MEPI
Medical Education Partnership Initiative

MEPI Medical Education Workshop

Linking Medical Education and Health Systems Strengthening

Stellenbosch University, Cape Town, South Africa

June 6-8, 2012

FINAL WORKSHOP REPORT

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ABBREVIATIONS

ACHEST	African Centre for Global Health and Social Transformation
CCF	Country Coordination and Facilitation
CDC	(United States) Centers for Disease Control and Prevention
CONSAMS	Consortium of New Southern African Medical Schools
DFID	(United Kingdom) Department for International Development
FAIMER	Foundation for Advancement of International Medical Education and Research
GHWA	Global Health Workforce Alliance
GWU	George Washington University
HRH	Human Resources for Health
HRSA	(United States) Health Resources and Services Administration
HSS	Health Systems Strengthening
IT	Information Technology
KCMC	Kilimanjaro Christian Medical College
LCMS	Learning Content Management System
MEPI	Medical Education Partnership Initiative
MEPI CC	Medical Education Partnership Initiative Coordinating Center
MOE	Ministry of Education
MOH	Ministry of Health
NIH	(United States) National Institutes of Health
NGO	Non-Governmental Organization
OGAC	Office of the (United States) Global AIDS Coordinator
OSCE	Objective Structured Clinical Examination
PEPFAR	(United States) President's Emergency Plan for AIDS Relief
PI	Principal Investigator
SAFRI	Southern Africa FAIMER Regional Institute
USAID	United States Agency for International Development
WHO	World Health Organization

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1. Background

A well-trained health workforce in sufficient numbers and with relevant skills is essential to improve population health[1]. In response, the Medical Education Partnership Initiative (MEPI) supports medical education and research capacity building in sub-Saharan African medical institutions. As a coordinated effort led by the Office of the U.S. Global AIDS Coordinator (OGAC), and implemented by the National Institutes of Health (NIH) and the Health Resources and Services Administration (HRSA), MEPI aims to increase the quantity, quality, and retention of African health professional graduates with specific skills to address the health needs of their national populations. MEPI envisions strong links among MEPI institutions and between the institutions and their respective ministries of health and education. These linkages are essential to promote collaborative planning, the retention of graduates, and the sustainability of innovations in education and research. The success of MEPI programs will be judged on outcomes achieved with an emphasis on their impact on population health. High-quality, cost-effective, relevant medical education initiatives are an essential component of effectively strengthening health systems to achieve positive impacts in population health.

The MEPI Medical Education Workshop: *Linking Medical Education and Health Systems Strengthening* was held from June 6-8, 2012 at Stellenbosch University in Cape Town, South Africa, and provided a platform for discussing best practices and innovations for linking medical education and health systems strengthening (HSS). The workshop aimed to increase the dialogue on medical education within the MEPI network, and to promote knowledge and exchange in five focus areas: community-oriented education; faculty development; competency-based education; technology-assisted education; and postgraduate medical education. While other MEPI initiatives have focused on evaluation, coordination, and research, this workshop focused exclusively on medical education.

The workshop agenda built on topics gathered from surveys and site visits that have been carried out over the past two years by the MEPI Coordinating Center (MEPI CC), led by the African Centre for Global Health and Social Transformation (ACHEST) and George Washington University (GWU). In addition, in February 2012, the United States Agency for International Development (USAID)-funded global project, Capacity*Plus,* conducted a brief survey among MEPI schools' Principal Investigators (PIs) to solicit specific concerns and identify areas of strength that the schools had vis-à-vis medical education and HSS. For a summary of MEPI school responses, please refer to Annex A.

The MEPI Workshop was planned by a steering committee that included Capacity*Plus*, the MEPI CC, USAID, HRSA, NIH, and representatives of the MEPI PI Council and MEPI schools. The agenda was designed by identifying core topics of common interest for plenary sessions and linked breakout sessions where conversations could be continued in greater depth. With MEPI approaching the second of its five years, the timing of the workshop was fortuitous as it allowed participants to share their successes and challenges in implementing transformative medical education initiatives to date, and to learn from the experiences of their fellow MEPI partners across Africa.

[1] World Health Organization (WHO). 2011. Transformative scale up of health professional education: An effort to increase the numbers of health professionals and to strengthen their impact on population health. Geneva. http://whqlibdoc.who.int/hq/2011/WHO_HSS_HRH_HEP2011.01_eng.pdf (accessed July 1, 2012)

Through this format, the MEPI workshop aimed for participants to discover ways of working together and to identify what additional resources and expertise would be needed to move forward. Participants were encouraged to make discussions as specific as possible and propose concrete ways to take steps forward and to explore how they could unite as a community with the common purpose of advancing medical education across countries, the continent, and around the world.

1.1 Workshop Objectives

- To increase the dialogue and information exchange on medical education within the MEPI network, particularly with regards to improving the relevance of medical education through recruitment, rural attachments, and practicum opportunities
- To promote specific knowledge in competency-based education, community-oriented education, eLearning, faculty development, and postgraduate medical education for greater implementation success
- To share best practices in medical education
- To enhance school efforts for evaluation in medical education.

1.2 Workshop Agenda

The MEPI workshop was divided into three structured activities consisting of *plenaries* lasting 60 minutes, focusing on the five key areas, for all participants to attend, followed by three concurrent *breakout sessions* that participants were able to choose from. Breakout sessions allowed for smaller, more in-depth discussions about a specific topic within each focus area. The third activity, *MedEd Cafés,* encouraged participants to continue discussions from the breakout sessions with facilitators that elaborated on their individual areas of expertise, while at the same time networking with colleagues.

For the complete MEPI Workshop agenda, please see Annex B.

1.3 Workshop Participants

A wide array of participants attended the MEPI workshop, including representatives from each of the 13 MEPI schools, the Consortium of New Southern African Medical Schools (CONSAMS), the MEPI CC—including GWU and ACHEST—and United States government agencies, including HRSA, NIH, the Centers for Disease Control and Prevention (CDC), USAID, and also USAID's Capacity*Plus* project. Representatives from community-oriented medical schools in the United States and in Africa also participated in the workshop to share their experiences.

For the complete list of MEPI Workshop participants, please see Annex C.

1.4 Knowledge Sharing

In order to facilitate knowledge exchange from the MEPI Medical Education Workshop, podcasts from the plenary sessions are available on the MEPI website: http://mepinetwork.org/entry/noteworthy-events.html

Following the chronology of the MEPI workshop agenda, this report provides summaries from the plenary and breakout sessions. Because up to a dozen *MedEd Cafés* were taking place at the same time and were intended to be informally structured, this report does not detail the discussions that took place at the *MedEd Cafés*.

2. Introductions from MEPI Partners

Day 1 of the MEPI Medical Education Workshop commenced with a welcome from the MEPI Workshop's hosts at Stellenbosch University, including Dr. Marietjie de Villiers, Professor and Deputy Dean of Education of the Faculty of Health Sciences. Representatives from MEPI partner organizations – USAID, Capacity*Plus,* HRSA, NIH, and the MEPI Coordinating Center -- delivered perspectives on the work of their respective organizations and medical education.

Ms. Diana Frymus gave an overview of USAID's continuing efforts to address the current human resources for health (HRH) crisis, working closely with other US government agencies through the US President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Health Initiative (GHI). She noted that USAID welcomed the opportunity to be engaged in the development of the workshop, which presented the opportunity to not only contribute USAID's experiences in medical education but also strengthen relationships with other members of MEPI. USAID has a long history of supporting pre-service education and it is a vital component of the agency's comprehensive approach to HRH. Since its inception in the mid-1960s, strengthening medical education has been part of USAID's portfolio. Other areas of focus include: strengthening human resources information systems, support for workforce planning, and HRH leadership and management. Collaborating with entities such as the World Health Organization (WHO), Global Health Workforce Alliance (GHWA), the World Bank, and the Global Fund to Fight AIDS, Tuberculosis and Malaria, the agency assists in developing international standards and best practice guidelines for HRH.

PODCAST: USAID and the MEPI Partnership by Ms. Frymus

Dr. Kate Tulenko presented an overview of Capacity*Plus*'s continuing work as a USAID-funded global project uniquely focused on the health workforce needed to achieve the Millennium Development Goals. She pointed out that by surveying MEPI schools prior to the workshop, Capacity*Plus* was able to identify challenges as well as best practices that helped to inform the MEPI workshop's agenda. (For a summary of MEPI school responses, please refer to Annex A.) Capacity*Plus* will provide follow-up support to MEPI partners and will be able to utilize the tools it has developed with the objective of

scaling up the health care workforce across the globe. Capacity*Plus* assisted in the evaluation of the workshop which included synthesizing the feedback received from participants and developing the workshop report.

PODCAST: Capacity*Plus* and Medical Education by Dr. Tulenko

Dr. Rafi Morales from the HRSA HIV/AIDS Bureau's Global AIDS Program commented on the enthusiasm that MEPI has currently generated in Washington. He highlighted that as HRSA continues to work in the areas of health care, treatment, and training, it is proud to be part of MEPI. He reminded participants that all agencies implementing PEPFAR are equally responsible for medical education and will not only continue working with MEPI for the next three years but also have commenced discussions for possible areas of engagement beyond the fifth year of the MEPI program.

