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Acronyms

AIDS: Acquired Immune Deficiency Syndrome
ARV: Antiretroviral Drugs
BMI: Body Mass Index
CDC: Centers for Disease Control
CMI: Cell Mediated Immunity
DR-TB: Drug Resistant Tuberculosis
EI: Extractive Industries
EIR: Extractive Industries Review
GDP: Gross Domestic Product
GMO: Genetically Modified Organism
HAART: Highly Active Antiretroviral Therapy
HBC: High Burden Country
IDU’s: Injected Drug Users
IFPRI: International Food Policy Research Institute
IMF: International Monetary Fund
MDR-TB: Multi-Drug Resistant Tuberculosis
MIM: The Multilateral Initiative on Malaria
NGO’s: Non-Government Organizations
NTD: Neglected Tropical Diseases
NTP: National Trade Projection Budget
PLWH/A: People Living with HIV/AIDS
PMI: Presidents Malaria Initiative
RTUF: Ready to Use Food
SSA: Sub-Saharan Africa
TB: Tuberculosis
UN: United Nations
UNAIDS: Joint United Nations Programme on HIV/AIDS
WHO: World Health Organization
XDR-TB: Extensively-Drug Resistant Tuberculosis
Abstract
The HIV/AIDS pandemic affects all nations worldwide, and has claimed more than 25 million lives. Dr. Peter Piot, former UNAIDS director, has stepped forward as a leader, passionate for finding a way to eradicate the disease. He has been accused, however, of AIDS exceptionalism, diverting precious and finite funds to his cause from research on other diseases, and furthering the stigma associated with AIDS. Dr. Piot argues that only when the epidemic and the stigma are under control can HIV/AIDS be treated like any other disease. This paper discusses the need to take a holistic approach in the eradication of AIDS, examining the close relationship between HIV/AIDS, malaria, tuberculosis, and malnutrition. Recommendations are provided which account for these and other co-factors of HIV/AIDS, with the aim of a more complete contribution to the end of these diseases.

Introduction
This paper addresses the charges of AIDS exceptionalism as it exists in the beginning of the 21st century as well as with the creation of recommendations on how to respond to this growing pandemic that has taken the lives of over 25 million people since 1981, with 2.7 million new infections each year (Avert 2009).

AIDS exceptionalism exists as the preferential treatment of AIDS in all aspects including its treatment, to the funding of research and aid programs, to education about HIV/AIDS over other deadly diseases (UNAIDS 2009). This includes the establishment of a Joint United Nations Program on HIV/AIDS in 1994, UNAIDS, whose policies and very existence have drawn criticism from public health officials (England 2008).

This report will document the global nature of the HIV/AIDS pandemic and its transcendence of gender and socioeconomic boundaries. It will then document the specific arguments centering around the policies and assumptions of AIDS exceptionalism from proponents such as former UNAIDS director, Peter Piot as well as detractors like Roger England. The vast array of social stigmas that surround this disease will be outlined before delving into the demographic patterns of the pandemic, as well as its relationship with other diseases such as malaria, tuberculosis and malnutrition. Finally, this will be concluded by three recommendations for a truly global and holistic response to HIV/AIDS and its co-factors, focusing on the alleviation of social stigmas, improvements in infrastructure and in mitigating the factors surrounding social and economic inequality.

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Avert
Nature of HIV/AIDS Globally

Since 1981, HIV/AIDS has claimed the lives of over 25 million people (Avert 2009). A global total of adults and children living with HIV/AIDS is estimated to be 33 million, and of that number, 22 million of these people live in Africa. Annually there are 2.7 million newly infected adults and children around the world, and almost half of them, 1.9 million, are located in Africa. The younger generation, those who are 25 years of age and younger, account for half of the total population of new HIV cases worldwide (Avert 2009). With these staggering statistics, it is evident that HIV is a serious threat to the lives of many people.

HIV/AIDS takes a significant toll on populations cross-culturally; affecting people of every race, gender, sexual orientation, socioeconomic status and age group. Human Immunodeficiency Virus (HIV) is the virus that causes Acquired Immune Deficiency Syndrome (AIDS). HIV attacks the immune system, thereby affecting the body’s ability to fight infections. The virus locates and decimates a type of white blood cell, T cells or CD4 cells which the immune system needs to combat diseases (CDC 2009). HIV is a disease of the immune system transmitted through blood products, sexual contact such as vaginal, oral, and anal sex, contaminated needles, and from mother to child perinatally or through breastfeeding; it often proves fatal (CDC 2009).

Over the past 25 years, the Center for Disease Control and Prevention (CDC) has expanded the classification range of at risk communities. In 1982, according to the CDC, there were four risk categories related to HIV/AIDS. These risk factors were male homosexuality, intravenous drug abuse, Haitian descent, and hemophilia A. In 1982, the CDC identified the disease as Gay Related Immune Deficiency (GRID) (Kaiser Family Foundation 2009b). Labeling HIV/AIDS in this manner led to many associating the virus with homosexuality and drug use. The label of GRID contributed greatly to the stigma surrounding HIV/AIDS and still impacts many peoples’ views of HIV and those infected with it today. Presently, known risk factors for HIV/AIDS include: injection of drugs with contaminated equipment, and engaging in unprotected anal, vaginal, or oral sex (ordered from highest to lowest risk). Men who have sex with men, people who have multiple sex partners and anonymous sexual partners increase their risk of contracting HIV/AIDS if they are not practicing safer sex. Other behaviors that increase risk are: those who exchange sex for drugs or money, persons diagnosed with hepatitis, *Tuberculosis* *sclerosis*
(tuberculosis), a STI, and also any persons who had unprotected sex with someone who any of these risk factors apply to (CDC 2009). These activities are prevalent in many cultures and affect numerous populations throughout the world.

HIV/AIDS is evolving both as a physical pandemic, as well as an economic, political and social element in many cultures. According to the Joint United Nations Programme on HIV/AIDS (UNAIDS) 2008 Report on the global AIDS pandemic, the approximate number of new infections in 2007 was 2.5 times higher than the increase in the amount of people on antiretrovirals that year (UNAIDS 2008). The number of people who needed antiretrovirals in 2007 was about 9.7 million. In December of 2007, the number of people accessing antiretrovirals globally was 2.99 million. During the 2008 fiscal year, on a global scale, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) provided $3,999,535,858 for 114 countries total, including fifteen focus countries (Kaiser Family Foundation 2009a). The goals of PEPFAR are prevention, treatment, care, promoting sustainability and accountability (PEPFAR 2009). With the amount of funding and attention given to HIV/AIDS research and care, there has been an outcry from some officials in the public health field that too much aid is going to this pandemic, leaving many other diseases without much needed funds.

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Kaiser Family Foundation 2009a


PEPFAR

UNAIDS
History and Background of AIDS Exceptionalism

Officials within the public health realm have made the charge that AIDS exceptionalism overprotects people with HIV while threatening overall public health. In an article written in 1997 entitled; “Inventing AIDS Exceptionalism”, the belief of some public health officials is that in order to deter numbers of HIV infections, mandatory testing and names reporting is necessary (Hanssens, 1997/1998). The idea of AIDS exceptionalism is not a new idea; it has been around for many years.

AIDS exceptionalism defines the preferential treatment that AIDS, AIDS research and AIDS education receives above other deadly global pandemic diseases. When it was realized that AIDS was not only a localized issue, but one of worldwide concern, the United Nations institutionalized UNAIDS (UNAIDS 2009). Currently, this organization helps to keep HIV/AIDS from spreading, and gives aid to those struggling with the disease. By 2010, they hope to have universal access to mitigate HIV/AIDS; and by 2015, UNAIDS hopes to eliminate the spread of AIDS (UNAIDS 2009).

According to Dr. Peter Piot (2008), former UNAIDS director, AIDS is a disease of inequality, not of poverty. This inequality is between men and women, and on the basis of sexual orientation. Piot (2006) argues that HIV/AIDS is an exceptional disease, and the developments that have been made over the years fighting this disease cannot be maintained if we continue to work in isolation from mainstream development.

Piot (2008) presents his stance on AIDS exceptionalism in his speech “AIDS: exceptionalism revisited.” There has been much controversy over Piot’s true stance on exceptionalism. Essentially, Piot’s goal is to normalize AIDS as a disease, but he also says that we cannot do that until the problem of AIDS is dealt with now. Currently, AIDS needs to be exceptionalized in order to gain control over its’ spreading (Piot 2008). After the AIDS pandemic is under control, AIDS, and the rights of people with HIV, can be normalized.

In 1983 the CDC and state health departments came together to form a new AIDS reporting form. It was to be that all new cases of AIDS would be reported by physicians to state health departments instead of directly to the CDC (Payne 2006). There were concerns that patient names on the forms would result in a breach of privacy, although the CDC denied ever releasing names to health agencies other than state. The CDC did however admit to releasing AIDS patients’ names to local health agencies three different times throughout 1983. Every state eventually adopted the confidential AIDS reporting form, which sent confidential name reports of AIDS cases directly from physicians to state health departments (Payne 2006).

The HIV antibody test was developed in 1984. This gave blood banks the ability to screen blood donors for the infection, so they did not have to rely on the evaluation of donor risk factors. The need for
confidentiality of the identities of infected donors was a heated issue. The then director of the Federal Drug Administration’s Division of Blood and Blood Products summarized the two sides of the confidentiality debate. He said that public health has a valid need to know the identities of those who are infected and at risk of transmitting the virus. By making names available, the risk is that people outside of the public health setting will gain access to these names (Payne 2006). The antibody test was greatly useful in one way; it protected the blood bank from blood that was infected with HIV. There were no medications available at this time to slow the progression of the disease. The test might have also been useful to health care workers who needed to handle the blood of patients infected with HIV. If they knew who was infected they could take the proper precautions to protect themselves from transmittance. It was deemed that mandatory testing would be acceptable only if it could be shown that the effects of such testing would have results superior to interventions that did not require testing. During the mid- to late-1980s, several states within the United States passed laws that required physicians to report HIV cases by name to the state health departments, as was the case with AIDS. This caused angry protests from the homosexual community, who say their confidentiality was being compromised (Payne 2006).

Dr. Roger England (2008), chairman of the Health Systems Workshop in Grenada, states his position on AIDS exceptionalism in his article “The Writing is on the Wall for UNAIDS.” UNAIDS was created after the assertion that AIDS deserves exceptional treatment. England does not support AIDS exceptionalism. He essentially states AIDS as one disease of many. Other diseases worldwide are killing greater numbers of people at a higher frequency (England 2008).

England believes that it may be AIDS exceptionalism itself that drives the stigmas and discrimination associated with HIV/AIDS (England 2008). According to England (2008), the foundations of exceptionalism were created when demands of right to confidentiality, informed consent, the discouragement of routine testing, and tracing of contacts made it that way. This exceptionalism grew over the years to define HIV as a disease that requires special attention and intervention that extended beyond the leadership of the World Health Organization (England 2008). According to England (2007), those who make HIV out to be a global disaster are guilty of sensationalism. The exceptional status that has been given to HIV has caused excessive funding, and the gross misuse of funds to fight this disease. The overfunding for HIV has caused the underfunding of other deadly diseases. Much of the excess funds are spent on programs and activities that mainstream HIV into various social activities. This money would be better spent in the public health sector, which provides prevention interventions (England 2007).

Problems with AIDS Exceptionalism

Of those who disagree with the exceptional view of AIDS, Roger England is one individual who has spoken out quite publicly. He has, as recently as of May of 2008, spoken against the claim that AIDS is exceptional in comparison to other diseases. He states that “we” need to put “HIV in its place” (England 2008). He also claims that stating that HIV/AIDS is a threat to the survival of the people of this century is a melodramatic claim and that it is a possibility that exceptionalism drives stigma and discrimination. As an advocate against AIDS exceptionalism Roger England argues a number of different reasons as to why AIDS is no more important than any other epidemic (England 2008).

England is outraged at the formation of UNAIDS or in other words a UN agency that specifically deals
with this disease. He asks why there is not a UN agency for either pneumonia or diabetes which kills more people annually than HIV/AIDS. He dictates that UNAIDS should be shut down immediately believing that the technical functions of UNAIDS should be refitted into the World Health Organization (WHO). This would allow for HIV/AIDS to be balanced with other diseases (England 2008).

England believes that government funding for UNAIDS is exorbitant, and has created a multitude of problems. England (2008) states that HIV/AIDS is now being treated as an economic segment rather than a disease. Excessive funding on HIV/AIDS relative to other needs and disease are damaging other health system services. He states that large amounts of money have been wasted through the funding of projects instead of putting that money toward public health care. England states that an out of control HIV industry has been created, in which there are too many vested interests as well as too many “single issue NGOs” (non-government organizations) (England 2008).

As recently as 2003, policy makers in Botswana have begun to work to break free from the AIDS exceptionalism position. Botswana would rather focus on voluntarism, confidentiality, and the rights of patients, than to focus on the politics involved in the argument that AIDS is exceptional (Heald 2005). Additionally, others feel that focusing attention on AIDS exceptionalism puts other factors at risk. Once again experts state that the position of support for AIDS exceptionalism increases the stigma already associated with AIDS and overshadows funding and treatment for other diseases. (Slater et al.2005).

