This is the sixth update of the bibliography on HIV/AIDS in Ethiopia and Ethiopians in the Diaspora, which was originally published in this journal in 2003. That bibliography covered published and unpublished work on HIV/AIDS and related health conditions (e.g., other sexually transmitted infections, tuberculosis) for the period 1972 to 2002. Five subsequent updates were published in 2004, 2005, 2006, 2007 and 2008. The present update extends the bibliography to cover references not listed in previous updates and those recent publications or presentations that appeared in 2008.

As in the previous bibliographies, this update includes references to biomedical, epidemiological, clinical, psychosocial, socio-economic, cultural, behavioral, impact, intervention, and evaluation studies on HIV/AIDS and relevant research on sexually transmitted infections (STIs), tuberculosis, and other co-infections in Ethiopia and among Ethiopians in the Diaspora. Also included are studies dealing with sexual and contraceptive behaviors, and socio-cultural practices or conditions that increase the vulnerability of Ethiopians to HIV and associated opportunistic infections, including research on conditions of street and orphan children, sexual harassment and violence on women, and traditional practices (e.g., early marriage, female genital cutting) and their consequences.

The same strategies were used as in those previous bibliographies to identify and catalog the references. First, all new references that appeared in 2008 were searched in major databases, including PubMed/MEDLINE, CINAHL, ERIC, Global Health Index, Humanities International Index, PsycINFO, Social Work Abstracts, Sociological Collection, and POPLINE using the key words “Ethiopia and HIV,” “Ethiopia and AIDS”, “Ethiopia and reproductive health”, and “Ethiopia and sexual behavior”. As in the previous update, we also searched using “Ethiopia and Israel” to capture research on Ethiopian immigrants in Israel. Second, journals that were not indexed by these database systems (e.g., Ethiopian Journal of Health Development, Horn of Africa Journal of AIDS) were manually inspected for relevant California. Third, we inspected for relevant California (http://apha.confex.com/apha/136am/webprogram/start.html), the American Evaluation Association Annual references.

![Figure 1:](image)

Figure 1: *Presentations at the International Conference on AIDS (A) and Publications cited in PubMed (B) concerning Ethiopia and HIV or AIDS. The increase in presentations in recent years now seems to be followed by an increase in material becoming full-length manuscripts.*

1Center for Tuberculosis Research, Johns Hopkins University, School of Medicine, Baltimore, MD 21231, USA; 2Department of Epidemiology and Biostatistics, University of California, Medical Center, San Francisco, San Francisco, CA 94143, USA; 3Center for Community Prevention and Treatment Research, The MayaTech Corporation, Atlanta, Georgia 30324, USA; 4School of Public Health, Faculty of Medicine, Addis Ababa University, P.O. Box 32812, Addis Ababa, Ethiopia; 5School of Environmental Health, Jimma University, Jimma, Ethiopia

Additional online searches were also made on websites of major national or regional HIV/AIDS resource centers (e.g., http://www.etharc.org) and international organizations (e.g., http://www.unaids.org) for reports on HIV/AIDS in Ethiopia or Ethiopians in the Diaspora.

In addition to the categories used in previous updates, we have included a section discussing the progress and importance of drug susceptibility testing as part of the ART and tuberculosis treatment programs to maximize resources deployed in public health efforts and in assuring optimal patient outcomes.

This update includes 377 citations. All but two appeared electronically or in print in 2008; 104 (27.6%) are journal or newspaper articles, 144 (38.2%) international conference abstracts, 126 (33.4%) masters theses or doctoral dissertations, and 1 HAPCO report. We have also updated our list of websites and included links to 18 websites with useful information and downloadable documents on HIV/AIDS in Ethiopia and Ethiopians in the Diaspora. Two papers that appeared in the Ethiopian Medical Journal (EMJ) in 2007 but had not appeared in the PubMed database by the time last year’s update was submitted are included this year. Again this year, we were not able to scan PubMed for pertinent EMJ articles due to the delay in posting them to PubMed. This also meant that we could not review the abstracts of these papers. We were also unable to identify relevant articles from other Ethiopian health-related publications (e.g., Ethiopian Journal of Health Sciences, Ethiopian Journal of Medical Practice) and abstracts from relevant local conferences (e.g., annual conferences of the Ethiopian Medical Association, Ethiopian Public Health Association). We will try to capture missed citations in future updates.