From the perspective of NIH, Dr. Myat-Htoo Razak commented that MEPI must continuously strengthen partnerships and ownership of the Initiative within African countries with collaboration from the US partners. In moving forward together with NIH as a support mechanism for research capacity building and faculty retention, he signaled that national leaders must continue to take the lead in moving forward to meet the needs of human resources for health of the countries. He stressed that NIH will continue to work together with such leaders and partners in the years to come.

On behalf of the MEPI CC, Dr. Jim Scott (GWU) expressed the MEPI CC's appreciation for all participants, especially those coming from MEPI schools, for their time and energy to attend the Medical Education Workshop. Dr. Scott stated that the timing of the workshop is very fortuitous, as the work being done in each country and school is truly underway. He reviewed the format of the workshop, progressing from the more formal plenary sessions, to the structured discussions of the breakout sessions, to the more informal *MedEd Café* discussions. Dr Scott also encouraged participants to make the discussions about what works and what doesn't as concrete and detailed as possible. He stated that MEPI's success will be measured by the individual students that gain skills from their studies and apply them, from the patients that benefit, from the faculty that are inspired, and from how we come together as a community of educators with a common purpose of advancing medical education across our countries, across the African continent and around the world. There are now three days to move the ball across the field and attack the goals. He encouraged all participants to take advantage of the workshop's three days and to use them wisely. Dr. Scott closed by emphasizing his enthusiasm for the Medical Education Workshop and the commitment of the CC team to support the implementation of ongoing educational innovations at MEPI schools.

PODCAST: Medical Education and MEPI by Dr. Scott

The MEPI Medical Education Workshop's two keynote speakers, Dr. Francis Omaswa and Dr. Nelson Sewankambo, then set the stage by highlighting key issues in medical education:

3. Linking Education and Health Systems Strengthening in Africa

Dr. Francis Omaswa, the Executive Director of ACHEST and MEPI CC PI, confirmed the MEPI CC's enthusiasm for the Medical Education Workshop. He then discussed how national health systems can be strengthened in Africa by advancing medical education. As African countries continue growing economically, experiencing new democratic changes, external partners are encouraging Africa to take leadership by grasping the opportunity and making the transformations needed in medical education. Inadequate health professional education, he pointed out, is a major underlying cause of the current HRH crisis. If institutions are not adequate then the end products of the educational system will be insufficient as well. Special attention needs to be paid to the type of health care professionals that are being produced in Africa. Health care providers should be prepared to work where their services are needed. They need to be able to deal with common conditions within their communities and make the best use of available resources.

Dr. Omaswa pointed out that each country should establish a country coordinating mechanism to create alliances among all stakeholders in order to plan for medical education and link it to the health system in their country. A comprehensive national plan that is financed, monitored, and measured is recommended. Dr. Omaswa made a call for MEPI leaders to be change agents and to advocate for the GHWA's Country Coordination and Facilitation (CCF) mechanisms to better integrate education into health systems and spread this message with the help of national, regional, and global partnerships.

See more on the CCF at http://www.who.int/workforcealliance/countries/ccf/ccf/en/index.html

PODCAST: Linking Education and Health Systems Strengthening in Africa by Dr. Francis Omaswa

4. Transformative Medical Education

Dr. Nelson Sewankambo, PI of the Uganda MEPI school consortium, asked the question "Is the doctor being squeezed out?" and reminded participants of the need to start visualizing education differently. For instance, as a business model, medical education would ideally adopt traditional company practices such as investing resources to understand what consumers (including employers and patients) want as a key input to the "manufacturing process." In this model, medical education would take into consideration population needs in order to best produce medical graduates. Dr. Sewankambo noted that a sometimes painful but necessary task of assessing the needs of the population is essential for more integral systems-based education. He concluded that building education systems together with the health system as one partnership with a shared vision, mission, and plan answering to people's needs is the road to transformative education.

PODCAST: Transformative Medical Education by Dr. Sewankambo

5. Medical Education Research

In Day 1's final morning session, Dr. Ellie Hamburger of the MEPI CC discussed the importance of research within medical education. She pointed out that there is a need to stimulate, operationalize, and support medical/health professions education research across the board. Dr. Hamburger made a general call to recognize medical education scholarship and research through MEPI in education units or departments, through faculty expertise, and in career paths for medical education.

PODCAST: Medical Education Research by Dr. Hamburger

Professor Juanita Bezuidenhout of Stellenbosch University reminded workshop participants of the role of scholarly teachers who consult the literature to apply lessons learned and integrate new educational interventions to improve teaching. Teaching becomes scholarship when it moves the field forward, contributing through innovation. Toward the aim of producing internationally recognized scholars and leaders from the African content, an example of a successful collaboration has been the Foundation for Advancement of International Medical Education and Research (FAIMER) fellows program, with its network of more than 540 fellows to date and its Southern Africa FAIMER Regional Institute (SAFRI).

PODCAST: Medical Education Research by Dr. Bezuidenhout

Workshop participants discussed the importance of starting with service in research. Dr. Omaswa pointed out that this must be the purpose of research, and the purpose of teaching. It was also mentioned that research focused on educational outcomes and learner satisfaction should be avoided as such research is incapable of demonstrating that educational interventions improved the health of the community. It was said that medical education research should be founded on social accountability. Research should be measured by its impact on interventions at the level of society, asking the question "Are we making an impact on the improvement of health?"

6. Community-Oriented Education

The afternoon of Day 1 was spent addressing the first of five workshop theme areas: community-oriented education. In this plenary session moderated by Dr. Susan van Schalkwyk of Stellenbosch University, Dr. Zohray Talib noted that community-oriented education has been known by many different names, all referring to education outside the tertiary teaching hospital. The importance of community-oriented education relies on its ability to address the quality of graduates and to distribute the academic workload. Dr. Talib remarked that investments in community-oriented education have demonstrated a positive impact on workforce retention and distribution, research innovations, and

better community engagement with health systems. Linking community-oriented education strategies to outcomes provides an opportunity for evaluation.

PODCAST: Community-Oriented Education by Dr. Talib

Dr. Hoffie Conradie presented a successful example of community-oriented education, the Stellenbosch Worcester area program, where students spend a year of their clinical training at a rural location. With 43% of South Africa's population living in rural areas but only 12% of doctors working in rural areas, students who do a rural rotation, he pointed out, are three times more likely to work in these areas.

PODCAST: Community-Oriented Education by Prof. Conradie

Professor Atiene Salomon Sagay of the University of Jos, Nigeria, also provided his experiences in community-based medical education, and highlighted that training is at times confined to a few "ivory towers" that are distant from communities.

PODCAST: Community-Oriented Education by Prof. Sagay

Workshop participants pointed out the issue of constrained resources puts in question the sustainability of a community-oriented education program. They shared how international partners have helped to engage governments and reinforce their commitment to these types of programs. General consensus was formed around the notion that there is a need to move teaching into different levels of facilities, beyond the tertiary hospitals.

6.1 Developing competencies for rural medical service provision

During a breakout session, Dr. Ian Couper of the University of Witwatersrand, South Africa, gave an overview on developing competencies for rural medicine that will prepare students to work within the health system. He mentioned that we must not overlook the importance of multidisciplinary, team-based training at the primary level. Each country must develop its own set of rural medicine competencies. The apparent need to design "jack of all trades" competencies, Dr. Couper remarked, must focus on a "patient approach" rather than a "conditions approach" to be effective. He stressed the importance of moving away from teaching in silos while taking into account the context of each location. Context becomes critical for professional training as it enhances the quality of care and evidence-based practices. He concluded that this must be accomplished by defining population needs, objectives, competencies, methods, and then observing the general context.

Workshop participants discussed that current evidence is weak and that this calls for all of us to develop the evidence needed to better develop competency-based education. A participant from Makerere University in Uganda mentioned that in more than 60 facilities, MEPI has provided an opportunity to widen the scope of competency-based education and involve other institutions when developing

competencies. The Kilimanjaro Christian Medical College (KCMC) in Tanzania has focused on developing students' specific competencies based on the diseases prevalent in rural communities.

Representatives from the University of Zambia commented that the school has carried out curricula reviews involving different stakeholders to recommend what competencies are needed in the areas of health promotion and disease prevention. A similar approach has been taken by Worcester, South Africa, which documented the 20 most common patient presentations and then defined the five most common conditions in order to better prepare students for the field.

6.2 Linkages with ministries of health for health systems strengthening

In a breakout session, Mbarara University's Dr. Sam Maling presented on how to link with the ministry of health in order to strengthen the overall health system. He mentioned that a successful example has been to engage ministries of health at an early stage of any process involving medical education, as a way to forge a solid partnership. In some instances, presenting a win-win situation has also proved successful when linking training institutions or health service providers with governmental institutions.

Workshop participants discussed the financial aspects of medical education, stating that when health service delivery sites are turned into teaching centers, they are entitled to lobby for further funding from the ministry of education.

Participants also mentioned the importance of inviting policy-makers and ministerial representatives to be present at future MEPI meetings, as they will be important change agents within the health system. A final recommendation was made by participants to present clear and concrete examples when dialoguing with ministries, demonstrating the added value, as the experience has been that the more comprehensible interventions are to a policy-maker the higher the probability of receiving buy-in.