The Argument for AIDS Exceptionalism

Dr. Peter Piot has argued that there is room for an exceptionalist position in the battle against HIV/AIDS. Piot contends that though the affect of HIV/AIDS is felt more by those in poverty, it is not necessarily a disease of poverty but of inequality as it disproportionately affects issues of gender inequality, age and populations of intravenous drug users (Piot 2008). Its effects are further complicated and magnified by social exclusionary factors, conflict and unequal distributions of power, affecting primarily those most with little or no power (Chatterjee 2001). In effect, the HIV/AIDS pandemic reaches across every aspect of society and as requires an integrated approach that addresses every level, from the economic to the many different social patterns (Chatterjee 2001). The measures taken against HIV/AIDS during the past decade have been effective in some areas of society and in different parts of the world. There are currently 3 million people on antiretroviral therapy; this number was only at 200 thousand in 2001. In the past two years access to services that prevent mother to child infection have doubled from one eighth to one quarter (Piot 2008). However, despite progress in fighting this disease, there were an estimated two and a half million new infections in 2007 with five new infections for every two people newly put on antiretroviral treatment (Piot 2008). Piot (2008) further argues that since HIV/AIDS is now by far the number one cause of death in Africa it is of key importance not to be become lax on the issue and tasks at hand. The gap between those with access to treatment and those without continues to increase due to large-scale failures in prevention. Piot argues against a normalization of HIV/AIDS in relation to other diseases. Though medical treatment should in fact be normalized, the cultural issues surrounding HIV/AIDS needs be normalized as well before the global community can truly treat it like other diseases (Piot 2008).

The Stigmas Surrounding HIV/AIDS
When considering the issue of AIDS exceptionalism, it is important to be aware of the many social issues that surround HIV/AIDS. These issues come in different forms depending on the society and culture. There is a stigma that surrounds HIV/AIDS that is felt globally (UNAIDS 2009; WHO 2005). This stigma exists with different levels of discrimination, rejection, and prejudice depending on the country, culture, society and/or community to which the infected person belongs. Discrimination can exist on many levels, including gender, ethnicity, social status and sexual orientation (Herek 2002). There are incalculable cases of violence, neglect, ostracism and discrimination related to HIV/AIDS.

Stigma can be defined as, “an enduring condition, status, or attribute that is negatively valued by a society and whose possession consequently discredits and disadvantages an individual” (Herek 2002:595). According to Herek (2002 & 2005), there are three characteristics of HIV/AIDS that generate stigma. The first is that HIV/AIDS is often perceived as being contracted through avoidable and often socially disapproved behavior. Some of the behaviors that possess negative connotations with HIV/AIDS are homosexual intercourse, injection drug use and the use of sex for income. The second characteristic is that AIDS is incurable. There is often a greater stigma to illnesses that are lethal. In most cases, being diagnosed with AIDS is perceived as being sentenced to death. Lastly, those diagnosed with AIDS are often seen as a threat to others physically, socially or morally (Herek 2002 & 2005). In 1999 Gregory Herek conducted phone interviews that found that nearly one-third of participants believed that people with AIDS deserved to have the disease and that nearly one-half believed those with AIDS were responsible for their illness. Herek also found that one-fifth felt fear towards people with AIDS (Herek 2002). It is these prejudices that prevent people with HIV/AIDS from seeking medical help for themselves, and preventative measures of spreading the disease (Singer 2007; WHO 2005).

The discriminatory practices of the past twenty-five years have hindered the fight against the HIV/AIDS pandemic. The mistreatment of those affected by HIV/AIDS has driven individuals away from getting tested (UNAIDS 2009). By not getting tested a person does not know if he or she is infected and therefore has plausible deniability. The discrimination has also led known people living with HIV/AIDS (PLWH/A) away from treatment, for fear of their HIV status being revealed. Governments practice this prejudice as well. For example, in England the legal system has the right to prosecute an individual who passes on the virus, even if they did so without the knowledge that they were infected (Zaccagnini 2009).

The current healthcare system is another example of discrimination towards those with HIV/AIDS. Availability of healthcare is currently an important issue within the United States. Discrimination occurs in multiple ways regarding health industries. "Hospital staffs refusing to treat patients, the withholding of treatments, HIV testing without consent, lack of confidentiality, and denial of hospital facilities and medicines are all ways that PLWH?A can experience stigma and discrimination in healthcare settings. Such responses are often fuelled by ignorance of HIV transmission routes amongst doctors, midwives, nurses and hospital staff" (Zaccagnini 2009).

Prejudice and discrimination towards PLWH/A are felt in many countries around the world. One example of this is in India, where PLWH/A are seen as a new class of untouchables (Burns 1996). In a 1996 article in the New York Times John Burns reported on the conditions HIV/AIDS patients face from the public and medical community. “Indian AIDS specialists tell many stories of AIDS sufferers driven from their communities by fearful neighbors, pushed from one hospital to another by doctors and staff
members reluctant to treat them and, finally, approaching death in the AIDS ward, left virtually to fend for themselves” (Burns 1996:4). In 2004 the Indian government began to acknowledge the pandemic in their country and started offering free drug therapy. However, as of 2005, only two percent of the estimated half-million infected were receiving this treatment. The stigma still remains and many health care workers believe that the only way to minimize this problem is to offer access to treatments and testing (Sengupta 2005).

Cultural standards of male dominance have been suggested to fuel HIV/AIDS stigma in many cases. One particular country that has been the subject of extensive research is South Africa. Case studies have shown that men will use violence as a way of demonstrating masculinity, which often results in disregard for their safety against HIV/AIDS. Sexual violence is woven into many societies in South Africa where women have little say in decisions for protection from sexually transmitted diseases (STDs) (Outwater et al. 2005). Despite the high numbers of HIV infected people in South Africa, it is still often seen as a taboo subject. In December of 1998 a South African AIDS activist publicly announced that she was HIV positive on the radio and television on World AIDS Day. According to nurses who knew her, after going public, she was threatened many times by people in her village, telling her that she was bringing shame and a bad reputation to their community. Less than a month after she announced her condition, she was stoned and beat to death by a mob at her home (McNeil 1998).

The stigmas that surround HIV/AIDS make it particularly difficult to implement policies for universal treatment and testing of HIV. Those living with HIV/AIDS face discrimination and prejudice which must be considered when making these policies. There are two main schools of thought with regards to AIDS exceptionalism; those who believe that AIDS is an exceptional disease and should be treated as such, and those who believe that the first view is creating an imbalance in the aid and funding of other serious diseases. In all cases, those who have AIDS do not die directly from the disease, but from the weakening of their immune system which makes them much more susceptible to other illnesses. AIDS is connected with other illnesses, namely tuberculosis, malaria and malnutrition, which must also be examined to understand the pandemic.

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HIV/AIDS and Tuberculosis

HIV and Tuberculosis as co-factors

In countries where HIV has a high prevalence, *Mycobacterium tuberculosis* (Tuberculosis/TB) infection rates have increased fourfold since 1990. This is significant when considering that one-third of all people living with HIV are also infected with TB, and that TB was the cause of death for half of the total population infected with AIDS in 2007 (CDC 2009a). About one percent of the world population is infected annually with TB, which equates roughly to one individual being infected every second. It is stated to be the leading killer of reproductive aged women worldwide (CDC 2009b). This is correlated with the fact that in 2007, women accounted for half the population living with HIV across the world (Avert 2009). In Africa, TB is most prevalent in young adolescents and adults. This is in contrast to the United States, where TB is found primarily among the elderly and those who are immune-compromised (CDC 2009a).

These two diseases, HIV and TB, do not exist independently of each other. It is not a simple matter to treat one or the other; they affect each other. A direct result of HIV is that the immune system is compromised. This means that the body is more susceptible to other infections usually fought off by a healthy body, such as TB. Tuberculosis is a bacterium in the mucus of an infected person, and is spread by the inhalation of the bacteria in the air. A side effect of having TB is coughing, which facilitates the spread of the mucus. The first time a person contracts TB, the alveolar macrophages, or respiratory white blood cells, engulf the bacteria. However the TB bacteria are still alive, and are still able to live within the macrophages. The macrophages are
moved to the lymph nodes, which help to break down the bacteria. However, some bacteria can escape and spread. The body initiates Cell Mediated Immunity, or CMI. This process tells the T cells to release lymphokines which activate macrophages that are now better equipped to fight off the TB bacteria. These macrophages create tubercles to contain the bacteria (Goering et al. 2008).

In a healthy person, the tubercles can calcify and endure even after the lifespan of the individual. This means that the TB bacteria is essentially dormant and will not affect the person. However, in a person who is already immune-compromised, the bacteria will not be contained within the tubercles and can flow into the bloodstream (Goering et al. 2008).

In secondary TB, the dormant infection reemerges in an individual who is already immune-compromised from another illness, such as AIDS. TB will actually “hasten the progression of HIV disease” because the body will produce more CD4 in response to the presence of the bacteria (Lighter 2009:68). The produced CD4, however, will only increase the HIV infected replicates, and further damage the body (Lighter 2009).

A case study in Africa demonstrates that this is not a single strain of TB either. An HIV infected population in South Africa received second tier drugs for TB. These second tier drugs are reserved for especially resistant strains, and cost more to produce. These are not distributed to the general public. It was discovered that 24 percent of the strains of TB present were already resistant to at least three out of the six drugs given. As result a “high mortality rate” was reported after a period of twenty-five days (Goering et al. 2008:247). Another case study discovered that people who are severely immune-compromised will not test positive for TB. This only makes indicating the presence of this disease and receiving the necessary medical attention more difficult (Singh et al. 2009).

As the data above shows, populations co-infected with a high prevalence of HIV and TB, such as in Africa, are not a coincidence. The HIV virus weakens the immune system in such a way that makes the body more susceptible to other diseases such as TB. With the body already immune-compromised, the infected individual faces even greater difficulties for recovery.

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Tuberculosis

As stated above, TB and HIV/AIDS are cofactors of each other on many different levels including biologically, socio-economically, and the way in which healthcare resources are allocated. Hence, AIDS exceptionalism affects TB negatively in that the excessive allocation of resources towards HIV/AIDS rather than a balanced allocation of resources given towards both diseases is detrimental since TB is the leading cause of HIV related death worldwide. Eighty percent of those diagnosed with TB also have HIV/AIDS, thus it is obvious that the two diseases are decidedly linked and if one is to be eradicated then the other must be addressed as well (WHO 2009a).

Biologically, people who are afflicted with HIV are more vulnerable to other opportunistic diseases because the virus destroys CD4 cells. Consequently they help to protect peoples’ bodies from different kinds of pathogens (Zwilling and Howard 1998). The pathology of vulnerability due to conditions such as overcrowding and unsanitary conditions in non industrialized nations creates an environment that makes people of those populations particularly susceptible to a bacterium such as TB (Medline Plus 2009). This creates a deadly back drop where the biological components of these two pathogens help create a deadly synergy where HIV lowers immune system response and therefore allows TB a window of opportunity to express itself as a disease. Along with the biological implications these two diseases incur are the cultural, socio economic and political aspects that further exacerbate their transmission. Specifically these conditions are often expressed in areas where there are few options, less political clout and nonexistent to unorganized healthcare infrastructures. A good healthcare infrastructure is the backbone for dealing with diseases such as HIV/AIDS and TB, but lack of political or economic support creates biological conditions of a synergistic nature that promote continued transmission. This is also a prime example of how all these conditions are interconnected (Global Health Reporting 2009b). For a more specific example of biological expressions of disease that interplay with cultural views is Paul Farmer’s work in Haiti. In this country there is little healthcare infrastructure and few options for the people that live there. This gives rise to migrations to cities...
such as Port-au-Prince. Furthermore within those areas are conditions such as overcrowding and survival sex for basic necessities of life that continue the biological expression of both HIV/AIDS and TB (Farmer 1992).

The people near Do Kay understand the basic biological components of how TB and HIV/AIDS are transmitted. However, due to lack of resources and the features of structural violence they choose to view these diseases as a spiritual disturbance within their communities as a natural survival mechanism. The villagers move into the city where certain conditions promote increased biological transmission because they left the villages where options are limited. Thus, economic factors drive them into situations where the biological expressions of both TB and HIV/AIDS can be expressed continually. There is an increased risk for contracting HIV and TB due to frequent contact in large population settings such as the cities. TB thrives in places that are overcrowded, and cities are an ideal setting for it to spread. Also the increased risk of sexual encounters increases the risk for HIV transmission. Coupling these two aspects together creates an environment where HIV reduces the immune system response and the spread of TB due to overcrowding exacerbates these two diseases. This is especially true for women who have the greatest risk for infection due to gender inequalities and lack of economic opportunity which often drives them towards survival sex. Therefore gender inequalities promote a continued biological transmission and expression of HIV and TB (Farmer 1992; Global Health Reporting 2009c). Thus, the causalities for infection within TB and HIV in a biological sense are not a “one way street” and multi causal factors must be considered.

Social and economic factors also contribute to the complexities of tuberculosis prevention and treatment, in that the fewer resources that are available, the greater the prevalence of the disease. This is because there are fewer monetary and medical resources available in non-industrialized and developing areas. Thus, the regions that have the most diagnosed cases of TB usually constitute areas that are non-industrialized, such as sub-Saharan Africa, South East Asia, and the Western Pacific. Other areas that are of concern are China and Russia where there is an increase of TB (Global Health Reporting 2009b). In addition, in areas with high concentration of people there is an increased opportunity to contract TB. Some people become at risk for TB due to the need for employment and assistance from medical agencies. These areas of the continent have different social structures but, when faced with an infectious disease there is a commonality to segregate the suspected population which can raise the stigma surrounding HIV/TB and hinder HIV/TB reduction efforts. Appendix A shows areas of the highest percentage of cases of TB according to the Global Health Organization (Global Health Reporting 2009a).

