AIDS-Related Malignancies: Breakout Discussion

Moderators: Jackson Orem (Uganda Cancer Institute)
Corey Casper (University of Washington CFAR)

Scribes: Katherine Van Loon

Executive Summary: Identified Priorities

- There is a need for early and accurate diagnosis. KS and cervical cancer in the context of HIV require development of a diagnostics model that works in real life.

- There is a need for accurate numbers based on cancer registries. The question is how should they be implemented – at the level of a population, institution, or cohort?

- Registry databases need to be linked to HIV status and the data needs to be shared. We must use the existing public health system and/or make the required programmatic changes.

- There is a need for cancer awareness education, targeting both the general population and healthcare workers.

- There is a need for better understanding of the social context of cancer diagnoses and the paradox of treatment.

********

Discussion Highlights

Corey Casper noted that several general themes have emerged over the course of this conference. He suggested a broad, interactive discussion to expand on these themes:

1) Cancer screening – particularly relevant to HPV co-infection
2) Cancer treatment – What are the unique challenges? How does HIV influence the approach to cancer treatment?
3) Cancer diagnosis
4) What are the impediments to cancer control programs?

Pathology-Based Diagnosis

- Some group members were surprised to hear that cancer registries in Africa are not entirely dependent on pathologic diagnosis. Ann Nelson suggested that the group consider how to heighten the relevance and teach people to use pathology
appropriately. Jackson Orem added that a related issue is how to integrate the information into the health systems and policy.

- Miriam Laker suggested that collaboration between different groups that are working in parallel is required. Even within Uganda, there are several groups doing similar work, but who don’t know each other.

- Katherine Van Loon added that the dogma on cancer registries in the developing world is that 60% of diagnoses come from pathologic diagnosis, and 40% come from other sources (medical records, death registries, hospices). A registry is incomplete if it relies on pathology data alone. Registries are also limited by lack of staging data and lack of knowledge of the HIV status of patients.

- Robert Lukande added that the absence of a referral system means that many of the cases are missed.

- It was suggested that making a diagnosis is very difficult if you don’t have a pathologist. So the first point is that we need to train pathologists, and secondly, we need to educate the public about cancer diagnoses. We also need cross-talk between clinicians and basic scientists to discover immunologic indicators.

**Linkage of HIV and Cancer Registries while Integrating Diagnosis and Care**

- Ron Mitsuyasu pointed out that the real issue is how can HIV diagnoses and cancer diagnoses be integrated into primary care in the African setting?

- Jackson Orem remarked that even in Africa, KS was the early hallmark of HIV diagnosis. We need to get back to thinking about HIV and malignancy together. It is necessary for a system to be in place for HIV and cancer diagnoses to be made side by side.

- Lynette Denny suggested that the KS-HIV link was lost due to TB. For that reason, we need to highlight the need for population-based cancer registries. Should we be collecting cases from registries of HIV cohorts, or should we be collecting cancer cases and figuring out HIV status for them?

- Corey Casper pointed out that a key question to consider may be at what level do we start integrating cancer and HIV? Does one implement such a system at the lower level of a district health center in a more remote location, or at the tertiary health care system? The reality is that only a fraction of patients with KS (60%) actually make it to the Uganda Cancer Institute.

**Screening and Referral**

- Susan Krown suggested that the key is asking the right questions. There are some simple questions that can be asked, such as: “Are there any unusual lesions
on your skin?” If you don’t ask the right questions, you will never get the necessary information.

- Mariam Laker shared her team’s experience: During an initial survey, when her team asked sites if they saw KS, the healthcare workers responded that they did not see any cases. But after additional training, now 240 centers make referrals to her institution when they see the diagnosis. So what is needed is improved cancer literacy among healthcare workers.

- Rebecca Huppi remarked that if we look to HPV as a model, women have realized that if they get screened, they don’t get cancer. Is it possible to get the information out that if a person finds an abnormal skin lesion, then they should seek care?

- Ann Nelson suggested that having checklists and care guidelines would seem like a good place to start. Knowing what to look for and where to refer patients is key.

**Cancer Awareness and Education**

- Geraldina Dominguez noted that there is a program through the NIH that is collecting data at the level of the HIV clinical care provided, which has helped raise awareness of cancer diagnoses. In South Africa, there is an effort to relate the HIV data to their cancer registry data.

- Jackson Orem noted that in a system like Uganda’s, it would be simple we get the registry data into the hands of policy makers and government officials who are making decisions, because HIV management guidelines are in place, and all providers are bound by the policies. Unfortunately, cervical cancer screening in HIV clinics is done on an ad hoc basis, since there is no mechanism.

- The group agreed that raising cancer awareness at more remote clinics is even more of a challenge. Another issue to consider is that in some settings, the majority of patients may visit traditional healers, so our work needs to include them as well.

**Stigma and Patient Advocacy**

- The group discussed the complex social dynamics related to stigma that prevent patients from presenting to care, and the strong influence of patient advocacy in managing this barrier.

- Lynette Denny noted that in South Africa, her team interviewed women diagnosed with cervical cancer. Those women had been to clinics an average of 8 times apiece, but there was so much shame associated with symptoms from the female genital tract, that the cases were missed. There is also a great distrust about oncologic therapy. In Xhosa, the translation of radiation is “burning.” The vast
majority of individuals in Africa who get cancer die, and they die painful deaths due to inadequate access to narcotics. Resources for the treatment of cancer are thus associated with immediate death. It’s how they used to think about HIV. Now ARVs have changed the landscape and patients are able to speak about it more openly, but cancer is facing another set of social issues.

- Sarah Manyame added that in Zimbabwe, her colleagues used a popular TV talk show to encourage patients who had survived previous treatment with XRT to talk about their experiences. There is an ongoing rumor that no one comes back from XRT alive, and if you do survive, that the complications are terrible. This was also an opportunity for her colleagues to talk about cervical cancer openly on TV.

Other Issues

- Due to lack of time, it was not possible to address other issue of interest to participants, such as liver cancer. It was concluded that a separate meeting was needed to cover all the important and relevant issues.

Summary of Identified Priorities

- There is a need for early and accurate diagnosis. KS and cervical cancer in the context of HIV require development of a diagnostics model that works in real life. The challenge is that currently no such model exists.