**Drug Susceptibility Testing as a model of bridging clinical, epidemiological, and evaluation research through basic biomedical investigation**

Tools have long existed for the control of tuberculosis. Over 95% of patients that comply with a 6-month regimen of multi-drug therapy (isoniazid [INH], rifampin [RIF], pyrazinamide, and ethambutol for two months, followed by INH and RIF, ideally, or INH and ethambutol for four months) can be cured. Effective tuberculosis control in the future, using new drugs, may shorten the treatment still further, but the date for the “future” is certainly not this year or necessarily the next 5 years. Given the increase in tuberculosis resulting from immune systems weakened by HIV, it is even more critical that ways be found to assure that patients take all medications. This can be facilitated by strategies such as directly observed therapy (DOTS) where TB control workers directly monitor the consumption of the drugs. DOTS coverage is reported to have risen steadily in Ethiopia from 39% in 1995 to 100% in 2006 (Global Tuberculosis Control, WHO Report 2008, p. 105-108, [GTC]). Treatment success over that same period has increased from 61% to nearly 80% by 2005. It may be possible to expand the definition of TB control workers to family or community members that further encourage daily compliance. At the present time, Ethiopia is in a good position, biologically, to achieve high treatment...
completion rates and tuberculosis cure. Ejigu and co-workers (2008, Clinical research section) used a relatively inexpensive technique, the microscopy-observation drug susceptibility (MODS) assay, to ascertain whether the tubercle bacilli in patients at high risk for drug resistance in Addis Ababa were susceptible to first line drugs. The majority of bacilli are susceptible to RIF: about 67% in previously treated and multi-drug resistant (MDR, i.e., resistant to both INH and RIF) contact patients compared to ~90% according to Shiferaw et al. (2007, included in last year’s update) in Addis Ababa patients overall while susceptibility to INH was ~45% and ~80%, respectively. The WHO estimates that as of 2005, only 1.6% of cases are MDR (GTC). However, it must be borne in mind that the case detection rate was below 30%, so many cases may be missed. Goals to increase the case detection rate to 60% will help to get a more accurate determination of MDR. Performance of drug susceptibility testing (DST) will be critical in obtaining this information.

The relatively good position for Ethiopia in terms of the potential to be able to achieve a high rate of biological cures is illustrated in the study of Desta et al. (listed in the clinical section). By culturing sputum specimens from untreated new patients during a one-year period, they found that in both sputum smear positive (the most infectious patients) and sputum smear negative patients, there were no patients with bacilli resistant to both INH and RIF (i.e., MDR). The most common drug to which resistance was observed was streptomycin, the oldest drug in the anti-TB armamentarium and one long used in Ethiopia. Only 1/37 smear negative, but none of 36 smear positive patients, had bacilli resistant to RIF, a critical agent, but one which has only relatively recently (1997) been used in TB control in Ethiopia (Bruchfeld et al. J Clin Microbiol., 2002 40:1636-1643). Seeking additional baseline information, Doherty et al. (also listed in the clinical section) reported on a chart review of suspected MDR-TB cases over a 3-year period. Of 72 patients with complete records, 77% in fact had MDR. Because the MDR pattern developed by the onset of a second treatment episode, 18 of the 56 patients were presumed to have primary MDR acquired from another patient while the majority developed MDR-TB by the third treatment episode and were presumed to have acquired resistance following inadequate treatment. Again, resistance was frequently found to streptomycin. Only 20% of the patients had been tested for HIV, which may give cause for concern for extensively drug resistant (XDR) TB developing in patients that continue to receive failing TB regimens.

We noted with interest that two articles that may reinforce the above studies appeared in the Ethiopian Medical Journal regarding TB drug susceptibility but we have been unable to access the full text, or even the abstracts, and ascertain the methods used. Wolde Meskel et al. describe resistance among retreatment patients in Addis Ababa while Asmamaw et al. document primary drug resistance in newly diagnosed patients also in Addis Ababa. Both references are listed in the clinical research section.

