education, and high HIV prevalence to provide treatment and care to all those in need. The statistical successes of the national HIV response and, more importantly, the community's health and well-being, depend on the St. Rose Health Center and its staff for the provision and coordination of HIV/AIDS treatment and care services.

Annex 1

St. ROSE HEALTH CENTER GENERAL INFORMATION

Operating Hours:	Monday – Friday, 9am – 4pm
Catchment Area:	36 Villages ~15,500 People
Operating Schedule:	**Monday**: Well Baby Day (Vaccinations) **Tuesday**: Antenatal Clinic (Return Visits) **Wednesday**: Antenatal Clinic (1st Visits) **Thursday**: Antiretroviral Therapy Services **Friday**: Open **All Days**: Outpatient and Maternity Ward
Staff:	1 Nurse Clinician 1 Registered Nurse 1 Enrolled Nurse 2 Nurse Assistants 1 Nurse Midwife 1 Bookkeeper 1 Expert Patient 1 Drug Dispenser ~40 Village Health Workers
Budget Sources:	**Nurse's Salaries**: Christian Health Association of Lesotho **Medicines and Auxiliary Staff Salaries**: Ministry of Health and Social Welfare, Government of Lesotho

Annex 2

ART PATIENT PROFILE

Total:	184 (August 2006 – June 2008) Initiates
	Average Initiates/Month: 8.3
	Median Initiates/Month: 7.5
	61 Villages Represented
	18 TB Patients
	11 PMTCT Patients
Performance:	4 Lost to Default (50% Male)
	11 Displayed Poor Adherence (38% Male)
	24 Lost to Death (50% Male)
Initiation:	Males: 65
	Females: 118
	Functional Status at Initiation: 92.4% Work; 7.0% Ambulatory; 1.6% Unidentified
	Average Age at Initiation: Total 39.3; Male 43.6; Female 37.2
	Average Weight at Initiation: 54.3 Kilograms
	Average CD4 Count at Initiation: Total 131.9/9.6; Male 118.9/8.8; Female 139.4/10.1
	Average WHO Stage at Initiation: Male 2.29; Female 2.17

Annex 3

INITIATION OF HIV TREATMENT: NATIONAL GUIDELINES, LESOTHO

Adult Initiation:	WHO Stage 4, Regardless of CD4 Count: Treat WHO Stage 3, Regardless of CD4 Count: Treat WHO Stage 2, CD4 <350: Treat WHO Stage 2, CD4 Unavailable: Do Not Treat WHO Stage 1, CD4 <350: Treat WHO Stage 1, CD4 Unavailable: Do Not Treat
Adult Regimens:	First Line: TDF+3TC+EFV or NVP; AZT+3TC+EFV or NVP; or d4T+3TC+EFT or NVP Second Line: ddI+AZT/3TC+LPV/r or ATV/r; or ddI+ABC+LPV/r or ATV/r
Pediatric Initiation:	WHO Pediatric Stage 4, Regardless of CD4 Count: Treat WHO Pediatric Stage 3, Regardless of CD4 Count: Treat WHO Pediatric Stage 2, CD4 <350: Treat WHO Pediatric Stage 2, CD4 Unavailable: Do Not Treat WHO Pediatric Stage 1, CD4 <350: Treat WHO Pediatric Stage 1, CD4 Unavailable: Do Not Treat
Pediatric Regimens:	First Line (<3 years): AZT+3TC+NVP; or d4T+3TC+NVP First Line (>3 years): AZT+3TC+EFV; d4T+3TC+EFV; AZT+3TC+NVP; or d4T+3TC+NVP

