



SEMI-ANNUAL RESEARCH REPORT

January-June 2012

Research Project Updates

Project Name:	A Phase I/II Dose-Finding Study of High-Dose Fluconazole Treatment in AIDS-Associated Cryptococcal Meningitis. A5225/HiFLAC (Protocol Version 1.0)		
Investigator(s):	Siika, A.. Sidle, J. Lagat, D. Kwobah, C. Nzioka, J.		
Start Date:	5/18/2011	Project End Date:	12/31/2012
Site(s):	MTRH		
Project Description:	<p>A5225/HiFLAC is a phase I/II dose escalation and validation study of the safety, tolerability, and therapeutic effect of an induction-consolidation strategy of high-dose fluconazole alone for the treatment of cryptococcal meningitis (CM) in HIV-infected participants.</p> <p>The study will proceed in two stages. In Stage 1, Dose Escalation, up to three induction doses of fluconazole will be tested in sequentially enrolled cohorts. Stage 2, Dose Validation, will not open until the maximum tolerated dose (MTD) of fluconazole has been identified in Stage 1. In Stage 2, induction doses of fluconazole that are found to be safe in Stage 1 will be tested in simultaneously enrolled cohorts. In each stage, participant.s will be randomized at entry into Step 1.</p> <p>Over the course of the study, participants will register to subsequents steps (Steps 2-4) based on their initial randomization and/or their response to treatment. The study steps are:</p> <ul style="list-style-type: none"> • Step 1: Induction therapy with either high dose fluconazole or ampho B • Step 2: Induction following early ampho B intolerance (only for participants randomized to ampho B treatment in Step 1) (fluconazole at 400-800 mg daily) • Step 3: Consolidation therapy (fluconazole 400 mg daily) • Step 4: Maintenance therapy (fluconazole 200 mg daily) 		
Update:	A total of 13 participants have been enrolled. Five into cohort 1 (Fluconazole 1200mg) and 8 into cohort 2 (Fluconazole 1600mg). Five participants have completed study follow-up visits; three have since died. Five are active on follow up.		
Project Name:	A Population-wide Home-Based Study of Hypertension Prevalence in Western Kenya.		
Investigator(s):	Velazquez, E. Kimaiyo, S. Bloomfield, G. Akwanalo, C.. Hogan, J. Maghasi, M.. Anstrom, K.		
Start Date:	1/7/2011	Project End Date:	7/31/2012
Site(s):	Mosoriot		
Project Description:	Hypertension is one of the increasingly important health challenges facing the African continent and yet data on true community prevalence of hypertension in sub-Saharan Africa (SSA) is limited. The prevalence of hypertension in truly rural populations was said to be a		

	<p>rarity but this must have changed because of adoption of Western lifestyle. Recent studies indicate that the prevalence of hypertension and its clinically important outcomes is steadily increasing in SSA, more in the urban compared to semi urban and rural communities. The study will be conducted in two phases. Phase one of the study will be a cross sectional study which will be conducted on persons aged 18yrs or older from Mutwot location, Kosirai division, to assess for hypertension and diabetes mellitus. Diagnosis of hypertension and diabetes will be based on the JNC 7 and American diabetes association criteria. In the second phase of the study those individuals who are newly diagnosed with hypertension (at least 193 cases) will be assessed for target organ damage and compared to controls (386) in a 1 to 2 ratio. Target organ damage will be defined as the detection of any of the following: electrocardiogram-left ventricular hypertrophy (ECG-LVH) or micro albuminuria or history of a stroke.</p>		
Update:	<p>We obtained IREC approval in the month of August 2011 and NHLBI approval in December 2011. We have carried out training of counselors and Research Assistant on Diabetes and Hypertension screening and use of phone technology in data entry. They have also completed the online CITI Human Subjects Protection course. Recruitment and screening for this study started in February 2012. So far, the team has screened 377 patients in the community (Kosirai Division). Of these, 46 patients were referred to the clinic for confirmation of high blood pressure. 20 of those referred have already presented to the clinic and 13 have been diagnosed to have Hypertension. No diagnosis of diabetes has been recorded. The challenges encountered so far include:</p> <ul style="list-style-type: none"> • Challenges in transport health facility • Stigma related to HIV since HIV testing is being performed at the same time as blood pressure; and diabetes testing. 		
Project Name:	A Retrospective Analysis Of Pregnancy Outcomes Of HIV-Infected Women Enrolled In The AMPATH Program		
Investigator(s):	<p>Bell, A. Were, E. Musick, B. Lane, K. Washington, S. Shen, C. Akhaabi, P. Hogan, J. Wools-Kaloustian, K.</p>		
Start Date:	3/1/2006	Project End Date:	11/30/2012
Site(s):	All Sites		
Project Description:	<p>This is a retrospective analysis of pregnancy outcomes of HIV-infected women enrolled in the AMPATH program from January 2006 to March 2009. Per protocol, pregnant women with CD4 < 200 begin cART immediately and those with a CD4 ≥ 200 start at 28 weeks gestation. The pregnancy outcomes are being compared between women pregnant at program enrollment (BE) and those who became pregnant after enrollment (AE). The specific hypotheses include:</p> <ul style="list-style-type: none"> • Women who are already enrolled in the AMPATH program at the time of pregnancy diagnosis are more likely to initiate ART sooner (at a lower gestational age) than those 		

	<p>who are not in the program prior to pregnancy diagnosis.</p> <ul style="list-style-type: none"> • Women who are already enrolled in AMPATH at the time of pregnancy diagnosis are less likely to give birth to an HIV-infected baby than those who are not enrolled in the program prior to pregnancy diagnosis. • Women who are already enrolled in AMPATH at the time of pregnancy diagnosis will have better retention and adherence rates than those who are not enrolled in the program prior to pregnancy diagnosis. • Women who are already enrolled in the AMPATH program will have a lower rate of stillbirth and infant loss than those who are not enrolled in the program prior to pregnancy diagnosis. 		
Update:	The preliminary findings were presented on January 10 at the 2nd International Conference on HIV and Women in Bethesda, Maryland. Feedback from the conferees was incorporated into the analysis plan. The analysis is underway. We expect to submit the manuscript for publication during the next quarter.		
Project Name:	A Stage 2 Cognitive Behavioral Trial, Reduce Alcohol First in Kenya Intervention (RAFIKI)		
Investigator(s):	Papas, R. Gakinya, B. Martino, S. Maisto, S Baliddawa, J. Sidle, J. Hogan, J. Carroll, K.		
Start Date:	11/1/2011	Project End Date:	8/31/2016
Site(s):	MTRH, Turbo, Burnt Forest, Webuye Hospital, Iten		
Project Description:	This study will determine whether a group cognitive-behavioral therapy intervention that demonstrates preliminary evidence of reducing alcohol use among HIV-infected outpatients in western Kenya is effective when compared against a group health education intervention in a large sample over a longer period of time. It will be delivered by para-professionals, individuals with limited professional training. This approach is consistent with successful cost-effective models of service delivery in resource-limited settings in which para-professionals (e.g., clinical officers, traditional birth attendants and peer counselors) are trained.		
Update:	Our work to date since September 2011 has involved preparing for the trial. We adapted the HL intervention protocol from a protocol employed in the U.S. We did this through multidisciplinary panel review and patient focus group discussion. We also revised and added survey items not employed in the pilot survey. We ran focus groups in February and March 2012 to get patient input on our methods. Twenty outpatients participated in the survey pre-testing focus group discussion and 15 outpatients participated in the discussion about our HL protocol. Participants assisted us with further tailoring study instruments to the culture and setting. They reported acceptability of both the survey and the HL protocol. We have trained the CBT and HL counselors in the intervention protocols and the Research Assistants in study methods. Recruitment for the trial is expected to begin in July 2012.		
Project Name:	A5265 'A Phase III, Open-Label, Randomized, Assessment-Blinded Clinical Trial to Compare		

	the Safety and Efficacy of Topical Gentian Violet to that of Nystatin Oral Suspension for the Treatment of Oropharyngeal Candidiasis in HIV-1 Infected Participants in Non-U.S. Settings'		
Investigator(s):	Siika, A.. Lagat, D.. Kwobah, C.. Tanui, K. M.		
Start Date:	2/1/2012	Project End Date:	12/31/2012
Site(s):	MTRH		
Project Description:	A5265 is a phase III, open-label, randomized, assessment-blinded clinical trial in non-U.S. sites to compare the safety and efficacy of topical gentian violet (GV) to that of oral nystatin. Therapy will be considered as failed if participants have no clinical improvement (assessed by severity and extent of pseudomembranous candidiasis) during either treatment regimen. Evaluation of signs and symptoms of oral candidiasis (OC) will be done by an evaluator who is blinded to treatment assignment. Quantification of colony forming units (CFUs) of Candida species (spp.) and assessment of the emergence of resistance will be performed using an oropharyngeal swab and a second specimen from oral rinse/throat wash will be collected and stored for future testing		
Update:	A total of 9 participants have been enrolled. Five (5) have completed study follow up and 4 are active on study.		
Project Name: Addressing the Fourth Delay: Improving community-based accountability for maternal and newborn health			
Investigator(s):	Christoffersen-Deb, A.. Songok, J.. Ruhl, L.. Fazen, L.		
Start Date:	1/1/2012	Project End Date:	1/1/2014
Site(s):	Mosoriot		
Project Description:	This project addresses the lack of community involvement in maternal and newborn health throughout Western Kenya. While the current PHC activities focus on health systems improvement inside government health facilities, addressing the Fourth Delay will link both the household to the facility and to the community using a sustainable approach that aims to strengthen community relationships. It will do this by capitalizing on existing mobile technology to provide both an integrative emergency alert system and clinical decision support at the household level while in mobile communication with the health facilities' Electronic Medical Record System. This will be done by developing an Android platform for maternal and infant health, including emergency alert network, triage aids, Google map integration, facility alert of delivery SMS system, and outcome SMS system. Hence, there will be need to train CHWs and Community Health Extension Workers (CHEWs) on the use of Android phones, triage algorithm, and the emergency alert network.		
Update:	We are currently recruiting and orienting staff.		
Project Name: Antibiotic Sensitivity Patterns Among Post-Mortem Bacterial Isolates. A Sub-Study In The Autopsy Study, Version 1.0, October 31, 2011 (AST Study)			
Investigator(s):	Kwobah, C..		

	Siika, A. Mwangi, A. Swierczewski, B. Odundo, E.		
Start Date:	4/12/2012	Project End Date:	6/30/2012
Site(s):	MTRH KEMRI/Walter Reed Program, Kericho for sample processing		
Project Description:	The Autopsy Study was initiated in February 2010. The study aims to determine causes of death in HIV-infected patients who die while on antiretroviral therapy (ART). Part of the study procedures include microbial (bacterial, mycobacterial and fungal) cultures from body fluids and tissues including blood, bone marrow, cerebrospinal fluid, lung, spleen, stool, pus and any abnormal collections of fluid found in the bodies during autopsies. The AST sub-study aims to conduct antibiotic susceptibility testing on bacterial isolates.		
Update:	We have not published these preliminary results as we await further accrual of AST results.		
Project Name: Anticoagulation Project			
Investigator(s):	Pastakia, S. Manji, I. Nabwire, O. M. Rakhi, K. Constantine, A. Collins, S. Schellhase, E. Miller, M Maina, M.		
Start Date:	12/1/2008	Project End Date:	12/31/2012
Site(s):	MTRH Webuye Hospital		
Project Description:	A comprehensive pharmacist run anticoagulation care management system customized to a resource constrained setting has been created and implemented. The primary interventional element of this program is the creation of an organized system for INR monitoring of patients requiring anticoagulation with warfarin.		
Update:	A case series on the drug interaction between warfarin and rifampicin was recently completed and submitted for publication. The manuscript is currently under peer review. A similar case series on the interaction between warfarin and antiretroviral drugs is also being prepared. Another analysis on the unique dynamics of venous thromboembolism in HIV patients is currently underway.		
Project Name: Assessment and Treatment of Pain at Moi Teaching and Referral Hospital			
Investigator(s):	Vreeman, R. Owino, C. Huang, K. Gramelspacher, G. Strother, M. Njuguna, F		

	Hagembe, M.		
Start Date:	3/14/2011	Project End Date:	12/1/2012
Site(s):	MTRH		
Project Description:	<p>Pain assessment is not routinely conducted at Moi Teaching and Referral Hospital (MTRH) in Eldoret, Kenya, and underutilization of analgesics, particularly strong opioids, remains a significant problem. The objectives of this study are to assess the prevalence and intensity of pain in patients at MTRH, and to describe the utilization of pain medications in this setting. The rationale for measuring pain and pain treatment in hospitalized patients is to develop a baseline understanding of the extent of pain in this population and of whether that pain is being recognized and treated by clinicians. In this study, will assess pain in pediatric and adult inpatients at MTRH using two well-established pain scales, the Numerical Rating Scale and the Faces Pain Scale-Revised, and gather pertinent patient data such as admission diagnosis and pain medications received. In our analysis, we will describe the prevalence and intensity of pain among patients surveyed, report any differences in pain levels among subcategories of patients, and determine whether pain is being adequately treated using the Pain Management Index. We expect to find that inpatients at MTRH experience a considerable amount of untreated or undertreated pain.</p>		
Update:	We have finished all recruitment and data collection. We currently analyzing data.		
Project Name: Awareness Of Breast Cancer, Among Men And Women In Western Kenya			
Investigator(s):	Asirwa, C. Busakhala, N. Inui, T. Naanyu, V. Mwangi, A. Strother, M. Loehrer, P..		
Start Date:	10/1/2012	Project End Date:	7/1/2014
Site(s):			
Project Description:	<p>This is a questionnaire based study to evaluate the awareness of breast cancer among men and women in western Kenya. This includes questions related to their knowledge of risks for breast cancer, signs and symptoms, and health seeking behaviour.</p>		
Update:	Research protocol have been submitted to IREC/IRB. We are awaiting approval.		
Project Name: Biomarkers For Vincristine Neurotoxicity In Kenyan Children			
Investigator(s):	Rennebarger, J. Njuguna, F..		
Start Date:	6/27/2011	Project End Date:	12/1/2012
Site(s):	MTRH		
Project Description:	<p>We are evaluating biomarkers of vincristine toxicity in any HIV negative child who is receiving vincristine as part of their cancer care. We are specifically collecting specimens of blood and saliva to assess the pharmacokinetics and pharmacogenetics of vincristine metabolism and toxicity. We are additionally conducting detailed serial neuropathy exams on subjects enrolled to assess for toxicity.</p>		

Update:	We have submitted one abstract to a conference based on the interim analysis. We hope to recruit more clients from July for more data		
Project Name:	Biomarkers of Vincristine Toxicity in Kenyan Children		
Investigator(s):	Renbarger, J. Njuguna, F.. Skiles, J. Olbara, G. Tallam, C.		
Start Date:	6/27/2011	Project End Date:	3/1/2013
Site(s):	MTRH		
Project Description:	We are evaluating biomarkers of vincristine toxicity in any HIV negative child who is receiving vincristine as part of their cancer care. We are specifically collecting specimens of blood and saliva to assess the pharmacokinetics and pharmacogenetics of vincristine metabolism and toxicity. We are additionally conducting detailed serial neuropathy exams on subjects enrolled to assess for toxicity.		
Update:	Patient accrual is going well. We have not encountered any significant problems with the study to date. We have enrolled 78 patients to date and, after interim analysis of data, we have decided to enroll an additional 22 patients to a goal accrual of 100 subjects. The data generated from the interim analysis was presented at ASCO 2012 national meeting as an abstract/poster presentation.		
Project Name:	Building Competencies through Bilateral International Exchanges-Using Qualitative Methods to Measure the Impact on Pediatric Residents from Host and Visiting Countries in Professionalism, Communication and Systems-Based Care		
Investigator(s):	Litzelman, D. Ayaya, S. Umoren,R. Woodward, J. Vreeman, R. Liechty, E. Lorant, D. Stelzner, S. Palmer, M. Riner, M.		
Start Date:	11/27/2009	Project End Date:	6/30/2013
Site(s):	Moi University Indiana University		
Project Description:	Focus groups to assess the impact of resident exchange project on participating residents from Indiana University School of Medicine (IUSOM), Moi University School of Medicine (MUSM), and Universidad Autonoma del Estado de Hidalgo Health Sciences Campus (UAEH) particularly related competencies in Professionalism, communication, Systems Based Practice, and Practice Based learning and improvement.		
Update:	Ongoing recruitment of study participants continues with the goal of comparing experiences between the participating foreign institutions.		

