PROCEEDINGS OF THE NECTAR/CHRIS/IMHERZ WORKSHOP HELD AT HARARE HOLIDAY INN 3RD - 5TH OF FEBRUARY 2011
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## Abbreviations

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<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
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<td>AVTU</td>
<td>Audio Visual Technical Unit</td>
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<tr>
<td>BRTI</td>
<td>Biomedical Research and Training Institute</td>
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<td>CDC</td>
<td>Centers for Diseases Control and Prevention</td>
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<tr>
<td>CEPHI</td>
<td>Center for Evaluation and Public Health Interventions</td>
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<td>CERTC</td>
<td>Clinical Epidemiology Resource and Training Center</td>
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<td>CHRISt</td>
<td>Cerebrovascular, Heart Failure Rheumatic Heart Disease Interventions Strategy</td>
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<td>CLTC</td>
<td>College Teaching and Learning Centre</td>
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<td>CVD</td>
<td>Cardiovascular Diseases</td>
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<td>DMO</td>
<td>District Medical Officer</td>
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<td>ECHO</td>
<td>Echocardiography</td>
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<td>FAIMER</td>
<td>Foundation for the Advancement of International Medical Education and Research</td>
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<td>HCW</td>
<td>Health Care Worker</td>
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<td>ICOHRTA</td>
<td>International Clinical, Operational, Health Services Research Training Award for AIDS and Tuberculosis</td>
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<td>ICT</td>
<td>Information, Communication and Technology</td>
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<td>IMHERZ</td>
<td>Improving Mental Health Education and Research in Zimbabwe</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>MCSP</td>
<td>Mentored Clinical Scholars Program</td>
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<td>MEPI</td>
<td>Medical Education Partnership Initiative</td>
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<td>MPAETC</td>
<td>Mountain Plains AIDS Education Training Center</td>
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<td>MRSP</td>
<td>Mentored Research Scholars Program</td>
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<td>NECTAR</td>
<td>Novel Education Clinical Trainees and Researchers Program</td>
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<td>NGOs</td>
<td>Non-Governmental Organizations</td>
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<td>NCI</td>
<td>NECTAR/CHRIS/IMHERZ</td>
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<td>NIH</td>
<td>National Institutes of Health</td>
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<td>PEPFAR</td>
<td>President's Emergency Plan for AIDS Relief</td>
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<td>PI</td>
<td>Principals Investigator</td>
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<td>RFA</td>
<td>Request for Applications</td>
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<td>RHD</td>
<td>Rheumatic Heart Disease</td>
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<td>RSC</td>
<td>Research Support Center</td>
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<td>SACORE</td>
<td>Southern African Consortium of Research Excellence</td>
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<td>TB</td>
<td>Tuberculosis</td>
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<td>UCD</td>
<td>University of Colorado, Denver</td>
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<td>UCL</td>
<td>University College London</td>
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<td>UZ</td>
<td>University of Zimbabwe</td>
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<td>UZCHS</td>
<td>University of Zimbabwe, College of Health Sciences</td>
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Introduction

**Day 1**

Prof Hakim started the workshop by welcoming the guests and thanked them for being punctual and then handed over to the Chair of the morning session Prof Chidzonga who formally welcomed the guests to the workshop making special mention of the guests from UK, USA and South Africa before handing over to the Vice Chancellor, Prof Nyagura to give the Official Opening Speech.

**Opening Speech – Prof L. Nyagura**

Prof Nyagura welcomed all our guests, especially mentioning the visitors from UK, USA and South Africa. He said that the NCI initiative is extremely important to the University of Zimbabwe. As the oldest University in the country UZ is expected to provide leadership to the other universities. This leadership includes ensuring the provision of the highest quality of education in the country. In the last 5 years, UZ has gone through a very difficult time with many challenges including the exodus of many member of faculty. With the turnaround of the economy and politics the institution is poised to regain its lofty international standing. Every effort should be made to regain the status UZ has enjoyed in the past. Faculty members trained at UZ are practicing in the US, UK, SA, which in itself is a sign of the good quality of the products of this University. With this award UZ can work towards the restoration and improvement of that record. Since knowledge is now propagated almost instantly over the internet, partners can be physically apart but can share information seamlessly. Nonetheless, personal interactions are important and he urged all participants to get as much out of this workshop as possible.