References

1. Government of Lesotho. "National AIDS Strategic Plan 2000/2001-2003/2004." *Government of Lesotho*. September, 2000.
2. National AIDS Commission, Lesotho. "Lesotho UNGASS Country Report; Status of the National Response to the 2001 Declaration of Commitment on HIV/AIDS." United Nations General Assembly Special Session. 2007.
3. World Health Organization. "World Health Statistics 2008." World Health Organization WHO Press. 2008.
4. World Health Organization. "World Health Statistics 2007." World Health Organization WHO Press. 2007.
5. World Health Organization. "World Health Statistics 2006." World Health Organization WHO Press. 2006.
6. World Health Organization. "World Health Statistics 2005." World Health Organization WHO Press. 2005.
7. The United Nations Children's Fund. "State of the World's Children 2005." The United Nations Children's Fund. 2005.
8. World Health Organization Country Office, Lesotho. "Summary Country Profile for HIV/AIDS Treatment Scale-up, Lesotho." World Health Organization. 2005.
9. The World Bank. "Key Development Data & Statistics, Lesotho." 19 July 2008 <http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:2053285~menuPK:1192694~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>.
10. United Nations Development Program. "Human Development Report 2005." United Nations Development Program. 2005.
11. Nyabanyaba, Thabiso. "The use of Open, Distance and Flexible Learning (ODFL) initiatives to open up access to education in the context of high HIV and AIDS prevalence rates: the case of Lesotho." SOFIE, Opening Up Access Series. No. 4, 2008.

12. Wayem, John A.; Haji–Mohamud, Hodan; Lefosa, Liengoane; et al. "Lesotho National Development Report 2006." UNDP Lesotho, Morija Printing Works. June 2007.
13. Ministry of Health and Social Welfare, Lesotho; Bureau of Statistics, Lesotho; MEASURE DHS. "HIV/AIDS Data from the 2004 Lesotho Demographic and Health Survey." Ministry of Health and Social Welfare, Lesotho; Bureau of Statistics, Lesotho; MEASURE DHS. 2004.
14. United National General Assembly. "Scaling up HIV Prevention, Care and Support." United Nations General Assembly. A/60/737, 24 March 2006.
15. National AIDS Commission, Lesotho. "National HIV & AIDS Strategic Plan (2006-2011)." National AIDS Commission, Lesotho. November, 2006.
16. Corno, Lucia; Walque, Damien de. "The Determinants of HIV Infection and Related Sexual Behaviors: Evidence from Lesotho." The World Bank, Development Research Group, Human Development and Public Services Team; Policy Research Working Paper 4421. December 2007.
17. Ministry of Health and Social Welfare, Lesotho; Bureau of Statistics, Lesotho; MEASURE DHS. "Lesotho Demographic and Health Survey 2004." Ministry of Health and Social Welfare, Lesotho; Bureau of Statistics, Lesotho; MEASURE DHS. 2005.
18. Family Health International; The Lesotho Ministry of Health; Lesotho AIDS Programme Coordinating Authority (LAPCA); Sechaba Consultants; United States Agency for International Development. "HIV/AIDS Behavioral Surveillance Survey: Lesotho 2002." United States Agency for International Development. 2002.
19. Adair, Tim. "Desire for Children and Unmet Need for Contraception among HIV-Positive Women in Lesotho." United States Agency for International Development, Demographic and Health Research Working Papers. March 2007.
20. World Health Organization HIV/AIDS Program; Joint United Nations Program on HIV/AIDS. "Guidance on Provider-Initiated HIV Testing and Counseling in Health Facilities." World Health Organization, WHO Press. 2007.

21. Ojikutu, Bisola, et al. "Scaling Up ART Treatment Capacity: Lessons Learned from South Africa, Zimbabwe, and Botswana." Current HIV/AIDS Reports. 5:94-98, 2008.
22. World Health Organization HIV/AIDS Program. "Antiretroviral Therapy for HIV Infection in Adults and Adolescents in Resource-Limited Settings: Towards Universal Access, Recommendations for a Public Health Approach." World Health Organization, WHO Press. 2006.
23. Joint United Nations Programme on HIV/AIDS. "Intensifying HIV Prevention: UNAIDS Policy Position Paper." Joint United Nations Programme on HIV/AIDS, UNAIDS/05.18E. 2005.
24. Salomon, J.A.; Hogan, D.R.; Stover, J.; Stanecki, K.A.; Walker, N.; et al. "Integrating HIV prevention and Treatment: From Slogans to Impact." PLoS Med 2: e16. 2005.
25. Joint United Nations Programme on HIV/AIDS; World Health Organization. "Sub-Saharan Africa: AIDS Epidemic Update: Regional Summary." Joint United Nations Programme on HIV/AIDS, UNAIDS/08.08E / JC1526E. March 2008.
26. World Health Organization. "Towards Universal Access: Scaling Up Priority Interventions in the Health Sector." World Health Organization, WHO Press. April 2007.
27. Joint United Nations Programme on HIV/AIDS; World Health Organization. "Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections: Lesotho." Joint United Nations Programme on HIV/AIDS. December 2006.
28. Gilks, Charles; Ekpini, Rene; Gaillard, Philippe; Chersich, Matthew; et al. "Antiretroviral Drugs for Treating Pregnant Women and Preventing HIV Infection in Infants: Towards Universal Access: Recommendations for a Public Health Approach – 2006 Revision." World Health Organization, WHO Press. 2006.
29. The Interagency Task Team (IATT) on Prevention of HIV Infection in Pregnant Women, Mothers and their Children. "Guidance on Global Scale-up of the