	Poster Presentation: The IIMPS Factors: Residents' Perception of the Factors Influencing their Acquisition of ACGME Competencies through a Global Health Elective RA Umoren, ME Riner, M Palmer, JF Woodward, RC Vreeman, S Stelzner, DE Lorant, SO Ayaya, EA Liechty, and DK Litzelman. 2012 Riley Pediatric Scholars' Day. Indianapolis, IN		
Project Name:	Causes Of Early Mortality In HIV-Infected Africans On Antiretroviral Therapy		
Investigator(s):	Siika, A.. Buziba, N. Chumba, D. Ayikukwei, R. Tierney, W. Wools-Kaloustian, K. Carter, E. J. Yiannoutsos, C.		
Start Date:	7/1/2009	Project End Date:	6/30/2013
Site(s):	MTRH		
Project Description:	<p>The autopsy study aims to determine the causes of early mortality in AMPATH -enrolled HIV-infected African patients on ART. The central hypothesis in this study is that the vast majority of early deaths in HIV infected African patients on ART are caused by treatable infectious complications. The rationale behind this research study is that interventions to interrupt early death in HIV-infected patients on ART are more likely to succeed if they target cause-specific mortality. Further, solutions to HIV care and treatment challenges in sub-Saharan Africa are more likely to be found if the research conducted addresses the region's specific healthcare needs and the results of such research can be translated into local practice.</p> <p>The study has two specific aims:</p> <ol style="list-style-type: none"> 1. To establish the causes of death by performing detailed pathological autopsies in patients who die in the first 12 months of ART. 2. To develop a verbal autopsy questionnaire that is accurate, specific to HIV infection, and appropriate for identifying causes of death in resource constrained settings. 		
Update:	<p>Study Findings</p> <ul style="list-style-type: none"> • Pathological Autopsies: The study has so far conducted a total of three Central Review Board (CRB) to ascertain causes of death (September 2010, July 2011, and April 2012). Causes of death for 223 participants have been ascertained. • Verbal Autopsies: The study conducted a total of three CRB) to ascertain causes of death using Verbal Autopsy (September 2010, September 2011, and April 2012). Causes of death for 229 participants have been ascertained. <p>Training The study sponsored two of its staff namely; Iddah Maulid and Kennedy Kenina to Good Clinical Practice (GCP) training in July 2011.</p> <p>Research Presentations The study submitted an abstract which was accepted for oral presentation in the XIX International AIDS Conference in Washington DC, USA from July 22-27, 2012.</p>		

	<p>Monitoring/ Audit of the study In January 2012 the study underwent a monitoring exercise the recommendations of the audit report are currently being implemented by the study team.</p> <p>Upcoming events The study is planning to conduct mid-study review of study findings since it has attained and surpassed 200th autopsy. This is expected at the end of August.</p> <p>Sub- Studies Findings The study has three sub- studies which have been approved by Institutional Review Ethics Committee (IREC). Two are currently running(AST Substudy and Malaria) while one(DOM Study) has temporarily been halted due to unavailability of funds to run more TB isolates.</p> <p>Challenges We are still experiencing challenges in the recruitment process. Moi Teaching Referral Hospital changed the patient Identification system from the AMRS to a new system which we are unable to link eligible participant to AMPATH unless a referral note from AMPATH is available in the patient chart. We are currently solely relying on participant names which is sometimes unreliable (some registered using proxy names and misspelling of names), and patient referral note in the patient charts.</p>		
Project Name:	Cervical Cancer See and Treat: How Best to Follow-Up		
Investigator(s):	Cu-Uvin, S. Omenga, E. Mabeya, H. Washington, S. Itsura, P.		
Start Date:	9/1/2011	Project End Date:	6/30/2013
Site(s):	MTRH Mosoriot Turbo Chulaimbo		
Project Description:	<p>This is a cross sectional study involving 660 HIV-infected women attending 4 AMPATH-CCSPP (Cervical cancer Screening and Prevention Program) sites who have undergone VIA and cryotherapy >6 months for cervical dysplasia. Demographic information as well as a full medical history will be obtained. They will undergo a gynecologic examination. Women with suspected frank cervical cancer or current genital tract infection will not be enrolled and will be referred for standard of care. Women with genital tract infection will undergo syndromic treatment and will be eligible to be enrolled 3 weeks after treatment if they have cleared the infection. During the gyn exam, the following will be done for all study participants: VIA, conventional Pap smear, endocervical cytobrush for HPV typing. All women with positive VIA result will undergo colposcopy and biopsy at the next available colpo/biopsy clinic day. Those with negative VIA result will return in 4-6 weeks to receive the results of their Pap smear and HPV typing. If either the Pap smear or HPV typing is abnormal, they will undergo colposcopy with biopsy on the next available colpo/biopsy clinic day. Women with negative VIA , PAP smear and HPV will follow standard of care that is annual screening with VIA. Histological diagnosis will be the gold standard. Women will be asked several questions regarding their experience.</p>		
Update:	The study has currently recruited a total 158 participants out of possible 168 after 10 were		

	<p>inelligible at time of presentation to the clinic 6 months post cryotherapy. Eight were pregnant, 1 refused while the other was inelligible due to age (above the age bracket under inclusion criteria). Dr. Peter Itsura got IRB approval for inclusion as a Co-Investigator. The other amendment saw Chulaimbo Sub-District hospital included as a study center making study sites to 4. The study has put forward another amendment to increase the transport reimbursement to participants. All but 8 participants have received their HPV results which is now run at AMPATH reference laboratory. The main challenge experienced in the last 6 months has been low numbers getting cryotherapy treatment due to the elligibility for the same. The CCSP has currently accrued 447 cryotherapies done which the study will seek to recruit 6 months after the cryotherapy date.</p>		
Project Name:	Comparison of Protein-Energy Malnutrition and <i>P. falciparum</i> Malaria levels in AMPATH and Non- AMPATH COBES centres in Western Kenya by		
Investigator(s):	Taylor, K. Kwena, A. Mcdowell, A. M. Mining, S. Wakhisi, J.		
Start Date:	8/1/2011	Project End Date:	8/1/2013
Site(s):	Mosoriot Turbo Burnt Forest Amukura Naitiri Chulaimbo Nambale		
Project Description:	Protein Energy Malnutrition and malaria are global as well as a national problems in Kenya. Some AMPATH sites are also used annually by Moi University College of Health sciences students for their community diagnosis work. The project therefore aims to look at malnutrition and malaria in COBES (AMPATH) and NON-AMPATH sites and compare the levels malnutrition and malaria to ascertain the impact of AMPATH in the community.		
Update:	Preliminary results show that stunting, wasting and underweight appear to be lower in AMPATH centres when compared to non-AMPATH centres. Only results from 2 AMPATH centres (Mosoriot and Chulaimbo) were available for the analysis. Further data collection and analysis is hoped to be carried out in the next quarter in more centres to confirm the results and suggest possible reasons for the trends. The results reported here do not include <i>P. Falciparum</i> levels.		
Project Name:	Computerized Counseling to Promote Positive Prevention and HIV Health in Kenya (CARE+ Kenya)		
Investigator(s):	Kurth, A. Siika, A.. Sidle, J. Ayuku, D. Baliddawa, J. Fortenberry, J.D.		

	Wools-Kaloustian, K. Braithwaite, S.		
Start Date:	8/14/2009	Project End Date:	6/30/2013
Site(s):	MTRH Burnt Forest		
Project Description:	<p>Specific Aims:</p> <ol style="list-style-type: none"> 1. Adaptation: Adapt a theoretically driven computerized counseling intervention (CARE+ Kenya) for use in western Kenya. [1st 18 months] <ol style="list-style-type: none"> 2.1.A. Conduct interviews with up to 25 HIV-positive urban and up to 25 rural 50 males/females of the Academic Model Providing Access to Health (AMPATH®) to understand HIV and computer training needs. Conduct two staff focus groups (n~16) to assess positive prevention and ART adherence support practices, beliefs about patient computer use and training needs. 2.1.B. Using above, modify intervention content; translate and record audio files into local Kiswahili. Adapt skill-building videos on 'positive health' (prevention, disclosure, ART adherence, reproductive health, etc.). 2.1.C. Conduct iterative software usability testing with 10 urban and 10 rural patients (n=20) and n=8 staff. Perform 3-day test-retest reliability assessment to establish psychometric performance of measures. 2.2 RCT. Establish biological and behavioral efficacy of a longitudinal HIV computerized counseling intervention in Kenya ('CARE+ Kenya') [Months 18-42] <ol style="list-style-type: none"> 2.2.A. Longitudinal RCT in an urban and a rural clinic. Randomly assign HIV-positive adults with missed ART doses on self-report, pharmacy refill or pill counts; or unprotected sex in last 6 months, >1 partner in last year, or sexually transmitted infection (STI) in last 3 years; to intervention (n=125) or risk-assessment control (n=125) for baseline, 3, 6, and 9 month sessions. HIV transmission risk will be measured by self-reported unprotected sex with HIV-negative/unknown partner, and trends in C. trachomatis, N. gonorrhoeae, T. vaginalis. ART adherence will be measured by HIV-1 viral load at 0, 6, 9 months, and at all time points, by electronic monitoring, pharmacy refill, self-report, and clinic attendance. 2.3 Establish cost-effectiveness of computerized counseling in Kenya. [Months 1-48] <ol style="list-style-type: none"> 2.3.A. Follow patients at the two clinics to evaluate standard of care counseling messages and collect patient time-spent data (n=100, at baseline), to determine unmet patient counseling need. 2.3.B. Economically evaluate CARE+ Kenya. If RCT shows the intervention reduces viral load and transmission risks, we will use a Bernoulli transmission dynamics model to estimate number of secondary HIV infections prevented; then create a cost-effectiveness model to calculate 2 incremental cost-effectiveness ratios: 1) cost/HIV infection averted, and 2) cost/disability adjusted life year (DALY) saved. 2.3.C. If CARE+_Kenya is efficacious and efficient, we will develop a proposal for a cluster-randomized trial to assess translational effectiveness of CARE+ Kenya throughout the AMPATH system. 		
Update:	<p>Achievements:</p> <ol style="list-style-type: none"> 1. MINIMUM LOST TO FOLLOW-UP: Since recruitment, we have only two participants who have been lost to follow-up in Module1 and none for Burnt forest study site. 2. AMENDMENTS: We have received approval from IREC to add biostatistician from Moi/AMPATH Ann Mwangi and Alfred Keter who are familiar with the AMPATH system including its OpenMRS electronic health record and other databases seek services. There 		

expertises are highly relevant in supporting onsite support of data capture, troubleshooting, cleaning, merging, management, and analyses., use of questionnaires form for cost analysis, IREC Amendment Form, Cost Analysis Form for Patients, Amended Reviewer Guideline Form, Participants exit interview forms and Pill count survey to further enhance data collection methods for the study

3. SUPPORT VISITS: Care+ (Plus) Spanish Coordinator John Lizcano came to Kenya on Junet 4th for one week to oversee the CARE Plus Kenya team during the exit of study participants in Module1.
4. QA/QC One of the study investigators, Joyce Baliddawa, has been submitting weekly Quality Assurance (QA) for the RCT procedures and documentation to Principal Investigators
5. RECRUITMENT: We have had tremendous success in recruitment of study participants in module1 study site but a slower rate in Burnt Forest due to planting season the first quarter of year 2012.
6. DATA COLLECTION: We are currently using RCT appointment log, RCT recruitment script, RCT consent form, RCT participants tracking form, and RCT ID Number labels (that is being used on participants' paperwork and appointment and incentive logs). This helps us in ensuring we track our participants as they come on their monthly follow-up visits. All the data at the end of each day is stored electronically into the study database and uploaded on a weekly basis to NYU secure site while we another copy is stored to an external and password protected hard drive.
7. PSYCHOLOGICAL FINDINGS: Some of the psychological findings we have documented for Module1 and Burnt forest since recruitment began were as follows
 - Depression - Module1= 4 Burnt Forest= 3
 - Intimate Partner Violence (IPVs) - Module1= 62 Burnt Forest= 32
 - Suicidal thoughts - Module1= 20 Burnt Forest= 3All participants were referred to AMPATH Psychosocial department for further intervention purposes by the study protocol (including assessment with Psychiatry), especially for those with potentially suicidal thoughts.
8. LAB TESTING All Module1 lab results have been filed to the respective participant's files and another copy into their regular AMPATH file. All those with Trichomonas Vaginalis results turning positive, we recall them for further care. We have test result and treatment guideline sheets for reporting test results and suggested treatment back to the clinics. All viral Load results that come back and copies/ml is >5000, Trichomonas, GC or CT is Positive we post the result into the patient file for further treatment
9. STANDARD OPERATING PROCEDURES All SOPs were developed, revised and approved by the study team.
10. COMMUNICATIONS The study team has kept abreast with the study activities on a weekly basis via Skype conference calls. The study coordinator and NYUCN research scientists have provided weekly reports and study updates to the study team.
11. ECAP: We have seen a reduction of breakages of the eCAP bottles by participants as compared to year 2011. We attributed this to continuous education by study staff to the participants.
12. PERSONNEL Phlebotomist at Burnt Forest was brought on board to the study since he is well trained on the procedures we anticipate to carry out. Although this required extensive time, approval was obtained from AMPATH Program Managers Office, on 20th November 2011 and the Phlebotomist started working with the project on 23rd November 2011 to date.

	<p>Plans: RECRUITMENT/RETENTION: We finalized recruitment of participants for module1 study site beginning of February 2012 while for Burnt Forest, we were though by May 2012. Based on this timeline, we expect to have last follow-up visits by the end of 2012 and February 2013.</p> <p>Challenges:</p> <ol style="list-style-type: none"> 1. REPETITION OF BASELINE OBSERVATIONS: Due to incomplete sessions at the baseline, we have recalled participants in Burnt Forest to complete the sessions to enable them proceed ahead to follow-up sessions 2. CARE+ APPLICATION PROGRAM: We've had also to reschedule participants for follow up visits due to small computer bugs in the CARE tool but that was sorted out by the software programming company in Seattle. <p>Publications: Several scientific presentations have been made:</p> <ol style="list-style-type: none"> 1. Kurth A, Baliddawa J, Were M, Sidle J, Ayuku D, Koster A, Owino R, Ochieng D, Jakait B, Chirchir T, Abiero C, Macharia S, Mule C, Siika A. Adapting a patient-centered computerized counseling tool to support positive prevention and ART adherence. Int'l AIDS Society Scientific Meeting, Rome July 2011 2. Kurth A, Baliddawa J, Were M, Sidle J, Ayuku D, Koster A, Owino R, Ochieng D, Jakait B, Chirchir T, Abiero C, Macharia S, Mule C, Siika A. User-centered Design for Mobile Health Intervention Content in a Low-Income Setting. NIH mHealth Summit, Washington DC, November 2010. 3. Kurth A, Kitani T. Information & communication technologies for HIV: Sustainability. Panel lead, Collaborative Group Meeting, Nairobi Kenya January 2010. The time motion subs-study data have been analyzed and a manuscript has been submitted. The CARE+ Kenya study team would like to thank AMPATH for their ongoing support and the opportunity to report our progress. 		
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Project Name:	Descriptive Analysis of Patients Seen in an Emergency Department in Western Kenya		
Investigator(s):	House, D. Nyabera, L. S. Ongaro, N. Kurt, Y.		
Start Date:	1/1/2011	Project End Date:	6/30/2012
Site(s):	MTRH		
Project Description:	Descriptive analysis of all patients presenting to the Accident & Emergency Department over 2011. Data includes demographics, diagnoses, disposition. The data will allow for assessment of needs for the department.		
Update:	Data collection is complete. We are now analyzing data and writing manuscript.		
Project Name:	Diabetes Mellitus And Glucose Intolerance In HIV Patients In Western Kenya		
Investigator(s):	Carter, E. J. Kirui, N. Kamano, J. Diero, L.		

	Chege, P. Pastakia, S. Gardner, A. Mwangi, A.		
Start Date:	9/3/2012	Project End Date:	8/31/2015
Site(s):	MTRH Webuye Hospital		
Project Description:	The goal of this study is to determine the association between diabetes mellitus, glucose intolerance, and HIV among HIV positive patients in Western Kenya. In this study, we propose that HIV and ART use increases the risk of diabetes mellitus and glucose intolerance among HIV patients in Western Kenya.		
Update:	The study protocol has been developed and will be submitted for ethics approval.		
Project Name:	Drug Resistance In HIV Infected Children After Failure Of Prevention Of Mother To Child Transmission In Western Kenya:IREC Formal Approval Number;000457		
Investigator(s):	Kantor, R. Nyandiko, W. Vreeman, R. Songok, J. Diero, L. Kosgei, R.. Ayaya, S.		
Start Date:	5/3/2011	Project End Date:	9/30/2012
Site(s):	MTRH Turbo Kitale		
Project Description:	The project seeks to determine the proportion of children becoming HIV infected despite interventions of pMTCT, and the type, if any of antiretroviral drug resistance in those children who get HIV infected after failure of pMTCT. The project was approved by IREC on 30th October, 2009. Continuing IREC approvals were given on 3rd January, 2011 and 10th April, 2012 subsequently. Our recruitment has been slow due to few children becoming positive. This is as a result of a vibrant pMTCT program within AMPATH. We have so far enrolled a total of 11 patients since we commenced the study. 11 have consented and none has withdrawn.		
Update:	A total of three(3) patients have been enrolled since 1st January, 2012. Three(3) patients have consented and none have withdrawn. The recruitment has been slow due to the same reason stated above.		
Project Name:	EARNEST: A Randomised Controlled Trial To Evaluate Options For Second-Line Therapy In Patients Failing A First-Line 2NRTI+ NNRTI Regimen In Africa. (Version 3.0, Dated 06 September 2010).		
Investigator(s):	Wools-Kaloustian, K. Siika, A.. Kwobah, C..		