For the 22 high-burden countries (HBCs) combined, the total cost of TB control is projected to be almost $2.3 billion in 2008, compared with $0.6 billion in 2002. As with National Trade Projection (NTP) budgets, the total cost of TB control is expected to stagnate between 2007 and 2008, except in five countries (Brazil, Ethiopia, Mozambique, Nigeria and the United Republic of Tanzania). Increases in the projected costs during the years of 2002–2008 arose because of the large increases in NTP budgets (described above) and, to a much lesser extent, because of the higher costs of clinic visits and hospitalization that are associated with treating more patients. As in previous years, the largest costs in 2008 are for the Russian Federation and South Africa, which together account for $1.3 billion (59 percent) of the total of $2.3 billion. China ($225 million), India ($111 million), Brazil ($95 million) and Nigeria ($80 million) rank third to sixth.
These six countries account for 82 percent of the total cost of TB control in the 22 HBCs in 2008. Of the remaining countries, 13 have costs of $30 million or less in 2008, while three (Indonesia, Kenya, the United Republic of Tanzania) have costs in the range of $35 million to $62 million. The countries with the largest projected absolute increases in annual costs between 2002 and 2008 are the Russian Federation and South Africa, followed by China (Global Health Reporting 2009b). Thus, it can be seen that the areas with the highest rates of TB cases are the same areas that are part of the non-industrialized and still developing regions of the world as well as those regions which have high concentrations of people.

The allocation of resources towards any one disease is crucial to that disease’s eradication. Yet, in the case of TB, resources are limited and generalized, so that less funding and professional medical attention is given to TB as compared to other diseases such as HIV/AIDS. Resources geared toward the eradication of TB are limited because of the idea that TB is curable and thus is less in need of resources as compared to HIV/AIDS which is incurable. Rather than a disease, “HIV has been treated like an economic sector,” into which large sums of money gets placed, even up to $9 billion a year, as of last year (England 2008). HIV/AIDS receives 25 percent of international healthcare aid while it only constitutes 3.7 percent of mortality rates worldwide. There has been a call by UNAIDS to increase spending for HIV/AIDS from $9 billion today, to $42 billion by 2010 and $54 billion by 2015 (England 2008). To compare, 70 percent of external resource allocation for TB is provided by The Global Fund to fight AIDS, Tuberculosis, and Malaria which amounts to $1.4 billion today with the potential to reach $2.3 billion over the next five years (WHO 2009b). In addition, if one considers The Global Plan to Stop TB, a plan which seeks to eradicate the disease from the world’s populace resulting in goals far beyond what UNAIDS can do scientifically at this point, the Global Plan is asking for relatively less resources than UNAIDS. The Global Plan to Stop TB estimates needing $56.1 billion over ten years in order to see their hoped for goals accomplished. Yet, this organization is experiencing an estimated resource gap and shortage of $30.8 billion over the next ten years (The Global Plan to Stop TB [2006-2015] 2009). Thus, whereas UNAIDS is calling for a resource allocation increase, the Global Plan to Stop TB is experiencing financial pitfalls.

In many cases the resources that are directed toward TB treatment worldwide are utilized inefficiently. Many organizations that distribute resources toward fighting diseases fail to use a holistic approach when dealing with PLWHA. For instance, many disease funding programs give the majority of their resources toward the eradication of one disease over another and emphasize the treatment for one disease alone among the worlds’ populace resulting in goals far beyond what UNAIDS can do scientifically at this point, the Global Plan is asking for relatively less resources than UNAIDS. The Global Plan to Stop TB estimates needing $56.1 billion over ten years in order to see their hoped for goals accomplished. Yet, this organization is experiencing an estimated resource gap and shortage of $30.8 billion over the next ten years (The Global Plan to Stop TB [2006-2015] 2009). Thus, whereas UNAIDS is calling for a resource allocation increase, the Global Plan to Stop TB is experiencing financial pitfalls.
and Malaria has provided the TB cause with the resources to support the detection and treatment of 4.6 million people with TB, which is a considerable amount, yet nowhere near equal to the number of resources given to HIV/AIDS (The Global Fund to fight AIDS, Tuberculosis, and Malaria 2009b).

Another example of the inequality in resource allocation toward co-factored diseases worldwide can be seen in Africa, where 700 thousand cases of TB are reported annually (Kaiser Daily HIV/AIDS Report 2007). Yet, “even though both infections [HIV/AIDS and TB] inflict the same population, they are both treated as separate problems hindering progress in addressing HIV/TB” (Friedel 2008; Kaiser Daily HIV/AIDS Report 2008). However, in order to eradicate any one disease from a population, the other diseases with which the first disease is linked must also be sought out for treatment and eradication. Thus it would be beneficial for disease funding programs to allocate monies toward HIV/AIDS and TB equally, not taking considerable amounts of money from one disease and directing it to the other, but also seeking for more donations for TB worldwide.

Finally, since about 80 percent of the people who have TB are also diagnosed with HIV/AIDS it would prove more efficient to treat the individuals with such health cases for both diseases (WHO 2009a). This dual treatment and equal distribution of resources (as stated above) would help to ensure that patients’ immune systems would not drop so low that TB would thrive in their systems, while at the same time ensuring that the patients’ TB does not allow for their HIV/AIDS to continually deteriorate their bodies. This type of treatment and a need for more money to be allocated toward TB is becoming increasingly important because of the rise in drug-resistant, multi drug-resistant, and extensively drug-resistant TB. With these types of drug-resistant TB, bacterium strands have immunity to the antibiotics usually used to treat and cure TB. Today advanced treatments for TB are being researched in order to be able to combat these forms of drug-resistant TB (Davis 2009). However, if equality of resource distribution among the highly infectious diseases of the world such as HIV/AIDS, TB, and malaria is not reached, then the research for these newly advanced treatments would not be able to continue. Thus, when AIDS exceptionalism hinders the research of TB treatments, it does nothing more but hinder the possible eradication of both TB and HIV/AIDS (Usher 2008). This is why a more balanced resource distribution should be developed even among holistically developed funding groups such as The Global Fund to fight AIDS, Tuberculosis, and Malaria, especially directing these monies toward improving environmental infrastructure and free treatment programs so as not to waste valuable resources (England 2008).

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HIV/AIDS and Malaria

HIV and Malaria as co-factors

Approximately 3.2 billion people, or 41 percent of the world population, live in zones with mosquitoes that carry Plasmodium falciparum, the parasite that causes malaria. There are, on average, 425 million cases of malaria each year. Of these cases, 60 percent occur in Africa. Also, 90 percent of malarial deaths occur in Africa. These victims are primarily children under five years of age (CDC 2009). According to the World Health Organization, about four million people who are co-infected with HIV and malaria die annually (WHO 2009).

Malaria is restricted to tropical areas of the world. This highlights Africa, India, the Far East, and South America as especially susceptible to malaria. The mosquito that carries the parasite is named the Anopheles mosquito. When an infected mosquito bites a human, the parasites from the mosquito are transmitted to the human. They infect the liver, and then enter the blood stream where they infect the red blood cells. The parasites wait until the human host is bitten again by an Anopheles mosquito. When this happens, the mosquito receives developed parasite cells, and they are combined within the mosquito to create more parasites. The parasites may live in the
blood for years. A person infected with malaria will start to feel the effects of it only after the parasites leave the liver. The first side effect is a fluctuating fever which begins high, followed by cold sweats, dry spells and vomiting. Anemia is almost always a symptom of malaria, as well as an enlargement of the liver and spleen (Goering et al. 2008).

In many cases AIDS and malaria co-infect the same individual. “There is considerable geographic overlap between the two diseases, particularly in sub-Saharan Africa, and growing evidence of an interactive pathology” (Abu-Raddad et al. 2006:1603). I.F. Hoffman, J.G. Kublin, and L. Xiao have shown in their case studies that malaria will induce HIV to replicate in vitro (in glass) and in vivo (in body) (Abu-Raddad et al. 2006). The body recognizes that its red blood cells are infected with parasites, so it responds by producing more T cells and CD4 to attack the foreign substance. However, by producing more CD4, the body produces more HIV infected white blood cells when the infected CD4 cells replicate, the HIV does as well. The HIV will increase tenfold with malaria patients. In turn, HIV significantly increases the chances of the individual to contract malaria (Abu-Raddad et al. 2006). HIV in adults is commonly linked with severe malaria and death (Goering et al. 2008).

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Centers for Disease Control and Prevention

World Health Organization

Malaria

Throughout the areas in the world most affected by HIV/AIDS, there are a variety of other illnesses that can prove to be equally as problematic and fatal as HIV/AIDS. One of these diseases is malaria, a curable but fatal illness affecting many of the same people threatened by the AIDS pandemic. Malaria is a disease that claims a million lives a year, with studies indicating that it could contribute to more than three million deaths each year. A finite financial
pool and a weakening world economy leads malaria to compete for the same financial resources as other public health crises, such as HIV/AIDS. It is in this competition that charges of AIDS exceptionalism stem. To understand these charges, we must first look at what malaria is, how it affects populations and what is needed to prevent/cure the illness. We can then look at charges of AIDS exceptionalism and what is being done to funnel resources towards malaria aid (CDC 2009; WHO 2009).

There are four types of human Malaria parasite: *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium malariae* and *Plasmodium ovale*. The deadliest of the parasites is *Plasmodium falciparum*. All of these parasites are transmitted from human to human via a mosquito bite. This parasite develops in the human liver and spreads in the red blood cells (World Health Organization 2009). The effects of this disease if left untreated can become fatal (CDC 2009).

Malaria is a viable threat to over half the world’s population as it is prevalent in warmer climates such as Africa, South America, Malaysia and India (WHO 2009). The Center for Disease Control (2009) released data that said every year 350-500 million people contract malaria worldwide. The highest occurrence of malaria occurs in sub-Saharan Africa, as seen in appendix B (CDC 2009).

Europe and the United States have generally eradicated the threat of malaria by using pesticide nets, artemisinin-based combination therapy (ACT), and spraying the inside of houses with pesticides aimed at killing mosquitoes (CDC 2009). These preventative measures have almost completely exterminated the threat of malaria in the United States and could be implemented to control the outbreaks in South Africa and other countries.

Malaria’s epidemic levels are directly related to money. The major methods for preventing the disease are the use of insecticide, sprayed netting, and medication. The poorest 20 percent of the world’s population has 58 percent of the outbreaks of malaria (The Global Fund to Fight AIDS, Tuberculosis and Malaria 2009). The reason these countries are affected so much is because of their low income levels and the inability to afford the netting or medication. There are many organizations that help these countries by giving out mosquito nets and supplying medication such as The Global Fund to Fight AIDS, Tuberculosis and Malaria, the World Health Organization (WHO 2009) and numerous malaria based organizations. The consequences of malaria do not just affect the individual that contracted the disease; it also depletes the Gross National Product. In Africa the Gross National Product was depleted by 12 million dollars each year due to Malaria (WHO 2009). The cost for preventing malaria is a fraction of what it costs for treatment and medication after infection.

In the eyes of some individuals, HIV/AIDS should be given priority and special treatment over other health related issues and diseases. There are also other individuals who believe that malaria should be given priority as well. Malaria is a co-factor to HIV in the tropical areas of the world. Like HIV, malaria effects and kills millions of people, especially children and pregnant women (Rogers 2008).

Those individuals who are fighting to make malaria a priority belong to partnership-based global aid programs. These programs include the Roll Back Malaria Partnership, the Multilateral Initiative on Malaria (MIM), Presidents Malaria Initiative (PMI), The Bill and Melinda Gates Foundation, and lastly the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Rogers 2008).
Collectively, these organizations fund the majority of malaria research worldwide. In particular, The Bill and Melinda Gates Foundation is responsible for funding in areas that include advocacy to increase financial support and research to develop new vaccines, treatment, and measures of mosquito control (Rogers 2008).

The Global Fund joins international institutions, private donors, and industrialized countries with more than 135 developing countries. Since 2001, it has become the primary source of funding to fight not only malaria but HIV/AIDS and TB. This fund contributes three-fourths of all funding for malaria compared to one-fourth for global AIDS, and two-thirds to fight TB (LeFranchi 2009).

Researchers, along with these organizations, have made it their mission to control malaria. This has been done through insecticide treated bed nets, indoor spraying of insecticide, detection and response to epidemics and prompt care of infected individuals (Rogers 2008).

However, these measures are not enough. There are still one million lives lost to the disease each year (Rogers 2008). In order to reduce this number through new medicines, vaccines, and personnel, funding is in high demand. Due to the economic situation of the world, most global aid programs compete for similar resources. The question now becomes, whether funding will go to a treatable-curable disease like malaria or a disease like HIV, which is incurable.

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HIV/AIDS and Malnutrition

HIV and Malnutrition as co-factors

Another common factor felt worldwide that exacerbates an infected person’s chance of recovery is malnourishment. Upon being asked how she felt about contracting HIV, Zulu, a sex worker in Zambia, replied, “Everyone will die, whether of malaria, poverty, road accidents, or HIV - it is the same death. I choose not to think about contracting HIV, but what I will eat today with my four-year-old son and my niece at home,” (PlusNews 2009). Zulu’s statement reflects the urgency for food and aid in impoverished countries. As of the year 2000, 792 million people were affected by malnutrition (Thinkquest 2009). In non-industrialized countries, “malnutrition contributes to half of all deaths of children under five,” (WHO 2009).

Being underweight increases the chances of contracting an infectious disease. When a person has two diseases they have a synergistic effect on each other, or in other words, the two diseases have an effect greater than just the one disease by itself. For example, in children who are “mildly underweight,” the risk of death from an infectious disease is twice as much as those who are healthy (Black et al. 2003:2232). For children who are “moderately to severely” underweight, the risk increases five to eight times more (Black et al. 2003:2232). This correlation has been shown in adults and children alike. (Black et al. 2003). If an individual is HIV positive and malnourished, the virus may progress more rapidly (WHO 2009). There is a parallel relationship between Body Mass Index (BMI) and CD4 count. An increase in BMI will increase the production and count of CD4 cells, and the reverse is true as well. Thus a person who is malnourished will be at a disadvantage from a lower CD4 cell count compared to a healthy person (Quach 2008).