6.3 Social Accountability in Medical Education

In a breakout session, Dr. Ginger Floyd and Dr. Daniel Blumenthal of Morehouse University in Atlanta, United States, presented an overview on how medical schools should be accountable when educating physicians, in the sense that they are trained to care for the population and the communities they serve. They pointed out that evidence has shown that the location of a school can influence its social mission, as community-based and public schools seem to have stronger social missions. Dr. Blumenthal presented that the Morehouse School of Medicine has a strong social mission embedded within its medical education program, resulting in 64% of medical graduates going on to choose primary care residencies and around 69% of the resident graduates staying in the region to practice after training.

Workshop participants then discussed how the admission criteria for students play a vital role in medical training institutions' successfully becoming socially accountable. Several schools represented in the audience prioritize students from underserved or rural areas at the time of admission, leading to a higher return rate to rural areas after deployment or during postgraduate studies. Participants highlighted that medical schools must be able to respond to health care needs and challenges found in the communities that they serve. In order to achieve this, transformations in education, research, and service priorities must occur. Participants concluded that a wide range of stakeholders must be engaged

in order to strengthen governance and partnerships and that evaluating progress and performance as a way to assess impact is essential.

Day 1's agenda closed with a MedEd café, in which participants gathered in informal groups to continue discussions that grew from previous workshop sessions.

7. Commission on the Education of Health Professionals for the 21st Century

For Day 2's opening plenary, Dr. Barry Kistnasamy of the University of KwaZulu-Natal, South Africa, gave an overview of the commission on health professionals for a new century. He pointed out that health professionals must now be trained utilizing a broader focus, linking health systems with educational systems. The new global health professionals must be internationally competitive health care providers that are locally relevant for the populations they serve. For this transformation to take place, Dr. Kistnasamy argued that powerful change agents are required. Leadership can act as a catalyst within each setting, driving the collective process of transformational education for the 21st century. But this process will not come without obstacles.

Workshop participants highlighted that obstacles such as tribalism can act as an important barrier to universal access. Dialogue at a national level that includes policy-makers, financial ministries, and regulatory bodies can also help stimulate dialogue at a micro level. The discussion emphasized that it is important that this process move forward not only as an interprofessional effort but also through an intersectoral approach including all key stakeholders.

PODCAST: Commission on Health Professions for the 21st Century by Dr. Kistnasamy

Day 2's sessions addressed two more of the five workshop themes: faculty recruitment and retention and also competency-based education.

8. Faculty Recruitment and Retention

In this Day 2 morning plenary session moderated by Dr. Maggie Brewinski-Isaacs of HRSA, Dr. Elsie Kiguli-Malwadde from the MEPI CC in Kampala, Uganda gave an overview of the faculty development activities being implemented by the MEPI schools, She pointed out that mentoring programs, medical education support units, leadership training, together with two-day short courses in epidemiology and biostatistics, have been incorporated into faculty development programs. She also outlined some of the challenges faced by the schools and proposed how these could be turned into opportunities. Innovative teaching methods, such as problem-based learning and diverse forms of technology-assisted education, have been proven as a successful incentive toward faculty recruitment at MEPI institutions. Partnerships among training institutions with faculty exchanges and visiting professors from north-to-south have shown to be a thriving form of knowledge exchange and have also strengthened ties among institutions,

facilitating ongoing collaboration. Programs such as the FAIMER/SAFRI fellows program continue to advance professional development and successfully retain faculty.

PODCAST: Faculty Recruitment and Retention by Dr. Kiguli-Malwadde

Dr. James Kiarie, University of Nairobi, noted that pushing toward a decentralized training model gives faculty more time to work on areas of research and curriculum review. In addition to faculty, students have benefited from the decentralized model, indicating in a survey that they felt their educational queries had been better attended to. Dr. Kiarie stated that successful recruitment was conducted through incentivizing adjunct faculty by increasing their library access and providing recognition though official appointments and career progression. Adjunct faculty are also involved in research and training, in collaboration with the Ministry of Health (MOH), and currently there are 53 adjunct faculty trained in four sites. Dr. Kiarie concluded that the key to successful recruitment and retention has been emphasizing local ownership and engaging stakeholders such as the MOH, university leadership, faculty, and students early on in the process.

PODCAST: Faculty Recruitment and Retention by Dr. Kiarie

A distinct approach to medical education is sometimes needed, as described by Dr. Art Kaufman from the University of New Mexico, United States. He illustrated how by emulating community development programs carried out by the neighboring agricultural university, they were able to link community priorities with health science centers. The agricultural model has been regarded as the best system of rapid diffusion, compared to health science, where it can take up to 17 years to go from innovation to actual use. Looking at intersectoral collaboration through medical, agriculture, and other areas to improve community health, Dr. Kaufman noted, is a key task needed to move medical education forward.

Workshop participants stated that oftentimes faculty are driven by research productivity, based on funding from national research institutions. On the other hand the community's interest is different, closer to the social determinants of the population's health status. Participants highlighted that it is important to recognize that community policy-makers can drive the priorities of educational institutions. It is therefore critical to link educational reforms with service reforms.

PODCAST: Faculty Recruitment and Retention by Dr. Kaufman

Continuing the dialogue regarding faculty recruitment, participants noted that MEPI schools are sending faculty to FAIMER fellows programs. This does not necessarily imply all faculty should be sent, but it should be ensured that the ones sent return to their home institutions to build capacity, act as a catalyst

to improve curricula, and train others. Even two days of exposure to medical education research, MEPI partners pointed out, can make a difference.

8.1 Medical education departments

During a breakout session, Dr. Diaa El-Gaili of Gezira University, Sudan, presented the importance of having medical education departments. He reminded participants that a medical education department is a unit within the medical school that acts to promote the development of educational processes. This includes areas such as faculty development by improving teaching and communication skills and keeping up with innovation. He also highlighted that medical education departments are involved in strengthening tools for student assessment and periodically carry out curriculum reviews and program evaluation. These departments make an effort to measure the impact on services and the health status of the community as well as the impact on graduates.

Dr. El-Gaili pointed out that medical education departments promote collaboration between schools. He concluded by emphasizing that these departments also provide academic support to students in the form of workshops, training courses (e.g., basic life support), library services, educational materials, and skills labs.

Workshop participants discussed the current status quo, noting that some MEPI schools have been using committees while others are using units or departments. It was stated that medical education requires some expertise and evidence-based policies and procedures that are not always available within all committees. The discussion highlighted that several universities have successfully started their medical education departments by promoting a postgraduate degree in medical education.

Recently, the MEPI school from the consortium in Nigeria has opened a medical education unit and has been involved in curriculum review. After advocating for the creation of the department, five FAIMER fellows formalized the unit with the help of the MEPI grant. Other MEPI partners in Ethiopia and Botswana also have medical education departments while Makerere University and the University of Nairobi currently function with committees but are in the midst of establishing their own medical education department units.

8.2 Improving faculty pedagogy

In this breakout session, Professor James Hakim, University of Zimbabwe, presented some of the challenges faced in faculty pedagogy such as the high student-to-faculty ratio resulting from constrained finances. He cautioned that the quality of teaching can affect retention and overall health system outcomes. In conclusion Professor Hakim stated that the attitude of faculty must be addressed in order to successfully advance faculty pedagogy.

Workshop participants presented the case of Ethiopia, which has scaled up from three medical schools to 20 in recent years, pointing out that many of the faculty are quite young, and have been eager to learn new skills. It was also pointed out that in recent years teaching has become more and more competitive. If good teaching could be further tied to scholarship, then perhaps faculty would take it more seriously, one participant pointed out.

Dr. Ian Couper concluded the discussion by noting the irony of the situation, saying "many senior faculty were taught with didactic, authoritarian methods and now have a lecturer standing in front of everyone telling us that we have to teach differently!"

8.3 Recruiting preceptors for community rotations

For this breakout session, Dr. Freddy Chen from the University of Washington, United States, presented his experiences in community rotations. He pointed out that preceptors at rural sites hold non-remunerated posts that are voluntarily appointed. Dr. Chen explained that in recent years, a large number of clinical physicians have been eager to join the program to have their site serve as a clinical placement. Sites that are chosen as placement sites are granted access to the university library as well as a University of Washington email account. Dr. Chen noted that the main reason clinicians are eager to join is that they enjoy teaching and it is a rewarding experience to have students rotate at their sites.

Workshop participants discussed the issues faced in many countries that have bureaucratic systems that complicate health care workers immediately acting as educators. Participants argued that this can be the case in countries where the ministry of education is financially responsible for all of its clinical preceptors and sometimes long bureaucratic processes must be abided by. Participants concluded that strong intersectoral collaboration is needed when developing successful retention and recruitment strategies.

9. Competency-Based Education

In Day 2's afternoon plenary session moderated by Ms. Rebecca Bailey of Capacity*Plus,* Prof. Ben van Heerden, Stellenbosch University, Dr. Jehu Iputo of Walter Sisulu University, and Dr. Sarah Kiguli of Makerere University also shared their experiences on competency-based education. Dr. van Heeden remarked that competencies must be first on the agenda when setting the scene for medical education. It is essential that medical schools design competencies based on their own national situation assessed and developed through a rigorous evidence-based process. When designing competencies, a curative approach is no longer feasible but a holistic approach must be adopted. It was stated that medical schools should no longer exclusively focus on one-to-one technical competencies as done in the past but should now teach systems competencies by integrating other areas that determine the health of the population. When utilizing disease profiles to define competencies, educational institutions should then look at what the underlying causes of these diseases are and define where the gaps in the health system exist. Competencies should also be set to react quickly to events or failures when needed.