Obstacles to DST include the fact that of the 713 laboratories performing sputum smear microscopy in Ethiopia, only 1 performs culture and 1 performs DST. The DST studies cited above are research studies. Plans to decentralize and improve laboratory diagnosis of TB and MDR-TB with the use of MODS, as indicated by Ejigu et al., will be very helpful in obtaining better information for program planning and treatment outcomes for patients. The expansion of this capacity to 6 regional reference laboratories (GTC) will require the training of more technicians who can prepare and read the culture plates on inverted microscopes. Expansion of skills should also help technicians’ sense of accomplishment and pride in their work. With greater capacity, it will be possible to better assess the impact of TB and TB control services in the context of the HIV epidemic and its control. It will also be possible to do the very important task that needs to be undertaken in all high TB burden countries of doing a national survey to accurately determine the extent of disease not only in Addis Ababa but in other towns and eventually in rural areas. (Dye et al. Lancet Infect Dis, 2008, 8:233-243; Sebhatu et al. Bull World Health Org 2007, 85:593-599; Demissie et al. Int J Tuberc Lung Dis 2002, 6: 580-584).

Tools to control HIV/AIDS have only recently become available in terms of anti-retroviral therapy (ART). Abegaz et al. (2008, Monitoring and Evaluation section) noted that formal delivery of ART began in Ethiopia in 2003. Some exposure to ART existed before that time for those who could afford to bring drugs from outside or whose employers were able to provide access to treatment. By 2006, only about 17% of AIDS patients were receiving the drugs (possibly as many as 30% by 2007, according to UNAIDS). Using a WHO-recommended HIV drug resistance threshold survey to determine the baseline level of transmitted resistant virus in anonymous antenatal clinic primigravida patients from 7 Addis Ababa sites in 2005 with remnant serum specimens from syphilis tests that were HIV-seropositive, Abegaz et al. genotyped HIV protease and reverse transcriptase sequences and compared these to WHO reference drug resistance sequences. The analysis showed that 38/39 samples were HIV subtype C and none had known drug resistance mutations, increasing confidence in the current ART strategy and the importance of maintaining practices resulting in the lowest level of transmitted drug resistance. Further studies using plasma (reportedly more stable for the virus) and extending the surveys to private clinics, which account for ~40% of ANC services, and to clinics outside of the capital are recommended by the authors.
These studies indicate that the capacity to bring modern tools to bear on the biological basis for appropriate treatments of an old disease, tuberculosis, reemerging due to the presence of the newer disease, HIV/AIDS, exists through collaboration and use of laboratories primarily in Ethiopia. The challenge is to expand this capacity to multiple centers with high quality laboratory practice and well-trained technicians to handle the volume of specimens and to assure that public health practice and patient treatment is appropriate for the infectious agents concerned. The mechanisms to do this may involve allocating specific percentages of time for the trained scientists in these fields to train and supervise more individuals and quality check the data as well as other useful functions at institutes such as EHNRI, Aklilu Lemma Institute of Pathobiology, AHRI, St. Peter’s, and the medical schools. These functions can also be facilitated by such groups as the Ethiopian Diaspora Volunteer Program (for example, http://www.twinningagainstaids.org/vhc-ethio-labspecialist.html).

**Basic Biomedical Research**

Only 9 (2.4%) of the 377 references located dealt with research on basic biomedical issues. Of these, 6 (66%) were journal articles. The most common research topics covered continued to be immune response to infection and diagnostic techniques or detection procedures and genetic composition and variability as well as molecular diagnostics of HIV. One Ethiopian author was involved in a study to evaluate the ability of *M. tuberculosis* to persist after mumification – in a 300-year-old Hungarian mummy. Particularly pertinent biomedical research was classified as primarily clinical or evaluation and are discussed in the Drug Susceptibility Testing section of this manuscript.

**Epidemiological, Risk Factors, and Determinants Research**

This section contains 96 (25.5%) references, making it the second largest section as in last year’s update. Twenty-five (26.0%) of these are journal articles and the rest are conference abstracts (29 or 30.2%), and theses (41 or 42.7%). This distribution is similar to the one reported in the 2007 Update but while studies of HIV risk factors among high-risk groups, wives and female students continued to predominate, a number of new issues were addressed this year. For example, one study identified food aid and cash aid distribution as a HIV risk for females (reference no. 4) and another first study was carried out on sexuality and reproductive behavior of pastoralist youth. Two studies, one from Ethiopia and the other from this and various other sub-Saharan countries, dealt with child bearing desire among PLWHA (nos. 13,21), an issue gaining importance with the expansion of the national ART program. Three studies described KAP among physically handicapped persons and another one sexual abuse of visually impaired female students (no. 87). One study addressed the role of tetanus injections in HIV transmission (no. 36) and another one occupational exposure of health workers (also reported earlier). These topics form part of the controversy of the role of medical sharps in the HIV/AIDS epidemic; sexual behavior of PLWHA with the regular partners (no. 52) and HIV status disclosure to their partners (nos. 66, 80), another area that is difficult to research but can provide essential information for preventive programs. A study of khat (*Catha edulis*) use by commercial sex workers adds a new dimension to the use of this stimulant, which has been reported by numerous investigators among students and out-of-school youth. Reports of associations between TB in cattle and their owners (no. 7) and between cryptosporidiosis in calves and HIV-positive people (no. 73) illustrate the need for further veterinary studies.