Malnutrition is linked to poverty; when people are unable to afford food they endure without it and their bodies suffer in the form of malnutrition. Middle classes in non-industrialized countries have been sacrificing health care and eating meat so that they can afford to eat three meals a day. The poor, those who survive on two dollars a day, can no longer send their children to school, no longer buy vegetables, to continue a subsistence diet of rice. The impoverished, which live on one dollar per day, have stopped eating three or two meals a day just so that they can have one bowl of rice. And those who previously endured on 50 cents a day now face ruin (Anonymous 2008).

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Malnutrition

Malnutrition is one of the largest threats to the world’s public health. By looking at the global hunger index, we can see which countries are greatly affected. The Global Hunger Index is a tool for calculating hunger and malnutrition. It calculates the proportion of the population that is undernourished, the prevalence of underweight children under five years of age, and the percentage of children dying before the age of five (Wikipedia 2009b). In looking at appendix C from the Global hunger index, we can see that the countries most affected by malnutrition are Cambodia, India, and many of the countries within Africa.

Malnutrition is defined as a medical condition caused by improper or inadequate diet and nutrition (Wikipedia 2009a). Malnutrition may be difficult to identify for treatment since people with a healthy looking body could be malnourished due to lack of micronutrients. A healthy diet involves adequate caloric intake, which for a female is 1500-2500kcal/day and for a male is 2500-3300 kcal/day (Human Nutrition 2009). People also need the essential amounts of the nine amino acids, and fats to provide energy to our bodies. Lastly, we need essential amounts of vitamins and minerals. Without the proper dosages of these vitamins and minerals to fulfill the bodily requirements, a person can suffer from malnutrition, which can lead to the increased risk of contracting different diseases and even death.

There are many causes of malnutrition. In industrialized societies such as the United States the downward spiraling economy resulting in declining wages, unemployment, rising food prices, and poor food distribution systems have affected a number of people. For instance, in the United...
States, the changing economy has made selecting healthy food more difficult as the prices have risen. In 2007, farmers began making choices that, while increasing profit, decreased food production. The developments of ethanol as a bio-fuel from corn led to farmers planting more corn rather than other produce. This created a shortage of other foods that are important in our diet such as soybeans. In addition, because of corn products going to development of bio-fuel, the livestock industry was greatly impacted. They had to pay more for livestock feed that is made of corn (Katz 2008). Due to this shortage, the industry had to increase prices of produce as well as meat. Although the previous year balanced, the industry did not totally recover. This continues to affect the world’s food industry distribution and prices. With foodstuffs such as vegetables, fruits, and healthy cuts of meats costing more money without increases in salaries to offset the rise, it forces people to make choices that can lead to an improper diet resulting in malnutrition.

People in the U.S. tend to depend on quick, cheap meals like McDonalds, high in fat and calorie intake which can lead to health problems. “Approximately 2 billion people have some kind of micronutrient deficiency due in part to the increased availability of empty calorie foods (foods containing primarily fats and carbohydrates) and a decrease in dietary biodiversity” (Benton 2008:8). Within our fast paced world, people have to work so many hours to earn enough money to provide for our basic needs as well as pay bills. With less time in people’s schedules, they do not have time to cook a healthy meal. People tend to depend on getting their meals from a quick drive in, or an easy to cook frozen dinner. A lot of easy-to-prepare meals have empty calories. These meals also tend to be cheap and affordable to the public. It allows people get their fill for a cheap price. Though some “fast food” tries to increase the nutritional content of their food with vitamins and proper nutrition, it is still not healthy enough. It is still high in calories and fat. Another case is that some people in low income areas do not have the readily available fresh produce and healthy cuts of meats. This improper diet can cause many health problems, including malnutrition.

In non-industrialized countries poor food distribution greatly affects the population. These people do not receive the proper food that is needed to live a healthy lifestyle. Another factor that can lead to malnutrition is famine. The continent that seems to be most affected by famine is Africa. “During 1970s and 1990s, Africa experienced worsening poverty, drought, and malnutrition. Of the 19 famines registered globally between 1978 and 1998, 18 occurred within this continent” (Himmelgreen 2008:13). Famine in turn leads to unsanitary conditions, and the rapid spread of infection. Countries that are affected by famine often are faced with rationing of their food or raising prices to exorbitant rates, which can make choices difficult and may lead to malnutrition.

In these countries, malnutrition and HIV/AIDS are interconnected. Malnutrition is a contributing factor to HIV/AIDS because it leaves the body weakened and vulnerable to infection and susceptible to its spread in the body. Some have to choose between spending money to get drugs or spend money on healthy food that provides these nutritional needs. The demand for more intakes in fats, calories, and healthy food, can lead to malnutrition in other family members. This then causes malnutrition because people are fighting to keep their family member alive by feeding them more, which takes food away from other family members. In looking at the global hunger index, we can see that world’s largely undernourished populated counties suffer from HIV/AIDS in countries in Africa or small parts of Asia.
PLWH/A need more nourishment to counteract the adverse affects of the virus. HIV/AIDS often causes people to lose weight, lose muscle mass, and it sustains vitamin and mineral deficiencies. Adults and children need to increase their normal energy requirements by 10 percent when infected. During periods of the symptomatic disease, they would have to increase intake 20-30 percent more energy and 30 percent in the recovery period (Mother and child nutrition 2009). Children need to increase food intake by 50-100 percent when they experience weight loss. Considering the facts that HIV/AIDS causes weight loss, and the poor distribution of nutritional foods, malnutrition becomes ever more prevalent in regions with a high density of HIV/AIDS positive individuals.

**Risks for HIV Infection**

Malnutrition can be a co-factor for HIV infection. When someone is malnourished, they can become more susceptible to the disease. When a person does not receive the proper sustenance, it lowers the factors that allow the body to cope with its environment. With lowered nutrition, factors such as organ failure and a weakened immune system, can lead to people catching such diseases as HIV. “HIV prevalence is highly correlated with falling calorie consumption, falling protein consumption, unequal distribution of income and other variables conventionally associated with susceptibility to infectious disease” (Whiteside 2002:316)

People in malnourished countries often cannot afford to provide adequate food for their family. Malnutrition often causes people to engage in risky behavior in order to provide food for themselves and their families. This pattern can be seen in many areas, especially in Africa. The global hunger index reveals that within Africa 38 countries face malnutrition problems. Africa has 39.77 percent of the 88 countries listed that experience malnutrition. In 2008, the Congo was listed at 42.7 percent in the Global Hunger Index certifying it as the country most affected by malnutrition (Wikipedia 2009b). Out of Africa’s population, about 66.04 percent of its countries are facing malnutrition. With Africa suffering the worst effects of malnutrition, people are struggling to obtain food. Most families have dealt with this hunger issue all their lives, so the adults cope with the hunger to provide nourishment for their children. Single mothers and mothers in general are particularly affected by malnutrition by having to struggle to provide for their families. One common behavior is the exchange of sex for food or money to buy food to feed their families. One reason why women participate is because their husbands are HIV-positive and cannot work themselves. Thus, wives need to provide extra food to maintain their husbands’ health and medical expenses while addressing her family’s basic needs. These women may be forced to participate in the sex trade to provide enough money to address these needs. If the husband has died, the woman is often left with fewer prospects and is forced to continue this type of work to provide food for her children. “As their livelihoods collapse, their family networks fold and their coping strategies vanish. Millions of young women are turning to what is called “survival sex” to feed their children. The consequences for HIV transmission do not need to be spelled out” (Waal 2002:1).

In the more affluent continents of Asia, Europe, and the Americas, substance abuse problems increase risks for HIV infection. Health officials started to notice an increase in the infection of AIDS in the 1980s all over the world. They especially started to notice its growth within the population of drug users in Asia who became infected with HIV/AIDS. In 1985 to 1986 there were no reported cases of infection within Bangkok. However, in 1987, studies show that they found that one percent of intravenous drug users had contracted HIV and by 1988, this
population increased to fifteen percent (McTigue 1988). Currently the spread of AIDS in South, East, and South-east Asia has increased to 41.81 percent of the population of injected drug users. Other countries include Russia, Eastern Europe, and Central Asia representing 25 percent, North America 13.79 percent, Middle East and North Africa 4.51 percent, Latin America 3.36 percent and Oceania .97 percent of the world population of injected drug users. One can see that most of Asia remains the largest population of injected drug users. Within that population in East and South East Asia, in Malaysia 72 percent, Indonesia 54 percent, Vietnam 52 percent, and China 44.3 percent injecting drug users are currently infected with HIV. Within Eastern Europe, Central Asia, and Russia with 83 percent, Kyrgyzstan 75 percent, Kazakhstan 73.6 percent, and Ukraine 64.1 percent of injecting drug users are infected with HIV. (Avert 2009). In the United States, only 36 percent of injection drug users have been directly and indirectly accounted for in 2002 (CDC 2002). These statistics indicate a major problem with needle transmission. Education programs should be expanded to teach people that you can get HIV from sharing needles. Rehab programs around the world can be used to help users face their drug addiction that can possibly lead to malnutrition and the risk of HIV infection.

There is a clear connection between drug use and malnutrition. This is because using drugs may lead to addiction, causing some people to use all of their resources to provide themselves with the drug. They may choose to satisfy the addiction before meeting other needs. Thus, they could become undernourished either by starving themselves or by not providing the proper nutrition their body requires. People who use heroin tend to be below the poverty line. Heroin users were also seen to be the most likely to have food insecurity at both the individual and household level (Quach 2008). “The heroin drug-taker has to pay $150 to $250 a day to support his/her addiction to the substance” (Detoxland 2009:1). HIV infection seemed to be highest in heroin drug users. This could be because it is the most commonly injected drug in the world. Drug usage may be due to lower caloric intake, abnormal gastrointestinal function or metabolism, or direct effects of the drugs themselves (Quach 2008). In looking at these reasons, we cannot assume that all factors related to malnutrition and drug use is because people would rather use drugs then provide the proper nutrition. However with these reasons, we can see how it can make it hard for the body to function and absorb the proper nutrition. With adding to the needs of people who are infected with HIV/AIDS, drug addiction can further complicate health issues especially when facing malnutrition.

AIDS, A Cause of Malnutrition

As we have seen, people with AIDS need a greater food intake than the average person. With a body already weakened by HIV, a person needs to maintain the extra care of a proper nutritional diet to stay healthy. If a person cannot provide the needs of this extra care, it can lead to malnutrition. This demand for an increased intake of fats, calories, and healthy foods can be problematic. Some people cannot afford this extra food intake to keep their body healthy. “Insufficient intake of calories can enhance the progression of the HIV virus” (America.gov 2006:1).

The demand for extra food makes it a hardship to provide for a family and a person with HIV/AIDS. In Africa, famine is a normal occurrence. With the growing AIDS numbers, people find survival laborious. It takes one-third of a household’s income to address the needs of related
AIDS care (UNAIDS 2004). These families are then forced to spend less on food to cover these costs. Providing the necessary funeral costs further drain the family’s income. A household will spend 50 percent more on funerary costs than on medical bills (Whiteside 2002). Families who live in Africa depend on steady income because most of it goes to provide for food costs. With famine food prices increasing, it becomes more difficult to nourish an individual living with HIV/AIDS within your family.

HIV/AIDS also affects the community as a whole. With more people becoming infected with HIV, there are fewer people with the strength necessary to work on farms that provide food. Thus, the whole community suffers and becomes malnourished for the lack of adequate supplies. This is especially evident during famine, when they need all the help they can get to prepare for the dry season. “AIDS kills young adults, the people whose labor is most needed” (Wall 2002:1). With this loss of labor, the community loses income from farming, household assets, and household level food security (UNAIDS 2004). It is predicted that Africa will lose about one-fifth or more of its agricultural workers by 2020. Also, elders pass on the experience and skills for surviving a famine. With people dying at an earlier age due to HIV/AIDS, these elders may not be there to pass on this information which could lead to further malnutrition problems.

AIDS Stigma and Malnutrition

Looking at the connections between HIV/AIDS and malnutrition, it is important to also take into account the stigma that exists. As mentioned previously, stigma is any prejudice or discrimination against people who are treated in a negative way. “The stigma of HIV/AIDS is especially pronounced because many of the sufferers, at least in the early stages of the epidemic, were homosexuals, injecting drug users, and the poor” (Singhal and Rogers 2003:45). While the stigma was very pronounced in the earlier years of the epidemic, it can still be seen across the globe. “HIV/AIDS-related stigma can range from a simple gossip to outright discrimination, resulting in job loss, house evictions, rejection, isolation and even killing of an HIV infected person” (Ulasi et al. 2009:255). This stigma has a huge impact on the lives of those who have HIV/AIDS, but can also have an impact on the prevalence of malnutrition in those people as well.