Prevention of Mother-to-Child Transmission of HIV: Towards universal access for women, infants and young children and eliminating HIV and AIDS among children." World Health Organization, WHO Press. 2007.

30. United States Agency for International Development; Bureau for Global Health. "Country Profile: HIV/AIDS: Lesotho." TvT Global Health and Development Strategies/Social & Scientific Systems, Inc. – The Synergy Project. January 2004.
31. World Health Organization. "Guidance on the Global Scale-up of the Treatment of Mother-to-Child Transmission of HIV." World Health Organization, WHO Press. 2007.
32. United States Agency for International Development. "Practical Guidelines for Intensifying HIV Prevention: Towards Universal Access." Joint United Nations Program on HIV/AIDS, UNAIDS/07.07E / JC1274E. 2007.
33. Health Systems and Services, World Health Organization. "Task Shifting: Global Recommendations and Guidelines." World Health Organization, WHO Press. 2007.
34. Ojikutu, Bisola. "The Realities of Antiretroviral Therapy Rollout: Overcoming Challenges to Successful Programmatic Implementation." The Journal of Infectious Diseases. 196:S445-8, 2007.
35. Joint United Nations Programme on HIV/AIDS. "UNAIDS at Country Level: Supporting Countries as They Move Towards Universal Access." Joint United Nations Programme on HIV/AIDS, UNAIDS/07.04E / JC1301E. January 2007.
36. Government of Lesotho. "Guidelines to Prevent Mother to Child Transmission of HIV." Government of Lesotho. June 2004.
37. Wolfe, W., et al. "Effects of HIV-related stigma among an early sample of patients receiving antiretroviral therapy in Botswana." AIDS Care. 18(8): p. 931-933. 2006.
38. White, R.C.; R. Carr. "Homosexuality and HIV/AIDS stigma in Jamaica." Culture, Health & Sexuality. 7(4): p. 347-359. 2005.

39. Shapiro, R.L.; et al. "Low Adherence to Recommended Infant Feeding Strategies Among HIV-Infected Women: Results from the Pilot Phase of a Randomized Trial to Prevent Mother-to-Child Transmission in Botswana." AIDS Education and Prevention. 15(3): p. 221-230. 2003.
40. Liu, H.; et al. "Understanding interrelationships among HIV-related stigma, concern about HIV infection, and intent to disclose HIV serostatus: a pretest-posttest study in a rural area of eastern China." AIDS Patient Care and STDs. 20(2): p. 133-42. 2006.
41. Mills, E.A. "Briefing - From the Physical Self to the Social Body: Expressions and Effects of HIV-Related Stigma in South Africa." Journal of Community & Applied Social Psychology. 16: p. 498-503. 2006.
42. Achmat, Zackie; Simcock, Julian. "Combining Prevention, Treatment and Care: Lessons from South Africa." Treatment Action Campaign, Muizenburg, South Africa. 2007.
43. Joint United Nations Programme on HIV/AIDS. "Collaborating with Traditional Healers for HIV Prevention and Care in sub-Saharan Africa: suggestions for Programme Managers and Field Workers." Joint United Nations Programme on HIV/AIDS. UNAIDS/06.28E. November 2006.
44. Ojikutu, Bisola; Jack, Chris; Ramjee, Gita. "Provision of Antiretroviral Therapy in South Africa: Unique Challenges and Remaining Obstacles." The Journal of Infectious Diseases. 196:S523–7 (Supplement 3). 2007.