**Clinical Research**

A total of 54 (14.3%) references deal with issues involving HIV/AIDS patients within a clinical setting. Of these, 38 (70.4%) were journal articles, 14 (25.9%) were presented at conferences, and 2 (3.7%) were theses. A number of topics are covered ranging from HIV to the various opportunistic infections, including tuberculosis as discussed in the Drug Susceptibility Testing section. Several studies examined issues associated with the expansion of anti-retroviral treatment (ART), including patterns and correlates of treatment adherence (e.g., nos. 5, 6, 16, 26), ART related complications (e.g., nos. 2, 33, 54), impacts of ART on other infectious disease outcomes (e.g., nos. 12, 49), and factors that predict survival among patient receiving ART (e.g., nos. 30, 41). Two studies discussed guidelines for the management of pain (no. 35) and ART (no. 43). Another important clinical research area has focused on diagnosing and/or treating co-infections or co-morbidity, particularly that of HIV and TB (e.g., nos. 23, 34, 41), HIV and leishmaniasis (nos. 12, 28, 49), and HIV and other health problems (e.g., nos. 27, 31). Several studies investigated the patterns of TB infections, screening, diagnosis, treatment approaches, and treatment-induced complications, including drug resistance among tuberculosis patients (e.g., nos. 25, 41, 46, 53, 54). Limited studies on quality of life among patients receiving ART (no. 5) and linkages between various services (nos. 9, 42) are reported. In addition, there are also limited studies on availability and expansion of ART and/or other services to prevent mother-to-child transmission of HIV (nos. 10, 42) and clinical characteristics and outcomes among child and adolescent patients. Further clinical research on the course of HIV Infection and disease, health service delivery systems, alternative therapies, treatment complications, and predictors of long-term health outcomes are needed.

**Impact Research**

Twenty-eight (7.7%) of the references deal with research on the impacts of the HIV/AIDS epidemic in Ethiopia. Of these, 7 (24.1%) were published articles and 10 (34.5%) were presented at conferences and 11 (37.9%) were theses. There is also one newspaper article. Impacts
of the HIV/AIDS epidemic on household economics and family life (e.g., nos. 6, 12, 26) have received greater attention. More specifically, several studies have examined the potential socio-economic and psychosocial distress and readjustments imposed on children orphaned by HIV/AIDS (e.g., nos. 13, 15, 24), people living with HIV/AIDS (e.g., no. 5, 18), and other vulnerable populations such as commercial sex workers and families affected by the epidemic (e.g., no. 17). Although very limited, there are also studies that examined the impacts of HIV/AIDS on the educational system (no. 2), labor productivity in a factory (no. 19, 20), and mental health of HIV counselors (no. 16). Further research on impacts of the epidemic on health services, other sectors the economy (e.g., agriculture), population dynamics, and broader national development are still needed.