First, the stigma around HIV and AIDS is not the same everywhere. In some non-industrialized countries, the stigma is still very strong, specifically around gender and socioeconomic status. In places like Sub-Saharan African, Haiti, and India, the general population is poor, and HIV prevalence rates are high. Looking at Sub-Saharan Africa alone, “two thirds (67 percent) of the global total of 32.9 million people with HIV live in this region, and three quarters (75 percent) of all AIDS deaths in 2007 occurred there” (UNAIDS 2008:1). This means that 22 million people in Sub-Saharan Africa are living with HIV, and of these, 12 million are women and 1.8 million are children (UCSF Center for HIV Information 2009). Women in these areas depend heavily upon their husbands and kin group, and are largely at risk. “Their major risk factor is being poor. For others, the risk is being married and unable to control not only their husbands but also what jobs their husbands have to perform to make a living” (Farmer 2001:83). In some of these places, men typically have multiple sex partners whether married or not, and this increases the risk of contracting and spreading HIV. In some of these cases, the women are the ones who are blamed for infection and transmission, whether the men contract HIV first or not. When this
happens, it is not uncommon for the husband or kin group to abandon them, and many women wind up on their own with no money and no way to support themselves (Singhal and Rogers 2003). The stigma towards these HIV-positive women, who have been abandoned, along with their socioeconomic status, prevents these women from getting help. This can obviously mean that these women will not get enough food or the right amount of nutrients, which can cause malnutrition. On top of this, these women rarely have access to resources for HIV treatment, and so malnutrition from both having the virus and not having enough to eat, will happen even faster.

Women are not the only ones affected by HIV stigma in non-industrialized countries. With such a high prevalence rate, people’s HIV-positive families, friends, and loved ones are dying all around them. This is leading to a huge number of orphaned children who are both HIV-positive and HIV-negative, especially in Africa. “Each orphan has typically lost one or both parents to the epidemic. By 2010, 44 million children will have lost one or both parents to AIDS. Most AIDS orphans are born HIV-positive. They were infected by their mothers, who in turn were probably infected by their husbands, who got the virus from someone else” (Singhal and Rogers 2003:67). Those children who are HIV-positive tend to already have severe malnutrition, and with the lack of resources available there is the stigma that they already have a death sentence. “National malnutrition statistics are hard to access in Zimbabwe. But according to the UN Children's Fund (UNICEF), there is a strong association between severe malnutrition and HIV/AIDS; around 70 percent of children admitted to hospital for severe malnutrition in Zimbabwe are also HIV positive” (IRIN 2009:1). This stigma prevents many innocent children who are HIV-positive from birth from getting the care they need, while causing them to suffer not only from the loss of their parents, but from their illness as well.

HIV/AIDS-related stigma is expressed differently in industrialized societies. In the United States, the stigma was very pronounced at the beginning of the pandemic, with people thinking HIV was a “gay plague,” and towards injecting drug users and the poor. “These marginalized groups were already heavily stigmatized by society, and this prejudice was carried over, and strengthened, when such individuals became identified as carriers of HIV” (Singhal and Rogers 2003:250). While the stigma has lessened, it turns out that these groups are still affected by it today, and so are other minorities, such as African Americans and Latinos. “In the United States, HIV has moved almost unimpeded through poor communities of color” (Farmer 2001:77). And those people who have HIV/AIDS that belong to a minority also have a high risk of malnutrition, especially with the already placed stigma upon them. “Individuals and communities that constitute the bottom rung of the socioeconomic ladder have the least power, the most limited access to information, and the fewest resources with which to fight the epidemic” (Singhal and Rogers 2003:44). Therefore, they are more susceptible to contracting HIV, as well as not getting the proper treatment or food intake, leading to malnutrition and other illnesses.

**ARV Drug Therapy and Malnutrition**

In order to understand the relationship between antiretroviral drugs (ARVs) and malnutrition, it is important to fully understand the mechanisms of ARVs. ARVs are effective because they prevent virus replication. Although ARVs are able to prevent virus replication they are not able to cure an individual, rather they are most commonly used in multi-drug treatment plans (Uretsky 2006). According to the Gale Encyclopedia, there are three main types of ARVs;
nucleoside reverse transcriptase inhibitors which prevent the virus from making a DNA strand necessary for the virus to replicate itself. The second type of ARVs is non- nucleoside reverse transcriptase inhibitors. These drugs “…act by binding directly to the reverse transcriptase molecule, inhibiting its activity” (Uretsky 2006).

As previously mentioned, most individuals infected with a retrovirus are on combination drug therapy plans. Combination drug therapy aims to produce three desired affects; a reduction of viral load in an individual, a boost of T- cell counts, and lastly to prevent opportunistic infections. “Because HIV mutates readily, the virus can develop resistance to single drug therapy. However, treatments with drug combinations appear to produce a durable response. Proper treatment appears to slow the progression of HIV infection and reduce the frequency of opportunistic infections” (Uretsky 2006).

Taking ARV drugs and maintaining that daily schedule of medication can sometimes be difficult. In an article titled *HIV, AIDS and Malnutrition* Stephanie Hembree writes “Malnutrition has been shown to have a harmful effect upon the course of this disease. It has been suggested that successful attempts to maintain body weight could prolong survival. Getting enough calories, proteins, carbohydrates, fats, vitamins and minerals are important” (Hembree 2000). As previously mentioned, maintaining a daily schedule of medication is difficult and sometimes impossible. A new ARV drug therapy, which involves patients taking fewer pills, fewer times a day, shows multiple benefits. This new therapy regimen increases adherence and makes food intake easier because less frequent doses means an individual can maintain a more regular diet, rather than only eating when their ARV therapy allows them to.

Some of the symptoms of ARV therapy, coupled with symptoms of HIV, make it difficult for an individual to meet the basic nutritional requirements necessary for ARV drugs to be affective. These symptoms and side effects “…include but are not limited to stomach upset, mouth and throat sores, diarrhea and lack of appetite” Hembree goes on to say “Taking medications revolves around eating” (Hembree 2000). With these symptoms it is completely understandable that a patient is sometimes unable to eat or simply wishes not to. When considering this aspect of the ARV drug therapy as it relates to food intake it is important to understand that ARV therapy requires an individual to maintain certain nutritional values; however, the ARV drugs undermine a patient’s ability to consume food and meet those nutritional requirements. In order to combat this causal/resultant antagonistic effect, Hembree simply suggests eat more. Hembree writes “Extra muscle will help you fight HIV. Protein and complex carbohydrates help build and maintain muscle. Fat stores energy and protects your vital organs. Limiting your fat below 30 percent could make it difficult for you to get enough calories” (Hembree 2000).

Another negative side effect of poor nutrition as it relates to ARV drug therapy is the issue of toxicity. Suneetha Kadiyala, a scientist at the International Food Policy Research Institute (IFPRI) said in an article written by Charlene Porter that “As anti-retroviral drugs (ARV) become more widely available in poor regions where AIDS is taking the greatest toll, scientists also are discovering that malnutrition compromises the efficacy and increases the toxicity of medications” (Porter 2006). ARV therapy dosages are based on nutritionally sound individuals from more industrialized countries with only compromised immune systems. Individuals in non-industrialized societies are often malnourished and immune-compromised. These two co-factors
can result in ARV dosages being ineffective and even toxic. This toxicity is made even more severe and dangerous when an individual exhibits the signs and symptoms of a phenomenon known as wasting, or severe loss of body mass. Although wasting occurs in HIV/AIDS patients throughout the world, it is more prevalent in non-industrialized countries where food security is an issue.

Individuals infected with HIV/AIDS living in the United States do not face the same food security issues that PLWH/A in less industrialized areas of the world face. A prime example of one of these areas is sub-Saharan Africa. Nkandu Luo, Zambia’s first female professor and former health minister, says, “Lack of food has become more critical and prevalent in Zambia than it was in the past. Some families are alternating when they eat, especially in rural areas. In certain homes, each family member has to skip a day before taking the next meal, regardless of whether or not they are HIV positive and on medication” (Be Well @ Stanford 2008). This type of poverty is not uncommon and is further exemplified by the fact that “… according to the Central Statistical Office, 68 percent of the 11.7 million people live [on] $1 or less [per] day” (Be Well @ Stanford 2008). This type of poverty makes it extremely difficult for people living in less industrialized areas of the world to acquire food and therefore the nutrients necessary for ARV drug therapy to be effective.

The issue of food insecurity not only relates to the amount of food available to an individual or a family, but also to the types of food. In industrialized societies, such as the United States, most individuals have access to food items that can lead to a more balanced diet. Such food items include grains, vegetables, and various animal products rich in animal fat and protein. In non-industrialized countries, individuals do not always have access to these animal fats and proteins. Even if a person in a non-industrialized society eats enough to feel full, this does not mean that they are acquiring the right amount of nutrients. They may be getting full but they do not have the proper nutrient rich foods readily available to them like they do in industrialized societies.

These non-industrialized areas of the world, particularly sub-Saharan Africa where food security is an issue, also seem to have the highest numbers of HIV/AIDS infected individuals. This correlation between food security, or rather food insecurity, and elevated infection rates are not mutually exclusive. Malnutrition causes weakened immune systems and therefore the probability of contraction is increased. Along with this, malnutrition also makes ARV drug therapy less effective because of the fact that an individual is not absorbing the necessary nutrients.

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Neglected Tropical Diseases

Neglected Tropical Diseases (NTD) affects the health and livelihood of many people in the world today. Dr. Lorenzo Savioli, Director of the Department of Control of Neglected Tropical Diseases for the World Health Organization states that “approximately 1 billion people—one sixth of the world’s population- suffer from one or more neglected tropical diseases” (Savioli 2006). These people live in the areas that have high poverty and lack of accessibility to health care.

The reason that NTD spread so much and are prevalent in the poorer regions of the world is because they are parasite diseases. These parasite diseases are transmitted via mosquitoes, snails, tsetse flies “the assassin bug” and flies of filth (WHO 2009). The bugs thrive in areas of impoverishment that lack clean water.

The diseases that are part of the NTD group are disfiguring and have life-long impairment. The WHO includes Buruli Ulcer, Chagas disease, Dengue haemorrhage fever, Dracunculiasis (guinea-worm disease), Fascioliasis, Human African trypanosomiasis, Leishmaniasis, Leprosy, Lyphatic filariasis, neglected zoonotic disease, Onchocerciasis, Schistosomiasis, Soil transmitted helminthiasis, Trachoma and Yaws as NTDs (WHO 2009). Not being able to pronounce the names of these diseases has been blamed for the lack of support (Savioli 2006). These diseases consume areas where there is scarce water for bathing and consumption, lack of hygiene, the infestation of insects, and no pesticides (WHO 2009).

The effects of these diseases can range from blindness to physical deformity. Leprosy is one of the best known diseases in the NTD and it causes you to lose appendages. Trachoman and Onchocerciasis cause blindness. Chagas disease causes severe damaged to internal organs while Guinea worm disease cause such pain that the person may be immobilized for months because the slightest move is unbearable (WHO 2009).

There are 120 million people infected with Lymphatic filariasis, the second leading cause of disability in the world (WHO 2009). Trachoma affects over 80 million people in the world and is the leading cause of blindness. There are 13 million people infected with Chagas disease most believed to live in Latin America (WHO 2009). NTD’s are a global problem that should be considered when discussing the issue of AIDS exceptionalism.
These diseases also impact the economic growth of the given area. People that have been infected with these diseases cease to work and contribute to the society they live in. The children that get infected by these diseases can have diminished cognitive capacity and impairment of growth. These children and adults are stigmatized and discriminated against (WHO 2009). Some of the diseases leave visible signs of infection such as disfigurement and blindness which helps identify the people infected encouraging the stigmatization and discrimination.

NTD effect too many people in the world to go unnoticed and unsupported. Disease such as HIV/AIDS, malaria, and tuberculosis are diseases that get a lot of attention. Without help to rid the world of NTDs the battle against disease will be difficult.

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Recommendation: Decrease HIV/AIDS Stigma

AIDS related stigma is directly related to issues of health, human rights, and the law. These stigmas manifest into feelings of fear of HIV transmission and hostility towards those infected. These feelings of fear and hostility can be expressed through violence, discrimination, avoidance, ostracism, and the public support for certain polices that limit civil liberties and hinder AIDS prevention efforts (Herek 2002). Many people within the HIV/AIDS community agree that decreasing AIDS stigma is an extremely important step in combating this pandemic (Brown et al. 2003). These stigmas are worldwide; people with HIV in different nations are subjected to varying amounts of discrimination, violence, and rejection. The stigmas associated with HIV/AIDS originate from lack of education, and misinformation.

Since the first cases were detected in 1981, people have been sharing their personal stories of living with AIDS, and the discrimination and injustice they have had to endure for having this disease. AIDS stigma also negatively affects preventative behavior. Herek conducted national studies throughout the 1990’s, and he found that the public support for making the names of
AIDS patients available to the public, and the desire for quarantine. One fifth of those he surveyed by 1999 still held onto their fear of people with AIDS, and one-sixth harbored feelings of disgust towards those with AIDS (Herek 2002). Herek’s surveys found out that other more concealed forms of sigma still persisted. Approximately one-fourth of those surveyed felt uncomfortable having direct contact with someone with AIDS, and one-third said they would avoid shopping at grocery stores if they knew the owner had AIDS. Results also showed that a percentage of the public believed that some people deserved to have AIDS. In 1997 Herek’s study revealed that 28 percent of people who became infected with HIV through sex or drug use deserved to have AIDS, and that one-half of the respondents shared the view that people with AIDS are responsible for their illness (Herek 2002). There are also stigmas associated with groups such as homosexuals and prostitutes that deepen AIDS stigmas (Brown et al. 2003).

Through his studies, Herek also found that although the public is fairly well educated about how HIV is spread, they are not as well educated on how it is not. In his surveys, he found that many respondents held exaggerated views on risks associated with casual societal contact, with approximately 50 percent of respondents believing that sharing a glass of water, or being sneezed on can spread HIV, or even using public restrooms (Herek 2002). These numbers have actually increased from percentages taken in 1991. It can be said that those who believe in the transmittance of HIV through casual social contact are more likely to fear contact with PLWH/A, and thus support certain policies that violate the human rights of those with HIV under the pretext of protecting public health (Herek 2002). This fear of transmittance extends beyond the general public, and into the health care system. Many health care workers and caregivers share these fears. The health care worker’s attitudes towards PLWH/A can negatively affect the amount and quality of treatment they receive, and in some cases can result in abuse (Brown et al. 2003).