- There is a need for accurate numbers based on cancer registries. The question is how should they be implemented – at the level of a population, institution, or cohort?

- Registry databases need to be linked to HIV status and the data needs to be shared. We must use the existing public health system and/or make the required programmatic changes.

- There is a need for cancer awareness education, targeting both the general population and healthcare workers.

- There is a need for better understanding of the social context of cancer diagnoses and the paradox of treatment.

- We can look to HIV research that has already has been conducted as models of how to accomplish these things.

Participants:

Asito Amolo (KEMRI)  jakogwanjo@gmail.com
Corey Casper (University of Washington)  
Lynette Denny (University of Cape Town)  
Geraldina Dominguez (NCI)  
Soren Gantt (University of Washington)  
Peter Hunt (UCSF)  
Rebecca Huppi (NCI)  
James Kafeero (Uganda Cancer Institute)  
Susan Krown (AIDS Malignancies Consortium)  
Miriam Laker (IDI, Uganda)  
Robert Lukande (Makerere University)  
Sarah Manyame (University of Zimbabwe)  
Evalily Mbwilo (Makerere University)  
Ronald Mitsuyasu (UCLA)  
Agnes Moses (Kamuzu Central Hospital)  
Asafu Munema (KCMC, Tanzania)  
Innocent Mutyaba (Uganda Cancer Institute)  
Ann Nelson (U.S. Department of Defense)  
Nixon Niyonzima (Duke University)  
Mostafa Nokta (NCI)  
Ekwaro Obuku (JCRC, Uganda)  
Ponsiano Ocama (IDI, Uganda)  
Fred Okuku (Mulago Hospital)  
Raphael Ondondo (KEMRI)  
Jackson Orem (Uganda Cancer Institute)  
Jacinta Oyella (Makerere University)  
Warren Phipps (University of Washington)  
Steve Polyak (University of Washington)  
Doreen Ramogola-Masire (Botswana-UPenn)  

ccasper@uw.edu  
lynette.denny@uct.ac.za  
domingug@mail.nih.gov  
sgantt@uw.edu  
phunt@php.ucsf.edu  
liddellr@exchange.nih.gov  
jkafeero@upcid.org  
krowns@mskcc.org  
dmiriaml@yahoo.co.uk  
sylukas@gmail.com  
sarahmanyame79@yahoo.ca  
evalilym@gmail.com  
rmitsuya@mednet.ucla.edu  
amoses@unclilongwe.org  
asafutz@yahoo.com  
imutyaba@upcid.org  
an.m.nelson@us.army.mil  
nnyonzima@live.com  
mostafa.nokta@nih.gov  
ekwaro@gmail.com  
pocama@idi.co.ug  
fokuku@fhcrc.org  
rondondo@kemri-ucsf.org  
JOrem@mucwrw.or.ug  
oyella1@yahoo.com  
wtphipps@fhcrc.org  
polyak@uw.edu  
doreen.masire@gmail.com
ARV Resistance and Clinical Management: Breakout Discussion

Moderators: Steve Reynolds (Johns Hopkins University)
            Rami Kantor (Lifespan CFAR)

Scribes: Brandon Auerbach, Sara Burke

Executive Summary: Activities Identified for Follow-up

This interest group will continue to discuss challenges and collectively consider how to address them. It will also consider developing a research question that cannot be answered by a single site, but which could benefit from a collaborative effort to examine differences in subtypes and regimens through multi-cohort analysis.

********

Participants’ Institutions (as reported):
- Botswana: Botswana-Harvard Partnership
- Kenya: University of Nairobi
- Rwanda: Infectious Disease Institute
- Uganda: Infectious Disease Institute (IDI), Walter Reed Project, UCSF-Makerere Collaboration, Joint Clinical Research Centre (JCRC)-CFAR genotyping lab, AMPATH
- Zambia
- USA: Lifespan-Brown University CFAR, Johns Hopkins University, Case Western Reserve University

Drug Resistance Challenges

- Local genotyping exists; can’t always send drug resistance testing specimens to USA. However, clinicians often lack skills to interpret these results, and there is a need for training.

- Logistics: Steve Reynolds suggested that major difficulties exist with equipment, maintenance, supplies, and electricity. Eric Arts (Case Western CFAR-JCRC) agreed that the biggest challenge is still logistics. Despite difficulties, JCRC performs 1,600 resistance genotyping screens per year, and there is a huge unaddressed need for genotyping support of research studies. The institute is still shipping its specimens to Kampala for analysis.

- Eric Arts has a nice database of mutations; the Stanford database offers major and minor mutations and also some assistance on predicting what regimen would be best. A potential valuable goal would be training in using this Stanford resource.
• Eric reported work on a new test, with lower cost of reagent, that will be effective in a minimal amount of blood, so that lower frequency mutations could be established. It will take a year to implement. He did not find benefit from using blood spots since the RNA is too difficult to extract.

• Considerable discussion of costs and comparison of one-time genotyping versus CD4 viral load testing; over the course of a year, viral testing is more expensive. The ethics of using scarce resources for testing were also briefly discussed.

• Rami Kantor suggested that a less expensive test to probe some of the key mutations would be very helpful, since some patterns are going to be predictive; exact genotyping does matter, however, for transmitted drug resistance.

• There should be more sharing of samples between JCRC and IDI or other resources.

Clinical Management Issues

• How to select the best treatment regimen for patients? The American model of testing and individualized treatment for every patient is impossible in Botswana, where first and second line therapies are already set, and only after failing both is a patient referred for genotyping. There is no routine genotyping in Uganda either.

• Steve Reynolds agreed that current budget realities for donors and governments mean this can’t be a clinical resource. It’s still not possible to do viral loads for everyone, even though costs have dropped to $10-$15. It will be up to research studies to provide information on developing resistance.

• How do we develop a rational approach to viral load monitoring and resistance? One goal would be to develop a viral load test that would also provide results on the three most common mutations as well. A specific mutations test would really help clinicians. It was suggested that CFARs could develop something less expensive. Test development should be driven by patient needs, and not by research needs.

Ideas for Future Collaboration

In summary, Rami Kantor defined two possible goals for this group going forward:

1. Continue discussing challenges and thinking together how to address them; or
2. Develop a question that can’t be answered by a single site, but that a working group could work on collaboratively to address. The identification of such a question might lead to real progress. He suggested that the small numbers in current individual studies prevent meaningful outcomes, and it would take aggregated cohorts to address differences in subtypes and regimens. Eric agreed that a multi-cohort analysis is needed.