All should focus on improving, preserving, and protecting the quality of life of the people of Zimbabwe and the development of this country. He is happy that the sponsors were convinced to provide nearly $15 million to help improve the human resource base in Zimbabwe. At the end of the project, the goals are to achieve:

1. An increased number of doctors and specialists graduating from UZCHS;
2. Implementation of curriculum quality assurance measures, addressing aspects of teaching, research, and assessment;

3. Enhancement of faculty research, with more publications and a higher promotion rate thereby improving the visibility and image of UZ in the international community; and

4. Improve the retention of doctors and academics at UZCHS.

This intervention comes at the right time when UZ is trying to address the problems of the past five years. Medical education is very important in empowering the nation to regenerate itself; a sick nation cannot progress, so all are here as stewards for generations to come. He encouraged all the visitors to feel at home and to look at UZ as their second institution where they will always be welcome. He urged all to be agents of peace, to promote understanding and mutual respect among different races, ethnicities, & groups, and to make a contribution to improve the quality of humankind, no matter where they are in this small global village.

Medical Education Partnership Initiative
NCI Workshop – Prof J. Hakim

Prof Hakim explained that the Medical Education Partnership Initiative (MEPI) is an initiative of the US NIH (NIH-FIC National Institutes of Health –Fogarty International Center) and PEPFAR (President’s Emergency Plan for AIDS Relief).

The overall goals of the Program are to:

- Develop or expand and enhance models of medical education in Sub-Saharan African countries
  - To support PEPFAR goals (TB, AIDS, Malaria)
  - Increase number of new HCW
  - Strengthen medical education
  - Build clinical and research capacity
  - Increase retention of faculty and medical practitioners

The Specific goals of MEPI are:

1. Expand and/or enhance innovative medical education models

2. Develop strategies to retain medical graduates to practice, conduct research or serve as faculty in their home country

3. Enhance recruitment and retention of qualified academic staff through partnerships and research opportunities

The components of MEPI are:

• Programmatic Award
  - Up to $10,000,000 over 5 years

• Linked Awards
  - Up to $2,500,000 over 5 years

• Application Options
  - Programmatic award Only

Prof Hakim presenting the Medical Education Partnership Initiative
The programmatic award:

- To promote:
  - Innovative Community-based Training
  - Problem-based learning
  - Clinical preceptorships
  - Development of training resources and activities
  - A platform for developing locally driven research
  - <US$2,000,000/yr for 5 years

The linked awards focus on one of the following areas:

- Priority Health Areas
  - Maternal and child health
  - Women's health
  - Cardiovascular disease and stroke (including diabetes mellitus)
  - Injury & environmental health concerns
  - Mental health
  - Chronic non-communicable diseases related to and/or beyond HIV/AIDS <US$500,000 per year for 5 years

- Help build research capacity
- Expand research training opportunities
  - Desirable to have links/cross cutting programs with HIV co-morbidities such as:
    - Cancer
    - Cardiovascular Disease
    - Mental Health

He said that while MEPI emphasizes the training of doctors, collaborations and synergies are expected with other related schools, such as nursing and public health, and other disciplines such as psychology, anthropology, etc. There are common challenges across many medical schools in sub-Saharan Africa, including weaknesses in information communication technology, e-learning, video conferencing, and research resources/laboratories. Support is required from the Ministry of Education, the Ministry of Health, U.S. partners, African partners, the Vice-Chancellor, the Dean of the medical school, and in-country partners. Eleven countries received programmatic awards, and 5 have received linked awards.

NECTAR Program Overview - Prof Michele Barry

Prof Michele Barry gave an overview of the NECTAR program. She listed the main collaborating institutions as the University of Colorado, Denver, Stanford University, FAIMER (Foundation for the Advancement of International Medical Education and Research) and the Biomedical Research & Training Institute (BRTI). The Program Goals were listed as follows:

1. Increase number & quality of UZCHS medical graduates in PEPFAR priority areas (TB, HIV, malaria)
Challenges:

- In 2010 only 39% (122 of 314) of faculty positions at UZCHS were filled.
- In 2009 only 33% of doctor posts in the government healthcare system were filled.
- In 2009 only 19% of internal medicine postgraduate training positions at UZCHS were filled.