There have been numerous studies conducted that test a variety of interventions to decrease AIDS stigma in both industrialized and non-industrialized countries. Interventions that were aimed at increasing both tolerance and acceptance of people living with HIV/AIDS, focused on decreasing the publics negative attitudes and encouraging positive attitudes toward PLWH/A (Brown et al. 2003). One study was done on the stigmatization directed at children and youth who are infected or affected by HIV/AIDS and attending schools. Rejection and isolation can result from stigmatization, or fear of contraction, coming from both teachers and fellow students. There were eight intervention studies conducted with the goals to promote tolerance of those living with HIV/AIDS among primary and secondary school children (Brown et al. 2003). The results were mixed. While all of the studies proved to increase knowledge of students; the effect of the interventions on attitudes PLWH/A had mixed results. One example of a study that had positive overall results was a test among primary school children in Tanzania where they tested a three month AIDS information program which included focus group discussions about risk reduction, and students worked on poster projects about HIV risk factors. One of the main objectives was to improve students’ tolerance of those living with HIV/AIDS, and to increase their willingness to care for them as well. At the 12-month follow up, it was shown that the children’s attitudes towards those living with HIV/AIDS had improved significantly (Brown et al. 2003). Stigma not only affects children attitudes towards HIV/AIDS but also gender inequality cross culturally.
Stigma and Gender Inequality

Stigma and gender inequality are seen cross-culturally when dealing with the AIDS pandemic. Gender inequality refers to the differences seen when discussing, preventing and contracting this disease between men and women. It is argued that gender inequality in Africa has been one of the major causes of this “disaster” (Albertyn 2003). Many have looked to how women are treated compared to men and have given recommendations and other steps to help with this inequality. By doing so this allows prevention and treatment to take place. Within Africa, gender inequality is the main cause for contracting HIV and in order to change this and reduce stigma, a number of recommendations must be put into action.

Within Africa and other places around the world it is very hard for women to negotiate condom use (Kaiser 2008b). Women suffer from two aspects when dealing with HIV/AIDS. One, they suffer from HIV/AIDS itself and two from the stigma that is associated with the disease (Kaiser 2008a). It is a cultural norm for men to be able to have multiple sex partners and the wife to stay faithful. This leaves the women to the threat of infection because her husband can become infected. The women cannot ask her husband to wear a condom because she will be seen as not trusting her husband, there is fear of being beaten and/or being accused of being infected. While at the same time, women are routinely being blamed for infecting their husbands when it is almost always the man who infects the women (Kaiser 2008a). Furthermore, women are also using sex as a means of bartering for food and other goods and when approached about money the man will usually pay more not to wear a condom, another factor that increases the probability of infection (Albertyn 2003).

In China the rate of infection for women has gone up considerably. The behavior of men in this country can be seen through the increased pattern of infection in women. In 1995 about one in ten women were infected with HIV. Today, as of 2008, about one-third of all people in China living with HIV are women (Kaiser 2008a).

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Additionally, women are at risk for HIV/AIDS around the world from the threat and action of sexual violence. It is stated that HIV/AIDS and violence in women and girls are “duel pandemics” and must both be addressed to combat the stigma and infection rate (Kaiser 2008a). In the past the ABC method (Abstinence, Being Faithful, and Condom Use) was used to combat infection and prevention among women. This was a stance towards abstinence, being faithful, and the use of condoms. It is not apparent that this method does not work because it does not provide enough prevention and support to women due to the issues of rape, early marriage and low condom use (Kaiser 2008b). There needs to be new methods put into action to deal with infection, prevention and protection of women and girls.

To help with gender inequality cross-culturally, the empowerment of women needs to occur. Women and girls alike need to be outfitted with self-esteem and the knowledge and ability to protect themselves, helping to decrease infection and increase prevention (Kaiser 2008a). Within South Africa “constitutional tools” need to be used to give women equality. This needs to take place among cultural practices where new egalitarian practices occur alongside older traditions. There also has to be a promotion of understanding of gender identities with an understanding of the values of equality between sexes (Albertyn 2003).

Men also need to be involved to the move towards equality of the sexes. Within China some feel that men in leadership positions as well as other men need to be encouraged to stand up and take on a more egalitarian stance when dealing with sexuality and gender. Also, they need to adopt responsible sexual behavior that respects both them as a man and their female partner (Kaiser 2008a). Gender inequality is one of the major factors of stigma when dealing with HIV/AIDS. Women are seen as the vessels for the infection and cross culturally, women face a stigma associated with high infection rates that creates such a perception. To help increase prevention and decrease infection women need to be empowered cross-culturally with respect from their culture.

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Religion and Stigma

Religion and its prevention efforts towards HIV has always been a two edged sword. With their own agenda in which abstinence is a goal and the avoidance of sexual issues a norm, religious organizations have created stigma that has fueled the continued spread of HIV. On the other hand, the communities in which these religious organizations serve are a fundamental component to the community. In consequence, the recommendation being offered is that religious organizations should promote programs that reduce not only HIV but TB and malaria as well. This recommendation comes with awareness that the religious organizations will have their own agenda when it comes to addressing any kind of issues in regard to HIV/AIDS.

Some aspects of religion place a stigma on PLWH/A. Many churches such as ones in South Africa, “fail to support the sick and continue to consider the disease as “God’s retribution” (Kaiser Daily HIV/AIDS Report 2004). These kinds of attitudes help fuel the silence that continues to promote the spread of HIV, giving it it’s exceptionalism status, and hurting any efforts in preventing other diseases from spreading. A study published in the University of Cincinnati’s Institute for the Study of Health found that of the eighty percent of the HIV positive people that were given a survey, twenty four percent felt alienated by their own religious communities. Another sixty percent felt that they didn’t feel welcomed into the community in the first place after their HIV status was revealed, and ten percent reported that they left their churches because of their HIV status (Kaiser Daily HIV/AIDS Report 2007a). Specifically in Africa, there are spiritual and cult leaders that say they can cure HIV. Many do not get the antiretroviral treatments and instead stay with spiritual remedies and prayers (Kaiser Daily HIV/AIDS Report 2007b).

Religion can fuel the continuation of HIV transmission by actually being too active instead of silent. Joel Tsveat who was the principle researcher in the group found that there was a double edged sword because religion gave people a feeling of spirituality and hope but also they believe that God would heal them or the people feeling guilt for being HIV positive (Kaiser Daily HIV/AIDS Report 2007a). HIV is exceptional in its transmission through activities that religions find of questionable/immoral nature. Taking such a narrow view of its transmission and not looking at how HIV transmission affects TB and malaria rates, has hurt the prevention of all these diseases. Religion can be a powerful tool when used within the nature of its inherent boundaries and biases. There are many people that are realizing that religion is being underutilized, and that programs that increase religious involvement in a positive way can result in the reduction of HIV and many of its cofactors.

In the U.K there is a program called Pogressio that works with religious organizations to combat stigma that occurs from being HIV positive. They conduct their work in Yemen. Recently they held a workshop with 25 Muslim leaders in which they received health guides, information and aims at reducing HIV stigma and discrimination (Kaiser Daily HIV/AIDS Report 2008a). Religious leaders received interactive training on handling these issues and how to properly
communicate with someone who was HIV positive and to reduce further stigmatization. They also came up with strategies in which the religious leaders could give these messages through their sermons and therefore assimilate it to community life (Kaiser Daily HIV/AIDS Report 2008a). There are also many progressive members within the religious community as well who do not fuel the increased transmission of HIV/AIDS. Guenter Apsel, a retired Lutheran minister, views HIV “not only a disease but also a complex social problem that has considerable impact on development of affected countries” (Kaiser Daily HIV/AIDS Report 2008b). He believes that efforts should not only be made by governments but churches as well. Apsel also reports that, “many churches have now recognized that as a result of taboos, stigma and denial- they (the churches) have exacerbated HIV/AIDS” (Kaiser Daily HIV/AIDS Report 2008b). Also among his recommendations is that condom use must be a requirement and that churches that stress abstinence and fidelity won’t be able to save lives or prevent the spread of HIV. As progressive as Apsel is, he also states that condoms are not the solution in stopping HIV’s spread but only a prevention measure. Understandably change can only come at a slow pace and there are some members within the religious community who are gradually changing church views and bringing these issues out into the open (Kaiser Daily HIV/AIDS Report 2008b). Not only are discussions being opened in these venues but actions are being taken by the religious community as well. An example of actions being taken is the Bishops of an Evangelical Lutheran Church of America. They have participated in actively taking HIV tests in order to spread awareness about HIV and to show the confidentiality that occurs when people take an HIV test (Kaiser Daily HIV/AIDS Report 2009). They hope that if religious leaders take these tests, it will reduce stigma of these diseases and put everyone at the same level. If people participate because of their example, it could result in improved health for the society because people will see that their confidentiality is being kept (Kaiser Daily HIV/AIDS Report 2009).

Religious organizations are an integral part of many communities around the world and their participation is crucial in preventing HIV, TB and malaria. Programs being created within the religious institutions need to focus not only on HIV but the other diseases that act as cofactors. In 2007, the Council of Anglican Provinces in Africa announced a plan that would cost 2.2 million dollars to curb the transmission of HIV, TB and malaria. The main components of the plan are to address HIV through “education, leadership and counseling to support HIV positive people and to care for those who have TB and malaria as well” (Kaiser Daily HIV/AIDS Report 2007c). They also want to expand efforts to “improve communication; strengthen health, education and sustainability; and focus on poverty reduction and gender equity” (Kaiser Daily HIV/AIDS Report 2007c). This program is holistic in nature, realizing that HIV is only part of the problem in regards to a population’s health. The expressions of disease can arise from issues such as poverty, gender inequalities and the environment in which we live. In the future, more religious organizations should follow this program’s outline in order to create healthier environments biologically and socially; therefore curbing the transmission of these pandemic diseases.

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Kaiser Daily HIV/AIDS Report


Recommendation: Building Infrastructure

World Bank Loans
In order to improve the infrastructure of countries that are affected by the AIDS epidemic, one recommendation is to rework the criteria for obtaining a loan from the World Bank. The World Bank was started with the purpose of rebuilding Europe after the World War II. This was an honorable dream which was realized after the creation of the UN. As the war damage was mended, the bank needed a new target to help and the focus shifted to ending poverty. Today, the World Bank is made up of 184 member countries that are jointly responsible for how the institution is financed and how its money is spent (The World Bank 2009a). There are forty donor countries that replenish the bank’s funds every three years. This, along with loan repayments allows loans to continue, which then become available for re-lending (The World Bank 2009b).

The World Bank and the International Monetary Fund (IMF) give loans to impoverished countries to try and accomplish the goal of ending poverty. These loans are meant to go toward water resources, food supplies, transportation ways, and other vital categories. The problem that has been discovered is that, on average, poor countries face as many as 67 conditions for each World Bank loan (Eurodad 2006). These conditions applied to the loans have hurt the people more than help them. For example, some conditions added to the loans are privatization related. This means that public businesses such as electric companies or gas companies would be transferred from the public sector to the private sector. By doing this, the World Bank is giving certain businesses control over lifelines of countries in need. The number of ‘aggregate’ privatization-related conditions that the World Bank and IMF impose on developing countries has risen since 2002 (Eurodad 2006).

By privatizing public works such as electricity, the World Bank essentially is sentencing the people of that country to unfair wages and disadvantages to access of the works. When a company gains private control, they have a monopoly on that resource. Therefore they can set whatever prices they see fit. This is causing many to fear that the disparity in distribution will increase creating a tiered system. The system would really only include two groups, the wealthy class and the multitude of poor. Another highly controversial issue surrounding World Bank practices is how much money repayments take from nations that need the resources elsewhere. In sub-Saharan Africa (SSA) the World Bank recognizes 34 of its 42 “Heavily Indebted Poor Countries”. In 2001 SSA nations borrowed $11.4 billion, they paid $14.5 billion in debt service, $4.7 billion of which was in interest alone (Boyce 2002). This amounted to 3.8 percent of the sub-continents GDP, by contrast only 2.4 percent of the GDP was spent on health services (Boyce 2002).

The World Bank should also stop investing in Extractive Industries (EI) without regard to consequences. It is no secret that natural gasses and minerals have been a primary cause for conflict and corruption around the world. By investing in EI, the host countries that support and fund the World Bank, could start to steal natural resources and revenues procured for the goods. The practices to extract the goods have shown to hurt the environment and the local people too. A quote taken from the Extractive Industries Review states a definition of the EI and World Bank involvement; “The EI sector consists predominantly of enclave, capital-intensive activities that provide few direct opportunities for poverty reduction. Revenue generation is often the only, or at least the most prominent, anticipated benefit of EI development for host countries.” The revenue from EI projects does not go to benefiting the ordinary citizens and local
communities. Instead this income is siphoned out to line the pockets of the elite and smaller upper class (Lawrence and Reisch 2006).

The Extractive Industries Review (EIR) is an independent study of the impact of World Bank Group support for the oil, gas and mineral sectors (Lawrence and Reisch 2006). Their report was published and submitted to the World Bank in 2003. The recommendations given by them were on the grounds of basic human rights. They requested that the World Bank redefine their governance criteria. “The absence of armed conflict or of a high risk of such conflict; respect for labor standards and human rights; recognition of and willingness to protect the rights of indigenous peoples; and government capacity and willingness to publish and manage revenues transparently, allow independent audits and ensure effective revenue sharing” (Lawrence and Reisch 2006:4). This idea of governance first, EI development second, as a way to get back to the roots of solving poverty was ignored by the World Bank (Lawrence and Reisch 2006).