Participants:

Eric Arts (Case Western) uela3@case.edu
Stephen Asiimwe (Mbarara University) bushenyi1@yahoo.com
Brandon Auerbach (Harvard-IDI, Uganda) bauerbach@idi.co.ug
Elizabeth Bukusi (KEMRI) ebukusi@kemri.org
ebukusi@rcpt.or.ke
Sara Burke (UCSF) sburke@cfar.ucsf.edu
Namwina Chintu (CIDRZ) namwina.chintu@cidrz.org
Bhavna Chohan (University of Nairobi) bchohan@uw.edu
Susan Cu-Uvin (Brown University) scu-uvin@lifespan.org
Ibrahim Daud (KEMRI) ibrayed@gmail.com
Simani Gaseitsiwe (Botswana-Harvard) sgaseitsiwe@bhp.org.bw
Walter Jaoko (University of Nairobi) wjaoko@kaviuon.org
Andrew Kambugu (IDI, Uganda) akambugu@idi.co.ug
Rami Kantor (Lifespan) rkantor@lifespan.org
Ernest Kenu (University of Ghana) Ernest_Kenu@yahoo.com
Awewura Kwara (Lifespan) akwara@lifespan.org
Zachary Kwena (KEMRI) zkwena@kemri-ucsf.org
Margaret Larney (University of Ghana) malart38@yahoo.com
Joseph Murungi (MOH Zimbabwe) jmurungu@yahoo.com
Florence Muzanyi (Makerere University) flobaite@yahoo.com
S. Mugabe Nakamatta (Makerere University) Lindamugabe@yahoo.com
James Ndineawe (Uganda) jamesndinawe@yahoo.com
Rose Opara (Sure Health Organization, Nigeria) rosypart2009@yahoo.com
Omenge Orango (Moi University) bworango2000@yahoo.com
Steve Reynolds (Johns Hopkins University) sjr@jhmi.edu
Aggrey Semeere (IDI, Uganda) asemeere@idi.co.ug
Daniel Ssebaduka (HealthNest, Uganda) drssebaduka@gmail.com
HIV and Women: Breakout Discussion

Moderator: Craig Cohen (UCSF), Acting for Elizabeth Bukusi (KEMRI, Kenya)
Scribe: Sara Burke

Executive Summary: Activities Identified for Follow-up

- **Cervical Cancer Prevention Group**: This interest group will build connections between groups involved in cervical cancer prevention (in HIV+ women) in Kenya and efforts in other countries which are linked to the IeDEA network. A HIV and Cervical Cancer Prevention listserv will be developed to facilitate ongoing communication. *Proposed lead: Nelly Mugo (International Clinical Research Center, Kenya).*

- **Adolescence, Gender, and HIV in Women Group**: This interest group will share journal articles and works in progress. *Proposed lead: Elizabeth Asante (University of Ghana, Ghana).*

********

Discussion Highlights

Craig Cohen invited everyone to briefly introduce themselves. Attendees initially included representatives from Kenya, Zambia, Ghana, Uganda, George Washington University, and Lifespan/Brown/Tufts CFAR, although additional attendees arrived after the meeting had started.

The purpose of the meeting was to try to identify potential areas of overlap and networking for research or training. Craig Cohen asked if any of the meeting group members had any specific ideas or would be willing to explain why they chose to come to this working group? What would help you or your teams better leverage CFARs and home institutions? The group discussion focused on:

**Cervical Cancer Screening**

Nelly Mugo advised that she is looking for collaborators to set up a dataset on continuous screening and treatment for cervical cancer in Kenya. The information from such a database would support policy and implementation research. Susan Cu-Uvin said that the IeDEA network wants to develop exactly such a database, and suggested it might be more effective to consider how to get everyone connected to and part of the IeDEA database. Kara Wools-Kaloustian is the contact, and the IeDEA-East Africa grant just got re-funded for Indiana University, with links to Kenya (FACES and AMPATH), Tanzania, and Uganda. IeDEA has resources and networks – and they represent all of Africa. Craig Cohen believes that IeDEA could be extended to link to additional sites. Susan Cu-Uvin reported that Geraldina Dominguez was involved in the IeDEA discussions for NCI, and interest in this important issue is really growing. Nelly Mugo was unsure whether IeDEA would address the main issues of concern to her. In many rural clinics, VIA is being started without any linkage to record-keeping or research. Nelly is interested in a
joint HIV/Obstetrics meeting in Kenya, possibly tied to the Kenya OB/Gyn Society (KOGS) meeting in February 2012. Susan Cu-Uvin wondered whether OBs would attend an HIV conference. Craig Cohen commented that Nelly Mugo hopes to create a national prevention program in Kenya (use of standard procedures, forms, and software), and suggested that the ICASA meeting in December might be an opportunity to at least bring HIV and STD together. The issue is integration of cervical cancer prevention with care of the patients living with HIV, rather than data collection for research.

**Development of Cross-CFAR African Cores**

There is a need for an African core that biostatisticians from every country in the region could access, as well as the protocols that such a core could support. Another important issue is how to disseminate important research. Much data is posted, but it’s not searchable, and searchable data would make an important contribution to implementation science. Drop Box is a great sharing software technology, but not searchable. An IT solution is needed.

**Biostatistics**

This is a major research weakness in Africa. Training is a very long five-year program, and when someone goes to the USA for training, they tend to remain there and don’t return. There is an urgent need to develop in-country biostatistics training within Africa, but the available local resources are over-extended. The group did not identify a clear way forward to address this gap.