2. Once educated, ensure retention of UZCHS graduates in Zimbabwe and prevent brain drain.

3. Create new and sustainable educational & clinical research opportunities for academic faculty at UZCHS.

The NECTAR initiatives are to:

1. Enhance existing curriculum for medical students in the PEPFAR priority areas.
   a). Develop a competency-based curriculum in PEPFAR priority subjects employing modern educational methods & technologies
   b). Engage students in PEPFAR health priorities through an improved curriculum for mentored attachment programs in community-based health-care delivery systems

2. Implement NECTAR Mentored Clinical Scholars Program.
   a). Develop core curriculum to enable students to become future educators and clinicians
   b). Establish mentoring triangles to develop self-learning ability, peer-teaching, and mentoring capacity among the UZCHS faculty and collaborators

3. Engage UZCHS undergraduates, postgraduate trainees, and junior faculty in mentored research projects related to TB, HIV, and Malaria.
   a). Establish mentoring triangles to develop research expertise among the UZCHS faculty and collaborators
   b). Integrate training in research methodologies into UZCHS medical curriculum.

4. Create an academic environment at UZCHS that will enhance ability of faculty to serve as medical educators, investigators, & mentors.
   a). Establish a Research Support Centre that will lower barriers to successful research awards
      - Staff will provide assistance with grant applications, post-award management, and regulatory submissions
   b). Establish a Teaching and Learning Centre to improve faculty teaching skills
   c). Encourage FAIMER proposals for innovative curriculum initiatives

Prof. Barry presenting an overview of the NECTAR Program.
5. Monitor impact of NECTAR on medical education, research, and practice at UZCHS and in Zimbabwe
   a.) Document numbers of UZCHS graduates
   b.) Document proportion of UZCHS graduates who practice medicine in Zimbabwe
   c.) Document numbers of UZCHS graduates who serve as clinical, research, and teaching faculty at UZCHS

NECTAR Vision:

— To create an academically exciting environment
— To enable collaborative partnerships to foster cutting-edge research and innovative teaching
— To provide partners to share the work-load of teaching and clinical care until faculty numbers increase

Cerebrovascular, Heart failure, Rheumatic heart disease Interventions Strategy (CHRIS)

Prof Matenga presented data on cardiovascular morbidity in Zimbabwe as follows:

— Prevalence of hypertension: 20-33%
— Incidence of stroke: 68/100,000 population
— Prevalence of RHD: 2.7-14.3/1000 children
— Heart failure: 6% of all hosp admissions.
  (Diabetes, smoking, alcohol, pregnancy)
  1. Hypertension
  2. Cardiomyopathy (including peripartum cardiomyopathy)
  3. Rheumatic heart disease

He explained that for a population of 15 million, Zimbabwe has limited cardiovascular services. There are only 2 adult cardiologists, 1 paediatric cardiologist, no neurologists, 2 neuro-surgeons and 2 heart surgeons.

CHRIS – Specific Aims:

— Enhance the existing curriculum for ALL medical students in cardiovascular disease
— Engage UZCHS undergraduate and postgraduate trainees and junior faculty in multidisciplinary mentored scholarly activities related to the cardiovascular disease focus areas. (Cardiovascular Clinical Scholars Program)
— Create an academic environment at UZCHS that will enhance the ability of UZCHS faculty to serve as medical educators, investigators and mentors

Expected outcomes by the end of the CHRIS program were highlighted as follows:

— Create an academic environment at UZCHS that will enhance the ability of UZCHS faculty to serve as medical educators, investigators and mentors

The CHRIS focus areas are heart failure, rheumatic heart disease, hypertension and stroke.
educators, investigators and mentors. Among undergraduates high flyers will be eligible to apply for fellowships at the end of part IV. In year 1 of CHRIS, 4 students will be selected and 2 additional students in each of the following years. Also, 4 postgraduate trainees will be selected in year 1, and 2 additional trainees in each of the following years. A Mentoring triangle program will be set up with UZ faculty, UCD faculty, and the trainees. At the end of the 5 years, the hope is that 4 cardiologists, 2 neurologists, 2 stroke rehabilitation specialists, and 2 echocardiography technicians will be trained.

— The CHRIS team is creating a partnership for the future to strengthen medical training in cardiovascular diseases and stroke with the support of the ministry of health, the ministry of higher and tertiary education, and US partners.

Improving Mental Health Education and Research Capacity – Dr F. Cowan

IMHERZ (Co-PIs-Prof Hakim, Dr Cowan, Dr Nhiwatiwa, Dr Abas, Prof Lund) is a partnership between UZ and UCL, IoP, UCT, U Bristol and Harvard University. Dr Cowan pointed out that mental, neurological and substance disorders have become the second biggest cause of disease burden in Africa and their relative importance will grow as demographic transition proceeds. She emphasized that improving mental health improves quality of life, reduces disability, and improves physical health as well as reducing poverty and social exclusion. In Zimbabwe rates of depression and other common mental disorders are high (30-50%). Poor mental health is associated with poverty, stigma, orphaning, increased risk of HIV acquisition, appears to increase rates of HIV disease progression and poor adherence to ART. The department of psychiatry consists of 2 consultant psychiatrists, 2 lecturers and 3 support staff with a vacancy rate >90%.