Start Date:	2/9/2011	Project End Date:	12/31/2014
Site(s):	MTRH		
Project Description:	<p>EARNEST is a three arm parallel group, open-label, multi-centre, randomised controlled trial. 1200 patients will be included who are HIV-infected adults who have taken a first-line NNRTI-based regimen continuously for a total period of at least 12 months, and developed treatment failure defined by modified WHO 2010 criteria as one of the following:</p> <ul style="list-style-type: none"> • New WHO Stage 4 event (with CD4 < 200 cells/mm³ and viral load (VL) > 400 copies/ml) • CD4 < 100 cells/mm³, or CD4 fall to pre-treatment baseline or below, or CD4 < 200 cells/mm³ X 2 with previous CD4 > 400 cells/mm³ (with VL > 400 copies/ml) • VL > 5,000 copies/ml x2 <p>The trial aims to determine whether, in patients failing a first-line NRTI and NNRTI-containing regimen.</p> <ol style="list-style-type: none"> 1. the use of bPI plus raltegravir (an integrase inhibitor) is superior to standard of care (bPI plus 2 new NRTIs) in achieving good HIV disease control at 96 weeks after randomisation 2. the use of bPI monotherapy is non-inferior to standard of care in achieving good HIV disease control at 96 weeks after randomisation 		
Update:	The study closed to accrual in April 2011. Participants have completed one year on study and will be followed up for two more years. Two participants have since died and one withdrew consent. The other 49 active participants are doing well on study.		
Project Name:	Engagement In Care Among HIV-Infected Patients In Resource Limited Settings: A Protocol For Assessing The Magnitude Of And Reasons For Failure To Engage In Care Among HIV-Infected Patients In The East Africa International Epidemiologic Databases To Evaluate AIDS (IeDEA) Consortium		
Investigator(s):	Geng, E. Ayuo, P. Diero, L. Yiannoutsos, C. Wools-Kaloustian, K.. Braitstein, P.		
Start Date:	6/1/2011	Project End Date:	7/31/2012
Site(s):	MTRH Burnt Forest Webuye Hospital		
Project Description:	<p>The effectiveness of the roll-out of antiretroviral therapy (ART) at President's Emergency Plan for AIDS Relief (PEPFAR)-funded sites in Africa most fundamentally depends on engaging HIV-infected patients to initiate ART followed by consistent retention in care. Failures of engagement in the form of failure to initiate ART (FTI) and failure to retain in care (FTR) may well represent the biggest limitation to the effectiveness of PEPFAR-funded ART services. Attempting to understand FTI and FTR brings a critical barrier into focus: in Africa, 25% of patients who start ART are lost to follow-up (i.e., have unknown outcomes) from their originating clinic by two years, and this percentage is likely as high among patients who are eligible but who have not yet started ART. For ART-eligible patients, losses to follow-up means that both deaths while awaiting ART initiation and ART initiation at other sites are</p>		

	<p>systematically under ascertained, rendering the observed magnitude and impact of delays uninterrupted. For patients already on ART, losses to follow-up have been regarded as synonymous with disengagement from care. Yet emerging data suggests many 'lost' patients have simply started accessing care at newer sites as ART services decentralized. Furthermore, many lost patients have died, and unless these deaths are accounted for, existing estimates of outcomes and the effect of FTI and FTR are incomplete. Without generalizable and efficient strategies to manage the impact of losses to follow-up (i.e., unknown outcomes), the task of intelligently evaluating FTI and FTR is at a standstill. At a prototypical ART delivery site in Mbarara, Uganda, we have used a sampling-based approach to understand the effect of losses to follow-up on our clinic population's experience over time. We now propose to implement this approach at 11 sites in 3 countries in the East Africa IeDEA consortium in order to further understand the magnitude and determinants of FTI and FTR as well as the effects of FTR and FTI on survival and finally how to improve engagement in care for HIV-infected patients in Africa. Specifically, this process involves:</p> <ol style="list-style-type: none"> 1. enumerating an underlying cohort of patients from which engagement in care and loss to follow-up will be assessed 2. identifying patients who become lost to follow-up 3. identifying a representative sample of patients in whom outcomes obtained through contact in the community will be used to generalize to all lost patients 4. ascertaining outcomes in this sample through patient contact in the community.
<p>Update:</p>	<p>The Lost to follow-up (LTFU) project ran to completion end May 2012. The purpose of this project was to identify reasons for LTFU and outcomes of patients who became LTFU within the AMPATH program. The project was being undertaken at 3 AMPATH clinics, namely; MTRH, Webuye, and Burnt Forest. LTFU was defined for the purposes of this project as any patient who had initially been registered at AMPATH HIV care services but had not returned for a period of 3 months or more since their last (missed) return to care visit date. A random sample of 1157 patients defined as LTFU January 2009-June 2011 was generated and this represented approximately 18% of patients LTFU within the study sites during this time period.</p> <p>Data is maintained in an online system QUESGEN, where all data was entered and maintained centrally for AMPATH sites. Patient names and IDs are blinded, except for the parent organization, hence the use of de-identified data.</p> <p>Results from reviewing the charts found that 89% of patients were truly LTFU. 100% records have been entered to the electronic online databases system. In approximately 73% of tracking attempts either the patient or an informant has been found to date. Currently data analysis is in progress.</p> <p>Presentations and publications:</p> <ol style="list-style-type: none"> 1. A preliminary report was presented to the AMPATH program management in February 2012. 2. Accepted poster presentation: Ochieng D, Choge I, Rotich E, Ochieng V, Maritim B, Bernheimer I, Geng E, Kimiayo S, Mamlin J, Ndege S, Naanyu V, Ayuo P, Diero L, Braitstein P. Evaluating outcomes of patients lost to follow-up in a large comprehensive care treatment program in western Kenya. 19th International AIDS conference, Washington D.C, 22-27 July, 2012.
<p>Project Name:</p>	<p>Enhancing Infant Feeding Options for HIV Infected Mothers</p>

Investigator(s):	Wools-Kaloustian, K.. Nyandiko, W. Bucher, S. Musick, B. Nyunya, B. Yiannoutsos, C.		
Start Date:	1/10/2006	Project End Date:	12/1/2012
Site(s):	Burnt Forest Chulaimbo		
Project Description:	The purpose of this study is to determine if questionnaire administered within the clinic can be used to help decide which HIV- infected women should be encouraged to breastfeed and which should be educated about formula feeding their infants. In addition this study will help us to understand why some women choose to mix breast feeding with other types of foods.		
Update:	Data analysis is in progress. Manuscript is partially drafted.		
Project Name:			
Evaluating Handheld Clinical Decision Support Tools To Improve Community-Based Delivery Of Reproductive And Pediatric Health Services			
Investigator(s):	Christoffersen-Deb, A. Chemwolo, B. Fazen, L. Ruhl, L.		
Start Date:	6/1/2011	Project End Date:	12/31/2012
Site(s):	Mosoriot		
Project Description:	Given recent price reductions in smartphones and an extensive telecommunications infrastructure in Rift Valley, mobile devices represent a potential solution for improving the quality of CHW service delivery. Handheld devices can help CHWs organize and prioritize information based on a patient's past medical history, and have the capacity to display IEC content across diverse forms of media, including images and video. We suggest that integrating AMPATH's extensive electronic medical record system with CDS algorithms may enhance the functionality of handheld devices and enable the delivery of patient-centered forms and IEC material.		
Update:	Phone baseline training has been done. Software testing is being conducted before training all the participant and officially rolling out.		
Project Name:			
Evaluation Of A Comprehensive Strategy To Measure Pediatric Adherence To Antiretroviral Therapy (CAMP Study)			
Investigator(s):	Vreeman, R. Nyandiko, W. Inui, T. Wanzhu, T. Ayaya, S. Downs, S. Carroll, A. Tierney, W.		

	Marrero, D. Blaschke, T. Arpadi, S. Bell, D.		
Start Date:	9/11/2009	Project End Date:	2/28/2014
Site(s):	MTRH Turbo Webuye Hospital Kitale		
Project Description:	<p>The objectives of this project are to develop and test a reliable, valid instrument to measure pediatric ART adherence for children ages 0 to 14 years in western Kenya and to evaluate which administration strategy yields the most accurate information about children's ART adherence. We will pursue the following four specific aims:</p> <ul style="list-style-type: none"> • Aim 1: Develop a reliable, valid comprehensive pediatric ART adherence measurement questionnaire (CAMP - Comprehensive ART Measure for Pediatrics); • Aim 2: Develop a reliable, valid, short-form version of the pediatric ART adherence measurement tool (SF-CAMP) for use as an adherence screening measure in busy clinical care environments; • Aim 3: Evaluate the field- readiness, implementation feasibility, and clinical utility of CAMP and SF-CAMP within the AMPATH HIV clinical care system in western Kenya; • Aim 4: Evaluate the reliability and validity of this measurement tool in a clinic-based care setting compared to a home-based care setting. 		
Update:	<p>We have received funding for Aims 1, 2 and 3 via K23 career development to Rachel Vreeman via NIH-NIMH. IRB and IREC approvals secured. Approved IRB/IREC accrual target is 770. We completed cognitive interviews with 20 participants from urban and rural clinics to develop and modify the questionnaire. Project staff were hired and trained. For the adherence validation study, we have enrolled 211 patients (with 10 withdrawals). All completed the adherence validation study and analysis is being done. With funding from a PEPFAR Public Health Evaluation, we completed phase 4 of the project; recruiting patients from the Turbo clinic site in addition to MTRH and evaluating the adherence measurement in a home-based vs. clinic-based care setting. 41 children were enrolled and completed the study. The participants were randomized to have 10 home-based adherence evaluation. We had 20 patients recruited in Turbo and 20 patients recruited in MTRH clinic site. We have had only 1 withdrawal. We started the phase 5 of the project and have already enrolled a total of 65 participants in the MTRH, Webuye and Turbo sites. Eleven of these participants have already been randomized into the home+clinic group and the remaining 54 are in the clinic only group.</p>		
Project Name:	Health Facility Incentives To Improve Adherence To Malaria Diagnostic Test Results		
Investigator(s):	O'Meara, W. P. Menya, D. Armstrong, J. Manji, I.		
Start Date:	4/1/2012	Project End Date:	3/31/2014
Site(s):			

Project Description:	<p>Global investments in controlling malaria have led to some exciting reductions in the burden of malaria. In some areas, malaria-related deaths have dropped by more than 90%. As malaria transmission declines, a greater fraction of pediatric fevers are from other causes. However, these fevers continue to be treated as malaria, often despite the availability of diagnostic testing. In a typical rural health facility in Kenya, more than 90% of febrile patients are prescribed an antimalarial when no diagnostic tests are available. Even when microscopy or rapid diagnostic tests (RDTs) are available, between 50-80% of patients with a negative test are nonetheless prescribed antimalarials. Inappropriately treated fevers in children can lead to serious consequences for the patient and can accelerate the spread of drug resistance. In addition to the risk to patients, overuse of antimalarials also puts a financial strain on the government health system. This project aims to test an innovative, sustainable financial incentive designed to reduce the number of non-malarial fevers that are treated inappropriately with antimalarial drugs. We will test a financial incentive targeted at the health facility to determine if it improves adherence to diagnostic results and clinical protocols. Eighteen rural health facilities in western Kenya will be enrolled and randomly allocated to one of two arms. We will compare the effectiveness of clinical and technical training in diagnosis of malaria alone (Arm 1) to training plus financial incentives linked to prescription practices (Arm 2) in improving diagnosis and treatment of malaria and non-malaria fevers. The practice of prescribing antimalarials to patients with a negative diagnostic will be compared between facilities with and without the incentive structure. Secondary outcomes will include sensitivity and specificity of routine microscopy at health centers, use of alternative treatments for slide negative fevers, and frequency of stock-outs of antimalarial drugs. This project will be conducted in collaboration with Kenya's Division of Malaria Control and avenues to roll-out the intervention, if successful, will be actively explored.</p>		
Update:	Training and baseline assessments have been completed.		
Project Name:	Important Co-Morbidity In Patients With Diabetes Mellitus In Three Clinics In Western Kenya		
Investigator(s):	Carter, E.J. Kirui, N. Kamano, J. Pastakia, S. D . Cheng, S. Manuthu, E. Chege, P. Gardner, A. Mwangi, A. Enarson, D. A. Reid, A. J.		
Start Date:	9/1/2010	Project End Date:	2/29/2012
Site(s):	MTRH Webuye Hospital Kitale		
Project Description:	This was a retrospective study to determine the proportion of diabetes patients with a history of TB, HIV infection and tobacco smoking in three clinics in western Kenya.		
Update:	The study was completed. The manuscript is being written.		

Project Name:				Increasing Animal Source Foods in Diets of HIV-Infected Kenyan Women and Their Children			
Investigator(s):				Ernst, J. Ettyang, G. Neumann, C. Nyandiko, W. ; Siika, A..			
Start Date:		10/1/2006		Project End Date:		7/31/2012	
Site(s):				MTRH Turbo Soy Mautuma			
Project Description:				The study is a three arm randomized, blinded and controlled nutrition intervention trial that tests the effect of iso-caloric biscuit supplements of meat, soy or wheat protein added to the diets of drug naive HIV-infected Kenyan women and their children-8 years and younger and who live in the Turbo environs and who receive care at one of the AMPATH clinics (Turbo, Soy, Mautuma, and MTRH. The women are of reproductive age and at enrollment WHO stage I or II. The biscuits are provided five days a week (Monday to Friday) to subject mother and child, using directly observed therapy (DOT) for 18 months. The outcome variables include estimates of lean and fat mass, quality of life, strength measures, biochemical indicators of nutritional status, indicators of immune function, measures of inflammation, nutrient intake, food security, measures of growth and development in children and activities of daily living.			
Update:				Post follow up assessments at 24 months were done for the subjects. Oral Presentations: 1. Ernst, Judith - Field Nutrition Research in Rural Kenya. Presented study design to doctoral students in the Indiana University School of Public Health, Global Health Class, 2 February, 2012. 2. Ernst, Judith - Field Nutrition Research in Rural Kenya. Presented study design to doctoral students in the Indiana University School of Public Health, Epidemiology Seminar, 30 May, 2012. Poster Presentation/Abstract: 1. Hand grip strength and body composition in HIV-infected rural Kenyan women. J. Ernst, .G. Ettyang, C..Johnson, W. Nyandiko, A. Siika, C. Neumann. Experimental Biology, Abstract # 4101, April 23, 2012, San Diego, California.			
Project Name:							
Indiana University-Moi University Academic Research Ethics Partnership							
Investigator(s):							
Meslin, M. E. Ayuku, D. . Were, E.							
Start Date:		5/31/2008		Project End Date:		5/31/2012	
Site(s):				MTRH Moi University			

Project Description:	The Indiana University-Moi University Academic Research Ethics Partnership(IU-Moi AREP) is funded by a \$940,000 four year grant from the Fogarty International Center at the National Institutes of Health to establish a new research ethics training partnership with colleagues at Moi University in Eldoret, Kenya. IU-Moi AREP is a curriculum development and training initiative that builds on longlasting partnerships and collaborations in East Africa. IU-AREP has developed two Masters' degree programs:one at Indiana University-Purdue University Indianapolis and one at Moi University in Eldoret, Kenya.These graduate programs have common overlapping components,joint advisory committes,shared dissemination plans and harmonized evaluation strategies. Both programs include a curriculum involving required core courses, electives and a practicum experience, part of which is taken at the counterpart university. Besides, each IU-AREP partner convenes an annual Teaching Skills in International Research Ethics(TaSkR) workshop to provide training to approximately 40 faculty and students each year.
Update:	From January 29-31 IU-Moi AREP, in collaboration with University of Manitoba and the University of Nairobi, facilitated the International Infectious Disease and Global Health Training Program in which TaSkR faculty(i.e Prof.Edwin Were,Prof.David Ayuku,Dr.Rose Ayikukwei,Prof.Eunice Kamaara,Prof.Naomi Shitemi,Dr.Eric Meslin,Dr.Ross Upshur and Dr.Jeremy Sugarman) took part in teaching a Research Ethics Course as part of the training.TaSkR IV: The fourth annual event took place between February 1 st to 3rd at the Noble Conference Centre in Eldoret, Kenya. A total of 80 participants attended the workshop, where Dr. Ross Upshur from University of Toronto and Dr. Jeremy Sugarman from John Hopkins University were part of the TaSkR faculty.Invited guests who graced the workshop included Prof. Wenceslaus Kilama and Dr. Ramadhani A. Noor,both from AMANET and Prof. Kirana Bhatt from National Council for Science and Technology. The workshop followed the two and half day format used in previous years. Mock Thesis and Proposal Presentation:On 4th and 5th April masters students in International Health Research Ethics were scheduled to make presentation of their thesis proposals. This event was meant to bring together all the Masters students with their supervisors in order to assess the progress of each student's research/proposal.All the 7 second year and 10 first year students made the presentations. Short-course: Second short course on International Health Research Ethics was held for three weeks running from April 10-30 and 30 participants were trained. This course , just like the previous one, was intended to build capacity in the area of International Research Ethics in order to maintain the ethical and scientific quality of research protocols developed by local and international scientists.The course content focused on responsible design and conduct of scientific research. It covered the same topics as the previous short course except for two courses namely Research Methods and Community Engagement in Research,which were not included previously.
Project Name:	International epidemiologic Databases to Evaluate AIDS (IeDEA)
Investigator(s):	Yiannoutsos, C. Ayaya, S. Wools-Kaloustian, K. Otieno, J. Somi, R. G. Swai, R. Ngonyani, K. Lyamuya, R. Mtiro, B. H.

	Sidle, J. Braitstein, P. Martin, J. Bangsberg, D. Glidden, D. Deeks, S. Hunt, P. Diero, L. Nash, D. Abrams, E. Batya, E.		
Start Date:	6/20/2006	Project End Date:	7/31/2016
Site(s):	All Sites		
Project Description:	<p>IEDEA(International epidemiologic Databases to Evaluate AIDS) Initiative This initiative will establish international regional centers for the collection and harmonization of data and the establishment of an international research consortium to address unique and evolving research questions in HIV/AIDS currently unanswerable by single cohorts. High quality data is being collected by researchers throughout the world. This initiative provides a means to establish and implement methodology to effectively pool the collected data—thus providing a cost effective means of generating large data sets to address the high priority research questions. Combination of data collected under various protocols is frequently very difficult and not as efficient as the collection of pre-determined and standardized data elements. By developing a pro-active mechanism for the collection of key variables, this initiative will enhance the quality cost effectiveness and speed of HIV/AIDS research.</p>		
Update:	<p>As of August 31, 2011, IeDEA had a total of 149,719 patients on the AMPATH database (AMRS) of which 96,299 were female and 53,420 were male.</p> <p>Regulatory: Regulatory approvals have been obtained and maintained. Separate regulatory approval has been obtained and maintained at participating sites for the Retention in care supplement, and the Kaposi's Sarcoma project. An investigator from each institution sits on the Executive Committee which continues to meet every two months in order to address administrative issues within the consortium.</p> <p>Over the past year the functions of the consortium have been divided between three different cores (The Scientific Development Core, the Data Core, and the Statistics and Epidemiology Methodology Core). Each core has a U.S.-based and an East-African-based co-chair. The Core Chairs meet at regular intervals to discuss interactions between the cores and to prioritize projects. The Scientific Core is composed of senior investigators within the consortium and meets on alternate months from the Executive Committee. It is charged with prioritizing projects, from a scientific perspective, and mentoring junior researchers within the consortium. The Data Core is composed of the regional data managers and meets every other week in order to discuss issues related to the development of site-level master datasets as well as specific analysis datasets for individual concept proposals The Statistics and Methodology Core is composed of Professors Yiannoutsos and Glidden along with Drs. Maya Petersen, Ann Mwangi and Ms. Agnes Kiragga, (a doctoral student candidate). The core has also involved ad hoc members such as Dr. Menggang Yu at University of Wisconsin Medical School and Drs. Judith Lok and Ronald Bosch at the Harvard School of Public Health.</p>		

Members of the group meet (via phone, e-mail or in person) on an ad hoc basis to address specific analyses.

EA leDEA co-investigators are actively involved in both international and local working groups. The international Phamaco-vigilance committee is co-chaired by Dr. Braitstein, and the Pediatric working group is lead by Prof. Ayaya and Dr. Wool-Kaloustian,. Dr. Diero and Dr. Siika are actively involved with the TB working group. Dr. Martin leads the Oncology working group and Ms. Musick is actively involved in the Data harmonization working group.