PODCAST: Competency-based Education by Prof. van Heerden

PODCAST: Competency-based Education by Dr. Kiguli

PODCAST: Competency-based Education by Dr. Iputo

KCMC's competencies have focused on the "why" of the local disease burden. This can be accomplished together with the MOH and therefore a strong need to continuously involve governmental agencies in developing competencies was emphasized.

Workshop participants engaged in a profound discussion arguing as to whether one should start from scratch when designing competencies or if medical schools should tailor existing frameworks to the local situation. While some suggested that models developed abroad would not fit into one's own national situation, others recommended that the basic steps needed to start any competency at the initial stages of the process are general enough to fit any situation. Subsequent steps should then tailor specificities to the local situation. Participants called attention to the need for a culturally-sensitive competency design. Incorporating communications skills and addressing language issues that can sometimes complicate health care delivery is essential. A strong consensus was formed around the notion that a medical school should first define the community it belongs to and then plan to develop competencies. This sense of community belonging is essential for all aspects of medical education, participants pointed out.

9.1 Clinical needs assessment for competency-based education

In this breakout session, Dr. Ellie Hamburger of the MEPI CC led the discussion regarding a clinical needs assessment approach when designing a competency-based educational program. She encouraged participants to share their own country experiences.

The obstetrics postgraduate program in Kenya was started by utilizing the CanMEDS framework over the course of six month process. Questionnaires were utilized to obtain input from nongovernmental organizations (NGOs), patient groups, nurses (chief and theatre), consultants, hospital administrators, and the MOH. Leading causes of morbidity and mortality were included in the questionnaire. After the analysis was carried out the results were fit back into the CanMEDS framework. Participants stated that communication skills were an important needed competence.

Representatives from Mozambique touched on the issue of other cadres, stating that the definition of competencies for graduating medical students must take into account the current MOH policy regarding the scope of work done by mid-level and other non-medical doctor providers. They mentioned that evidence is needed regarding task-shifting and its impact on morbidity and mortality.

Participants regarded CanMEDS principles as indeed generalizable as a basis for competence, the premise being that the goal is to produce international doctors that can address local needs. Some suggested that training an internationally competent medical doctor does not preclude training a medical doctor who is competent to treat local priorities and needs. Participants also discussed the potential of having a lead institution provide a clinical needs assessment template for others to adapt.

9.2 Integrating clinical competencies into the reformed curricula

Dr. Sade Ogunsola presented the experience of the University of Lagos at this breakout session. One of the main challenges, he stated, has been linking earlier level courses to those at a higher level. Many skill concepts have been lost in the process and have had to be re-taught. A major issue in Nigeria has

been to gradually shift from a mainly didactic model, which students are habituated to, into group-based and team-based training. Apart from clinical competencies, research and advocacy-centered competencies have also been incorporated early in training.

In Botswana, they are currently advising staff to build on specific skills or interest in teaching a competency-based curriculum and therefore have annual trainings to work on this. A formative assessment is carried out in order to gauge how students are managing, and allowing teachers to take corrective measures if needed.

Several participants agreed that with recent competency-based education suddenly there is a realization that a greater number of teachers are needed and resources are not always easily available. A participant from the University of Zambia expressed caution about using MOH officers mentioning that MOH officers' primary goal is not always teaching and many practical problems have arisen given the intense workload they must balance between teaching and clinical work.

A general consensus was formed as to setting the quality of a competency-based curriculum as a first step. Attitudes of medical personnel and academic staff as well as quality service delivery in general should not be left out of a competency-based curriculum.

9.3 Challenges to evaluating a competency-based education

Dr. Elsie Kiguli-Malwadde, MEPI CC, led the discussion regarding challenges in evaluating competency-based education. It was asked whether the evaluation of competency-based education should be different from the evaluation of other educational approaches. Dr. Kiguli-Malwadde pointed out that any educational program should clearly define its goals and objectives from the outset. The evaluation of the program should measure the extent to which those goals and objectives have been met.

Participants discussed a possible framework for evaluation, which included an evaluation of the inputs, in terms of resources such as materials, infrastructure, faculty, students; as well as an evaluation of processes, outputs, outcomes, and impact of the program. It was suggested that if an educational program defines a broader goal such as improving health service delivery, health systems, or population health outcomes, then the extent to which that program achieved the goal should be measured in the evaluation. It was also suggested that evaluation should be done regularly, or on a continuous basis, in order to provide feedback to the educational program to make corrective measures as and where needed. Regarding measuring, participants noted the danger of over-emphasizing the measurement of behavior, while overlooking the basic knowledge required supporting behavior.

Day 2 of the MEPI Medical Education Workshop was completed with another MedEd café in which participants gathered in informal groups to further discuss issues in medical education based on the day's sessions.

Day 3's sessions addressed the two remaining workshop themes: technology-assisted education and also postgraduate medical education. In addition, an open-feedback forum session and discussion of lessons learned and next steps took place.

10. Technology-Assisted Education

On the morning of Day 3, this plenary session on technology-assisted education was moderated by Dr. Zohray Talib of the MEPI CC. Dr. Jim Scott, also of the MEPI CC, presented an overview of the role of technology-assisted education within the MEPI network. He stated that with the current number of faculty we are unlikely to meet the required number of professionals needed in the field. eLearning has the potential to provide not only didactic content but also research information for a larger number of students. It permits universities to reach students at distant clinical sites. Dr. Scott mentioned that challenges have arisen in the area of eLearning, such as difficulties in accessing content and confirming content appropriateness. As with any novel teaching method, eLearning has encountered institutional resistance when initially introduced. In order to effectively evaluate eLearning we must focus on the efficiency, quality, and the overall feasibility of new strategies.

Professor Fatima Suleman from the University of KwaZulu-Natal presented the two components of its current eLearning platform: video conferencing and an academic database and support. Video conferencing has proved useful as a means to strengthen the collaboration among professionals. The academic database and support consist of an interactive website, integrated learning tools, grand rounds, and email support and forums. The university's experience has been a positive one not only for students but in the area of faculty development as well. There has been an increased interest in the use of technology to teach undergraduate students and the intake of postgraduate students has increased. Capacity development and research among faculty has been enhanced and challenges regarding offline students are being addressed.

PODCAST: Technology-assisted education by Prof. Suleman

Ms. Lucy Killewo from KCMC gave an overview of the structural changes undergone by the college within the last five years, increasing admission substantially while at the same time experiencing stagnating faculty numbers. With MEPI support, a number of application solutions capable of enhancing teaching and learning were presented. With the introduction of the Learning Content Management System (LCMS), faculty workload was reduced, student-faculty communication was enhanced, and administrative areas were facilitated, among other successes. KCMC encountered some resistance to change and a need for an increase in supporting staff due to the rapid increase in LCMS users. While KCMC's experience showed that cultural changes can be a slow process, the heightened demand reflects the success of introducing an eLearning approach at the institution.

PODCAST: Technology-assisted education by Ms.Killewo

10.1 Strategies to engage role-players in eLearning

Dr. Walter Liebrich presented the experience of Stellenbosch University in this breakout session. He stated that whether developing new programs or advancing existing ones, progressive stages must be followed to ensure maximum efficacy and effectiveness. Successful start-up of eLearning initiatives must tie program objectives with institutional goals, including experts that can help convey the principles of return on investment and added value of the program to all stakeholders. He remarked that both

student and faculty engagement is critical at the initial planning stages, together with strong institutional support as projects mature.

Workshop participants discussed the issue of exposing faculty to eLearning. It was concluded that when engaging faculty that are often unaccustomed to utilizing eLearning platforms, it is important to solicit individual ideas and needs from each of the future users. There was general consensus around the fact that faculty members, once familiar and comfortable with platforms, can act as champions and advocate to other future users and stakeholders.

10.2 Offline medical education tools

Ms. Marjory Kabinga of the University of Zambia presented its experience using the Moodle course management system and eGranary digital library in this breakout session. Moodle is being used to run courses offline, integrated with classroom teaching, and to both deliver and evaluate courses. eGranary was installed on the university's server and other materials were added such as local treatment protocols. Updated materials are received regularly from eGranary. It was suggested that the open source software is challenging, because improvements to the program require expensive IT programmer skills, or training a person who can make the upgrades.

Workshop participants discussed the possibility of using proprietary software, which might be the better route. A successful example mentioned was the Ad Lab tool from Australia (also called PowerLab in Zambia) for physiology courses at Walter Sisulu University The program has allowed students to practice various procedures. The MEPI technical working groups will carry some discussions forward on eLearning, and possibly hold a mini-workshop to share gained experience. Participants pointed out that there is a need for an expert in this area to support the MEPI schools. It was suggested that one task for the working group should be to study the reasons for slow uptake, including lack of programming skills and user-friendliness. It was highlighted that there must be a strategy in place for eLearning to be successful.

10.3 Using technology in medical training

In this breakout session, Dr. Adamson Muula of the University of Malawi presented a general overview on the use of technology in medical training. He pointed out that it is hard to assess critical thinking skills when direct interaction is needed and stated that clear evaluation tools could help to determine if technology works, and where. Although it was recognized that face-to-face interaction is important for building student-teacher relationships, it certainly depends on the context. In Malawi, medical students have taken up the use of technology more than pharmaceutical and laboratory students. Pediatrics specialists have shown the most use, while the surgical specialty has taken it up the least. Participants agreed that a lot of the acceptance of eLearning strategies depends on the teachers.