**Social and Behavioral Sciences**

The same gap was identified in social and behavioral scientific support of African research and a lack of resources for behavioral and qualitative data analysis. Social and behavioral sciences is increasingly recognizing issues related to HIV and gender, and that both prevention and behavior occur within a gendered social system. Susan Cu-Uvin agreed that this is a pervasive issue, and for this reason, efforts should be directed not only at women. A gynecologist looks at genital secretions separately as deriving from males or females, instead of looking together at the complex interactions of cervical secretions and semen. There was discussion of ongoing efforts in South Africa to change the behaviors of men and boys. Nelly Mugo pointed to studies showing that behavioral intervention with discordant couples proved more successful than with either males or females alone. Disclosure, abuse, and forced pregnancy keep an HIV-infected woman from going to the HIV clinic. How to approach and help these women to surmount that barrier to care and to learn to care for their own health is a challenging behavioral issue. Another behavioral aspect concerns the complications of disclosure and safety for others in a climate of community stigmatization. Another challenge is the desire for pregnancy in young women already HIV-infected very young, which often leads them to “unplanned” intentional pregnancy, without appropriate HIV clinical support. Marilyn Addo reported that Harvard has resources and could help with social and behavioral scientific support.

**The Coming Epidemic in Adolescents**
Concern was expressed regarding adolescents’ unwillingness to disclose STDs (which in itself increases risk for HIV) does not portend willingness to disclose HIV and be treated. Prevention efforts should be directed towards adolescents and the adults of tomorrow, including education on contraception and controlled pregnancy.

**HIV and Aging**

Susan Cu-Uvin suggested that as Africans benefit from ART, their patient populations will be getting older. There are lots of interesting questions about HIV and aging. Using dexoscans for bone density scanning in both men and women, it was discovered that osteopenia and osteoporosis occurred more often in HIV-infected men than in HIV-infected women of the same age. She suggested it is important to think ahead how you will prepare your clinic and research for a longer living population of HIV patients.

**What can the group do?**

Craig Cohen suggested that it was important for the group members to identify something they could do together to continue linkages – otherwise, benefits of the Sub-Saharan Africa CFAR Conference could be lost. Although the group may advocate for biostatistics, this issue may be too large for the working group to take on. Craig summarized two other clear ideas that had emerged in the discussion, and identified group members to take the lead on next steps to move forward on the following two initiatives:

1) **Cervical Cancer Prevention Group**: Nelly Mugo (Kenya) will take the lead on building connections with the other cervical cancer prevention groups in Kenya and those linked to IeDEA in other countries (Susan Cu-Uvin and Kara Wools-Kaloustian are valuable connections.) A HIV and Cervical Cancer Prevention listserv will be developed.

2) **Adolescence, Gender, and HIV in Women Group**: Elizabeth Asante (Ghana) will lead this effort and decide on focus, which may include sharing journal articles, works in progress, and expansion of listserv. Craig suggested that one goal may be to try to apply for NIH funding to attach a meeting on Adolescence/Gender/HIV in Women, in association with ICASA or IAS. A group member advised that there is also a Pediatric AIDS Group in Africa, and their next conference will be in Botswana in November. It was suggested that the USAID Youth Net newsletter is also a good resource.

**Participants:**

Marilyn Addo (Harvard University) addo@helix.mgh.harvard.edu
*Adebola Adedimeji (Einstein CFAR) adebola.adedimeji@einstein.yu.edu
Kawango Agot (Impact, Kenya) kwango@impact-rdo.org
Elizabeth Asante (University of Ghana) eliz_asanta@yahoo.co.uk
Jeffrey (Bart) Bingenheimer (GWU) prcjbb@gwumc.edu
Elizabeth Bukusi (KEMRI)  ebukusi@kemri.org
Carla Chibwesha (CIDRZ)  Carla.chibwesha@cidrz.org
Amon Chirchir (Moi Hospital)  akchirchir@yahoo.com
Craig Cohen (UCSF)  CCohen@globalhealth.ucsf.edu
Susan Cu-Uvin (Brown University)  scu-uvin@lifespan.org
Serah Gitome (KEMRI)  sgitome@kemri-ucsf.org
Laura Guay (E. Glaser Pediatric AIDS Foundation)  lguay@pedaids.ucsf.edu
Jane Kabami (Mbarara University)  kabajane@yahoo.com
*Abel Kakuru (Makerere University)  abel.kakuru@gmail.com
*Ivy Kasirye (Uganda)  ikidduk@yahoo.com
*Sarah Manyame (University of Zimbabwe)  sarahmanyame79@yahoo.ca
Nelly Mugo (International Clinical Research Center)  nwamba@uw.edu
Joseph Murungu (MOH Zimbabwe)  jmurungu@yahoo.com
*Julia Mwesigwa (Makerere University)  juliamwesigwa@yahoo.com
Damalie Nakanjako (Makerere University)  drdamalie@yahoo.com
Elizabeth Namukwaya (Mulago Hospital)  liznam2002@yahoo.co.uk
Rebecca Ngalande (University of Malawi)  schaud7@uic.edu
*Maricianah Onono (KEMRI)  marcianah@yahoo.com
Omenge Orango (Moi University)  bworango2000@yahoo.com
*Barbara Payne (University of Washington-Nairobi)  bipayne@iconnect.co.ke
Nande Putta (CIDRZ)  Nande.Putta@cidrz.org
Appolinaire Tiam (EGPAF, Lesotho)  atiam@pedaids.org
Eric Umar (University of Malawi)  schaud7@uic.edu
Susanna Winston (Lifespan/Brown CFAR)  swinston@lifespan.org

*prior sign-up
Moving Research into Policy and Practice: Breakout Summary

**Moderators:**  
Namwinga Chintu (Centre for Infectious Disease Research, Zambia)  
Chrissie Kaponda (University of Malawi, Malawi)  
Janet Frohlich (CAPRISA, South Africa)

**Scribe:** Jessica Yager

The group discussed challenges and opportunities in Sub-Saharan Africa related to this priority area.

**IRB Issues**

- Need to retain sensitivity to cultural issues.
- Protocol review: utility of videoconference between U.S. partners and local IRB to better understand aims of each IRB.
- Collaboration is helpful to overcome and manage bureaucratic and logistical hurdles.

**Dissemination of Research Results**

How to make science/conclusions accessible to non-scientists and policymakers?

- **Target Audience:** Who are the audiences that are being targeting for both policy and practice? (e.g., study participants, clinicians, policy groups, etc.)
- **Outreach and Advocacy:** Need to bring in the local scientific community and other stakeholders, understand what it means to be an advocate.
- **Establish Context:** Researchers need to become more familiar with policy issues and to understand what different levels of policy may exist. Management of results with complicated implications, e.g., circumcision, brings additional challenges.
- **Community Mobilization:** Consider involving recipients/beneficiaries of an intervention – e.g., focus groups with young women re: microbicides to determine when is the best service point.