On-going Studies within leDEA, East Africa Regional Consortium:

1. 'International Epidemiologic Databases to Evaluate AIDS (leDEA) East Africa Regional Consortium' - on going
2. 'International Epidemiologic Databases To Evaluate AIDS (leDEA); Proposal for Data Extraction and Analysis for the Initial Projects (Version 1.0.25 October 2007)' - on-going
3. 'National Cancer Institute Supplement to East Africa leDEA: Improving Kaposi's Sarcoma and Lymphoma Diagnostics as well as Assessing Sarcoma Incidence in Western Kenya' - on-going
4. 'Engagement in Care Among HIV-Infected Patients in Resource limited Settings' A supplement to leDEA East Africa - study ended

Publications:

1. Geng EH, Hunt PW, Diero LO, Kimaiyo S, Somi GR, Okong P, Bangsberg DR, Bwana MB, Cohen CR, Otieno JA, Wabwire D, Elul B, Nash D, Easterbrook PJ, Braitstein P, Musick BS, Martin JN, Yiannoutsos CT, Wools-Kaloustian K. Trends in the clinical characteristics of HIV-infected patients initiating antiretroviral therapy in Kenya, Uganda and Tanzania between 2002 and 2009. J Int AIDS Soc. 2011 Sep 28;14:46.
<http://www.ncbi.nlm.nih.gov/pubmed/21955541>
2. Braithwaite R S, Nucifora A K, Yiannoutsos C T, Musick B, Kimiayo S, Diero L, Bacon C M, and Wools-Kaloustian K. Alternative Antiretroviral monitoring strategies for HIV-infected patients in East Africa: Opportunities to save lives? Journal of International AIDS Society 2011, 14:38.
3. Ochieng-Ooko V, Ochieng D, Sidle J, Holdsworth M, Wools-Kaloustian K, Siika A, Yiannoutsos C, Owiti M, Kimaiyo S, Braitstein P. Gender and Losses to Follow up From a Large HIV Treatment Program in Western Kenya. Bulletin of the WHO (In press)

Abstracts:

1. Ochieng D, Choge I, Rotich E, Ochieng V, Maritim B, Bernheimer I, Geng E, Kimiayo S, Mamlin J, Ndege S, Naanyu V, Ayuo P, Diero L, Braitstein P. Evaluating outcomes of patients lost to follow-up in a large comprehensive care treatment program in western Kenya. 19th International AIDS conference, Washington D.C, 22-27 July, 2012.
2. Yiannoutsos T C, Musick S B, Siika A, Sang E, Kosgei R, Kimiayo S, Wools-Kaloustian K: Assessment of a task-shifting strategy among stable patients receiving HIV care in resource-limited settings: A framework for program evaluation. (an AMPATH only analysis). 16th International Workshop on HIV Observational Databases abstract ## 16_117; Athens, Greece, 29-31 March 2012
3. Mann M, Diero L, Kemboi E, Mambo F, DeLong A, Injera W, Schreier L, Wools-Kaloustian A, Buziba N, Kantor. Unplanned Antiretroviral treatment Interruptions Induced by the Kenyan Post-Election Crisis are Associated with HIV Virologic Failure. Poster #1157, at the 19th Conference on Retroviruses and Opportunistic

	<p>Infections,Seattle, March 3-8th 2012.</p> <ol style="list-style-type: none"> 4. Martin J, Wenger W, Busakhala N, Buziba N, Mwebesa B, Muyindike W, Mbabazi R, Amerson E ,Yiannoutsos C, Musick B, LeBoit P, McCalmont T, Ruben B, Maurer T, and Wools-Kaloustian K. Prospective evaluation of the impact of potent antiretroviral therapy on the incidence of Kaposi's sarcoma in East Africa: Findings from the International Epidemiologic Databases to Evaluate AIDS (IeDEA) Consortium. 19th Conference on Retroviruses and Opportunistic Infections, Seattle, March 3-8th 2012. 5. Holmes B. C, Elul B, Padian N, Wools-Kaloustian K, Musick S B, Diero L, Kambugu A, Cohen C, Williams C, Goosby E and Yiannoutsos T C for the the East African IeDEA Regional Consortium. Impact of increasing proportion of pregnant women accessing HIV care in PEPFAR-supported East African HIV care and treatment programs. 19th Conference on Retroviruses and Opportunistic Infections,Seattle, March 3-8th 2012. 6. Tsai J, Sharp G, Silverberg M, Bhatia K, Buziba N, Nash D for the International epidemiologic Databases to Evaluate AIDS (IeDEA) Collaboration. An assessment of the capacity to screen, diagnose and treat cancers in HIV care programs in low-, middle- and high-income regions. 6th IAS conference on HIV pathogenesis, treatment and prevention, Rome, 17-20 July 2011. <p>Papers in Final Draft Form or Submitted to Journal's for Publication</p> <ol style="list-style-type: none"> 1. Leroy V, Malateste K, Rabie H, Lumbiganon P, Ayaya S, Dicko F, Davies MA, Kirimina A, Wools-Kaloustian K, Addi Aka E, Phiri E, Linda A, Yiannoutsos TC, Signate`-Sy H, Dabis F for the IeDEA Pediatric multiregional collaboration. 18-monthly mortality and loss-to-follow-up in antiretroviral treated Children in Asia and Africa. PMEDICINE-D-11-0195R1 (submitted July 2011). 2. Ayikukwei R, Wools-Kaloustian K, Were E, Nyandiko W, Qi R, Mabeya H, Braitstein P. Incidences of Pregnancies among HIV-infected Women in Western Kenya. (revising draft) 3. Billngton H, Buchner S, Nyandiko W, Otieno Nyunya B, Musick B, Yiannoutsos C, Wools-Kaloustian K. Validation of an Infant Formula Feeding Eligibility Instrument to Assist in Identifying Appropriate Infant feeding Strategies for HIV-infected Women in the USAID - Partnership in Western Kenya. 4. Carter EJ, Diero L, Siika Am, Kimaiyo S, Gardner A, Yiannoutsos C, Musick BS, Wools-Kaloustian K. The Experience and Outcomes of Isoniazid Preventative Therapy in an HIV Treatment Program in Western Kenya. (Final Draft Under revision) 5. Siika A, Yiannoutsos C, Wools-Kaloustian K, Musick B, Mwangi A, Diero L, Kimaiyo S, Tierney W and Carter EJ. Tuberculosis adversely impacts survival, incident opportunistic infections and CD4 cell and weight gain in HIV-infected African patients initiating antiretroviral therapy. (Comments received from reviewers, being revised for submission)
Project Name:	Levels Of Breast Cancer Awareness Among Women Volunteering For Breast Cancer Screening In Western Kenya
Investigator(s):	Inui, T. Busakhala, N. Asirwa, C. . Njiru, E. Naanyu, V. Mwangi, A.

	Loehrer, P. Strother, M.		
Start Date:	10/1/2012	Project End Date:	6/1/2012
Site(s):			
Project Description:	The general purpose of this study is to measure women's knowledge on breast cancer and. In addition, the study will determine how perceptions (attitudes) affect the decisions women make about going to be screened for breast cancer. The study will also determine the presence of factors that increase a Woman's chances of developing breast cancer. In addition, the study will find out whether women with breast cancer are treated according to standard guidelines. In order to achieve these objectives, we will administer questionnaires to study participants, do fine needle aspiration cytology and get stain breast specimens after surgery for estrogen and progesterone receptors. We will also follow up these participants for one year.		
Update:	The research protocol has been submitted to IREC/IRB for approval.		
Project Name: Low Risk Express Care			
Investigator(s):			
Start Date:	11/1/2009	Project End Date:	12/1/2012
Site(s):			
Project Description:	An assessment of the impact on patient outcomes of introducing the low risk express care model into the clinics.		
Update:	Data analysis is being revised.		
Project Name: Modified Directly Observed Antiretroviral Therapy (M-DART): An Intensive, Nurse-Directed, Home-Centered, Treatment Strategy To Reduce Mortality And Loss To Follow-Up In High-Risk HIV-Infected Patients Initiating Antiretroviral Therapy			
Investigator(s):	Siika, A.. Wools-Kaloustian, K.. Murage, W. T. Thirumurthy, H. Goodrich, S.		
Start Date:	8/1/2011	Project End Date:	11/1/2013
Site(s):	Chulaimbo Kitale Busia Port Victoria Khunyangu		
Project Description:	M-DART Study is a randomized clinical trial comparing the effectiveness of a home-based modified directly observed antiretroviral (ART) treatment strategy to clinic-based standard of care in patients with HIV/AIDS in Port Victoria and Khunyangu, Kenya. The aim is to reduce both mortality and the number of patients lost to follow-up after ART therapy is initiated. In addition to these important objective outcomes, it also seeks to find out if M-DART can contribute to an increased quality of life for patients and help to diminish HIV related stigma.		

Update:	The study expanded to new sites and satellite clinics in order to boost its enrollment numbers. The new sites include Busia, Kitale, and Chulaimbo. The satellite clinics include Sio Port, Mukhobola, Bumala A and B. The study was audited by an external auditor in mid January, 2012. The recommendations have since been implemented. The study got approval from IREC and IRB for continuing review on the 5th of March, 2012. The study also got approvals from IREC for protocol version 1.3 on the 6th of March, 2012.		
Project Name:	National Cancer Institute Supplement to East African leDEA: Improving Kaposi's Sarcoma and Lymphoma Diagnostics as Well as Assessing Kaposi's Sarcoma Incidence in Western Kenya.		
Investigator(s):	Wools-Kaloustian, K.. Diero, L. Busakhala, N. Jeff, M. Toby, M Loehrer, P. Strother, M. Czader, M. Leboit, P. McCalmont, T. Asirwa, C.. Yiannoutsos, C. Buziba, N.		
Start Date:	8/1/2008	Project End Date:	7/31/2016
Site(s):	All Sites		
Project Description:	The toxicity and potential side effects of therapy for malignancy justify a standard of care in cancer medicine of tissue-biopsy. Further, an accurate assessment of the epidemiology of HIV-related malignancy requires reliable pathologic diagnosis. This study will help validate local pathology for the diagnosis of KS. The limited resources available to local pathology mandate that most diagnoses are made via H&E staining and immunohistochemistry which are techniques, like many pathology diagnostic tools, open to inter-observer variability in interpretation - thus the experience of the pathologist is a major determinant in diagnostic accuracy. Quality assurance efforts and continuing evaluation of diagnostic skills are routine practices in the United States to help ensure ongoing reproducibility between pathologists. The present effort will facilitate similar ongoing quality checks and thus increase the reliability of a biopsy-based diagnosis of Kaposi's sarcoma and lymphoma at the selected sites.		
Update:	Punch Biopsies are continually been done at the Oncology clinic, AMPATH Centre. Visiting clinicians continue to go to the Oncology sites namely, Busia, Chulaimbo, Kitale, and Webuye. Currently clinicians have been trained at Nambale, Busia, and Bumala A.		
Project Name:	Patient-Reported Outcomes of Cancer Care in Eldoret, Kenya		
Investigator(s):	Hess, L. Naanyu, V. Asirwa, C.		
Start Date:	10/14/2010	Project End Date:	9/1/2012

Site(s):	MTRH		
Project Description:	This project is designed to validate and subsequently implement a standardized questionnaire to obtain patient perspectives of their physical and psychosocial well-being (quality of life) during and following cancer treatment. First, the instrument will be tested for validity in a cancer patient population in Eldoret in a two-phase study. Second, it will be implemented into standard data collection practices for routine clinical care for the validation study. Knowledge about the quality of life of cancer patients in Eldoret will help us to understand the broader context of wellness among cancer patients and will help guide future strategies to improve comprehensive cancer patient care.		
Update:	Accrual to this study is ongoing. The only barrier has been lack of return for subsequent chemotherapy, thus the inability to obtain all needed follow up assessments. We will have to continue to enroll additional participants to reach our goal of 120 patients with complete assessments for the validation portion of the study.		
Project Name:			
Post-Crisis Evaluation			
Investigator(s):	Goodrich, S. Wools-Kaloustian, K. Some, H. Wachira, J. Owino, R. Braitstein, P. Sidle, J. Chesoli, C. Gichunge, C. Komen, F. Obiero, C. Sitienei, J. Sang, E. Siika, A. Kimaiyo, S. Mamlin, J. Ndege, S.		
Start Date:	1/1/2009	Project End Date:	12/1/2012
Site(s):			
Project Description:	Retrospective look at how AMPATH dealt with the post Election violence, including a look at how soon patients returned to clinic and a case study of how the Burnt Forest Clinic dealt with the Crisis.		
Update:	Manuscript being draft and will be circulated to the co-authors in the next 2-3 weeks.		
Project Name:			
Quinolone Use by Patients with Tuberculosis in a Large HIV Treatment Program in Western Kenya			
Investigator(s):	Gardner, A. Siika, A. Carter, E. J. Pastakia, S. Diero, L.		

	Cohen, T. Musick, B. Simiyu, G. Koech, J.		
Start Date:	1/12/2009	Project End Date:	12/1/2012
Site(s):	MTRH		
Project Description:	Retrospective analysis of pharmacy and AMRS data to characterize the extent and indications for use of fluoroquinolones among patients in AMPATH and understand the implications for TB control.		
Update:	Abstract presented at International Union Against TB and Lung Disease Annual Conference. Data set completed. Analysis and manuscript in progress.		
Project Name:	REACH Informatics COE. Fogarty grant		
Investigator(s):	Biondich, P. Siika, A. Braitstein, P. Diero, L. Sidle, J. Downs, S. Hogan, J. Kroenke, K. Mamlin, B. Meslin, E. Nyandiko, W. O'Meara, W. P. Palakal, M. Rotich, J. Shen, C. Vreeman, R. Were, M. Wools-Kaloustian, K.. Yiannoutsos, C.		
Start Date:	6/1/2009	Project End Date:	6/30/2014
Site(s):			
Project Description:	The project is a collaboration between Indiana and Moi Universities and the global leadership of the Regenstrief Institute. The project/program is mandated to; 1. Provide post-doctoral informatics training to faculty at Moi University and Moi Teaching and Referral Hospital to implement and use health information technology to enhance research and improve health care quality, efficiency and outcomes. 2. Support the training of East Africans so as to support the development, implementation, maintenance, evolution and use EHRs in low-income countries through didactic and mentored practicum training programs.		
Update:	Fellowship program: The 1st Fellowship student is finalizing his second year of study at Eldoret Kenya. He will be through with the fellowship program by August. The 2nd and 3rd Fellowship students are finalizing the first year study at Indiana and will begin their 2nd year in Eldoret, Kenya beginning July 2012. Their research is focused on patient matching and		

<p>paediatric immunization. The 4th Fellowship candidate was accepted into the program and will begin his studies on 2nd July 2012 at Indiana University.</p> <p>Short courses update:</p> <ol style="list-style-type: none"> 1. A Data Management training on Reporting was held between 16th and 20th January 2012 with 16 participants enrolled with majority of the from Kenya, Tanzania and Rwanda. 2. OpenMRS Implementers training was held on 7th -9th February and attended by 18 participants from KEMRI FACES, I-TECH, ICAP, ICChange, Centre for Health Solutions, CDC, AMPATH and Meridian Hospital. 3. Data Management on Data Quality and Assurance was held on 25th -29th June and attended by 14 participants from MOH Kenya, MSF France and Holland in Kenya and South Sudan, KEMRI DnDi and AMPATH. <p>Challenges: Some expected trainings programs failed to kick off due to low number of applications received and inadequate training rooms/venues to allow frequent training sessions.</p>			
Project Name:			
Renal Study			
Investigator(s):			
Wyatt, C. Owino Ong'or, W. Abuya, J. Wools-Kaloustian, K..			
Start Date:		Project End Date:	
12/10/2007		12/10/2012	
Site(s):			
MTRH			
Project Description:			
This study is comparing the performance of equations to estimate kidney functions to a direct measure of kidney function based on the plasma disappearance of iohexol in HIV-infected adults			
Update:			
The study is closed to enrollment and followup, and remains open for data analysis and manuscript preparation. The primary manuscript is currently under review by co-authors for submission to a peer-reviewed journal.			
Project Name:			
Screening for Cervical Cancer in HIV-Positive Kenyan Women: The Role of Human Papillomavirus Typing			
Investigator(s):			
Dainty, E. Omenga, O. Walmer, D.			
Start Date:		Project End Date:	
10/11/2011		6/30/2012	
Site(s):			
MTRH; Mosoriot; Turbo			
Project Description:			
This project involves the collection of demographic data as well as cervical swab specimens for HPV genotyping from women with HIV who receive cervical cancer screening through the AMPATH supported program.			
Update:			
All specimens are collected and undergoing processing. Once processing is complete, data analysis will begin.			