Workshop participants discussed that there is less need for simulations and other technology in clinical education. Technology should be looked at as an additional tool or aid and not necessarily as competing with other traditional forms of education. It was pointed out that there are many skeptics among faculty regarding eLearning. Dr. Ellie Hamburger's impression of the KCMC was that a personalized approach was successful because each faculty member had different abilities in technology and eLearning. Having

a gradual approach and going with the earlier adapters, letting student demand build, and focusing on using technology where faculty wanted it, helped to demonstrate its usefulness so that others could see successes. When discussing online evaluation for students, Dr. Chen stated that the University of Washington has an online honor system and therefore having a policy or honor code in place could be helpful for other institutions.

11. Postgraduate Medical Education

Dr. Sandy Pillay presented two successful programs in postgraduate education occurring at the University of KwaZulu-Natal at this plenary session: Enhancing Training, Research and Education (ENTREE) and the ENTREE Research Methodology Program (REMETH). Both programs offer a comprehensive track to students and faculty and include support mechanisms in the form of dual tracks for student and faculty development with research methodology training. The programs are supported by Columbia University, which provides technical support, mentorship, and assistance to local supervisors. Candidates come from various fields of research including health management, public health, and various clinical specialties.

PODCAST: Postgraduate medical education by Dr. Pillay

Dr. Emilia Noormahomed and Dr. Ana Olga Mocumbi of the Universidade de Eduardo Mondlane presented their experience in Mozambique, where enhancing postgraduate education has been carried out by initially identifying postgraduate trainees and specialists wanting to pursue academic careers. Candidates are then assisted in establishing career development plans involving longitudinal peer-to-peer mentoring with University of California – San Diego faculty members. These individuals are encouraged to lead and participate in patient care, bedside teaching, teaching and research. Successful approaches to enhance retention and sustainability have focused on developing strong collaborations with key players such as national and international training institutions and governmental agencies. An effort to incorporate policy-makers within the process of developing successful programs has been emphasized although some challenges have emerged as there have been ongoing changes within leadership at both hospitals and ministries.

PODCAST: Postgraduate medical education by Drs. Noormahomed and Mocumbi

Professor Yakub Mulla presented the case of the University of Zambia. The institution has faced similar challenges given the inadequate number of teaching staff for postgraduate education programs. Professor Mulla mentioned that there seems to be a general preference for clinical postgraduate programs rather than basic science. In an effort to enhance academic skills, a postgraduate diploma in education for health professionals was introduced in 2001. With the increased need for staff, especially in the area of basic sciences, postgraduate programs have been pushed forward not only in clinical areas but also in public health and basic science programs. By training specialists locally, 90% percent have

remained in the country providing specialist services to health centers that previously lacked expert staff.

PODCAST: Postgraduate medical education by Prof. Mulla

11.1 Setting up residencies and fellowships

In a breakout session, Dr. Oathokwa Nkomazana presented the current work being developed in postgraduate education at the University of Botswana. He described the experience of the pediatric outreach program using residents to deliver health care at the community level. Close cooperation with the MOH and a strong investment on their part in infrastructure and IT has led to positive retention. Similarly, Malawi is focused on training anatomical pathologists through postgraduate medical education. There is a need to support pathologists; therefore technologists have been trained as well. Training depends on the capacity within each cadre. Dr. Nkomanzana mentioned that many students go to other surrounding countries because the in-country programming is lacking.

Workshop participants discussed how MEPI schools should be the drivers and leaders to eradicate the erroneous notion that a medical school within the African region cannot compete against foreign teaching institutions. Dr. Omaswa pointed out the challenge of training primary family medicine doctors that are willing to stay for a long time in a community. There was a call to further reflect on how to frame the issue of family medicine. Participants pointed out that currently at the University of KwaZulu-Natal, 90% of their family medicine postgraduate medical education applicants are foreign-qualified graduates. There is currently discussion within the school's admissions committee to grow "local wood" and limit foreign graduates. The training of doctors within the health system is an asset to the health system in itself.

11.2 Role of graduate students in undergraduate learning

Dr. Amha Mekasha Wondimagegnehu of Addis Ababa University gave a general overview on how graduate students can contribute to undergraduate learning in this breakout session. The federal government of Ethiopia has developed a plan to increase the number of medical doctors. As of January 2012, in addition to medical schools, hospitals started to produce doctors. The government decided to explore the option of using postgraduate residents to expand teaching capacity. Dr. Mekasha points out that medical students estimate that about 30% of their knowledge is directly attributed to teaching by residents. Teaching will take place in hospitals, health centers, and communities. However, residents have no specific pedagogic training. The government is, therefore, conducting courses on effective teaching for residents. One representative described running a shortened three-year medical education program (MEd.).

Workshop participants discussed evaluation methods to assess the effectiveness of using graduates students in undergraduate learning. In the United States, there is a program to evaluate postgraduates in teaching, known as RATs (residents-as-teachers). There are courses on pedagogy for residents,

enabling them to gain teaching skills before they graduate. Participants suggested studying the effectiveness of postgraduate students as teachers as part of MEPI.

There was general consensus from the group that evaluating the performance of faculty should be a basic skill of all graduates.

12. Open Feedback Forum

An open feedback forum was conducted in order to review the workshop objectives and collect take-home messages in each of the thematic areas. With the moderation of Prof. James Hakim of the University of Zimbabwe, Prof. Johnstone Kumwenda of the University of Malawi, and Dr. Oathokwa Nkomazana of the University of Botswana, participants were asked to comment on what they would like to see happen at their schools. While it is not possible to summarize all of the valuable feedback, insights, recommendations, and perspectives shared by the many workshop participants, the following examples represent the rich discussion:

- *It has been amazing to see what schools have been able to do in such a short time. It is now key that we take best practices that worked and see how they can be implemented in our programs. There is a feeling all objectives were met. It is inspiring to see that Africa has its own expertise; that we have experts in each of our sites that we can tap into. This is a wonderful opportunity for Africa to grow Africa, such as with undergraduate training within our own settings. I would like to start seeing MEPI schools writing up their descriptive cases, especially for those who are not fortunate enough to be part of MEPI, so that all can learn from their experiences. Assistance for scientific writing or writing educational research articles is also needed as we move forward. Peer evaluation should not be left out.*

- *We need to ask ourselves why we need to train post-graduates and what will become of them as a first step in planning. We need to be more sensitive to those who are "BBCs" (born before computers) with regards to technology-assisted education. Decentralization of medical training is something that is very necessary. Over the past few days there have been very interesting ideas on how to effectively accomplish this. There is also a need for a compendium of essential competencies in different areas.*

- *How far we can go into community and community practice will be a key issue in moving forward. The challenge now is to expand community-based education centers. There is a clear need to plan and budget better for the expansion of these training centers and training supervisors for the rural areas while at the same time documenting progress. The further we go into communities the larger the impact will be.*

- *It is one of the rare occasions when Africans discuss medical education amongst ourselves. MEPI has given us this opportunity. How can we sustain this type of engagement, beyond MEPI, must be asked. We should start thinking of formalizing this type of meeting, looking for a set structure. We*

used to have AMSA. Is there a way we might be able to reinstate AMSA or bring in new similar organizational structures?

- *Resistance to change is an integral part of anything new. Competence-based education is where most of the schools are going. There is a need to focus and take it further. Whatever we talked about was pointing towards competence-based education. We must keep in mind that when discussing eLearning, quality, efficiency, and feasibility are key. We must also never forget to focus on program evaluation in whatever we do. There is a call for training in monitoring and evaluation for most of the MEPI schools.*

- *We learned about the steps to go through in order to arrive at our desired goals for eLearning. Staffing by adjunct lecturers in the community is also important and is something that we will be exploring.… When evaluating competency-based education there is a need to look at impact. To ask, what has been improved in health services delivery in the next five-to-ten years to come. …One of the things I have learned is that it is not that difficult to start off as a new school. This workshop has given me confidence in knowing that some people took the same steps we are now taking. It is not the brilliant ideas that we lack on this continent but more the challenge of resources and support. There is a need to involve policy-makers who can make or break our progress.*

- *I would like to see a consensus declaration that encapsulates: 1) what we believe to be the five-star doctor for Africa, 2) contextualization of the training for the African doctor, and 3) converging and consolidating on all objectives of the schools and taking it forward as a five-year plan with an annual convergence that will reflect on progress.*

- *This has been a very rich knowledge-sharing experience. We need a platform where we can continue to exchange knowledge and experience. We lamented that AMSA is not here and as a plan for the next meeting we need to make sure that AMSA is there. I feel privileged to be part of this MEPI experience and I feel sorry for institutions not involved. We now need to ask ourselves how the benefits of MEPI can reach the other institutions in Africa.*

- *This has been a phenomenal experience for us in Africa. An opportunity for us to engage in what is real for us on the continent. One of the most inspiring things I heard during the workshop was someone say "Give me a student from a rural area and I will turn him/her into a doctor." On a practical level, when listening to conversations, I found so many things that we are not doing, that we should be doing.*