**Intervention Research**

A research area that rapidly expanded within the last two years is intervention research. With 132 (35.0%) references, this section contains the largest number of references in this update, although their number declined somewhat from 2007. Of these only 9 (6.8%) are journal articles, 68 (51.5%) were presented at conferences, and 54 (40.9%) were student theses, showing a strong interest in this field from academia. One report from HAPCO is also listed in this section. In addition to the major topics studied in previous years (accessibility and adherence to ART and accessibility and utilization of VCT), a number of new and neglected issues in the areas of prevention, testing and counseling, treatment, care and support were addressed. Five studies examined possibilities for integration of HIV services in immunization, antenatal, family planning, and MCH services. But while the integration of HIV in facility-based services is needed, the integration of HIV within community-based health interventions is even more crucial because they are more effective in reaching affected households and individuals (reference no. 4). Another study evaluated HIV services models integrating prevention, treatment, care and support services. One study dealt with the culturally sensitive and thus long neglected problem of teenage fertility and maternal health care service utilization and another study recommended the integration of HIV prevention for rural adolescent girls in the national health extension program (no. 122). The implementation of HIV/AIDS education in primary schools and the attitudes of students, teachers and parents towards teaching sex education in secondary schools are similarly urgent issues in HIV/AIDS prevention. A study on child trafficking intervention (no. 11) reveals an area needing urgent, coordinated efforts by law enforcement, social and health authorities. Two studies of the acceptability, affordability, and adherence to recommended infant feeding options for HIV-positive mothers represent another area requiring further attention (nos. 69,112). A first survey of private sector provision of HIV/AIDS services in three administrative regions points out moderate provision of preventive and treatment services, considerable interest in expanding services and prevailing impediments (no. 110). The use of GIS (geographical information systems) in mapping, monitoring, analysis and management of HIV/AIDS at the population level, an area neglected largely because of patient privacy considerations and scarcity of appropriate geographical data bases, was encouraged by one study.

**Monitoring and Evaluation Research**

Forty-nine (13.0%) of the references listed in this update examine HIV/AIDS related monitoring and evaluation activities. Of these, 11 (22.4%) are published articles, 21 (42.9%) were presented at international conferences, and 17 (34.7%) were student theses. Two website references are also included. A study with an important biomedical component evaluated drug resistance in HIV isolates from antenatal clinics and is discussed in the Drug Susceptibility Testing section. Research in the M&E area continues to increase, reflecting the need for accountability and effectiveness of ongoing intervention programs and the launching of the Monitoring and Evaluation Program at Jimma University in collaboration with the National School of Public Health (FIOCRUZ) in Brazil and the School of Public Health of Tulane University in the USA, a PEPFAR partner university. This M&E program, the first one in Africa, is instrumental in meeting the rapidly growing demand for public health interventions and research using the process evaluation approach to identify the key components of an intervention that are effective, characterize the failure to achieve success, identify for whom the intervention is effective, and to determine under what conditions the intervention is effective (nos. 14,19,25,48).

**Research on HIV/AIDS in Ethiopians in the Diaspora**

We located 8 (2.1%) references that deal with HIV/AIDS and related issues among Ethiopians in the Diaspora. Of these, 7 (87.5%) were journal articles, and 1 was presented at a conference. These citations continue to come predominantly from Israel, while research in North America and Europe has largely stalled. In part, this may be due to Ethiopians in Israel being a more distinct group administratively and otherwise than they are in Europe or North America where they are not identified differently from other African immigrants or, in the United States, from African-Americans. Nonetheless, the involvement of Diaspora-based advocacy and professional support organizations to provide expertise and finances for the control of HIV/AIDS in Ethiopia continues to grow and is to be strongly encouraged.

**Conclusion**

This year’s update has more references than last year’s in large part due to a greater number of international conference presentations, such as at the International AIDS Conference in Mexico City but also due to the International Conference on AIDS and STI in Africa, held in Dakar and the 2008 HIV/AIDS Implementers’ Meeting. The following link leads to the book of full-
length abstracts ([http://www.hivimplementers.org/2008/pdf/OGAC_08_BookHR.pdf](http://www.hivimplementers.org/2008/pdf/OGAC_08_BookHR.pdf)) for the Kampala meeting. There was also an increase in the number and proportion of published manuscripts in most categories except for Basic Biomedical and Diaspora. There were somewhat fewer theses identified but they continue to represent a solid basis for further studies, for eventual publication, and the generation of additional experts in the field. We have done our best to review articles in areas such as drug susceptibility testing in this report and we were happy to be able to have obtained complete articles for most of these. However, the high cost of mailing and the failure of journals to arrive intact in their envelopes should become additional incentives for journals and their sponsoring associations to seek ways to publish online if they have not already done so.

Section 1. Earlier Bibliographies on HIV/AIDS and Related Sociocultural and Economic Issues


Section 2. Basic Biomedical Research

This section covers laboratory-based biomedical research, including studies on HIV structure, replication, and host immune responses; co-infection with other agents; development and testing of laboratory procedures; and other related laboratory studies.


4. Erku WA. Genomic characterization of HIV-1 isolates from Ethiopian patients: Baseline studies on antiretroviral drug resistance and sub-type variations: Department of Microbiology, Addis Ababa University, 2008.