Project Name:	TB Reach		
Investigator(s):	Carter, E. J. Buziba, N. Injera, W.		
Start Date:	10/1/2011	Project End Date:	12/31/2012
Site(s):	We have 200 sites (from dispensaries to the Referral Hospital) spread across three Provinces- North Rift (excluding Turkana), Western, and North Nyaanza		
Project Description:	<p>Kenya remains 13th on the list of the top 22 countries of the world affected by TB. The Academic Model Providing Access to Healthcare (AMPATH)- Moi University School of Medicine (MUSOM) and Moi Teaching and Referral Hospital (MTRH) are institutions situated in Eldoret that provide care to the western half of the country. The AMPATH-MUSOM-MTRH partnership has worked in active TB case finding for over 5 years and has established a TB culture facility. In this application, we will address the barriers of poverty, limited access to diagnostic facilities due to distance, and stigma. Our intensified case finding activities will revolve around four activities: 1.) Establishment of 150 intensified case finding sites utilizing our present cough monitor program; 2.) Provision of TB culture for patients served by our present cough monitor program who are smear negative to improve access to diagnosis for this category of individuals; 3.) Provision of GeneXpert for patients served by our present cough monitor program who are smear negative who live in areas too distant from our culture facility to be served in activity #2; and 4.) Institution of a chest radiograph package (chest radiograph and transport fees) for children under 5 years of age who live in households of smear positive individuals. With these four interventions, we propose to diagnose 4122 additional cases of Tuberculosis in our area and bring them into care with a completion of therapy rate of 85%.</p>		
Update:	<p>Data is available for Qtr 1 and 2. Three hundred cough montitors were hired and trained as well as 12 new field coordinators. Three Genexpert labs were established (Busia, Chulaimbo, Kabernet). Sputum transport system to the MLR built presently consists of 19 sites.</p> <ul style="list-style-type: none"> • AIM 1: Quarter 1: 10,169 suspects had a positive questionnaire and were screened with sputa microscopy with 1,228 diagnosed with smear positive TB. Quarter 2: 12,114 suspects had a positive questionnaire and were screened with sputa microscopy with 1.586 diagnosed with smear positive TB. • AIM 2: By the end of Quarter 2, 15 sites were recruited and over 125 cultures for smear negative TB suspects had been profromed. • AIM 3: All three labs were established with over 150 Genexpert tests perfromed on smear negative patients. In both arm 2 and 3, approximately 12-14% of the smear negative patients are confirmed as TB. • AIM 4: Not yet insitituted in quarter 2. 		
Project Name:	The IU Simon Cancer Center (IUSCC) AMPATH-Oncology Institute (AOI): An Exemplar of Care for the Developing World and a Population-Based Research Environment for IUSCC		
Investigator(s):	Inui, T. Busakhala, N. Asirwa, C. Omenge, O.		
Start Date:	7/1/2011	Project End	6/30/2014

		Date:	
Site(s):	MTRH; Mosoriot; Turbo; Webuye Hospital		
Project Description:	<p>Kenya, like much of the developing world, is rapidly undergoing an 'epidemiologic transition' from a health scene dominated by infectious diseases to one in which the major causes of death and disability are cancer and other chronic diseases. Under these circumstances, applying science to the management and control of cancer has become as relevant to Kenya as it is in the United States. Similarly, what is learned about the prevention and treatment of cancer in the developing world literally has direct relevance to care in the United States. Cancer care and attendant research in Kenya, whose population is the most genetically diverse in the world, will catalyze the discovery of new genes of importance to our fight against cancer, new genomic predictors of cancer, and new genetic variants that predict response to therapy. Recognizing both emerging threats to population health and potential for advancing care and science, the IU Simon Cancer Center (IUSCC) and the IU-Kenya AMPATH Program have been actively pursuing resources to respond. The focus of the partnership is to develop a sustainable and comprehensive academic clinical care program that will serve the citizens of western Kenya, and in the process, create a unique program of international collaboration for patients with, or at risk for, malignancies. The mission of the AMPATH Oncology Institute (AOI) is to be the premier cancer program in Sub-Saharan Africa, noted for excellence in cancer prevention, treatment and palliative care. AOI activities will directly contribute to advances in cancer care, accelerate discoveries in the biology and treatment of cancer, and provide support for the IU Simon Cancer Center's quest to become a federally designated Comprehensive Care Center.</p>		
Update:	<ol style="list-style-type: none"> 1. Naftali Busakhala will characterize the awareness, beliefs, attitudes and behaviors of women coming to AMPATH's clinician breast exam screening as volunteers, comparing these beliefs to those of a community-based sample of women. He will also characterize the yield of the AMPATH screening program, the kinds of cancers detected, and the quality of care achievable in Western Kenya at present, with comparison against an international standard of care. 2. Chite Asirwa will similarly characterize the awareness, beliefs, attitudes and behaviors of this community-based sample of women, comparing their beliefs to those of their husbands, often a key influence on behavior in traditional societies. Taken together these two studies should reveal a great deal about how to influence women's behaviors and encourage participation in the only breast cancer screening program available presently - clinician examination. We'd love to have mammography! 3. Both of these studies will use the BCAM (Breast Cancer Awareness Measure), a survey tool developed in Great Britain. We have worked carefully through the standard BCAM to sort questions into theoretically sound domains, using the Health Belief Model as a framework. Violet Naanyu will be conducting field testing and focus groups to do a culturally appropriate KiSwahili version. <p>These protocols are being submitted for IREC and Oncology Working Group review.</p>		
Project Name:	The Prevalence of Markers of Atherosclerosis Among Adult Patients with Congestive Cardiac (heart) Failure		
Investigator(s):	Velazquez, E. Kimaiyo, S. Bloomfield, G. Carter, E. J. Maghasi, M..		

	Akwanalo, C. Hogan, J.		
Start Date:	5/24/2011	Project End Date:	6/30/2012
Site(s):	MTRH		
Project Description:	Using a case-control research design in a Kenyan population with heart failure, this project will describe the range of etiologies of heart failure within this population. This project will collect pilot data on the burden of atherosclerosis and malnutrition among patients with heart failure at Moi Teaching and Referral Hospital (MTRH) Inpatient ward, Primary Care and Cardiology Clinics, through the collection of both echocardiographic and serologic studies coupled with clinical assessments; thereby informing hypotheses for larger prospective, regionally-relevant analyses in the future.		
Update:	IREC and NHLBI approval of the amendments were obtained in November 2011 to enroll more participants for this study. Participant recruitment for this study started in February 2012. Consistent with our most recent amendment approval, we have expanded our enrollment protocol to include four new blood tests. This will be performed on all newly enrolled participants. We are also contacting previously enrolled participants to have three tests performed. To date over 41 patients have undergone a complete enrollment which includes 14 newly enrolled and 27 previously enrolled participants. We recruited a new research assistant for this study who was trained on study procedures and patient recruitment.		
Project Name:	The Prevalence Of Rheumatic Heart Disease In Western Kenya: An Echocardiographic Study		
Investigator(s):	Corey, R. Kimaiyo, S. Holland, T. Koech, M. Carter, E.J.		
Start Date:	12/2/2010	Project End Date:	7/31/2012
Site(s):	MTRH		
Project Description:	We propose to describe the prevalence of rheumatic heart disease in western Kenya by performing echocardiography in a representative hospital-based sample of 500 subjects. Our hypothesis is that if echocardiographic screening is conducted on this population, ages 5-30, we will find more silent RHD and detect a prevalence that is similar to that reported in the recent literature. Thus, the principal aim of our study is: 1. To investigate the prevalence of RHD, as determined by transthoracic echocardiography, in patients (ages 5-30) hospitalized on the orthopedic and surgical wards Our intent is to more precisely define the burden of rheumatic heart disease in Western Kenya with the most definitive diagnostic modalities. Results from these investigations would be important in elucidating more inclusive screening criteria for patients at risk for rheumatic heart disease in the general population. More importantly, epidemiologic data derived from our investigations would be central to the development of any community-based primary and secondary prevention campaigns against group A streptococcal infection, acute rheumatic fever and rheumatic heart disease.		
Update:	The study is ongoing and open to enrollment. Recruitment is ongoing and has accelerated in the past 6 months.		

Project Name:	The relationship of Indoor Air Pollution (IAP) Exposure to Isolated Right Heart Failure (IRHF) in Women in Western Kenya		
Investigator(s):	Carter, E.J. Kimaiyo, S. Sherman, C. Anstrom, K. Hogan, J. Lagat, D. Diero, L.		
Start Date:	12/10/2010	Project End Date:	5/30/2012
Site(s):	Kaptagat		
Project Description:	<p>Several studies have shown that isolated right heart failure (IRHF) is more prominent in African women than in those living in resource rich nations. Its prognosis is thought to be worse among African women relative to similar patients from the richer economies given their general lack of access to health care and often late presentation of disease. COPD is the leading cause of IRHF in resource rich nations. It remains unclear whether this relationship exists in African women. COPD remains the 7th leading cause of morbidity and mortality worldwide. In resource rich nations it is related to cigarette smoking. Risk factors for the development of COPD in Africa include combustion of biomass/traditional fuels and coal, previous tuberculosis infection, and childhood respiratory infections. Biomass fuels are used extensively throughout Africa, especially in the sub-Saharan area. Typical pollutants that result from the poor burning and ventilation of these fuels include particulate matter, aldehydes, carbon monoxide, hydrocarbons, volatile organic compounds, and nitrogen dioxide. Worldwide, women exposed to indoor smoke are 3 times as likely to develop COPD as those who cook and heat with electricity, gas, and other cleaner burning fuels. A study of rural South African women found an increased prevalence of COPD due to the burning of cow dung in poorly ventilated houses. The relationship between IAP and COPD needs further investigation in sub-Saharan women.</p>		
Update:	<p>The Indoor Air Pollution study began its active enrollment in November 2010. We have screened 395 patients to date and enrolled 98 participants. We have completed all home visits for 94 participants and had 4 patients who were lost to follow-up. We are finalizing data entry for this study. The study team has also submitted an abstract for this study to the American Thoracic Society for the May 2012 conference. The abstract was accepted as a poster presentation at the conference and was presented at the ATS Conference in San Francisco during the month of May 2012. We are currently working on the manuscript.</p>		
Project Name:	Understanding the Social and Structural Processes of AIDS-Related Stigma and Discrimination in Burnt Forest, Kenya.		
Investigator(s):	Pfeiffer, E. Maithya, H. Naanyu, V. Dickerson-Putman, J. Inui, T. Pescosolido, B. Phillips, S.		

	Sidle, J.		
Start Date:	10/18/2011	Project End Date:	5/1/2013
Site(s):	Burnt Forest		
Project Description:	<p>Using intensive ethnographic methods in the community of Burnt Forest, Kenya, the primary goal of this PhD dissertation research is to identify the social and structural roots of AIDS-related stigma and discrimination. In order to understand these factors, this study has three primary objectives:</p> <ul style="list-style-type: none"> (1) To investigate the impact that enacted and felt stigma has had on the lived experiences of individuals who are living with HIV and using antiretroviral therapies; (2) To explore public stigma; (3) To examine the everyday HIV/AIDS discourses and practices associated with the disease in Burnt Forest. 		
Update:	<p>Using intensive ethnographic methods, PhD student, Elizabeth Pfeiffer conducted dissertation research between the months of October 2011 - April 2012. She will also be returning to Kenya to collect additional data during the months of July and August 2012. In May 2012, Ms. Pfeiffer presented a poster of some preliminary results of this research at the National Clinical and Translational Sciences Predoctoral Programs Meeting (required by her funding) in Rochester, MN. During the 2012/2013 academic year, Elizabeth Pfeiffer will analyze the data collected and write her dissertation in Indiana with the support of an Indiana University, Bloomington College of Arts and Sciences Dissertation Year Fellowship.</p>		

Bibliography

1. Einterz, R.M., *International Health Collaboration*. Society of General Internal Medicine News, 1989. **12**(10): p. 4.
2. Einterz, R.M., R.S. Dittus, and J.J. Mamlin, *General internal medicine and technologically less developed countries*. Journal of General Internal Medicine, 1990. **5**(5): p. 427-30.
3. Nyarang'o, P., *Kenya's Innovation in Medical Education*. Society of General Internal Medicine News, 1990. **13**(12): p. 4-5.
4. Ayuku, D.O., R.M. Einterz, F. Esamai, J. Jagougah, G. Kivanguli, M. Nyarang'o, P. Nyarang'o, A. Mutema, W. Odero, and O. Sumba, *Interviewing: A manual on interviewing for health professionals*. Moi University Faculty of Health Sciences, 1991.
5. Menya, D.C., *On Call in a District Hospital in Kenya*. Society of General Internal Medicine News, 1991. **14**(8): p. 1-6.
6. Odero, W.W.O., *Community-oriented medical education: A strategy for implementing primary health care in Kenya*. Society of General Internal Medicine News, 1991: p. 4-5.
7. Einterz, R.M., J.R. Goss, S. Kelley, and W. Lore, *Illness and efficiency of health services delivery in a district hospital*. East African Medical Journal, 1992. **69**(5): p. 248-53.
8. Bettinger, P. and B. Takesue, *A resident's perspective of a hospital rotation in Kenya*. Society of General Internal Medicine News, 1993. **16**(8): p. 2-7.
9. Mamlin, J., *Academic general internal medicine in the developing world: A personal perspective*. Society of General Internal Medicine News, 1993. **14**(4): p. 3-4.
10. Dean, R.A., W. Ochieng, J. Black, S.F. Queener, M.S. Bartlett, and N.G. Dumaul, *Simultaneous determination of primaquine and carboxyprimaquine in plasma using high-performance liquid chromatography with electrochemical detection*. Journal of chromatography. B, Biomedical applications, 1994. **655**(1): p. 89-96.
11. Einterz, R.M., C.R. Kelley, J.J. Mamlin, and D.E. Van Reken, *Partnerships in international health. The Indiana University-Moi University experience*. Infectious Disease Clinics of North America, 1995. **9**(2): p. 453-5.
12. Menge, I., F. Esamai, D. van Reken, and G. Anabwani, *Paediatric morbidity and mortality at the Eldoret District Hospital, Kenya*. East African Medical Journal, 1995. **72**(3): p. 165-9.
13. Wools-Kaloustain, K. and K.L. Roos, *Cerebral malaria. Central Nervous System Infectious Diseases and Therapy*. New York: Marcel Dekker, Inc., 1997.
14. King, M.W., M. Ndiema, and A.W. Neff, *Anterior structural defects by misexpression of Xgbx-2 in early Xenopus embryos are associated with altered expression of cell adhesion molecules*. Developmental Dynamics, 1998. **212**(4): p. 563-79.
15. Wools, K.K., D. Menya, F. Muli, D. Heilman, and R. Jones, *Perception of risk, sexual behaviour and STD/HIV prevalence in western Kenya*. East African Medical Journal, 1998. **75**(12): p. 679-83.
16. Maritim, A.C., B.H. Moore, R.A. Sanders, and J.B. Watkins, 3rd, *Effects of Melatonin on Oxidative Stress in Streptozotocin-Induced Diabetic Rats*. International Journal of Toxicology, 1999. **18**(3): p. 161-166.
17. Hannan, T.J., J.K. Rotich, W.W. Odero, D. Menya, F. Esamai, R.M. Einterz, J. Sidle, F. Smith, and W.M. Tierney, *The Mosoriot medical record system: design and initial implementation of an outpatient electronic record system in rural Kenya*. International Journal of Medical Informatics, 2000. **60**(1): p. 21-8.
18. Hannan, T.J., W.M. Tierney, J.K. Rotich, W.W. Odero, F. Smith, J.J. Mamlin, and R.M. Einterz, *The MOSORIOT medical record system (MMRS) phase I to phase II implementation: an outpatient computer-based medical record system in rural Kenya*. Studies in Health Technology & Informatics, 2001. **84**(Pt 1): p. 619-22.
19. Maritim, A.C., K.K. Kamar, A. Ngindu, C.N. Akoru, L. Diero, and J. Sidle, *Safranin staining of Cyclospora cayetanensis oocysts not requiring microwave heating*. British journal of biomedical

- science, 2002. **59**(2): p. 114-5.
20. Ngindu, A., K. Kamar, A. Choge, A. Maritim, C. Akoru, L. Diero, J. Smith, and M. Bartlett, *Survey of faecal parasites in patients from western Kenya*. Journal of the Egyptian Society of Parasitology, 2002. **32**(1): p. 1-7.
 21. Tierney, W.M., J.K. Rotich, F.E. Smith, J. Bii, R.M. Einterz, and T.J. Hannan, *Crossing the "digital divide:" implementing an electronic medical record system in a rural Kenyan health center to support clinical care and research*. Proceedings / AMIA .. 2002. **Annual Symposium.**: p. 792-5.
 22. Williams, L.S., J. Rotich, R. Qi, N. Fineberg, A. Espay, A. Bruno, S.E. Fineberg, and W.R. Tierney, *Effects of admission hyperglycemia on mortality and costs in acute ischemic stroke*. Neurology, 2002. **59**(1): p. 67-71.
 23. Ayaya, S.O., J. Sitienei, W. Odero, and J. Rotich, *Knowledge, attitudes, and practices of private medical practitioners on tuberculosis among HIV/AIDS patients in Eldoret, Kenya*. East African Medical Journal, 2003. **80**(2): p. 83-90.
 24. Jablonski-Cohen, M.S., R.J. Kosgei, A.J. Rerimoi, and J.J. Mamlin, *The emerging problem of coronary heart disease in Kenya*. East African Medical Journal, 2003. **80**(6): p. 293-7.
 25. Rotich, J.K., T.J. Hannan, F.E. Smith, J. Bii, W.W. Odero, N. Vu, B.W. Mamlin, J.J. Mamlin, R.M. Einterz, and W.M. Tierney, *Installing and implementing a computer-based patient record system in sub-Saharan Africa: the Mosoriot Medical Record System*. Journal of the American Medical Informatics Association, 2003. **10**(4): p. 295-303.
 26. Ayaya, S.O., F.O. Esamai, J. Rotich, and E. Liechty, *Perinatal mortality in the Special Care Nursery of Moi Teaching and Referral Hospital, Eldoret, Kenya*. East African Medical Journal, 2004. **81**(11): p. 555-61.
 27. Ayaya, S.O., F.O. Esamai, J. Rotich, and A.R. Olwambula, *Socio-economic factors predisposing under five-year-old children to severe protein energy malnutrition at the Moi Teaching and Referral Hospital, Eldoret, Kenya*. East African Medical Journal, 2004. **81**(8): p. 415-21.
 28. Cohen, J., S. Kimaiyo, W. Nyandiko, A. Siiika, J. Sidle, K. Wools-Kaloustian, J. Mamlin, and E.J. Carter, *Addressing the educational void during the antiretroviral therapy rollout*. AIDS, 2004. **18**(15): p. 2105-6.
 29. Diero, L., T. Stiffler, R.M. Einterz, and W.M. Tierney, *Can data from an electronic medical record identify which patients with pneumonia have Pneumocystis carinii Infection?* International Journal of Medical Informatics, 2004. **73**(11-12): p. 743-50.
 30. Hannan, T.J., W.M. Tierney, J.K. Rotich, F.E. Smith, J. Bii, R.M. Einterz, J.J. Mamlin, W.W. Odero, and L. Diero, *Technological and human factors affecting the utilization of a CBPR system in western Kenya*. Medinfo, 2004: p. 1627.
 31. Mamlin, J., S. Kimaiyo, W. Nyandiko, W. Tierney, and R.M. Einterz, *Academic institutions linking access to treatment and prevention: Case study*. In: *Perspectives and Practice in Antiretroviral Treatment.*, in World Health Organization 2004: Geneva.
 32. Odero, W.W., W.M. Tierney, R.M. Einterz, and S. Mungai, *Using an electronic medical record system to describe injury epidemiology and health care utilization at an inner-city hospital in Indiana*. Injury Control & Safety Promotion, 2004. **11**(4): p. 269-79.
 33. Dabis, F., E. Balestre, P. Braitstein, P. Miotti, W.G. Brinkhof, M. Schneider, M. Schechter, C. Laurent, A. Bouille, C. Kabugo, G. Capkun, C. Seyler, J. McIntyre, E. Sprinz, D. Bangsberg, S. Van der Borgh, and M. Egger, *Cohort Profile: Antiretroviral Therapy in Lower Income Countries (ART-LINC): international collaboration of treatment cohorts*. International journal of epidemiology, 2005. **34**(5): p. 979-86.
 34. Fraser, H.S., P. Biondich, D. Moodley, S. Choi, B.W. Mamlin, and P. Szolovits, *Implementing electronic medical record systems in developing countries*. Informatics in primary care, 2005. **13**(2): p. 83-95.