- *There should be a highlighted focus on training preceptors before sending students into any community. I have realized that the principles of pedagogy are important for an individual to teach. In promoting team work, students have to learn it during their training. In the area of IT, we have been using Moodle but have not yet evaluated the impact on faculty time and on student learning. It is therefore critical for us to now evaluate the impact. All postgraduate students need training in teaching methodology as they will teach in community. Competence-based curricula must involve other stakeholders when developing the curriculum. We must now do a needs assessment of other cadres asking them what a medical doctor should be able to do.*

- *It has been a high caliber and high powered workshop. We have come across the importance of establishing a medical education unit. eLearning discussions are highly appreciated. As we move forward some of the things we have discussed in the past are now materializing. Research is now compulsory in many post-graduate education programs. The concept of competence is now becoming clearer with the examples that have been presented. There has recently been a medical schools association formed in Ethiopia made possible by MEPI. You can learn from a journal but you cannot exchange ideas. Unity for medical education in Africa is what we have achieved here today.*

- *We need to document each step of our growth as a school, with rigor and set objectives in mind. We need to know what evaluation tools are available and see what has been validated. We've learned here today that we have similar problems. We ultimately have to trust the process. We would like to see within the MEPI schools some common research themes and gauge whether or not there are similar outcomes being seen across different countries. There is a clear need for training in monitoring and evaluation. We would like to be part of a community of research on common research issues (north-south-south). Most of us have trained overseas and have wanted to do this for a long time. The call to grow our own is key.*

- *We learned about trying to train health professionals who are able to work in teams. We have largely been training medical doctors, but not so much to be amongst the health professions. I was also struck by the use of evidence to inform planning of education. There are few with specific training in education in our schools. We must now start thinking on ways to work on getting some critical mass to spur movement. I have been impressed by use of graduate students as a means of overcoming some of our difficulties. In the next year we need to report that we've started the program and explore more the use of ICTs.*

- *It has been a well-planned and well-presented workshop... It has been a great peer process. A very clear assurance that it is achievable. We must look at research as a group and ask ourselves how to improve country-relevant research.*

- *As we move forward today we recognize the importance of having champions. Collaboration of other key players is necessary. We recognize the significance of incorporating policy-makers at all stages. We have learned that processes can be time and energy consuming. As we advance to improve, expand, retain, and sustain, we must continue to build up partnerships both regionally and internationally. It is important to seek additional funds to strengthen undergraduate and post-graduate educational training infrastructure and diagnostic tools. It is vital to establish medical education and research support activities across the board.*

At the end of each day, workshop participants completed evaluation forms that included both tick boxes and open-ended questions, which allowed the MEPI Workshop Steering Committee to receive anonymous, immediate feedback about the workshop. Evaluations from the first and second days allowed for adaptations in future sessions. In addition, questions about the full workshop were asked on the last day. A summary of the workshop evaluation results, notably where participants identified areas where they seek additional resources, is outlined in Annex D.

13. Lessons Learned

The last two sessions were moderated by Dr. James Kiarie of the University of Nairobi and Dr. Francis Omaswa of ACHEST, both of whom are on the MEPI PI Council. With Dr. Ellie Hamburger, MEPI CC, as a rapporteur, participants shared the lessons that they would take with them from the workshop:

- When carrying out community-based education it is always very important to document and evaluate the process.
- We have realized that there are resources available in Africa for education and we must take advantage of them to the fullest possible extent.
- There is a need to promote education and research.
- We must start thinking ahead and begin to ask ourselves how to strive for sustainability when funding is no longer available.
- Linking with partners and collaborative knowledge-sharing is essential as we move forward.
- We clearly have a shortage of faculty and need to look at innovative ways to address this issue in order to provide quality education.
- We learned from the University of New Mexico that we must go to the community and make an effort to take yet another step and look at some of the determinants of disease and try to intervene at that level.
- In the area of competency-based education, while we have different opinions on the matter, we all agree that this is the way we want to go in terms of training. Approaches will vary and this must be regarded as a healthy part of the process.
- eLearning needs skills that are not traditionally available. How we select technology is therefore critical. We need assistance in identifying best approaches.
- Postgraduate education should ideally be done within the African continent. We have learned that there is an opportunity to use postgraduate education to grow faculty.
- Everyone is encouraged to follow up and use the participants' list to further foster collaborative work.
- We have revealed the need for a set structure to facilitate discussion for the future.

14. Next steps for MEPI schools

Finally, in closing the MEPI Workshop, Drs. Kiarie and Omaswa led the workshop participants in a discussion of next steps for MEPI schools:

- We encourage you to take the ideas you have heard during these three days home and discuss among your colleagues and institutions, as a way to further convey knowledge and best practices.
- Close contact with United States government program officers for MEPI and the MEPI CC is recommended, as you move forward with your projects. At the same time, contact each other and keep the MEPI CC and US government agencies in the loop.

- The MEPI website can be utilized as means of continuing collaboration and as a way to share resources, including materials from the workshop.
- Future meetings should be considered in consultation with the PI council as we continue to learn from each other's experience and collaborative work.
- Items that have emerged from this workshop such as continuing sustainability should be taken to the next MEPI symposium in Ethiopia.
- The issue of the AMSA revitalization process should be discussed and an invitation to the secretariat to the next symposium in Ethiopia should be prioritized.
- With regards to the CONSAMS consortium of new universities, we welcome them to the community.

ANNEX A - MEPI Medical Education Workshop Preparation

In order to prepare for this workshop, stakeholders from nine schools in Botswana, Ethiopia, Kenya, Malawi, Nigeria, South Africa, Tanzania, Uganda, and Zimbabwe shared their most pressing challenges as well as their best practices and innovations. A summary of their responses is outlined below. Direct quotes from stakeholder school responses are in quotations.

SUMMARY OF MEPI SCHOOL RESPONSES

Category	Major Challenges Faced	Best Practices and Innovations Taking Place
Links to Health Systems Strengthening	- Links between medical schools and the Ministry of Health tend to be weak; "most institutions act in isolation" - Limited HSS investment - Relevance of education to population health needs	- Decentralizing schools/training sites to rural areas has improved education relevance and increased the number of doctors *(Botswana, Kenya, South Africa, Uganda)* - Kenya webcasts lectures - Relevant language skills improves patient care *(Botswana)* - Health systems research at schools conducted and disseminated *(Botswana, Nigeria, Uganda)* - Service learning projects with NGOs or rural sites *(South Africa, Uganda)* - Active lobbying efforts to develop stronger linkages with MOH *(Ethiopia, South Africa)* - Enhanced ties with the MOH *(Tanzania)*
Management	- Delays in decision making - Restructuring/uncertainty of management practices - Managers don't have formal management training - Balance of management, teaching and research; "bureaucracy a major challenge"	- Open access policies for students and faculty interested in management *(Malawi, Nigeria)* - Student representation on all committees *(Malawi)* - Short management courses for skills building *(Zimbabwe)* - Defining clear TORs for management *(South Africa)* - Supportive management team *(South Africa)* - Forming effective management committees *(Uganda)*
Financing	- Dependence on government subsidies; limited faculty remuneration and capital investment - Student fees insufficient - "Financial system very centralized"; limited local fundraising opportunities	- Investigating additional/internal revenue from research, consulting, private sector, capacity-building grants, other fund generation *(Nigeria, South Africa, Tanzania, Zimbabwe)* - Well-resourced for housing, equipment, library and maintaining fiscal infrastructure *(Botswana)*

Category	Major Challenges Faced	Best Practices and Innovations Taking Place
Financing *(continued)*	- Skills in grant writing needed	- Networking for new fund opportunities *(Uganda)* - Resource mobilization for retention scheme *(Malawi)* - Effective grant management *(South Africa)* - MEPI is helpful for implementing activities *(Ethiopia, South Africa)*
Infrastructure	- Outdated infrastructure cannot accommodate growing student body; costly to maintain - New construction development very slow - More/better housing and transport facilities needed	- Renovations and new constructions are underway to alleviate overcrowding or update facilities *(Botswana, Ethiopia, Kenya, South Africa)* - Lobbying and public-private partnerships for improved infrastructure *(Zimbabwe)* - Generators for electricity supply *(Nigeria)*
Equipment and materials	- Insufficient equipment (audio/visual, anatomical models, cadavers) - Low human and financial capacity to maintain existing equipment - Procurement process can be very slow, resulting in shortages	- Providing two years of student books, laptops *(Botswana)* - Alumni and donors give new equipment; public-private partnership arrangements *(Zimbabwe)* - Extensive technology used to support learning centers *(South Africa)* - Extensive wet multipurpose lab in completion *(Tanzania)* - Equipment maintenance policy well adhered to *(Nigeria)* - Improving planning and budgeting for equipment *(Uganda)*
Students	- Increasing numbers of students without any increase in funding, faculty or equipment - Students are poorly prepared in natural sciences, writing or communication skills - Students do not always "take responsibility" for self-guided learning; like to be "spoon-fed" - Recruitment does not always attract diverse or motivated student body	- Succeeded in attracting the best, motivated students *(Botswana, Zimbabwe)* - Rigorous admission policies *(Nigeria)* - Frequent mentoring, meetings with students *(Nigeria, South Africa, Uganda)* - Introduction of 1 year Foundation program to meet shortfalls in science background *(Malawi)* - Diverse student body *(South Africa)* - Clinical rotations to decentralized sites *(Kenya)*
Faculty	- Few faculty with heavy work loads - Few rewards/acknowledgement for high performers - Diminished motivation and incentives results in "brain drain" - Many faculty lack pedagogical or clinical skills - "Potential lack of willingness of	- Encouraging faculty development, research, and grants provision *(Tanzania, Nigeria, Uganda)* - Staff retention scheme *(Malawi)* - Striving to improve working conditions *(Zimbabwe)* - Highly committed, vibrant, motivated faculty *(Botswana, South Africa, Zimbabwe)*