**Ownership of Data**

- Critical issue related to samples and repositories – countries are more likely to get samples returned when they have lab capacity to ask questions of own samples.
Policy Development

- The “Know-Do” Gap: difficulty for policy makers in putting policy into action, in part due to the complexity of political will and resources.

- Issue of domestic versus “foreign” policy for each country
  - How to handle policies developed by foreign countries/organizations (WHO, etc.)?
  - How to change mind-set of accepting/rejecting foreign policies versus allowing local policy to be driven by local research?
  - Need for local researchers and policy makers to feel empowered to structure own policy rather than awaiting WHO approval.

Examples of Experiences

- Policy briefs for administrators – to include summary of the issue/problem, context, goals, major study findings, and what key issues to address (Malawi).

- Community advisory board of new CFAR.

Way Forward

- Dissemination conferences to include stakeholders in the policy realm, as well as clinicians and the public.

- Need for implementation science to bring results into greater practice.

- Accreditation of more African labs will help keep samples in Africa and assist with capacity building.

- Build skills in and knowledge transfer as well as scientific competency: translate data into knowledge, then need to engage others to help move knowledge into action. Packaging information for different groups is a skill not commonly possessed by scientists.

- Learn from successful examples from other countries that have succeeded.

Participants:

Ben Chi (UAB-CIDRZ, Zambia)  bchi@cidrz.org
Namwinga Chintu (CIDRZ, Zambia)  namwinga.chintu@cidrz.org
Ibrahim Daud (KEMRI, Kenya)  ibrayed@yahoo.com
Janet Frohlich (CAPRISA/UKZN, South Africa)  frohlichj@ukzn.ac.za
Usman Gebi (Nigeria)  gebiui1@gmail.com
Mina Hosseinipour (UNC Project-Lilongwe, Malawi)  minach@med.unc.edu
Chrissie Kaponda (University of Malawi)  schaud7@uic.edu
Margaret Kabare (Impact R&D Organization, Kenya)  mkabare@impact-rdo.org
Bramwell Koyabe (University of Botswana)  bramwell.koyabe@mopipi.ub.bw
Zachary Kwena (KEMRI, Kenya)  zkwena@kemri-ucsf.org
Janet McGrath (Case Western-Makerere, Uganda)  jwm6@case.edu
Mohsin Sidat (University E. Mondlane, Mozambique)  mmsidat@gmail.com
Abraham Siika (Moi University)  amsiika@africaonline.co.ke
Jennifer Skillicorn (George Washington University)  sphjls@gwumc.edu
Eric Umar (University of Malawi)  schaud7@uic.edu
Edna Viegas (National Institute of Health, Mozambique)  edna_viegas@yahoo.com
Jessica Yager (UW-Uganda Cancer Institute)  jeyager@fhcrc.org
HIV Pathogenesis: Breakout Discussion

Moderators: Peter Hunt (UCSF)  
Marylyn Addo (Harvard)

Scribes: Jennifer Skillicorn, Stefanie Sowinski

After introductions, the group broke into three discussion groups by table:

1) HIV co-infections  
2) AIDS and malignancies  
3) Drug resistance and inflammation and aging

AIDS Malignancies Table: Key Discussion Points

• There are ongoing studies on KS, IeDEA, and ACTG trials.
• Lack of pathology data in cancer registries has resulted in an underestimation of cancer prevalence.
• It is challenging to collect HIV data in general cancer registry; matching is difficult.
• Need mix of retrospective and prospective data collection to obtain a complete picture.
• Need to bolster community engagement through the use of health care workers who can help report cases of cancer to national data collection.
• Use data to help educate local healers/providers/community about the need for more services and encourage use of these services.

HIV Co-infections: Not available

Drug resistance and inflammation and aging: Not available
Biospecimen Collection and Storage: Breakout Discussion

Moderators:  Ann Nelson (U.S. Department of Defense, Joint Pathology Center)  
Corey Casper (University of Washington CFAR)

Scribe: Katherine Van Loon

Biobank Basics

- What will you collect?  (serum, tissue, other)
- What is the purpose of the collection?
- What is your docus?
- What type of specimens need to be stored (H&E slides, formalin-fixation, serum)?
- Are specimens de-identified?
- Don’t save junk!
- What is the long-term budget?
  o Are you storing frozen specimens in a freezer that may not be in operation in a year?
- What are the regulatory issues?
  o Who owns the specimens?
  o Difficulties of obtaining consent to access specimens down the road if a researcher is no longer at the institution

Ethical Issues

- Corey Casper noted that there is an ethical obligation to maximize the use of a specimen in order to learn as much as possible. He suggested that at time of enrollment, participants may sign a consent form that allows for storage of specimen to be used in future research. An independent IRB may serve as a “gatekeeper” to give permission for future use.

- Any specimen that is collected could be collected in duplicate, so that one copy of the specimen always stays at the local site and thus remains in-country.

- Ann Nelson suggested that another issue is that a diagnosis that is provided from an outside consultation may sometimes end up in the patient’s chart. Corey Casper added that forms may be sent to the clinicians with results, even though it may be an uncertified test that does not have current clinical application.

Repository Costs

The group considered several relevant issues:

- How much does it cost to establish a repository?
• How to cover the costs of existing repositories?
• What happens when funding expires?
• How do you avoid using current grant funds to pay for storage of specimens from previous grants?

Storage and Transport of Specimens

• Corey Casper noted that it’s important to have the forethought at the time of study design to think about how specimens may be archived. Do we really need to store specimens forever? We need to think about what the costs and benefits are. For quantifying DNA, putting blood on filter paper actually can be maintained almost indefinitely.

• Options for specimens when a grant runs out: (1) Donate, (2) Discard, or (3) Transition to another storage modality.

• Rebecca Huppi reminded the group that as biorepositors, we want to avoid illegal transport of specimens. There are regulatory agencies in each country that govern the transport across international lines.

Quality

• How to do spot checks to check viability of specimens in the context of an ongoing study without destroying specimens?

• Rebecca Huppi described that at NIH, an effort is made not to destroy any specimens that can be used for research. For QA/QC measure, when holdings are distributed, users are asked to report back regarding quality. That is a mandatory responsibility for access to use. Not sure whether there is any value to holding older specimens that date back to the beginning of the AIDS epidemic.