Section 3. Epidemiological, Risk Factors, and Determinants Research

This section includes studies on the epidemiology of HIV and other opportunistic infections, AIDS and related diseases, and risk and protective behaviors. It also covers

*Ethiop.J.Health Dev.* 2009;23(1)
research on the biological, psychosocial, socioeconomic, cultural, structural, and other contextual determinants of HIV transmission and prevention.


Ethiop. J. Health Dev. 2009;23(1)


55. Herman J. The EOC (Ethiopian Orthodox Church), PEPFAR (President’s Emergency Plan For AIDS Relief) and the ART in Ethiopia. Abstracts of the XVII International AIDS Conference 2008, Mexico City, Mexico: Abstract no. CDD0169.


76. Seifman A, Egamberti N. HIV and prisons in Sub-Saharan Africa. Abstracts of the XVII International


Section 4. Clinical Research
This section includes studies on the characteristics and clinical course of HIV infection and opportunistic infections, and other clinical issues affecting HIV/AIDS patients.


Section 5. Impacts Research
This section covers studies on the social, psychological, economic, and demographic impacts of HIV/AIDS on individuals, families, communities, institutions, or the nation. In addition, studies that explore relevant social issues associated with the spread of the HIV/AIDS are also included.


28. Wilson C. For former orphans, there's no place like home. USA Today 2008 May 27, 2008.

Section 6. Intervention Research
This section includes reports on research and programmatic activities that are aimed at provision of treatment, care, and support to people infected and affected by HIV. This section also includes reports on prevention efforts and public policy measures targeted against HIV/AIDS.

Ethiop.J.Health Dev. 2009;23(1)


32. Denegtu AW. Assessment of the health care delivery system for activities to decrease the burden of tuberculosis among people living with HIV/AIDS. MPH thesis, School of Public Health: Addis Ababa University, 2008.


69. Ketema W. Acceptability, feasibility, affordability, sustainability and safety of infant feeding options recommended for mothers with HIV. MSc thesis, Department of Health Planning and Management: Jimma University, 2008.


89. Molla M, Astrem AN, Berhane Y. 'Applicability of the theory of planned behaviour to intended and self reported condom use in a rural Ethiopian population': Corrigendum. AIDS Care 2008;20(6):753-753.
94. Neka Tebeh HN, Balcha H, Sidhwa X. The challenges of integrating nutrition in a system where nutrition capacity is weak. 2008 HIV/AIDS

**Ethiop. J. Health Dev. 2009;23(1)**


112. Teferi T. Predictors of infant and young children feeding practice among HIV positive mothers in Mettu town, Illubabor Zone, southwestern Ethiopia. MSc thesis, Department of Population and Family Health: Jimma University, 2008.


Section 7. Monitoring and Evaluation Research
This section includes reports that focus on HIV/AIDS related program or intervention monitoring and evaluation activities.


Ethiop.J.Health Dev. 2009;23(1)


29. Montana LS, Mishra V, Hong R. Comparison of HIV prevalence estimates from antenatal care surveillance and population-based surveys in sub-Saharan Africa. Sex Transm Infect 2008;84(S1):i78-i84.


Section 8. HIV/AIDS Research on Ethiopians in the Diaspora
This section covers HIV/AIDS among Ethiopians and foreign residents of Ethiopian origin living outside of Ethiopia. It includes basic science, epidemiology, intervention, clinical, impact and social issues research.

5. Siegel-Itzkovich J. Babies born to Ethiopian immigrant mothers in Israel have been needlessly infected with HIV. Br Med J 2008;337:a2308.

Section 9. Selected Websites Featuring HIV/AIDS in Ethiopia
1. Center for International Health of the University of Bergen, Norway (also access to the Ethiopian Journal of Health Development): http://ejhd.uib.no/
2. Christian Relief and Development Association: www.crdaethiopia.org

Ethiop.J.Health Dev. 2009;23(1)
3. Ethiopian AIDS Resources Center: http://www.etharc.org


5. Johns Hopkins University Center for Clinical Global Health Education: http://ccghe.jhmi.edu/CCG/country/ethiopia/


7. Save the Children: http://www.savethechildren.net/ethiopia/


15. University of California, San Francisco HIV In Site: http://hivinsite.ucsf.edu/global?page=cr09-et-00


17. The International Technical Training and Education Center on HIV (I-TECH): http://www.go2itech.org/itech?page=co-03-00