Category	Major Challenges Faced	Best Practices and Innovations Taking Place
	some faculty to embrace a competency-based, transformative learning approach"	- IT and innovative teaching methods trainings *(Kenya)*
Curriculum	- Some need updated, relevant curriculum that is harmonized with regional or international schools; some lack funding for this - For some, revised curricula are difficult to implement - Need for competency-based curricula	- Curriculum review workshop planned or in process *(Kenya, Tanzania)* - Integrated, system-based, competence-driven curriculum being implemented *(Botswana, Malawi, Nigeria, South Africa, Uganda)* - Curricula relevant to population health but needs revision *(Zimbabwe)* - General practitioners are directly recruited/retained in residency program *(Ethiopia)*
Clinical Practice	- Sites are overcrowded (both students and patients) with poor supervision - No integrated clinics - Faculty have limited clinical teaching skills - Teaching hospitals often lack drugs, equipment and resources to encourage effective learning	- Community/rural teaching sites *(Kenya, South Africa, Tanzania)* - Training on management of obstetric emergencies *(Kenya)* - Early student exposure to clinical practice *(Botswana)* - Wide range of diseases observed to enhance learning *(Zimbabwe)* - Dedicated management team *(Nigeria)* - Well-organized and functional faculty/student interaction, learning committees and curricula development activities; involving MOH consultants; use of clinical teaching *(Uganda)* - Development of clinical skills curricula *(South Africa)*

ANNEX B - FINAL WORKSHOP AGENDA

DAY 1 – Wednesday, June 6, 2012		
TIME	***ACTIVITY / PRESENTATION***	***PRESENTER***
8:30am-9:00am	Registration	*All participants*
9:00am-9:05am	**CHAIR** – Introduction to the workshop	*Dr. Marietjie de Villiers, Stellenbosch University*
9:05am-9:15am	Welcome and Opening remarks	*Stellenbosch University*
Opening Plenary Sessions		
9:15am-9:20am	USAID and the MEPI Partnership	*Ms. Diana Frymus, USAID*
9:20am-9:30am	Capacity*Plus* and Medical Education	*Dr. Kate Tulenko, CapacityPlus*
9:30am-9:35am	Welcome and HRSA Perspective	*Dr. Rafi Morales, HIV/AIDS Bureau, HRSA*
9:35am-9:40am	NIH's perspectives on medical education in MEPI	*Dr. Myat Htoo Razak, NIH*
9:40am-9:50am	Medical Education and MEPI	*Dr. Jim Scott, MEPI Coordinating Center*
9:50am – 10:10am	Keynote: Linking Education and Health System Strengthening in Africa	*Dr. Francis Omaswa, MEPI Coordinating Centre*
10:10am-10:30am	Keynote: Transformative Medical Education	*Dr. Nelson Sewankambo, Uganda*
10:30am-10:45am	*Coffee/Tea Break*	
10:45am-12:00pm	Medical Education Research	*Prof. Juanita Bezuidenhout, Stellenbosch* *Dr. Ellie Hamburger, MEPI Coordinating Center*
12:00pm-1:00pm	*Lunch*	
1:00pm-2:00pm	Community-Oriented Education Plenary	*Moderator: Dr. Susan van Schalkwyk, Stellenbosch* *Panelist 1 : Dr. Zohray Talib, MEPI Coordinating Center* *Panelist 2: Dr. Hoffie Conradie, Stellenbosch University* *Panelist 3: Prof. Atiene Solomon Sagay, University of Jos*
2:00pm – 3:15pm	Community-Oriented Education Concurrent Breakout Sessions 1. Developing competencies for rural medical service provision 2. Linkages with MOH for Health System Strengthening 3. Social Accountability in Medical Education	*Breakout Session Moderators:* *1. Dr. Ian Couper, University of Witswatersrand* *2. Dr. Sam Maling, Mbarara University* 3. *Dr. Ginger Floyd and Dr. Daniel Blumenthal, Morehouse School of Medicine*
3:15pm-3:30pm	*Coffee/Tea Break*	

3:30pm – 4:45pm	MedEd Café	*All participants*
5:00pm	*Shuttle / return transport to Crystal Towers Hotel*	
6:00pm-8:00pm	Early Evening Reception @ Crystal Towers Hotel	*All participants*
DAY 2 – Thursday, June 7, 2012		
TIME	***ACTIVITY / PRESENTATION***	***PRESENTER***
8:30am – 8:35am	Introduction to the day	*Dr. Marietjie de Villiers, Stellenbosch University*
8:35am – 9:00am	Commission on Health Professions for the 21st Century	*Dr. Barry Kistnasamy, National Institute for Occupational Health*
9:00am-10:00am	Faculty Recruitment and Retention Plenary	*Moderator: Dr. Maggie Brewinski-Isaacs, HRSA* *Panelist 1: Dr. Elsie Kiguli-Malwadde, MEPI Coordinating Center, Kampala* *Panelist 2: Dr. James Kiarie, University of Nairobi* *Panelist 3: Dr. Art Kaufman, University of New Mexico Medical School*
10:00am-10:15am	*Coffee/Tea Break*	
10:15am-11:30am	Faculty Recruitment and Retention Concurrent Breakout Sessions 1. Medical Education Departments 2. Improving faculty pedagogy 3. Recruiting preceptors for community rotations	*Break-out Session Moderators:* *1. Dr. Diaa El-Gaili, Gezira Medical School, Sudan* *2. Prof. James Hakim, University of Zimbabwe* *3. Dr. Freddy Chen, WWAMI Program, University of Washington*
11:30am-1:00pm	*Lunch*	
1:00pm-2:00pm	Competency-based Education Plenary	*Moderator: Ms. Rebecca Bailey, Capacity*Plus *Panelist 1:Prof. Ben van Heerden Stellenbosch University* *Panelist 2: Dr. Jehu Iputo, Walter Sisulu University* *Panelist 3: Dr. Sarah Kiguli, Makerere University*
2:00-3:15pm	Competency-based Education Concurrent Breakout Sessions 1. Clinical needs assessment for competency-based education 2. Integrating clinical competencies into the reformed curricula 3. Challenges for evaluating a	*Break-out Session Moderators:* *1. Dr. Ellie Hamburger, MEPI Coordinating Center* *2. Dr. Sade Ogunsola, University of Lagos* 3. *Dr. Elsie Kiguli-Malwadde, ACHEST/ MEPI Coordinating Center*

	competency-based education	
3:15pm-3:30pm	*Coffee/Tea Break*	
3:30pm-4:45pm	MedEd Café	*All participants*
5:00pm	*Return transport to Crystal Towers Hotel*	
DAY 3 – Friday, June 8, 2012		
TIME	***ACTIVITY***	***PRESENTER***
8:00am-8:05am	Introduction to the day	*Dr. Marietjie de Villiers, Stellenbosch University*
8:05am-9:00am	Technology-Assisted Education Plenary	*Moderator: Dr. Zohray Talib* *Panelist 1: Dr. Jim Scott – MEPI Coordinating Center* *Panellist 2: Case study – Ms. Lucy Killewo, Kilimanjaro Christian Medical Centre* *Panellist 3: Prof. Fatima Suleman, University of KwaZulu-Natal*
9:00am-10:00am	Technology-Assisted Education Concurrent Breakout Sessions 1. Strategies to engage role-players in e-learning 2. Offline Medical Education tools 3. Using technology in Medical Training	*Break-out Session Moderators:* *1. Dr. Walter Liebrich, Stellenbosch University* *2. Ms. Marjory Kabinga - University of Zambia* *3. Dr. Adamson Muula, University of Malawi*
10:00am-10:15am	*Coffee/Tea Break*	
10:15am-11:15am	Postgraduate Medical Education Plenary	*Moderator: Dr. Zohray Talib, MEPI Coordinating Center* *Panellist 1: Dr. Sandy Pillay, University of KwaZulu-Natal* *Panellists 2: Dr. Emilia Noormahomed and Dr. Ana Olga Mocumbi, Mozambique UEM* *Panellist 3: Prof. Yakub Mulla, University of Zambia*
11:15am-12:15pm	Postgraduate Medical Education Concurrent Breakout Sessions 1. Setting up residencies and fellowships 2. Role of graduate students in undergraduate learning 3. Role of research in GME	*Break-out Session Moderators:* *1. Dr. Oathokwa Nkomazana, University of Botswana* *2. Dr. Amha Mekasha Wondimagegnehu, Addis Ababa University* *3. Prof Chidzonga, Dr. Gandari, University of Zimbabwe*
12:15pm-1:15pm	*Lunch*	
1:15pm-2:30pm	Open Feedback Forum	*Moderator: Prof. James Hakim, with Rapporteurs Prof. Johnstone Kumwenda, Dr. Oathokwa Nkomazana, and all participants*