In order to fix the status quo of the World Bank, the United Nations needs to revert back to the fundamental principles with which the World Bank was founded on; the main principle being helping the impoverished. The argument can be made that this is what the World Bank has been trying to do. They have been handing out loans with the best intentions of the people at heart. But the evidence and studies conducted on the loans given out only show that the World Bank has become a catalyst to lining pockets of the elite classes that have a choke hold on the third world countries they live in. Money needs to be better regulated as in a closer eye needs to be kept on how money is being spent and where it is ending up. The loopholes and money pits that sap from the main fund need to be closed off. By solving the money flow problem, infrastructure issues such as lack of fresh water or food can start to be solved. With these needs finally fulfilled, the impoverished people can stop worrying about day-to-day survival, and then they can work on personal health and battling the epidemics that surround them.

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Access to Clean Water and Sanitation

Access to clean water is a major problem in the world today. According to Global Issues Organization more than 1.1 billion people live without access to clean drinking water. This is equal to one in five people in the world not having access to safe water (Global Issues 2008). If we are trying to rid the world of the diseases that take people’s lives every day, then we need to figure out a way for them to have access to clean water for cooking, drinking and sanitation.

Although millions of women in non-industrialized countries spend a good part of their day collecting water, people die every day of dehydration and malnutrition. Every year 1.8 million children die of dehydration due to diarrhea. This illness is one of the leading causes of death in non-industrialized countries (Wikipedia 2009).

Proper access to clean water would help boost the economy in many ways. Countries that have improved their water and sanitation services have experienced an economic growth on an average of 3.7 percent (WHO 2009). This growth is due to being healthier and cleaner. By having access to clean water they can maintain a cleaner lifestyle and can stay hydrated in the various climates. Improved water and sanitation services lead to increased production which influences the economy in a positive way, leading to an improvement in lifestyle for the people of that country.

Having access to clean water for consumption is also very important when faced with an illness such as HIV, AIDS, malaria, tuberculosis and other tropical diseases. This is because without proper hydration many medicines will not work as well. Since diseases like HIV/AIDS deteriorate your immune system, lack of water can prove to be fatal as it is very easy for them to contract diarrhea which can dehydrate an already frail person to the point of death.

There are physical, chemical, and biological ways to clean water for consumption and sanitation. Filtration and sediment removal are some of the physical ways to cleanse water. This process separates the physical debris from the fluid by using screens that fluids can only go through (Wikipedia 2009). Slow sand filtration is used in many non-industrialized countries and allows for a non-pressurized biological process to cleanse the water (WHO 2009). The use of chemicals such as chlorination and flocculation are added to the water for purification for its consumption and sanitation (Wikipedia 2009). These water treatment methods need to be available to all the people in the world. With 400 million people in this world with no access to water, how can we not develop these processes to help everyone (Global Issues 2008)? Besides having access to clean water, it is also necessary to create stable housing so that incidences of HIV/AIDS and other diseases can be reduced.

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Housing

While the focus in HIV/AIDS prevention has naturally been towards education and modification of sexual attitudes and behavior, care must also be given to environmental factors such as housing. It is well documented that the incidence of HIV/AIDS in a community increases where there is slums and population overcrowding (Ambert et al. 2007; Kjellstrom 2007). The Ugandan agency Shelter and Settlements Alternatives, after doing research on HIV/AIDS and housing, established the main attributes of a slum residence. These consisted of “insecurity of tenure, poor structural quality and durability of housing, lack of access to safe water and proper sanitation facilities, and insufficient living areas” (Rooftops Canada 2008:6). The added stigma which accompanies a HIV/AIDS diagnosis can lead to increased rates of eviction for affected families. In addition, children and women left economically disadvantaged by HIV/AIDS related deaths frequently do not have the ability to both retain their place of residence and provide for nutritional needs (Rooftops Canada 2008).

These studies point to the need for stable housing options for HIV/AIDS affected families, perhaps using a group model to ease the strain of acquiring land and up-front finances. Dispersing housing to HIV/AIDS affected families in a group model can also aid in providing health and infrastructure services tailored to the needs of PLWH/A (Ambert et al. 2007). Rooftops Canada employs a multi-faceted approach to housing difficulties. By engaging housing groups and educating them about HIV/AIDS related issues, policies and procedures which aid affected families can be integrated into overall housing plans. Grassroots African groups such as the Johannesburg Housing Company and the Social Housing Company have integrated health services into their housing communities, providing both health services and contraceptives for their residents. (Rooftops Canada 2008)

Also essential to the stabilization and continuation of HIV/AIDS affected households is the development of social aid services for those who have lost a family member or primary income due to illness. By creating a financial pool which struggling families can receive aid from, families can have more time to become financially stable following the loss of a primary income source. Multiple organizations have started to develop these kinds of strategies, as well as methods to secure the rights of surviving family members to the property they inhabit. The
Johannesburg Housing Company provides a “tenant hardship cover” for these disadvantaged families, allowing for dispersal of rent and funeral monies for a specified period of time (Rooftops Canada 2008). It is with social programs such as these, as well as continued education, dialogue, and the main structural factors hindering HIV/AIDS affected families can be addressed and reduced. Social programs such as these can only go so far to address and reduce HIV/AIDS.

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Ambert, C., K. Jassey, and L. Thomas

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Rooftops Canada – Abri International

Medical Care

Providing access to medical care for HIV/AIDS patients is established as a necessity for the elongation and improvement of life. It cannot be overstated the dramatic improvements found in cultures which have increased access to medical care and medication. By providing products such as prophylactics and ARV drugs to those unable to afford it, you are raising both an individual’s quality of life and that of his/her family and community.

One example in which quality of life was considerably raised by medical intervention is in the case of Brazil. Brazil, since the outbreak of HIV/AIDS has been continuously improving the access and quality of care afforded to those infected within their country. This is exemplified by
the divisive 1996 policy that granted universal antiretroviral treatment to Brazilian citizens at no cost. Whereas in 1980 a person diagnosed with HIV/AIDS had an average of five months survival time, this number has increased to 58 months on average by 1996. A study published in AIDS: The Official Journal of the International AIDS Society credits this considerable gain to the access of antiretroviral treatment within Brazilian communities. Although statistics for post-1996 have not been analyzed by these researchers, one can only imagine the increases in survival time after the policy of universal antiretroviral treatment was introduced (Marins et al. 2003).

Another study conducted on antiretroviral treatment and overall health was done using HIV/AIDS patients in Malawi, who were receiving first-string antiretroviral treatments from the organization, Doctors without Borders. This study found “that despite scarce medical and monitoring resources, a large cohort of patients with advanced stages of HIV disease could clearly benefit from first-line antiretroviral treatment” (Ferradini et al. 2006:1340). This study found that in subjects who took the first string medication (also known as HAART) for more than six months, “more than 80 percent had undetectable viral loads (<400 copies per mL)” (Ferradini et al. 2006:1340). This shows that access to HIV/AIDS medications, whether in a non-industrialized or industrialized area, can create great health improvements for those infected. It is by helping these people maintain a high quality of health that we can not only prevent transmission of HIV/AIDS to other people, but prevent the occurrence of opportunistic infections in those who are already infected.

References Cited


Self-Sufficiency

As previously mentioned, the relationship between HIV/AIDS is mutually antagonistic. HIV/AIDS and malnutrition feed on one another and the end result is increased levels of both. Along with increased levels of HIV/AIDS, it is evident that food insecurity can also lead to increased poverty and discrimination (World Food Programme 2009a). Factoring food insecurity, HIV/AIDS, increased poverty and discrimination together, it becomes very easy to see the downward spiral that has been created.
It is crucial to the success of HIV/AIDS infection reduction campaigns throughout the world, that malnutrition must be taken into account when planning for the future; however, without a proper infrastructure within a country it may be difficult to reverse the effects. Zambia, a sub-Saharan African country is very familiar with this struggle. According to the World Food Programme (WFP),

“The lack of proper infrastructure, inadequate provision of inputs, poor access to markets, and the slow pace of change in attitudes towards crop and livelihood diversification also continue to undermine farming capacity…The HIV/AIDS pandemic has exacerbated food insecurity levels and contributed to a decline in socioeconomic activity …HIV/AIDS undermines the capacity of people in most rural areas to produce enough food for their families” (World Food Programme 2009a).

In an effort to combat the issues of malnutrition and HIV/AIDS, many international agencies are beginning to look at issues of infrastructure, HIV/AIDS, poverty, and malnutrition as co-factors for each other rather than mutually exclusive. Charlene Porter, a Washington File Staff Write says “Even though recent research is revealing more about the complexity of the interaction between HIV/AIDS and malnutrition, the need to include food assistance in a program to support those suffering from HIV/AIDS is well understood” (Porter 2006). As Porter notes, there is a growing understanding that malnutrition and HIV/AIDS needs to be addressed at the same time rather than separately. In order to address HIV/AIDS and malnutrition together, appropriate funding is necessary. Repairing or restructuring a nation’s infrastructure as it relates to HIV/AIDS and malnutrition is what will allow for this funding to be acquired and properly used.

Perhaps the best way to help non-industrialized countries is to teach residence how to be self-sufficient. By teaching self-sufficiency, these countries would be given the tools to effectively change their infrastructure from the inside out rather than from the outside. One prime example of this is the Academic Model for Prevention and Treatment of HIV/AIDS (AMPATH). AMPATH was started and is led by Joe Mamlin, a professor at Indiana University. AMPATH works as a partnership between Mamlin of Indiana University and Moi University School of Medicine in Kenya. AMPATH is one of the first HIV/AIDS treatment programs to include farming as one of its main objectives. “The program provides treatment to about 40 thousand HIV- positive Kenyans and provides food access to about 30 thousand people, including the families of HIV- positive people” (Medical News Today 2007). By teaching these Kenyans how to farm for themselves, their level of food insecurity is drastically reduced. Aside from food insecurity being reduced, farmers may also be able to sell their crops in market places.

The WFP has created a program called Purchase for Progress (P4P). P4P acts as a world market aimed at encouraging small, low-income, rural farmers to grow more food. P4P buys crops from these farmers and then redistributes the crops and food goods throughout the world to other low-income, non industrialized areas (World Food Programme 2009b). In order to set up P4P and to make sure it works as envisioned the “WFP will put in place new methods to purchase food… They include purchasing directly from farmers’ associations, using forward contracting and ensuring farmers get a fair payment for their produce (World Food Programme 2009b). This type of agricultural reform and progress is being made in numerous sub-Saharan African countries including Ethiopia, Kenya, Liberia, Mali, Rwanda, Sierra Leone, Uganda and Zambia; as well as in several South American and Asian countries (World Food Programme 2009b).
By incorporating innovative thinking such as the type demonstrated by AMPATH and structural improvements such as the type demonstrated by the P4P program, malnutrition levels and the associated risks and consequences could be greatly reduced. As previously mentioned, it is crucial to empower the citizens of non-industrialized countries and give them the tools and skills necessary to change their own future. By restructuring these countries infrastructure, not only will these tools and skills be made available but the improvements and progress will be built on a solid foundation which will be less likely to crumble when foreign aid and support is reduced. None of the suggestions I have mentioned can make any dent on improving HIV/AIDS unless the underlying issue of inequality is addressed.

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Medical News Today

Porter, Charlene

World Food Programme


Recommendation: Address Inequality and Access to Goods

Access to Nutritional Foods

One of the co-factors of AIDS is malnutrition and therefore one way to abate AIDS is fighting malnutrition. There are many ways to work towards a solution to malnutrition; the first is to start switching farmland from cash crops to food. Also, we could stop using corn or other food crops to produce ethanol. Another solution is the new genetically modified organisms that could combat malnutrition.
Using excess plant material or wastes of industry could help eradicate malnutrition, which in turn helps the AIDS pandemic. This compost could then be used to plant fungi. Fungi are a good choice because they contain 20 to 30 percent protein and all of the necessary amino acids that people need. This high amount of protein then can be substituted for meat, which is much harder to obtain. Finally as a food source they are easier then corn or rice because they do not need to be cooked. Another benefit is after the fungi have grown on the material it can then be used as top-soil (in press Ghorai et al. n.d.).

Genetically modified organisms (GMOs) have been around for almost as long as humans have been. Humans, seeing the plants around them, started to plant and become more sedentary. To achieve greater results they soon started choosing for characteristics that they saw as a benefit to them thus the first genetically modified organisms were born. Over time we have continued down this path and now we have the ability to change the genes in vitro. This ability has given us the opportunity to make foods more nutritious or make them more resistant to insects or other harmful factors. One food, rice, feeds 21 percent of the world’s population caloric intake. With the advent of genetic modification we are able to add extra nutrients to rice such as extra iron and other necessary nutrients (Fitzgerald et al. 2009).

Plumpy-nut or ready-to-use food (RTUF) is a mix that contains 13 vitamins, 9 minerals, 13.6 grams of protein, and 35.7 grams of fat. This mix has many advantages such as that it does not need to be mixed with water which is a great advantage in areas of malnutrition. This is because the water supplies in these areas normally contain bacteria that can cause diarrhea and can increase the effects of malnutrition. Plumpy-nut was designed to be taken at home so people could shorten their hospital visits. This product is easy to make and has proven to be 90 percent effective in curing malnourishment. This product is not the end to world hunger, therefore not the end of malnutrition. In order to achieve this, the previous steps must be taken (Diop et al. 2003).

Malnutrition is one part of a much larger puzzle. Another piece is poverty, which often leads to malnutrition. Poverty can be eradicated but the world must take the necessary steps.