• Robert Lukande noted that the quality of specimens received at his institution of tissue samples from tumors is very poor. This has required feedback to clinicians at every opportunity regarding the importance of sending good specimens. Another challenge has been standardization of the fixation agent in the department. Even within the department, 40% of samples are prepared for internal purposes, but distribution to the outside institutions is not always possible. Tissue microarrays have been developed as another method for storage. Makerere has a requirement that one specimen is used for clinical diagnostics and one copy is used for research.

• Michele Merkel noted that when working with blood, her institution does not always have excess sample to test quality.

• Corey Casper added that his institution does not accept specimens into the repository if the fixation has not been done according to SOP specifications.
When working with collaborators, the institution advises that they will take a small percentage of the storage fee and perform QA/QC measurement (with no push-back thus far).

- Ann Nelson cited an article on the “Accuracy of Burkitt’s Lymphoma Diagnosis in Constrained Pathology Settings.” The article reports the prevalence of diagnostic problems. Even within the USA, 10% of cases sent to AFIP for review result in a coding that represents a significant change in diagnosis.

Participants:

Ann Nelson (U.S. Department of Defense) ann.m.nelson@us.army.mil
Corey Casper (University of Washington CFAR) ccasper@uw.edu
Rebecca Huppi (NCI) liddelir@exchange.nih.gov
Michele Merkel (UW/University of Nairobi) merkelm@uw.edu
Robert Lukande (Makarere University) sylukas@gmail.com
Barbara Payne (UW/University of Nairobi) blpayne@iconnect.co.ke
Katherine Van Loon (UCSF) Katherine.VanLoon@ucsf.edu
Study Design, Data Analysis/Management, and Biostatistics: Breakout Discussion

**Moderators:** Jeffrey (Bart) Bingenheimer (George Washington University)  
Mina Hosseinipour (UNC Project-Malawi)  
Warren Phipps (University of Washington)

**Executive Summary: Priority Needs**

**Biostatistics:**

- This is a major research weakness/gap in Africa. There is an urgent need to develop capacity through training within Africa.

- There is a need to engage biostatistics experts from the early stages of the research, with consultation on a regular basis.

- It was suggested for CFAR to set up a few centers of excellence in Africa for specialty work in biostatistics, for use by all CFAR-related African investigators.

**Study Design:**

- African researchers need to be involved earlier, and more actively, by foreign collaborators in the process of study design and protocol development.

- It was proposed for CFAR to consider short-term grants for junior investigators to work on trans-regional research projects (from design to analysis), and/or train at “skills building centers” in Africa, in close collaboration with CFAR mentors.

**Data Analysis:**

- Competence and application of basic skills to support a mix of analytic methods is needed – a balance between quantitative and qualitative methods, including measuring knowledge, attitudes, and behaviors.

- There is a need for practical support regarding conceptualization of research methods – e.g., when do you use what method to answer what questions and why?

**Activities Identified for Follow-up**

- A listserve was proposed for this interest group to continue discussion and collaboration.

- There is an interest in creating a Sub-Saharan African Biostatistics interest group as well as focused, hand-on training opportunities in this area.
Discussion Highlights

The Biostatistics Gap in Africa

- Many African scholars travel to the USA for Epidemiology training at the PhD level, while there are few trained in Biostatistics – some Masters level, but PhD is rare. The general impression is that there are many jobs for epidemiologists (versatile), but few full-time positions for biostatisticians in Africa.

- There was general consensus that more local capacity for independent biostatistical work is needed, although it was also recognized that this may not be practical. It was reported that researchers often feel more comfortable sending data to USA or UK for biostatistical support, rather than to a less well-known “South” collaborator. Cited reasons include lack of trust in a timely response, due to the local “work ethic” (e.g., too many other things to do, lack of priority of someone else’s work), but also lack of trust in quality or concern that data sent will be used for other purposes.

- African junior investigators expressed concern that they often lack the required expertise in biostatistics, and have few people they can turn to, either in Africa or beyond, for assistance with data analysis issues. One suggestion was to offer workshops or training sessions in biostatistics (NB: it would be desirable to have a critical mass of people who shares an interest in a fairly circumscribed topic that can be addressed effectively in a brief training).

- It was suggested for CFAR to set up a few centers of excellence in several African countries for specialty work, such as biostatistics or advanced lab activities, that all CFAR-related investigators could use. Such an initiative would support African researchers and assure that quality work would get done, while simultaneously help build local capacity.

Research Challenges for Junior Investigators

- After completing training abroad, junior investigators in Africa are often frustrated when there is not enough work to apply their skills upon their return. In addition, young scientists often feel unprepared to do research without significant extra training, support, and most importantly, consistent individual mentoring.

- There are overwhelming clinical demands and so many sick patients to care for – which is what one is trained to do. As a result, there is minimal time to “think” about writing proposals or manuscripts, and thus insufficient time for doing a thorough job. It is believed that by contrast, in USA (for example), junior investigators often have specified clinical time and also “other/free” time to concentrate on research activities – a luxury that those in Africa don’t have.
Many junior investigators cited a frequent lack of support from senior colleagues, e.g., supervisors are often not responsive to their questions regarding publications and study design.

It was proposed to create more short-term grants for study elsewhere in Africa, where junior investigators could learn from other projects or take advantage of other resources. Such regional “skills building centers” would provide an opportunity for researchers to work on a small project together, learn from each other, and get ongoing support for 3-4 months. These could be small research awards of $10,000-$20,000 that would be linked to close mentorship by a CFAR investigator to take a project from design, to conduct, and finally, to analysis; regional collaboration would be required. Such an opportunity would allow young investigators to translate their enthusiasm into practice before getting frustrated and leaving their country.

Data Design Issues

African investigators expressed strong interest in being involved earlier, and in a more substantive way, by American collaborators in the process of study design and protocol development. There is a sense of frustration that African collaborators are seldom involved until the research protocol is fully developed. Due their knowledge of conditions on the ground, they are more like to have valuable insight into what will actually work in the settings they know best. In addition, such active involvement would add value to the African junior investigators’ professional development.

There was general agreement that African Ministries of Health (MOH) need to better understand the value and importance of research in improving population care and overall health in order to strongly support and/or facilitate research in their respective countries. It was reported that MOHs often get frustrated when external groups come in and “claim” populations as their own, and then try to restrict others from doing research in the same population.