2:30pm-3:30pm	Closing Session • Lessons learned • Next steps	*Dr. James Kiarie, University of Nairobi and MEPI Council Chair, and Dr. Francis Omaswa, MEPI PI*
3:45pm	*Return Transport to Crystal Towers Hotel*	

ANNEX C - LIST OF WORKSHOP PARTICIPANTS

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ANNEX D - MEPI WORKSHOP EVALUATION RESULTS

SUMMARY OF RESULTS

- Workshop objectives were successfully met: 100% of respondents felt that the workshop met the intended objectives to *increase dialogue, promote specific knowledge, and share best practices* "mostly well" or "extremely well"; with 93% stating the workshop met its objective to *enhance school efforts in evaluation.*
- Community-, technology- and discussion-based sessions most useful: Plenary sessions for technology-assisted education and the open feedback forum were rated as the most successful sessions in terms of gaining new perspectives. Community-based education was valued as the most relevant topic pertaining to participants' daily work, the most valuable general concept gained, and the area where additional resources were requested. The breakout session presentations -- where a best practice MEPI school representative made a 10-minute introduction and then facilitated a 50+-minute discussion on a sub-theme of interest -- were cited as the most useful sessions among respondents; they would appreciate additional networking and information exchange opportunities after the workshop.
- Additional best practices and skills in evaluation and medical education research were requested: Perspectives on leadership and evaluation of competency-based education were highly appreciated. Medical education research was perceived as a link between improving community-oriented education; improving the quality, retention, and motivation of faculty; and better linking medical education to HSS.
- Logistics successful: Almost all respondents were either satisfied or completely satisfied with the logistical aspects of the workshop (i.e. lodging, venue, transport, and location).

Valuable knowledge gained

- The diversity of expertise on the African continent; "Africans for Africa"
- Many participants regarded the social accountability frameworks as one of the most appreciated concepts gained during the workshop.
- South-to-South ICT collaborations: the KCMC case study on scaling up e-granary and e-learning through customized faculty engagement and support was cited many times as a concrete and appreciated plenary
- Interactions with best practice schools in America (Morehouse, U Mexico, U Washington)
- Participants also specifically noted that they valued:
    - Hearing other schools' experiences
    - The plenary on the Lancet report on Transforming health professionals
    - Discussing challenges in evaluating competency-based education
    - Discussions of ways to improve the research component of graduate medical schools

Identified Areas for Improvement

- Better time management of moderators and presenters so that there is more time designated for discussion
- More specific case studies and recommendations
- Finalizing the workshop with clearer action points or resolutions
- Adding interschool or inter-country collaboration within the M & E framework for MEPI
- Perspectives from or inclusion of Ministry of Education counterparts at the workshop
- Involvement of more non-PIs at the workshop

Areas for additional resources / knowledge

- Concrete examples, evidence, and practical case studies presented during sessions, specifically for community-oriented education and how to implement competency-based curricula
- More on medical education research: methods, information on funding, opportunities, grant/proposal writing, and other research skills
- Assistance for mentoring, improving manuscript writing, curriculum review, and how to write case studies
- Technical assistance in evaluation frameworks for assessing community-oriented education, competency-based education, dissemination support and school management.
- Additional resources need for faculty recruitment and retention strategies (e.g. technical support, financial)
- ICT support in the form of infrastructure (e.g. bandwidth) and access to existing technical networks;
    - A better understanding of: technology aided teaching; ICT support in GME; how to establish e-granary and make e-learning successful; infrastructure support
- More collaboration between schools and with individuals in similar fields;
- Increase opportunities to network with colleagues.
- Successful approaches for involving community-based stakeholders
- Sharing existing reference materials with all MEPI schools
- Increase in financial resources for medical education schools
- Opportunities for PGME in a place where physicians are needed
- Ways to motivate faculty
- Ways to engage graduate students in medical education research from non-clinical disciplines

DETAILED WORKSHOP EVALUATION RESULTS

Participants' reported role at the MEPI workshop:					
MEPI School Delegate	**59%**	Non-MEPI School Delegate	7%	Invitee	24%
Plenary Panelist/Moderator	3%	Breakout Session Moderator	3%	Other	3%

The extent to which participants felt the workshop *met its intended objectives*					
	Not at all	**A little bit**	**Some-what**	**Mostly well**	**Extremely well**
Increase the dialogue and information on medical education within the MEPI network, particularly for improving the relevance of medical education through recruitment, rural attachments and practicum opportunities	0%	0%	0%	36%	**64%**
Promote specific knowledge in competency-based education, community-oriented education, e-learning, faculty development and postgraduate medical education for greater implementation success	0 %	0 %	0%	**57%**	43%
Share best practices in medical education	0%	0%	0%	36%	**64%**
Enhance school efforts for evaluation in medical education	0%	0%	7%	29%	**64%**

The extent to which participants felt the workshop formats were conducive to achieving its objectives:					
	Not at all	**A little bit**	**Somewhat**	**Mostly well**	**Extremely well**
Plenary sessions	0%	0%	0%	36%	**64%**
Breakout sessions	0%	0%	0%	36%	**64%**
Med Ed Cafés	0%	0%	14%	32%	**54%**

Level of satisfaction reported by participants concerning the *following aspects* of the workshop:					
	Very dissatisfied	**Dissatisfied**	**Neutral**	**Satisfied**	**Completely satisfied**
Lodging	0%	0%	0%	22%	**88%**
Venue	0%	0%	0%	**53%**	47%
Meals	7%	6%	0%	40%	**47%**
Location	0%	0%	6%	44%	**50%**
Transportation	0%	7%	0%	14%	**79%**

DAY 1 SESSIONS

The extent to which participants reported *gaining new perspectives* from the following sessions:						
	Not at all	**Limited Extent**	**Some Extent**	**Considerable Extent**	**Great Extent**	**n/a**
Opening plenary sessions	0	3%	21%	**49%**	21%	6%
Medical Education Research	0	0%	19%	35%	**40%**	6%
Community-Oriented Education Plenary	0	0%	13%	**46%**	38%	3%
Community-Oriented Education Breakout Session	0	3%	6%	40%	**41%**	10%
Med Ed Café	0	0%	11%	**40%**	25%	24%
The *relevance* of the session's content to addressing issues that participants face in their work:						
	Not at all	**Slightly relevant**	**Some-what relevant**	**Mostly relevant**	**Completely relevant**	**n/a**
Opening plenary sessions	0	5%	10%	**49%**	35%	2%
Medical Education Research Plenary	0	0	11%	40%	**46%**	3%
Community-Oriented Education Plenary	0	10%	8%	35%	**56%**	2%
Community-Oriented Education Breakout Session	1%	2%	6%	38%	**48%**	5%
Med Ed Café	0	2%	11%	37%	30%	21%

DAY 2 SESSIONS

The extent to which participants reported *gaining new perspectives* from the following sessions:						
	Not at all	**Limited Extent**	**Some Extent**	**Considerable Extent**	**Great Extent**	**n/a**
Faculty Recruitment and Retention Plenary	0	0	19%	40%	**41%**	0
Faculty Recruitment and Retention Breakout Session	0	1%	12%	42%	**43%**	1%
Competency-Based Education Plenary	0	1%	12%	**45%**	42%	0
Competency-Based Education Breakout Session	0	1%	12%	**43%**	**43%**	0
Med Ed Café	0	0	10%	41%	**47%**	0
The *relevance* of the session's content to addressing issues that participants face in their work:						
	Not at all	**Slightly relevant**	**Some-what relevant**	**Mostly relevant**	**Completely relevant**	**n/a**
Faculty Recruitment and Retention Plenary	0	3%	14%	**47%**	36%	0
Faculty Recruitment and Retention Breakout Session	0	3%	15%	**50%**	32%	3%
Competency-Based Education Plenary	0	2%	5%	**56%**	38%	0
Competency-Based Education Breakout Session	0	2%	18%	**45%**	35%	0
Med Ed Café	0	0	9%	**48%**	43%	0

DAY 3 SESSIONS

The extent to which participants reported *gaining new perspectives* from the following sessions:						
	Not at all	**Limited Extent**	**Some Extent**	**Considerable Extent**	**Great Extent**	**n/a**
Technology-Assisted Education Plenary	0%	0%	7%	40%	**53%**	0%
Technology-Assisted Education Breakout Session	0%	0%	13%	**47%**	40%	0%
Postgraduate Medical Education Plenary	0%	0%	13%	**47%**	33%	7%
Postgraduate Medical Education Breakout Session	0%	0%	20%	33%	**40%**	7%
Open Feedback Forum and Closing Session	0%	6%	0%	44%	**44%**	6%
The *relevance* of the session's content to addressing issues that participants face in their work:						
	Not at all	**Slightly relevant**	**Some-what relevant**	**Mostly relevant**	**Completely relevant**	**n/a**
Technology-Assisted Education Plenary	0%	0%	0%	40%	**60%**	0%
Technology-Assisted Education Breakout Session	0%	0%	13%	31%	**50%**	6%
Postgraduate Medical Education	0%	0%	7%	**50%**	43%	0%
Postgraduate Medical Education Breakout Session	0%	0%	7%	**50%**	43%	0%
Open Feedback Forum	0%	0%	0%	0%	**89%**	11%