35. Mamlin, B.W. and P.G. Biondich, *AMPATH Medical Record System (AMRS): collaborating toward an EMR for developing countries*. AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium, 2005: p. 490-4.
36. Siika, A.M., J.K. Rotich, C.J. Simiyu, E.M. Kigotho, F.E. Smith, J.E. Sidle, K. Wools-Kaloustian, S.N. Kimaiyo, W.M. Nyandiko, T.J. Hannan, and W.M. Tierney, *An electronic medical record system for ambulatory care of HIV-infected patients in Kenya*. International Journal of Medical Informatics, 2005. **74**(5): p. 345-55.
37. Braitstein, P., M.W. Brinkhof, F. Dabis, M. Schechter, A. Boulle, P. Miotti, R. Wood, C. Laurent, E. Sprinz, C. Seyler, D.R. Bangsberg, E. Balestre, J.A. Sterne, M. May, and M. Egger, *Mortality of HIV-1-infected patients in the first year of antiretroviral therapy: comparison between low-income and high-income countries*. Lancet, 2006. **367**(9513): p. 817-24.
38. Diero, L., J.K. Rotich, J. Bii, B.W. Mamlin, R.M. Einterz, I.Z. Kalamai, and W.M. Tierney, *A computer-based medical record system and personal digital assistants to assess and follow patients with respiratory tract infections visiting a rural Kenyan health centre*. BMC Medical Informatics & Decision Making, 2006. **6**: p. 21.
39. Diero, L.O., D. Shaffer, S. Kimaiyo, A.M. Siika, J.K. Rotich, F.E. Smith, J.J. Mamlin, R.M. Einterz, A.C. Justice, E.J. Carter, and W.M. Tierney, *Characteristics of HIV infected patients cared for at "academic model for the prevention and treatment of HIV/AIDS" clinics in western Kenya*. East African Medical Journal, 2006. **83**(8): p. 424-33.
40. Mamlin, B.W., P.G. Biondich, B.A. Wolfe, H. Fraser, D. Jazayeri, C. Allen, J. Miranda, and W.M. Tierney, *Cooking up an open source EMR for developing countries: OpenMRS - a recipe for successful collaboration*. AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium, 2006: p. 529-33.
41. Nyandiko, W.M., S. Ayaya, E. Nabakwe, C. Tenge, J.E. Sidle, C.T. Yiannoutsos, B. Musick, K. Wools-Kaloustian, and W.M. Tierney, *Outcomes of HIV-infected orphaned and non-orphaned children on antiretroviral therapy in western Kenya*. Journal of Acquired Immune Deficiency Syndromes: JAIDS, 2006. **43**(4): p. 418-25.
42. Shaffer, D.N., V.N. Yebei, J.B. Ballidawa, J.E. Sidle, J.Y. Greene, E.M. Meslin, S.J. Kimaiyo, and W.M. Tierney, *Equitable treatment for HIV/AIDS clinical trial participants: a focus group study of patients, clinician researchers, and administrators in Western Kenya*. Journal of medical ethics, 2006. **32**(1): p. 55-60.
43. Sidle, J.E., E. Were, K. Wools-Kaloustian, C. Chuani, K. Salmon, W.M. Tierney, and E.M. Meslin, *A needs assessment to build international research ethics capacity*. Journal of empirical research on human research ethics : JERHRE, 2006. **1**(2): p. 23-38.
44. Siika, A.M., J.M. Chakaya, G. Revathi, S.S. Mohamed, and K.M. Bhatt, *Bronchoscopic study on aetiology of chronic cough in HIV-infected adults with negative sputum smears for Mycobacterium tuberculosis at Kenyatta National Hospital, Nairobi*. East African Medical Journal, 2006. **83**(6): p. 295-305.
45. Tierney, W.M., E.J. Beck, R.M. Gardner, B. Musick, M. Shields, N.M. Shiyonga, and M.H. Spohr, *Viewpoint: a pragmatic approach to constructing a minimum data set for care of patients with HIV in developing countries*. Journal of the American Medical Informatics Association : JAMIA, 2006. **13**(3): p. 253-60.
46. Wolfe, B.A., B.W. Mamlin, P.G. Biondich, H.S. Fraser, D. Jazayeri, C. Allen, J. Miranda, and W.M. Tierney, *The OpenMRS system: collaborating toward an open source EMR for developing countries*. AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium, 2006: p. 1146.
47. Wools-Kaloustian, K. and S. Kimaiyo, *Extending HIV care in resource-limited settings*. Current HIV/AIDS Reports, 2006. **3**(4): p. 182-6.

48. Wools-Kaloustian, K., S. Kimaiyo, L. Diero, A. Siika, J. Sidle, C.T. Yiannoutsos, B. Musick, R. Einterz, K.H. Fife, and W.M. Tierney, *Viability and effectiveness of large-scale HIV treatment initiatives in sub-Saharan Africa: experience from western Kenya*. AIDS, 2006. **20**(1): p. 41-8.
49. Allen, C., D. Jazayeri, J. Miranda, P.G. Biondich, B.W. Mamlin, B.A. Wolfe, C. Seebregts, N. Lesh, W.M. Tierney, and H.S. Fraser, *Experience in implementing the OpenMRS medical record system to support HIV treatment in Rwanda*. Studies in health technology and informatics, 2007. **129**(Pt 1): p. 382-6.
50. Ayaya, S.O., E. Liechty, J.H. Conway, T. Kamau, and F.O. Esamai, *Training needs for mid-level managers and immunisation coverage in Western Kenya*. East African Medical Journal, 2007. **84**(7): p. 342-52.
51. Ayikukwei, R.M., D. Ngare, J.E. sidle, D.O. Ayuku, J. Baliddawa, and J.Y. Greene, *Social and Cultural Significance of the Sexual Cleansing Ritual and its Impact on HIV Prevention Strategies in Western Kenya*. Sex Cult, 2007. **11**: p. 32-50.
52. Bii, S.C., B. Otieno-Nyunya, A. Siika, and J.K. Rotich, *Self-reported adherence to single dose nevirapine in the prevention of mother to child transmission of HIV at Kitale District Hospital*. East African Medical Journal, 2007. **84**(12): p. 571-6.
53. Brinkhof, M.W., M. Egger, A. Boulle, M. May, M. Hosseinipour, E. Sprinz, P. Braitstein, F. Dabis, P. Reiss, D.R. Bangsberg, M. Rickenbach, J.M. Miro, L. Myer, A. Mocroft, D. Nash, O. Keiser, M. Pascoe, S. van der Borgh, and M. Schechter, *Tuberculosis after initiation of antiretroviral therapy in low-income and high-income countries*. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America, 2007. **45**(11): p. 1518-21.
54. Einterz, R.M., S. Kimaiyo, H.N.K. Mengech, B.O. Khwa-Otsyula, F. Esamai, F. Quigley, and J.J. Mamlin, *Responding to the HIV pandemic: the power of an academic medical partnership*. Academic Medicine, 2007. **82**(8): p. 812-8.
55. Flanigan, T.P., K. Wools-Kaloustian, J. Harwell, S. Cu-Uvin, S. Kimaiyo, and E.J. Carter, *Highly active antiretroviral therapy (HAART)--plus: next steps to enhance HAART in resource-limited areas?* Clinical Infectious Diseases, 2007. **45**(11): p. 1499-501.
56. Inui, T.S., W.M. Nyandiko, S.N. Kimaiyo, R.M. Frankel, T. Muriuki, J.J. Mamlin, R.M. Einterz, and J.E. Sidle, *AMPATH: living proof that no one has to die from HIV*. Journal of General Internal Medicine, 2007. **22**(12): p. 1745-50.
57. Nyandiko, W.M., D. Greenberg, E. Shany, C.T. Yiannoutsos, B. Musick, and A.W. Mwangi, *Nasopharyngeal Streptococcus pneumoniae among under-five year old children at the Moi Teaching and Referral Hospital, Eldoret, Kenya*. East African Medical Journal, 2007. **84**(4): p. 156-62.
58. Odero, W., S. Polsky, D. Urbane, R. Carel, and W.M. Tierney, *Characteristics of injuries presenting to a rural health centre in western Kenya*. East African Medical Journal, 2007. **84**(8): p. 367-73.
59. Odero, W., J. Rotich, C.T. Yiannoutsos, T. Ouna, and W.M. Tierney, *Innovative approaches to application of information technology in disease surveillance and prevention in Western Kenya*. Journal of Biomedical Informatics, 2007. **40**(4): p. 390-7.
60. Oman, K., B. Khwa-Otsyula, G. Majoor, R. Einterz, and A. Wasteson, *Working collaboratively to support medical education in developing countries: the case of the Friends of Moi University Faculty of Health Sciences*. Education for health, 2007. **20**(1): p. 12.
61. Reece, M., E. Shacham, P. Monahan, V. Yebei, W.O. Ong'or, O. Omollo, and C. Ojwang, *Psychological distress symptoms of individuals seeking HIV-related psychosocial support in western Kenya*. AIDS care, 2007. **19**(10): p. 1194-200.
62. Tierney, W.M., J.K. Rotich, T.J. Hannan, A.M. Siika, P.G. Biondich, B.W. Mamlin, W.M. Nyandiko, S. Kimaiyo, K. Wools-Kaloustian, J.E. Sidle, C. Simiyu, E. Kigotho, B. Musick, J.J. Mamlin, and R.M. Einterz, *The AMPATH medical record system: creating, implementing, and sustaining an*

- electronic medical record system to support HIV/AIDS care in western Kenya*. Studies in Health Technology & Informatics, 2007. **129**(Pt 1): p. 372-6.
63. Tuboi, S.H., M.W. Brinkhof, M. Egger, R.A. Stone, P. Braitstein, D. Nash, E. Sprinz, F. Dabis, L.H. Harrison, and M. Schechter, *Discordant responses to potent antiretroviral treatment in previously naive HIV-1-infected adults initiating treatment in resource-constrained countries: the antiretroviral therapy in low-income countries (ART-LINC) collaboration*. Journal of acquired immune deficiency syndromes, 2007. **45**(1): p. 52-9.
 64. Waxman, M.J., S. Kimaiyo, N. Ongaro, K.K. Wools-Kaloustian, T.P. Flanigan, and E.J. Carter, *Initial outcomes of an emergency department rapid HIV testing program in western Kenya*. AIDS patient care and STDs, 2007. **21**(12): p. 981-6.
 65. Were, M.C., B.W. Mamlin, W.M. Tierney, B. Wolfe, and P.G. Biondich, *Concept dictionary creation and maintenance under resource constraints: lessons from the AMPATH Medical Record System*. AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium, 2007: p. 791-5.
 66. Wools-Kaloustian, K., S.K. Gupta, E. Muloma, W. Owino-Ong'or, J. Sidle, R.W. Aubrey, J. Shen, K. Kipruto, B.E. Zwickl, and M. Goldman, *Renal disease in an antiretroviral-naive HIV-infected outpatient population in Western Kenya*. Nephrology Dialysis Transplantation, 2007. **22**(8): p. 2208-12.
 67. Bii, S.C., B. Otieno-Nyunya, A. Siika, and J.K. Rotich, *Infant feeding practices among HIV infected women receiving prevention of mother-to-child transmission services at Kitale District Hospital, Kenya*. East African Medical Journal, 2008. **85**(4): p. 156-61.
 68. Bii, S.C., B. Otieno-Nyunya, A. Siika, and J.K. Rotich, *Family planning and safer sex practices among HIV infected women receiving prevention of mother-to-child transmission services at Kitale District Hospital*. East African Medical Journal, 2008. **85**(1): p. 46-50.
 69. Braitstein, P., A. Boulle, D. Nash, M.W. Brinkhof, F. Dabis, C. Laurent, M. Schechter, S.H. Tuboi, E. Sprinz, P. Miotti, M. Hosseinipour, M. May, M. Egger, D.R. Bangsberg, and N. Low, *Gender and the use of antiretroviral treatment in resource-constrained settings: findings from a multicenter collaboration*. Journal of women's health, 2008. **17**(1): p. 47-55.
 70. Byron, E., S. Gillespie, and M. Nangami, *Integrating nutrition security with treatment of people living with HIV: lessons from Kenya*. Food and nutrition bulletin, 2008. **29**(2): p. 87-97.
 71. Carter, E.J., S. Kimaiyo, and N. Buziba, *The Cough Monitor Story*. WHO Stop TB Bimonthly Newsletter, 2008. **January**: p. 5.
 72. Keiser, O., K. Anastos, M. Schechter, E. Balestre, L. Myer, A. Boulle, D. Bangsberg, H. Toure, P. Braitstein, E. Sprinz, D. Nash, M. Hosseinipour, F. Dabis, M. May, M.W. Brinkhof, and M. Egger, *Antiretroviral therapy in resource-limited settings 1996 to 2006: patient characteristics, treatment regimens and monitoring in sub-Saharan Africa, Asia and Latin America*. Tropical medicine & international health : TM & IH, 2008. **13**(7): p. 870-9.
 73. Lingappa, J.R., B. Lambdin, E.A. Bukusi, K. Ngure, L. Kavuma, M. Inambao, W. Kanweka, S. Allen, J.N. Kiarie, J. Makhema, E. Were, R. Manongi, D. Coetzee, G. de Bruyn, S. Delany-Moretlwe, A. Margaret, N. Mugo, A. Mujugira, P. Ndase, and C. Celum, *Regional differences in prevalence of HIV-1 discordance in Africa and enrollment of HIV-1 discordant couples into an HIV-1 prevention trial*. PLoS ONE [Electronic Resource], 2008. **3**(1): p. e1411.
 74. Meslin, E.M., *Achieving global justice in health through global research ethics: Supplementing Macklin's "top-down" approach with on from the "ground up*, in *Global Bioethics*, D.A. Green RM, Jaus SA (eds.), Editor 2008, New York: Clarendon Press. p. 163-177.
 75. Mutea, N.K. and C.M. Baker, *Kenyan nurses' involvement in managing hospitalized diabetic patients*. International journal of nursing practice, 2008. **14**(1): p. 40-6.
 76. Nash, D., M. Katyal, M.W. Brinkhof, O. Keiser, M. May, R. Hughes, F. Dabis, R. Wood, E. Sprinz,

- M. Schechter, and M. Egger, *Long-term immunologic response to antiretroviral therapy in low-income countries: a collaborative analysis of prospective studies*. AIDS, 2008. **22**(17): p. 2291-302.
77. Opotowsky, A.R., R. Vedanthan, and J.J. Mamlin, *A case report of cor pulmonale in a woman without exposure to tobacco smoke: an example of the risks of indoor wood burning*. Medscape journal of medicine, 2008. **10**(1): p. 22.
 78. Shacham, E., M. Reece, P.O. Monahan, V. Yebei, O. Omollo, W.O. Ong'or, and C. Ojwang, *Measuring psychological distress symptoms in individuals living with HIV in western Kenya*. Journal of Mental Health, 2008. **17**(4): p. 424-434.
 79. Shacham, E., M. Reece, W.O. Ong'or, O. Omollo, P.O. Monahan, and C. Ojwang, *Characteristics of psychosocial support seeking during HIV-related treatment in western Kenya*. AIDS patient care and STDs, 2008. **22**(7): p. 595-601.
 80. Siika, A.M., P.O. Ayuo, M.J.E. Sidle, K. Wools-Kaloustian, S.N. Kimaiyo, and W.M. Tierney, *Admission characteristics, diagnoses and outcomes of HIV-infected patients registered in an ambulatory HIV-care programme in western Kenya*. East African Medical Journal, 2008. **85**(11): p. 523-8.
 81. Talam, N.C., P. Gatongi, J. Rotich, and S. Kimaiyo, *Factors affecting antiretroviral drug adherence among HIV/AIDS adult patients attending HIV/AIDS clinic at Moi Teaching and Referral Hospital, Eldoret, Kenya*. East African Journal of Public Health, 2008. **5**(2): p. 74-8.
 82. Thirumurthy, H., J.G. Zivin, and M. Goldstein, *The economic impact of AIDS treatment - Labor supply in Western Kenya*. Journal of Human Resources, 2008. **43**(3): p. 511-552.
 83. Vreeman, R.C., S.E. Wiehe, S.O. Ayaya, B.S. Musick, and W.M. Nyandiko, *Association of antiretroviral and clinic adherence with orphan status among HIV-infected children in Western Kenya*. Journal of acquired immune deficiency syndromes, 2008. **49**(2): p. 163-70.
 84. Vreeman, R.C., S.E. Wiehe, E.C. Pearce, and W.M. Nyandiko, *A systematic review of pediatric adherence to antiretroviral therapy in low- and middle-income countries*. The Pediatric infectious disease journal, 2008. **27**(8): p. 686-91.
 85. Waxman, M.J., P. Muganda, E.J. Carter, and N. Ongaro, *The role of emergency department HIV care in resource-poor settings: lessons learned in western Kenya*. International journal of emergency medicine, 2008. **1**(4): p. 317-20.
 86. Were, E., K. Wools-Kaloustian, J. Baliddawa, P.O. Ayuo, J. Sidle, and K. Fife, *Stakeholders perception of HIV sero-discordant couples in western Kenya*. East African Medical Journal, 2008. **85**(7): p. 326-33.
 87. Were, M.C., J.M. Sutherland, M. Bwana, J. Ssali, N. Emenyonu, and W.M. Tierney, *Patterns of care in two HIV continuity clinics in Uganda, Africa: a time-motion study*. AIDS care, 2008. **20**(6): p. 677-82.
 88. Wools-Kaloustian, K.K. and S.K. Gupta, *Will there be an epidemic of HIV-related chronic kidney disease in sub-Saharan Africa? Too soon to tell*. Kidney international, 2008. **74**(7): p. 845-7.
 89. Yebei, V.N., J.D. Fortenberry, and D.O. Ayuku, *Felt stigma among people living with HIV/AIDS in rural and urban Kenya*. African Health Sciences, 2008. **8**(2): p. 97-102.
 90. Yiannoutsos, C.T., M.W. An, C.E. Frangakis, B.S. Musick, P. Braitstein, K. Wools-Kaloustian, D. Ochieng, J.N. Martin, M.C. Bacon, V. Ochieng, and S. Kimaiyo, *Sampling-based approaches to improve estimation of mortality among patient dropouts: experience from a large PEPFAR-funded program in Western Kenya*. PLoS ONE [Electronic Resource], 2008. **3**(12): p. e3843.
 91. Zoll, M.C., *Integrated health care delivery systems for families and children impacted by HIV/AIDS: Four program case studies from Kenya and Rwanda*. Joint Learning Initiative on Children and HIV/AIDS. JLICA, 2008. **October**.
 92. Alonzo, T.A., C.T. Nakas, C.T. Yiannoutsos, and S. Bucher, *A comparison of tests for restricted*