**Poverty and HIV/AIDS**

On a global scale, poverty has increased the contraction of infectious diseases. Poverty can lead to malnutrition, lack of ability to obtain medical assistance, and a host of similar problems. Although globally there are programs and treatment, PLWH/A that are impoverished may not get the necessary treatment.

Although access to ARV treatment has increased dramatically since December 2003 in low- and middle-income countries, only 31 percent of PLWH/A in need of ARVs were estimated to be receiving treatment as of December 2007. Most of these countries are far from reaching universal access goals. In addition, some countries have implemented successful HIV prevention and interventions among high-risk populations, scaled up services for the prevention of mother-to-child transmission of HIV, while others face severe shortfalls in the provision of these services (Global Health Reporting 2009).
Instead, many regions and countries are experiencing diverse epidemics, some of which remain in their early stages. Sub-Saharan Africa is the most-affected region in the world as measured by HIV/AIDS prevalence rates, followed by the Caribbean. There also is concern about the epidemic in parts of Eastern Europe and Asia (Global Health Reporting 2009). These particular areas are of low-income where money and resources are in short supply.

These reports demonstrate that there is a need for further assistance to low and middle-income countries that have a high number of HIV/AIDS cases. The chart in appendix C contributes to the facts that show that HIV is an infectious disease that needs more money and attention in low and middle-income countries. Appendix B shows the coverage of antiretroviral medications, needed in the control of HIV in five areas of world that are heavily affected. These areas are largely lacking in monies and medical attention when it comes to dealing with HIV/AIDS and other infectious diseases. These areas seek help from programs that deal with poverty on many facets of their existence.

Appendix D illustrates a breakdown of people in low to middle income countries that are infected with HIV. The significance of this graph points to the amount of ARVs needed and the scope of the pandemic. Without proper attention to the basic need for intervention the situation can only increase. In order to facilitate a reapportionment of medical aid and an overall progress; attention to impoverished areas need a combination of programs that addresses the poverty in concentrated areas of low income countries. The correlations with the graphs in this section give credibility to the hypothesis that poverty and diseases like HIV are connected. If we continue to address one or the other, the problem will never be solved.

Appendix E shows the projected spending towards HIV and other infectious diseases by primarily the United States. As it is seen here, the funding falls short of the total amount needed. Unfortunately, people in low to middle income countries will be affected the most. The other fact that is in the graph, is that the president in office at the time of this publication- President Bush was only asking for 5.9 billion in the budget for aid to middle and low income countries for HIV. This amount is tentatively allocated to respond to treatment, education, and prevention measures. These figures also reflect that the amounts are estimated and subject to review. The figures do not show the interval of distribution or the locations for the funds. These generalizations have an impact on the effectiveness of the programs designed to help the people that are in need of services.

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Fitzgerald, Melissa A., McMcooked, Susan R., Hall, Robert D.
Conclusion

As this paper has shown, HIV/AIDS has had a vast, global impact on disparate groups that cross differences in gender, age, sexual orientation, socioeconomic status and cultural affiliation. As AIDS is a disease that attacks the body’s defensive mechanism against other diseases and is spread through associated behaviors that are prevalent in a wide range of cultures, it has indeed developed into a pandemic. This pandemic, again, goes beyond the physical. Its affects on economies and sociopolitical systems across many cultures are perspicuous.

Some have argued (such as Roger England) that there is no place for the practice of AIDS exceptionalism. England contends that there are other dangerous diseases that are also of pandemic proportions. The arguments made by Peter Piot however make it clear that AIDS is in fact an exceptional disease and as such requires exceptional treatment and measures.

The degree of the social stigma and discrimination, which exists cross-culturally, surrounding HIV/AIDS, would seem to be enough to show that it does deserve to be treated as a global priority. This has lead to social ostracization, loss of jobs and to the denial of medical care. In many cases it also leads to PLWH/A forgoing medical treatment, fearing that their HIV status be discovered.

The issues surrounding AIDS/HIV are further complicated by the presence of other diseases that act as co-factors. HIV not only increases the chances of a person becoming infected with malaria, but also has the affect of significantly increasing the viral load in people who are infected with both. People who are infected and immunocompromised have a much higher chance of contracting tuberculosis. Then, due to the interaction between the diseases, causes AIDS to progress at a faster rate. Malnutrition not only increases the chances of infection but further enhances the virus’ progression. Drug use can increase the chances of transmission and in turn exacerbate the affects of the disease. The interrelated nature of these co-factors requires a more holistic approach.

Given these facts, and disagreements about how HIV/AIDS should be treated in the future, we propose the following recommendations. These recommendations seek an inclusive strategy that not only battles the virus and its affects, but that will also take into account the many co-factors and socioeconomic issues associated with it.

Again, through education we must address the social stigma surrounding HIV/AIDS, thereby promoting tolerance, eliminating ignorance and increasing the willingness to give the much-
needed care to patients. This education must take place at all levels of differing cultures. In this way the issues of gender inequality can be addressed as well as religious-based stigma.

We must also make serious commitments to improving the existing infrastructure. This includes access to clean water and suitable housing as well as social services for families in need. We can do this by implementing strategies that focus on self-reliance and self-sufficiency, instead of continuing the paternalistic patterns of the past.
Glossary

Acquired Immune Deficiency Syndrome (AIDS): is the final and most serious stage of HIV disease, which causes severe damage to the immune system

*Anopheles mosquito*: Latin, scientific name for mosquito that carries parasite

Antiretroviral Drugs (ARV): inhibit the reproduction of retroviruses viruses composed of RNA rather than DNA

Body Mass Index (BMI): A measurement of the relative percentages of fat and muscle mass in the human body, in which weight in kilograms is divided by height in meters and the result used as an index of obesity

Centers for Disease Control (CDC): the branch of the U.S. Public Health Service under the Department of Health and Human Services charged with the investigation and control of contagious disease in the nation

Cell Mediated Immunity (CMI): immunity independent of antibody but dependent on the recognition of antigen by T cells and their subsequent destruction of cells bearing the antigen or on the secretion by T cells of lymphokines that enhance the ability of phagocytes to eliminate the antigen

Drug resistant Tuberculosis (DR TB): TB that is resistant to at least one first line anti TB drug

Extensively drug resistant Tuberculosis (XDR-TB): TB that is resistant to almost all anti TB drugs, including the best first line drugs (isoniazid and rifampin), the best second line drugs (fluoroquinolones), and at least one of three injectable drugs (i.e., amikacin, kanamycin, or capreomycin)
Extractive Industries (EI): Industries involved in the activities of (1) prospecting and exploring for wasting (non-regenerative) natural resources, (2) acquiring them, (3) further exploring them, (4) developing them, and (5) producing (extracting) them from the earth. The term does not encompass the industries of forestry, fishing, agriculture, animal husbandry, or any others that might be involved with resources of a regenerative nature.

Extractive Industries Review (EIR): The World Bank Group’s conducting of a comprehensive review of its activities in the extractive industries sector, in response to concerns expressed by a variety of stakeholders, primarily environmental and human rights organizations.

Extra-Drug Resistant Tuberculosis (XDR-TB): is a relatively rare type of multidrug-resistant tuberculosis.

Genetically Modified Organism (GMO): an organism whose genetic material has been altered using genetic engineering techniques.

Healthcare Resource Allocation: the monetary donations or medical attention given to any specific disease.

High Burden Country (HBC): educes further resources and upgrades people's commitment for disease control in the country.

Injected Drug Users (IDU): persons who choose to inject drugs.

International Food Policy Research Institute (IFPRI): an institution containing researchers who seek sustainable solutions for ending hunger and poverty.

International Monetary Fund (IFM): an international organization that promotes the stabilization of the world's currencies and maintains a monetary pool from which member nations can draw in order to correct a deficit in their balance of payments: a specialized agency of the United Nations.

Joint United Nations Programme on HIV/AIDS (UNAIDS): is an innovative joint venture of the United Nations family, bringing together the efforts and resources of ten UN system organizations in the AIDS response to help the world prevent new HIV infections, care for people living with HIV, and mitigate the impact of the epidemic.

Multi-drug resistant Tuberculosis (MDR-TB): TB that is resistant to more than one anti TB drug, including the two best first line anti TB drugs, isoniazid and rifampicin.

Multilateral Initiative on Malaria (MIM): an alliance of individuals, funding partners and four autonomous constituents: the MIM/TDR, MIMCom, MR4 and the MIM Secretariat.

National Trade Projection Budget (NTP): a national budget concerning trade.

Neglected Tropical Diseases (NTD): neglected diseases that are prevalent in or unique to tropical and subtropical regions.
Non-Government Organization (NGO): is a legally constituted organization created by private organizations or people with no participation or representation of any government.

Opportunistic Infection: an infection that takes advantage of people who are immune compromised due to HIV and is easily spread through airborne transmission routes.

People Living with HIV/AIDS (PLWH/A): people living with HIV/AIDS.

*Plasmodium falciparum*: Latin scientific name for parasite that causes malaria.


Ready to Use Food (RTUF): known as Plumpynut is a spread that contains milk, proteins, vegetable fat, peanuts and sugar along with vitamins, and minerals.

Stigma: prejudice and discrimination against people who are regarded and treated in a negative way.

T-helper lymphocytes: blood cells.

Tuberculosis (TB): an infectious disease that may affect almost any tissue of the body, esp. the lungs, caused by the organism.

World Health Organization (WHO): an agency of the United Nations, established in 1948, concerned with improving the health of the world's people and preventing or controlling communicable diseases on a worldwide basis through various technical projects and programs.
Appendixes

Appendix A:

<table>
<thead>
<tr>
<th>WHO Region</th>
<th>% of world population</th>
<th># of people living with TB (all forms), 2006 (% of total)</th>
<th># of new TB cases (all forms) 2006 (% of total)</th>
<th># of new cases (smear positive), 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>11.7%</td>
<td>4,233,723 (29.4%)</td>
<td>2,807,688 (30.7%)</td>
<td>1,202,861</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>26.1%</td>
<td>4,974,978 (34.5%)</td>
<td>3,100,355 (33.9%)</td>
<td>1,391,204</td>
</tr>
<tr>
<td>Americas</td>
<td>13.6%</td>
<td>398,030 (2.8%)</td>
<td>330,724 (3.6%)</td>
<td>164,952</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>26.8%</td>
<td>3,512,972 (24.4%)</td>
<td>1,915,285 (20.9%)</td>
<td>859,596</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>8.3%</td>
<td>826,308 (5.7%)</td>
<td>569,708 (6.2%)</td>
<td>255,715</td>
</tr>
<tr>
<td>Europe</td>
<td>13.5%</td>
<td>478,332 (3.3%)</td>
<td>433,261 (4.7%)</td>
<td>193,683</td>
</tr>
<tr>
<td><strong>Global</strong></td>
<td><strong>100%</strong></td>
<td><strong>14,424,343 (100%)</strong></td>
<td><strong>9,157,021 (100%)</strong></td>
<td><strong>4,068,011</strong></td>
</tr>
</tbody>
</table>

(Global Health Reporting 2009)

Appendix B:
Antiretroviral (ARV) Coverage in low- and middle-income countries: Percent on ARVs (of those who need them) as of December 2007

<table>
<thead>
<tr>
<th>Region</th>
<th>Adult (aged 15+) and children living with HIV/AIDS, 2007</th>
<th>New HIV infections among adults (aged 15+) and children, in 2007</th>
<th>Adult (aged 15-49) prevalence (%), 2007</th>
<th>Adult (aged 15+) and child deaths due to AIDS, in 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>22.0 million</td>
<td>1.9 million</td>
<td>5.0%</td>
<td>1.5 million</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>4.2 million</td>
<td>330,000</td>
<td>0.3%</td>
<td>340,000</td>
</tr>
<tr>
<td>Europe and Central Asia</td>
<td>1.5 million</td>
<td>110,000</td>
<td>0.8%</td>
<td>58,000</td>
</tr>
<tr>
<td>North Africa and the Middle East</td>
<td>1.7 million</td>
<td>140,000</td>
<td>0.5%</td>
<td>63,000</td>
</tr>
<tr>
<td>East, South and Southeast Asia</td>
<td>1.9 million</td>
<td>240,000</td>
<td>0.8%</td>
<td>60,000</td>
</tr>
</tbody>
</table>

(CDC 2009)

Appendix C:

(Global Health Reporting 2009)

Appendix D:
Appendix E:

<table>
<thead>
<tr>
<th>Funding for HIV/AIDS</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated spending for HIV/AIDS prevention, care and support in low- and middle-income countries, public and private sources, 2007</td>
<td>$10.0 billion*(1)</td>
</tr>
<tr>
<td>Estimated funding needed to scale-up HIV/AIDS prevention, care and support services in low and middle-income countries to achieve “universal access” by 2010</td>
<td>$30 billion in 2009, $42 billion in 2010 (1)**</td>
</tr>
<tr>
<td>Total pledged (paid) to the Global Fund to Fight AIDS, Tuberculosis, and Malaria to date, payable through 2010 (from all donors)</td>
<td>$20.2 billion ($10.9 billion) (2)</td>
</tr>
<tr>
<td>U.S. government funding for HIV/AIDS (global and domestic), FY 2008</td>
<td>$23.3 billion (3)</td>
</tr>
<tr>
<td>U.S. government funding for HIV/AIDS in low- and middle- income countries, FY 2008</td>
<td>$5.8 billion*** (3)</td>
</tr>
<tr>
<td>U.S. President's budget request for HIV/AIDS funding (global and domestic), FY 2009</td>
<td>$24.1 billion (4)</td>
</tr>
<tr>
<td>U.S. President's budget request for HIV/AIDS funding in low and middle-income countries, FY 2009</td>
<td>$5.9 billion*** (3)</td>
</tr>
</tbody>
</table>

(WHO 2009)