Priority Needs Required by Research Sites

- Statistical support – best options for tests and analysis strategies
- Study design review and sample size calculations
- Assistance with development of valid data collection instruments
- Best procedures for QA/QC of data
- How to deal with Electronic Data Management
- Guidance on study design with a focus on “feasibility”
• Guidance on how to present data efficiently
• Best use of EndNote

Other Related Challenges

• Ethics of research authorship and trust
  o A change in mindsets is needed to encourage teamwork and collegiality in collaboration, versus rivalries and mistrust.

• Building institutions versus individual departments
  o Need to share access to software and institutional resources to prevent duplication of resources

Way Forward?

• It was proposed to develop a listserve in order to facilitate continued discussion and collaboration among the members of this interest group.
HIV/TB Co-Infection: Breakout Discussion

Moderators: Umesh Laloo (University of KwaZulu-Natal, South Africa)
            Yuka Manabe (Infectious Diseases Institute, Uganda)

Scribe: Brandon Auerbach

Executive Summary: Activities Identified for Follow-up

- The Working Group proposes to conduct a collaborative study to examine implementation practices related to HIV/TB co-infection in a wide array of African countries. The proposed study “100 Positives Collaborative Operations Research Database” will be accomplished through administering a questionnaire examining the following parameters: implementation of diagnostics, integration of HIV/TB care, infection control, human resources use, TB default rates, treatment practice, quality of standard HIV/TB practice, advocacy in communities, and contact tracing.

- CFAR conference attendees from each African country would identify patients started on TB treatment from urban non-research clinics. Data will be collected on the last 100 consecutive TB patients who completed treatment.

- The Working Group would welcome additional inputs from colleagues to develop a brief questionnaire usable for onsite data collection and/or a sample protocol that can be easily adapted. Yuka Manabe has agreed to be the central contact to collate ideas and share them among the group members. The timeline for the study is to be determined.

********

Proposed Plans for the “100 Positives Collaborative Operations Research Database”

Rationale: With so many countries represented in the CFAR network, an opportunity to look at implementation practice from a wide array of African countries exists. The following areas were identified to be of interest:

- Implementation of diagnostics (sputum collection, smears, FM, QC, Hain, GeneXpert, number of sputa collected, etc.)
- Integration of HIV-TB care (early initiation within 2 weeks with patients with CD4<50, screening pre-ART initiation)
- Infection control (ventilation, isolation, protection of health care workers)
- Human resource use (use of lower cadres for TB treatment)
- TB default (rates)
- Treatment practice (over treatment, empiric treatment, non-treatment)
- Quality of standard TB-HIV practice
Advocacy in communities to refer coughers (overcrowded housing, overcrowded clinics, generate demand for TB services)

Contact tracing

**Proposal:** Attendees from each country would identify 100 patients started on TB treatment from urban non-research clinics. Data will be collected on the last 100 consecutive TB patients who completed treatment, so that "complete" data on all subjects will be available.

**Ethics Approval:** In order to expedite IRB approval, we will apply for addendums to existing IRB protocols for routinely collected data. A retrospective review was suggested so that ascertainment bias is not introduced.

**Site Data Collection:** Students or trainees could collect data. Outcomes would be kept as simple as possible:

(a) De-identified demographics (age, sex, HIV status)
(b) What tests were done at baseline? (TB sputum smear with light or fluorescent microscopy, liquid or solid TB culture, CXR, other X-ray, abdominal ultrasound, lymph node FNA or biopsy, other)
(c) Type of TB diagnosed (e.g., new smear negative pulmonary TB)
(d) Any follow-up tests? (cultures at 2 months)
(e) What drugs started?

If the project is feasible, the working group could submit as a short article to a CFAR-friendly journal, e.g. *JAIDS*, for publication. The working group would welcome additional inputs and/or a sample protocol that could be easily adapted. The timeline for study is to be determined.

**Discussion:**

1) There is a need to use effectively all tools already available, even though the tools may be imperfect – in particular, sputum smears. Facilities that test and treat patients for TB need to work towards 100% of patient sputum smears that are positive being correctly identified as positive, then receiving treatment according to national guidelines. Anecdotal evidence suggests this number is far less than 100%. What is needed:

- QA/QC on sputum smear interpretation
- Report-loop of results reaching clinicians
- Timely start of ART in HIV-infected, but ART-naïve, new TB patients.

2) The group proposed to develop a questionnaire on assessing TB clinic infrastructure. Suggested questions include *(please add/edit and consider adding multiple choices)*

1. Human resources
   - What cadres of health care worker provides TB care in your clinic?

2. Intensive case finding
• Do you perform ICF?

3. Safe and effective sputum collection

4. Diagnostic testing
   a. Do you have routine access to ZN? FM? Culture (LJ? MGIT?)? Hain? GenXpert? DST?
   b. Smear microscopy QC
   c. What is the recommended number of smears that need to be obtained?

5. Infection control measures: ventilation, masks, skin testing for HCW

6. How do you treat patients with primary TB? First line failures? Do you have access to Green Light drugs?

7. Do co-infected patients receive integrated care in your clinic? At what level to HIV/TB co-infected patients qualify for ART?

8. Do you do contact tracing? How do you treat contacts?

9. Advocacy
   • Do you do public service announcements to generate demand for TB services?

Participants:

Umesh Laloo (UKZN) laloo@ukzn.ac.za
Yuka Manabe (IDI, Uganda) ymanabe1@jhmi.edu
Jean D’Amour Sinayobye (Einstein CFAR) jsinayobye@yahoo.fr
Judith Kwasa (KEMRI) jkwasa@yahoo.com
W. Henry Boom (Case Western) whb@case.edu
Moses Kamya (Makerere University) mkamya@infocom.co.ug
Robert (Chip) Schooley (UCSD) rschooley@ucsd.edu
Betty Nsangi (Baylor-Uganda) bnsangi@baylor-uganda.org
David Canaday (Case Western) dxc44@case.edu
Harriet Mayanja-Kizza (Makerere University) hmk@chs.mak.ac.ug
Brandon Auerbach (Harvard/IDI) brandon_auerbach@hms.harvard.edu
Training and Leadership Development: Breakout Discussion and Mentoring Panel

Moderators: Oathokwa Nkomazana (University of Botswana)
Robert “Chip” Schooley (University of California-San Diego CFAR)
Charles van der Horst (University of North Carolina-Chapel Hill)

Scribe: Alma Yates

Mentoring Panel: Highlights

THE MENTOR

1. Mentoring relationships are most likely to thrive if they are built around projects of mutual interest.

2. As a mentor, you must be interested AND available to all of your mentees at a level that is commensurate with the complexity of the project and their own level of proficiency.