- orderings in the three-class case*. *Statistics in medicine*, 2009. **28**(7): p. 1144-58.
93. An, M.W., C.E. Frangakis, B.S. Musick, and C.T. Yiannoutsos, *The need for double-sampling designs in survival studies: an application to monitor PEPFAR*. *Biometrics*, 2009. **65**(1): p. 301-6.
 94. Braitstein, P., R.M. Einterz, J.E. Sidle, S. Kimaiyo, and W. Tierney, "Talkin' about a revolution": *How electronic health records can facilitate the scale-up of HIV care and treatment and catalyze primary care in resource-constrained settings*. *Journal of Acquired Immune Deficiency Syndromes: JAIDS*, 2009. **52 Suppl 1**: p. S54-7.
 95. Braitstein, P., W. Nyandiko, R. Vreeman, K. Wools-Kaloustian, E. Sang, B. Musick, J. Sidle, C. Yiannoutsos, S. Ayaya, and E.J. Carter, *The clinical burden of tuberculosis among human immunodeficiency virus-infected children in Western Kenya and the impact of combination antiretroviral treatment*. *Pediatric Infectious Disease Journal*, 2009. **28**(7): p. 626-32.
 96. d'Adda, G., M. Goldstein, J.G. Zivin, M. Nangami, and H. Thirumurthy, *ARV Treatment and Time Allocation to Household Tasks: Evidence from Kenya*. *African Development Review*, 2009. **21**(1): p. 180-208.
 97. Inui, T.S., J.E. Sidle, W.M. Nyandiko, V.N. Yebei, R.M. Frankel, D.L. Mossbarger, D. Ayuku, J. Ballidawa, and R. Ayikukwei, 'Triangulating' AMPATH: *demonstration of a multi-perspective strategic programme evaluation method*. *SAHARA J: Journal of Social Aspects of HIV/AIDS Research Alliance*, 2009. **6**(3): p. 105-14.
 98. Kantor, R., L. Diero, A. Delong, L. Kamle, S. Muyonga, F. Mambo, E. Walumbe, W. Emonyi, P. Chan, E.J. Carter, J. Hogan, and N. Buziba, *Misclassification of first-line antiretroviral treatment failure based on immunological monitoring of HIV infection in resource-limited settings*. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*, 2009. **49**(3): p. 454-62.
 99. Lim, J.L., Y. Yih, C. Gichunge, W.M. Tierney, T.H. Le, J. Zhang, M.A. Lawley, T.J. Petersen, and J.J. Mamlin, *The AMPATH Nutritional Information System: designing a food distribution electronic record system in rural Kenya*. *Journal of the American Medical Informatics Association : JAMIA*, 2009. **16**(6): p. 882-8.
 100. Mamlin, J., S. Kimaiyo, S. Lewis, H. Tadayo, F.K. Jerop, C. Gichunge, T. Petersen, Y. Yih, P. Braitstein, and R. Einterz, *Integrating nutrition support for food-insecure patients and their dependents into an HIV care and treatment program in Western Kenya*. *American journal of public health*, 2009. **99**(2): p. 215-21.
 101. Monahan, P.O., E. Shacham, M. Reece, K. Kroenke, W.O. Ong'or, O. Omollo, V.N. Yebei, and C. Ojwang, *Validity/reliability of PHQ-9 and PHQ-2 depression scales among adults living with HIV/AIDS in western Kenya*. *Journal of General Internal Medicine*, 2009. **24**(2): p. 189-97.
 102. Nyandiko, W.M., A. Mwangi, S.O. Ayaya, E.C. Nabakwe, C.N. Tenge, P.M. Gisore, and R.C. Vreeman, *Characteristics of HIV-infected children seen in Western Kenya*. *East African Medical Journal*, 2009. **86**(8): p. 364-73.
 103. O'Meara, W.P. and T. Lang, *Malaria vaccine trial endpoints - bridging the gaps between trial design, public health and the next generation of vaccines*. *Parasite immunology*, 2009. **31**(9): p. 574-81.
 104. Pastakia, S.D., E.M. Schellhase, and B. Jakait, *Collaborative partnership for clinical pharmacy services in Kenya*. *American journal of health-system pharmacy : AJHP : official journal of the American Society of Health-System Pharmacists*, 2009. **66**(15): p. 1386-90.
 105. Ranney, M.L., W. Odero, M.J. Mello, M. Waxman, and R.S. Fife, *Injuries from interpersonal violence presenting to a rural health center in Western Kenya: characteristics and correlates*. *Injury Prevention*, 2009. **15**(1): p. 36-40.
 106. Seebregts, C.J., B.W. Mamlin, P.G. Biondich, H.S. Fraser, B.A. Wolfe, D. Jazayeri, C. Allen, J. Miranda, E. Baker, N. Musinguzi, D. Kayiwa, C. Fourie, N. Lesh, A. Kanter, C.T. Yiannoutsos, and

- C. Bailey, *The OpenMRS Implementers Network*. International Journal of Medical Informatics, 2009. **78**(11): p. 711-20.
107. Siika, A.M., W.M. Nyandiko, A. Mwangi, M. Waxman, J.E. Sidle, S.N. Kimaiyo, and K. Wools-Kaloustian, *The structure and outcomes of a HIV postexposure prophylaxis program in a high HIV prevalence setup in western Kenya*. Journal of Acquired Immune Deficiency Syndromes: JAIDS, 2009. **51**(1): p. 47-53.
 108. Vreeman, R., W.M. Nyandiko, and T.F. Blaschke, *Adherence to antiretroviral therapy for adults and children in resource-limited settings*. Reviews in Antiviral Therapy, 2009. **2** (supplement): p. 6-13.
 109. Vreeman, R.C., W.M. Nyandiko, S.O. Ayaya, E.G. Walumbe, D.G. Marrero, and T.S. Inui, *Factors sustaining pediatric adherence to antiretroviral therapy in western Kenya*. Qualitative Health Research, 2009. **19**(12): p. 1716-29.
 110. Vreeman, R.C., W.M. Nyandiko, and E.M. Meslin, *Pediatric assent for a study of antiretroviral therapy dosing for children in Western Kenya: a case study in international research collaboration*. Journal of empirical research on human research ethics : JERHRE, 2009. **4**(1): p. 3-16.
 111. Vreeman, R.C., W.M. Nyandiko, E. Sang, B.S. Musick, P. Braitstein, and S.E. Wiehe, *Impact of the Kenya post-election crisis on clinic attendance and medication adherence for HIV-infected children in western Kenya*. Conflict and health, 2009. **3**: p. 5.
 112. Wachira, J., B. Otieno-Nyunya, J. Ballidawa, and P. Braitstein, *Assessment of knowledge, attitudes and practices of infant feeding in the context of HIV: a case study from western Kenya*. SAHARA J : journal of Social Aspects of HIV/AIDS Research Alliance / SAHARA , Human Sciences Research Council, 2009. **6**(3): p. 120-6; quiz 127-33.
 113. Wools-Kaloustian, K., S. Kimaiyo, B. Musick, J. Sidle, A. Siika, W. Nyandiko, R. Einterz, W.M. Tierney, and C.T. Yiannoutsos, *The impact of the President's Emergency Plan for AIDS Relief on expansion of HIV care services for adult patients in western Kenya*. AIDS, 2009. **23**(2): p. 195-201.
 114. Wools-Kaloustian, K.K., J.E. Sidle, H.M. Selke, R. Vedanthan, E.K. Kemboi, L.J. Boit, V.T. Jebet, A.E. Carroll, W.M. Tierney, and S. Kimaiyo, *A model for extending antiretroviral care beyond the rural health centre*. Journal of the International AIDS Society, 2009. **12**(1): p. 22.
 115. Yiannoutsos, C.T., *Modeling AIDS survival after initiation of antiretroviral treatment by Weibull models with changepoints*. Journal of the International AIDS Society, 2009. **12**(1): p. 9.
 116. Zivin, J.G., H. Thirumurthy, and M. Goldstein, *AIDS treatment and intrahousehold resource allocation: Children's nutrition and schooling in Kenya*. Journal of Public Economics, 2009. **93**(7-8): p. 1008-1015.
 117. Braitstein, P., P. Ayuo, A. Mwangi, K. Wools-Kaloustian, B. Musick, A. Siika, and S. Kimaiyo, *Sustainability of first-line antiretroviral regimens: findings from a large HIV treatment program in western Kenya*. Journal of Acquired Immune Deficiency Syndromes: JAIDS, 2010. **53**(2): p. 254-9.
 118. Braitstein, P., A. Katschke, C. Shen, E. Sang, W. Nyandiko, V.O. Ochieng, R. Vreeman, C.T. Yiannoutsos, K. Wools-Kaloustian, and S. Ayaya, *Retention of HIV-infected and HIV-exposed children in a comprehensive HIV clinical care programme in Western Kenya*. Tropical Medicine & International Health, 2010. **15**(7): p. 833-41.
 119. Celum, C., A. Wald, J.R. Lingappa, A.S. Magaret, R.S. Wang, N. Mugo, A. Mujugira, J.M. Baeten, J.I. Mullins, J.P. Hughes, E.A. Bukusi, C.R. Cohen, E. Katabira, A. Ronald, J. Kiarie, C. Farquhar, G.J. Stewart, J. Makhema, M. Essex, E. Were, K.H. Fife, G. de Bruyn, G.E. Gray, J.A. McIntyre, R. Manongi, S. Kapiga, D. Coetzee, S. Allen, M. Inambao, K. Kayitenkore, E. Karita, W. Kanweka, S. Delany, H. Rees, B. Vwalika, W. Stevens, M.S. Campbell, K.K. Thomas, R.W. Coombs, R. Morrow, W.L. Whittington, M.J. McElrath, L. Barnes, R. Ridzon, and L. Corey, *Acyclovir and transmission of*

- HIV-1 from persons infected with HIV-1 and HSV-2*. The New England journal of medicine, 2010. **362**(5): p. 427-39.
120. Cornut, G., S. Gagnon, C. Hankins, D. Money, K. Pourreaux, E.L. Franco, and F. Coutlee, *Polymorphism of the capsid L1 gene of human papillomavirus types 31, 33, and 35*. Journal of medical virology, 2010. **82**(7): p. 1168-78.
 121. Geng, E.H., D.R. Bangsberg, N. Musinguzi, N. Emenyonu, M.B. Bwana, C.T. Yiannoutsos, D.V. Glidden, S.G. Deeks, and J.N. Martin, *Understanding reasons for and outcomes of patients lost to follow-up in antiretroviral therapy programs in Africa through a sampling-based approach*. Journal of acquired immune deficiency syndromes, 2010. **53**(3): p. 405-11.
 122. Geng, E.H., D. Nash, A. Kambugu, Y. Zhang, P. Braitstein, K.A. Christopoulos, W. Muyindike, M.B. Bwana, C.T. Yiannoutsos, M.L. Petersen, and J.N. Martin, *Retention in care among HIV-infected patients in resource-limited settings: emerging insights and new directions*. Current HIV/AIDS Reports, 2010. **7**(4): p. 234-44.
 123. Keiser, O., H. Tweya, P. Braitstein, F. Dabis, P. MacPhail, A. Boule, D. Nash, R. Wood, R. Luthi, M.W. Brinkhof, M. Schechter, and M. Egger, *Mortality after failure of antiretroviral therapy in sub-Saharan Africa*. Tropical medicine & international health : TM & IH, 2010. **15**(2): p. 251-8.
 124. Kimaiyo, S., M.C. Were, C. Shen, S. Ndege, P. Braitstein, J. Sidle, and J. Mamlin, *Home-based HIV counselling and testing in Western Kenya*. East African Medical Journal, 2010. **87**(3): p. 100-108.
 125. Kosgei, R.J., K. Wools-Kaloustian, P. Braitstein, J. Sidle, E. Sang, J. Gitau, J. Sitienei, R. Owino, J. Mamlin, S. Kimaiyo, and A. Siika, *Task Shifting in HIV Clinics, Western Kenya*. East African Medical Journal, 2010. **87**(7): p. 299-303.
 126. Lingappa, J.R., J.M. Baeten, A. Wald, J.P. Hughes, K.K. Thomas, A. Mujugira, N. Mugo, E.A. Bukusi, C.R. Cohen, E. Katabira, A. Ronald, J. Kiari, C. Farquhar, G.J. Stewart, J. Makhema, M. Essex, E. Were, K.H. Fife, G. de Bruyn, G.E. Gray, J.A. McIntyre, R. Manongi, S. Kapiga, D. Coetzee, S. Allen, M. Inambao, K. Kayitenkore, E. Karita, W. Kanweka, S. Delany, H. Rees, B. Vwalika, A.S. Magaret, R.S. Wang, L. Kidoguchi, L. Barnes, R. Ridzon, L. Corey, and C. Celum, *Daily acyclovir for HIV-1 disease progression in people dually infected with HIV-1 and herpes simplex virus type 2: a randomised placebo-controlled trial*. Lancet, 2010. **375**(9717): p. 824-33.
 127. Lockman, S., M.D. Hughes, J. McIntyre, Y. Zheng, T. Chipato, F. Conradie, F. Sawe, A. Asmelash, M.C. Hosseinipour, L. Mohapi, E. Stringer, R. Mngqibisa, A. Siika, D. Atwine, J. Hakim, D. Shaffer, C. Kanyama, K. Wools-Kaloustian, R.A. Salata, E. Hogg, B. Alston-Smith, A. Walawander, E. Purcelle-Smith, S. Eshleman, J. Rooney, S. Rahim, J.W. Mellors, R.T. Schooley, J.S. Currier, and O.A.S. Team, *Antiretroviral therapies in women after single-dose nevirapine exposure*. New England Journal of Medicine, 2010. **363**(16): p. 1499-509.
 128. Noormohammad, S.F., B.W. Mamlin, P.G. Biondich, B. McKown, S.N. Kimaiyo, and M.C. Were, *Changing course to make clinical decision support work in an HIV clinic in Kenya*. International Journal of Medical Informatics, 2010. **79**(3): p. 204-10.
 129. Nyandiko, W.M., B. Otieno-Nyunya, B. Musick, S. Bucher-Yiannoutsos, P. Akhaabi, K. Lane, C.T. Yiannoutsos, and K. Wools-Kaloustian, *Outcomes of HIV-exposed children in western Kenya: efficacy of prevention of mother to child transmission in a resource-constrained setting*. Journal of Acquired Immune Deficiency Syndromes: JAIDS, 2010. **54**(1): p. 42-50.
 130. Ochieng-Ooko, V., D. Ochieng, J.E. Sidle, M. Holdsworth, K. Wools-Kaloustian, A.M. Siika, C.T. Yiannoutsos, M. Owiti, S. Kimaiyo, and P. Braitstein, *Influence of gender on loss to follow-up in a large HIV treatment programme in western Kenya*. Bulletin of the World Health Organization, 2010. **88**(9): p. 681-8.
 131. Okemwa, K.A., P.M. Gatongi, and J.K. Rotich, *The oral health knowledge and oral hygiene practices among primary school children age 5-17 years in a rural area of Uasin Gishu district, Kenya*. East African Journal of Public Health, 2010. **7**(2): p. 187-90.