3. The “project” is a vehicle to train mentees to be productive scientists over their full careers.

4. Learning to be a scientist is much more than learning specific techniques.
   a. Learning how to learn techniques.
   b. Learning how to work with other scientists – COLLABORATION
   c. Learning how to express and present ideas
      i. Manuscripts
      ii. Grants
      iii. Presentations

THE TRAINEE

1. Choose a mentor who is doing something about which both of you are passionate.

2. Talk with current and former mentees. Is the prospective mentor:
   - crazy?
   - generous with credit?
   - invested in career development of trainees?

3. Take responsibility for your own success.
4. Learn to work with others. The most successful scientists are collaborative.

\[SUM >> PARTS]\]

5. Take time to train others.

6. Learn more than techniques. Ask if you can help review manuscripts, seek and accept advice about writing.

7. ENJOY WHAT YOU ARE DOING. DO WHAT YOU ENJOY.

LEADERSHIP DEVELOPMENT

LEADERSHIP ≠ DIRECTORSHIP

Leaders get tasks done by aligning interests of the organization with that of its people – and vice versa.

HIERARCHICAL ORGANIZATION:

THE “DIRECTOR” ASSIGNS TASKS \[SUM << PARTS\]

vs.

INTERACTIVE ORGANIZATION:

THE “LEADER” DEFINES GOALS, THEN JOINTLY DEVELOP GOALS TO ACHIEVE GOALS \[SUM >> PARTS\]

NIH Career Development Opportunities Available to International Scholars:

GRIP
IRIDA
NIH Fogarty Fellowships
CFAR Developmental Award
Breakout Discussion: Highlights

The group discussion focused on two primary issues:

- We need to map our way forward
- What do we take back with us in terms of key training and leadership development needs?

TRAINING:

Successful Models of Training

- There are tremendous differences between African and U.S. models.
- Better coordination and joint collaboration with Western universities is needed to work more efficiently (Botswana).
- Licensing issues: what we need to do to be able to practice in the USA.
- We need a “true” (bidirectional) student exchange.

Technology Training

- Technology training across different areas is needed.

Mentorship Demand and Supply

- Mentors need training themselves, e.g., “Mentoring the Mentor” Project.
- There is a huge demand for training and mentorship skills, but not enough mentors.
- We need additional training/support that extends beyond instruction on how to produce manuscripts.

Motivation, Incentives, and Empowerment for Mentorship

- Motivation potential exists for both mentors and mentees.
- Incentives for mentors must be created – e.g., establish as part of the curriculum for faculty advancement.
- Encourage mentees to seek mentors as part of the university curriculum.
• Mentors must empower mentees to engage and take an active role in their education. Ultimately it is the mentees’ responsibility to be proactive and get the help they need.

• Apply for grants which can be used as a resource to support mentorship incentives.

**Long-Term Mentorship**

• There is a great need for long term, sustained mentorship at Sub-Saharan African Universities. It is a challenge to find mentors that can be with mentees along the way.

• After spending numerous years studying abroad, many trainees are considered to be experts in their field upon returning to their communities. One of the challenges that they face at this time is that the training received in the USA has limited use locally due the lack of technological as well as human resources.

• Consider the value of dual mentorship, while not undermining the local mentors.

• Mentorship must include training for “re-entry shock” which most mentees experience after living/training abroad for several years.

**LEADERSHIP DEVELOPMENT:**

**Career Development Opportunities**

• Learn how to access funding to conduct research.

• Learn how to get individual research project and how to complete grant applications.

• Learn how to become a PI, rather than being a co-investigator.

• Local commitment is necessary.

• Develop/implement a support group for young scholars where they can share ideas.

• Leverage on a bigger project: “Start small and go big.”

• Develop and implement ongoing training opportunities, such as continuing medical education courses (CME-credits).
Infrastructure Issues

- The current 8% overhead (on grants) for African universities is unacceptable. We need to advocate for an increase which will ultimately provide sufficient overhead to support research time.

- Implement grants management training, both pre-award/post-award. Keep checks and balances.

- Grantsmanship/proposal development: Learn how to apply grants from the NIH (i.e., 5-year grants most common).

- Training in ethics/IRBs is needed.

Participants:

Jane Achan (Makerere University) achanj@yahoo.co.uk
Tarsizio Chikaonda (UNC Project-Malawi) tchikaonda@unclilonwe.org.mw
Bhavna Chohan (University of Nairobi) bchohan@uw.edu
Chrissie Kaponda (University of Malawi) schaud7@uic.edu
Victoria Kasprovicz (K-RITH, South Africa) victoriaokasprovicz@gmail.com
Abigail Kazembe (University of Malawi) kazembeabigail@kcn.unima.mw
Judith Levy (University of Illinois-Chicago) judlevy@uic.edu
Kenneth Mugwanya (IDI, Uganda) kmugwanya@gmail.com
Damalie Nakanjako (Makerere University) drdamalie@yahoo.com
Elizabeth Namukwaya (Mulago Hospital) liznam2002@yahoo.co.uk
Oathokwa Nkomazana (University of Botswana) nkmazanao@gmail.com
Emilia Noormahomed (Univ. Eduardo Mondlane) enoormahomed@gmail.com
Bernard Okongo (AIDS Healthcare Foundation) bernard.okongo@aidshealth.org
Sam Phiri (Kamuzu Central Hospital) samphiri@lighthouse.org.mw
Daniel Ssebadduka (HealthNest, Uganda) drssebadduka@gmail.com
Andrew Steenhoff (Botswana-UPenn) steenhoff@email.chop.edu
Charles van der Horst (UNC-Chapel Hill) cvdh@med.unc.edu
Bonnie Wandera (IDI, Uganda) bonniewandera@yahoo.com
Alma Yates (UCSF) Alma.Yates@va.gov