132. O'Meara, W.P., J.N. Mangeni, R. Steketee, and B. Greenwood, *Changes in the burden of malaria in sub-Saharan Africa*. The Lancet infectious diseases, 2010. **10**(8): p. 545-55.
133. Papas, R.K., J.E. Sidle, S. Martino, J.B. Baliddawa, R. Songole, O.E. Omolo, B.N. Gakinya, M.M. Mwaniki, J.O. Adina, T. Nafula, W.D. Owino-Ong'or, K.J. Bryant, K.M. Carroll, J.L. Goulet, A.C. Justice, and S.A. Maisto, *Systematic cultural adaptation of cognitive-behavioral therapy to reduce alcohol use among HIV-infected outpatients in western Kenya*. AIDS and behavior, 2010. **14**(3): p. 669-78.
134. Papas, R.K., J.E. Sidle, E.S. Wamalwa, T.O. Okumu, K.L. Bryant, J.L. Goulet, S.A. Maisto, R.S. Braithwaite, and A.C. Justice, *Estimating alcohol content of traditional brew in Western Kenya using culturally relevant methods: the case for cost over volume*. AIDS and behavior, 2010. **14**(4): p. 836-44.
135. Reece, M., A. Hollub, M. Nangami, and K. Lane, *Assessing male spousal engagement with prevention of mother-to-child transmission (PMTCT) programs in western Kenya*. AIDS care, 2010. **22**(6): p. 743-50.
136. Selke, H.M., S. Kimaiyo, J.E. Sidle, R. Vedanthan, W.M. Tierney, C. Shen, C.D. Denski, A.R. Katschke, and K. Wools-Kaloustian, *Task-shifting of antiretroviral delivery from health care workers to persons living with HIV/AIDS: clinical outcomes of a community-based program in Kenya*. Journal of Acquired Immune Deficiency Syndromes: JAIDS, 2010. **55**(4): p. 483-90.
137. Shacham, E., M. Reece, W.O. Ong'or, O. Omollo, and T.B. Basta, *A cross-cultural comparison of psychological distress among individuals living with HIV in Atlanta, Georgia, and Eldoret, Kenya*. Journal of the International Association of Physicians in AIDS Care, 2010. **9**(3): p. 162-9.
138. Siika, A., K. Wools-Kaloustian, A.W. Mwangi, S. Kimaiyo, L. Diero, P. Ayuo, W. Owino-Ong'or, J. Sidle, R.M. Einterz, C. Yiannoutsos, B. Musick, and W. Tierney, *Risk factors for death in HIV-infected adult African patients receiving antiretroviral therapy*. East African Medical Journal, 2010. **87**: p. 50-58.
139. Strother, R.M., K.M. Gregory, S.D. Pastakia, P. Were, C. Tenge, N. Busakhala, B. Jakait, E.M. Schellhase, A.G. Rosmarin, and P.J. Loehrer, *Retrospective analysis of the efficacy of gemcitabine for previously treated AIDS-associated Kaposi's sarcoma in western Kenya*. Oncology, 2010. **78**(1): p. 5-11.
140. Su, L. and J.W. Hogan, *Varying-coefficient models for longitudinal processes with continuous-time informative dropout*. Biostatistics, 2010. **11**(1): p. 93-110.
141. Tierney, W.M., M. Achieng, E. Baker, A. Bell, P. Biondich, P. Braitstein, D. Kayiwa, S. Kimaiyo, B. Mamlin, B. McKown, N. Musinguzi, W. Nyandiko, J. Rotich, J. Sidle, A. Siika, M. Were, B. Wolfe, K. Wools-Kaloustian, A. Yeung, C. Yiannoutsos, and C. Tanzania-Uganda Openmrs, *Experience implementing electronic health records in three East African countries*. Studies in Health Technology & Informatics, 2010. **160**(Pt 1): p. 371-5.
142. Tierney, W.M., A.S. Kanter, H.S. Fraser, and C. Bailey, *A toolkit for e-health partnerships in low-income nations*. Health affairs, 2010. **29**(2): p. 268-73.
143. Tuboi, S.H., A.G. Pacheco, L.H. Harrison, R.A. Stone, M. May, M.W. Brinkhof, F. Dabis, M. Egger, D. Nash, D. Bangsberg, P. Braitstein, C.T. Yiannoutsos, R. Wood, E. Sprinz, and M. Schechter, *Mortality associated with discordant responses to antiretroviral therapy in resource-constrained settings*. Journal of acquired immune deficiency syndromes, 2010. **53**(1): p. 70-7.
144. Vreeman, R.C., W.M. Nyandiko, S.O. Ayaya, E.G. Walumbe, D.G. Marrero, and T.S. Inui, *The perceived impact of disclosure of pediatric HIV status on pediatric antiretroviral therapy adherence, child well-being, and social relationships in a resource-limited setting*. AIDS Patient Care & Stds, 2010. **24**(10): p. 639-49.
145. Vreeman, R.C., W.M. Nyandiko, P. Braitstein, M.C. Were, S.O. Ayaya, S.K. Ndege, and S.E. Wiehe, *Acceptance of HIV testing for children ages 18 months to 13 years identified through voluntary*,

- home-based HIV counseling and testing in western Kenya*. Journal of acquired immune deficiency syndromes, 2010. **55**(2): p. e3-10.
146. Were, M.C., N. Emeyonu, M. Achieng, C. Shen, J. Ssali, J.P. Masaba, and W.M. Tierney, *Evaluating a scalable model for implementing electronic health records in resource-limited settings*. Journal of the American Medical Informatics Association : JAMIA, 2010. **17**(3): p. 237-44.
 147. Were, M.C., J. Kariuki, V. Chepng'eno, M. Wandabwa, S. Ndege, P. Braitstein, J. Wachira, S. Kimaiyo, and B. Mamlin, *Leapfrogging paper-based records using handheld technology: experience from Western Kenya*. Studies in health technology and informatics, 2010. **160**(Pt 1): p. 525-9.
 148. Were, M.C., C. Shen, M. Bwana, N. Emeyonu, N. Musinguzi, F. Nkuyahaga, A. Kembabazi, and W.M. Tierney, *Creation and evaluation of EMR-based paper clinical summaries to support HIV-care in Uganda, Africa*. International Journal of Medical Informatics, 2010. **79**(2): p. 90-6.
 149. Bloomfield, G.S., J.W. Hogan, A. Keter, E. Sang, E.J. Carter, E.J. Velazquez, and S. Kimaiyo, *Hypertension and obesity as cardiovascular risk factors among HIV seropositive patients in Western Kenya*. PLoS ONE [Electronic Resource], 2011. **6**(7): p. e22288.
 150. Bloomfield, G.S., S. Kimaiyo, E.J. Carter, C. Binanay, G.R. Corey, R.M. Einterz, W.M. Tierney, and E.J. Velazquez, *Chronic noncommunicable cardiovascular and pulmonary disease in sub-Saharan Africa: an academic model for countering the epidemic*. American Heart Journal, 2011. **161**(5): p. 842-7.
 151. Boltz, V.F., Y. Zheng, S. Lockman, F. Hong, E.K. Halvas, J. McIntyre, J.S. Currier, M.C. Chibowa, C. Kanyama, A. Nair, W. Owino-Ong'or, M. Hughes, J.M. Coffin, and J.W. Mellors, *Role of low-frequency HIV-1 variants in failure of nevirapine-containing antiviral therapy in women previously exposed to single-dose nevirapine*. Proceedings of the National Academy of Sciences of the United States of America, 2011. **108**(22): p. 9202-7.
 152. Braithwaite, R.S., K.A. Nucifora, C.T. Yiannoutsos, B. Musick, S. Kimaiyo, L. Diero, M.C. Bacon, and K. Wools-Kaloustian, *Alternative antiretroviral monitoring strategies for HIV-infected patients in east Africa: opportunities to save more lives?* Journal of the International AIDS Society, 2011. **14**: p. 38.
 153. Braitstein, P., J. Songok, R.C. Vreeman, K.K. Wools-Kaloustian, P. Koskei, L. Walusuna, S. Ayaya, W. Nyandiko, and C. Yiannoutsos, *"Wamepotea" (they have become lost): outcomes of HIV-positive and HIV-exposed children lost to follow-up from a large HIV treatment program in western Kenya*. Journal of acquired immune deficiency syndromes, 2011. **57**(3): p. e40-6.
 154. Burton, D.C., B. Flannery, B. Onyango, C. Larson, J. Alaii, X. Zhang, M.J. Hamel, R.F. Breiman, and D.R. Feikin, *Healthcare-seeking behaviour for common infectious disease-related illnesses in rural Kenya: a community-based house-to-house survey*. Journal of health, population, and nutrition, 2011. **29**(1): p. 61-70.
 155. Gardner, A., T. Cohen, and E.J. Carter, *Tuberculosis among participants in an academic global health medical exchange program*. Journal of General Internal Medicine, 2011. **26**(8): p. 841-5.
 156. Geng, E.H., P.W. Hunt, L.O. Diero, S. Kimaiyo, G.R. Somi, P. Okong, D.R. Bangsberg, M.B. Bwana, C.R. Cohen, J.A. Otieno, D. Wabwire, B. Elul, D. Nash, P.J. Easterbrook, P. Braitstein, B.S. Musick, J.N. Martin, C.T. Yiannoutsos, and K. Wools-Kaloustian, *Trends in the clinical characteristics of HIV-infected patients initiating antiretroviral therapy in Kenya, Uganda and Tanzania between 2002 and 2009*. Journal of the International AIDS Society, 2011. **14**: p. 46.
 157. Havlir, D.V., M.A. Kendall, P. Ive, J. Kumwenda, S. Swindells, S.S. Qasba, A.F. Luetkemeyer, E. Hogg, J.F. Rooney, X. Wu, M.C. Hosseinipour, U. Laloo, V.G. Veloso, F.F. Some, N. Kumarasamy, N. Padayatchi, B.R. Santos, S. Reid, J. Hakim, L. Mohapi, P. Mugenyi, J. Sanchez, J.R. Lama, J.W. Pape, A. Sanchez, A. Asmelash, E. Moko, F. Sawe, J. Andersen, and I. Sanne, *Timing of*

- antiretroviral therapy for HIV-1 infection and tuberculosis*. The New England journal of medicine, 2011. **365**(16): p. 1482-91.
158. Kigen, G., S. Kimaiyo, W. Nyandiko, B. Faragher, E. Sang, B. Jakait, A. Owen, D. Back, S. Gibbons, K. Seden, S.H. Khoo, and U.S.-A.M.f.P.T.o. HIV/AIDS, *Prevalence of potential drug-drug interactions involving antiretroviral drugs in a large Kenyan cohort*. PLoS ONE [Electronic Resource], 2011. **6**(2): p. e16800.
 159. Kosgei, R.J., K.M. Lubano, C. Shen, K.K. Wools-Kaloustian, B.S. Musick, A.M. Siika, H. Mabeya, E.J. Carter, A. Mwangi, and J. Kiarie, *Impact of Integrated Family Planning and HIV Care Services on Contraceptive Use and Pregnancy Outcomes: A Retrospective Cohort Study*. Journal of acquired immune deficiency syndromes, 2011. **58**(5): p. e121-6.
 160. Kosgei, R.J., P.M. Ndavi, J.O. Ong'ech, J.M. Abuya, A.M. Siika, K. Wools-Kaloustian, H. Mabeya, T. Fojo, A. Mwangi, T. Reid, M.E. Edginton, and E.J. Carter, *Symptom screen: diagnostic usefulness in detecting pulmonary tuberculosis in HIV-infected pregnant women in Kenya*. Public Health Action, 2011. **1**(2): p. 30-33.
 161. Mabeya, H., K. Khozaim, T. Liu, O. Orango, D. Chumba, L. Pisharodi, J. Carter, and S. Cu-Uvin, *Comparison of Conventional Cervical Cytology Versus Visual Inspection With Acetic Acid Among Human Immunodeficiency Virus-Infected Women in Western Kenya*. Journal of lower genital tract disease, 2011.
 162. Manji, I., S.D. Pastakia, A.N. Do, M.N. Ouma, E. Schellhase, R. Karwa, M.L. Miller, C. Saina, and C. Akwanalo, *Performance outcomes of a pharmacist-managed anticoagulation clinic in the rural, resource-constrained setting of Eldoret, Kenya*. Journal of thrombosis and haemostasis : JTH, 2011. **9**(11): p. 2215-20.
 163. McFadden, E., S.J. Taleski, A. Bocking, R.F. Spitzer, and H. Mabeya, *Retrospective review of predisposing factors and surgical outcomes in obstetric fistula patients at a single teaching hospital in Western kenya*. Journal of obstetrics and gynaecology Canada : JOGC = Journal d'obstetrique et gynecologie du Canada : JOGC, 2011. **33**(1): p. 30-5.
 164. Naanyu, V., J.E. Sidle, R.M. Frankel, D. Ayuku, W.M. Nyandiko, and T.S. Inui, *Rooting inquiry in tradition: the health baraza as a tool for social research in Kenya*. Qualitative Health Research, 2011. **21**(1): p. 14-26.
 165. Papas, R.K., J.E. Sidle, B.N. Gakinya, J.B. Baliddawa, S. Martino, M.M. Mwaniki, R. Songole, O.E. Omolo, A.M. Kamanda, D.O. Ayuku, C. Ojwang, W.D. Owino-Ong'or, M. Harrington, K.J. Bryant, K.M. Carroll, A.C. Justice, J.W. Hogan, and S.A. Maisto, *Treatment outcomes of a stage 1 cognitive-behavioral trial to reduce alcohol use among human immunodeficiency virus-infected out-patients in western Kenya*. Addiction, 2011. **106**(12): p. 2156-2166.
 166. Pastakia, S.D., R. Karwa, C.B. Kahn, and J.S. Nyabundi, *The evolution of diabetes care in the rural, resource-constrained setting of western Kenya*. Annals of Pharmacotherapy, 2011. **45**(6): p. 721-6.
 167. Pop-Eleches, C., H. Thirumurthy, J.P. Habyarimana, J.G. Zivin, M.P. Goldstein, D. de Walque, L. MacKeen, J. Haberer, S. Kimaiyo, J. Sidle, D. Ngare, and D.R. Bangsberg, *Mobile phone technologies improve adherence to antiretroviral treatment in a resource-limited setting: a randomized controlled trial of text message reminders*. AIDS, 2011. **25**(6): p. 825-34.
 168. Prudhomme O'Meara, W., N. Smith, E. Ekal, D. Cole, and S. Ndege, *Spatial Distribution of Bednet Coverage under Routine Distribution through the Public Health Sector in a Rural District in Kenya*. PLoS ONE [Electronic Resource], 2011. **6**(10): p. e25949.
 169. Singhal, N., J. Lockyer, H. Fidler, W. Keenan, G. Little, S. Bucher, M. Qadir, and S. Niermeyer, *Helping Babies Breathe: Global neonatal resuscitation program development and formative educational evaluation*. Resuscitation, 2011.
 170. Su, L. and J. Hogan, *HIV dynamics and natural history studies: Joint modeling with interval-*

- censored event times and infrequent longitudinal data*. *Annals of Applied Statistics*, 2011. **5**(1): p. 400-426.
171. Wachira, J., S. Kimaiyo, S. Ndege, J. Mamlin, and P. Braitstein, *What Is the Impact of Home-Based HIV Counseling and Testing on the Clinical Status of Newly Enrolled Adults in a Large HIV Care Program in Western Kenya?* *Clinical Infectious Diseases* 2011. **HIV/AIDS**(December 8, 2011): p. 1-7.
 172. Were, E., K. Curran, S. Delany-Moretlwe, E. Nakku-Joloba, N.R. Mugo, J. Kiarie, E.A. Bukusi, C. Celum, and J.M. Baeten, *A prospective study of frequency and correlates of intimate partner violence among African heterosexual HIV serodiscordant couples*. *AIDS*, 2011. **25**(16): p. 2009-18.
 173. Were, M.C., C. Shen, W.M. Tierney, J.J. Mamlin, P.G. Biondich, X. Li, S. Kimaiyo, and B.W. Mamlin, *Evaluation of computer-generated reminders to improve CD4 laboratory monitoring in sub-Saharan Africa: a prospective comparative study*. *Journal of the American Medical Informatics Association*, 2011. **18**(2): p. 150-5.
 174. Yoder, R.B., W.M. Nyandiko, R.C. Vreeman, S.O. Ayaya, P.O. Gisore, P. Braitstein, and S.E. Wiehe, *Long-term impact of the Kenya post-election crisis on clinic attendance and medication adherence for HIV-infected children in western Kenya*. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 2011(Oct 25).
 175. Bell, A., K.K. Wools, S. Kimaiyo, H. Liu, A.R. Katschke, C. Shen, G. Simiyu, B. Musick, J. Sidle, A. Siika, and P. Braitstein, *Short-Term Rationing of Combination Antiretroviral Therapy: Impact on Morbidity, Mortality, and Loss to Follow-Up in a Large HIV Treatment Program in Western Kenya*. *AIDS Research and Treatment*, 2012. **2012**: p. 9.
 176. Braitstein, P., A. Siika, J. Hogan, R.J. Kosgei, E. Sang, J. Sidle, K.K. Wools, A. Keter, J.J. Mamlin, and S. Kimaiyo, *A clinician-nurse model to reduce early mortality and increase clinic retention among high-risk HIV-infected patients initiating combination antiretroviral treatment*. *Journal of the International AIDS Society*, 2012. **15**(7).
 177. Ditiu, L. and B. Kumar, *Tuberculosis care: why the words we use matter [Editorial]*. *The International Journal of Tuberculosis and Lung Disease*, 2012. **16**(6): p. 711-711.
 178. Huang, K., C. Owino, R. Vreeman, M. Hagembe, F. Njuguna, R.M. Strother, and G. Gramelspacher, *Assessment of the face validity of two pain scales in Kenya: a validation study using cognitive interviewing*. *BMC Palliative Care*, 2012. **11**(1): p. 5.
 179. Lockman, S., M. Hughes, F. Sawe, Y. Zheng, J. McIntyre, T. Chipato, A. Asmelash, M. Rassool, S. Kimaiyo, D. Shaffer, M. Hosseinipour, L. Mohapi, F. Ssali, M. Chibowa, F. Amod, E. Halvas, E. Hogg, B. Alston-Smith, L. Smith, R. Schooley, J. Mellors, J. Currier, and O.A.A.O.S.T. the, *Nevirapine- Versus Lopinavir/Ritonavir-Based Initial Therapy for HIV-1 Infection among Women in Africa: A Randomized Trial*. *PLoS medicine*, 2012. **9**(6): p. e1001236.
 180. Strother, R.M., M. Fitch, P. Kamau, K. Beattie, A. Boudreau, N. Busakhalla, and P.J. Loehrer, *Building cancer nursing skills in a resource-constrained government hospital*. *Supportive care in cancer : official journal of the Multinational Association of Supportive Care in Cancer*, 2012.
 181. Strother, R.M., K.V. Rao, K.M. Gregory, B. Jakait, N. Busakhala, E. Schellhase, S. Pastakia, M. Krzyzanowska, and P.J. Loehrer, *The oncology pharmacy in cancer care delivery in a resource-constrained setting in western Kenya*. *Journal of oncology pharmacy practice : official publication of the International Society of Oncology Pharmacy Practitioners*, 2012.
 182. Wachira, J., S.E. Middlestadt, R. Vreeman, and P. Braitstein, *Factors underlying taking a child to HIV care: implications for reducing loss to follow-up among HIV-infected and -exposed children*. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, 2012. **9**(1): p. 20-29.
 183. Zachariah, R., A.D. Harries, S. Srinath, S. Ram, K. Viney, E. Singogo, P. Lal, A. Mendoza-Ticona, A. Sreenivas, N.W. Aung, B.N. Sharath, H. Kanyerere, N. van Soelen, N. Kirui, E. Ali, S.G. Hinderaker, K. Bissell, D.A. Enarson, and M.E. Edginton, *Language in tuberculosis services: can we change to*

patient-centred terminology and stop the paradigm of blaming the patients? [Perspectives]. The International Journal of Tuberculosis and Lung Disease, 2012. **16**(6): p. 714-717.

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