1. Increase expertise and retention of UZCHS psychiatry faculty
   • IMHERZ Mentored Training Fellowships to encourage medical graduates to become academic psychiatrists
   • Strengthening post-graduate mental health training through provision of psychiatry master classes.
   • Establishing a system of exchange programs for psychiatry faculty to South Africa and UK
   • Providing training in mental health legislation and policy

2. Strengthen the implementation and sustainability of undergraduate mental health education
   • Modernizing the undergraduate education in psychiatry by developing a competency-based mental health curriculum.
   • An improved mentored clinical attachment program.
   • Use this revised curriculum and materials as a template for training of all health professionals at UZCHS.
   • Develop and implement an appropriate local curriculum to train professionals allied to health medicine to provide community-based mental health care

3. Strengthen mental health research capacity across disciplines at UZCHS
   • Providing IMHERZ Mentored Research Fellowships program to build mental health research capacity
   • Establishing short courses in mental health services research and psychiatric epidemiology to complement research methods courses at UZCHS
   • Encouraging students to join in ongoing research projects and/or undertake their own small research projects.

4. Monitor the impact of IMHERZ on mental health education, research and practice at UZCHS
   • Internal and external evaluation,
   • Gather and monitor progress and performance
   • Evaluating indicators to enable on-going adjustments in program design and implementation
NECTAR/CHRIS/IMHERZ (NCI) Work plan

**IMHERZ outcomes will be as follows:**

- 5 Clinical mentored training fellowships leading to 5 MMeds in Psychiatry
- 1 PhD fellowship at IoP/UCT in the UK
- Modernised mental health curriculum for undergraduate medical students plus those in other specialties
- Mental health teaching resource centre
- Courses in clinical and research aspects of mental health
- Exchange programmes for faculty
- Mental health research training of psychiatry and non-psychiatry students and faculty
- Establishment of disease registries and collection of data to assess disease burden
- At least 2 funded research proposals

**NECTAR/CHRIS/IMHERZ (NCI) Workplan – Prof Thomas Campbell**

Prof Campbell started his presentation by explaining that NCI is one unified program with three distinct projects which are NECTAR, CHRIS and IMHERZ. He then went on to highlight the NCI objectives as follows:

- Enhance existing medical curricula
- Implement Mentored Clinical Scholars Program
- Engage trainees and junior faculty in mentored research projects
- Enhanced academic environment for faculty and students
- Monitor impact on medical education, research, and practice in Zimbabwe
- Establish a cross-cutting academic committee to coordinate work across common aims;
  - Initial need to develop MMed curriculum to train MMeds to become future faculty
  - MMeds will be trained to be effective teachers of junior & senior medical officers & undergraduates (train the trainers)
  - MMeds will be role models for younger doctors & students
- Progress – curriculum development
  - Analysis of strengths, weaknesses, opportunities, and threats in medical education
  - General objectives of competency-based curriculum
  - Development of competencies that define finished product (competent doctor)
- MMed competencies
Discussion Q&A Session

1. **How long will it take in years for family medicine training to be developed in Zimbabwe? Dr Reid**
   - Traditionally training has focused on hospital-based medicine
   - But impact on primary health outcomes requires primary healthcare practice which should be maximized
   - Improve quality of care in communities through lifestyle changes so that people are more responsible for their own healthcare before a crisis occurs
   - Department of family medicine should be put in place to strengthen this aspect of clinical practice

2. **Is there adequate financial support for the students? Dr Mbengeranwa**
   - To address problems with the accommodation of students, living expenses, transportation, support from partners and government sectors is crucial.
   - Partnership through the government and health sector so as to produce more professionals
   - Request government to make available affordable residence for medical students
   - Health services board to intervene – use available land near Harare Hospital and Parirenyatwa for blocks of flats to be put up to address accommodation needs
   - Numbers of undergraduate dropped in the previous years from 90% to 50% mostly because of the University fees as most couldn't afford the high fees.
   - The Dean explained that part of the reason for the reduction in intake was space for lecturers, laboratory work, etc. The numbers are however set to increase as we address these issues. With regard to the question of fees, some donors have chipped in and the situation has improved.
   - It was emphasized that we should recognize that in addition to clinical training other disciplines are important in the overall production of doctors. A broad range of expertise is required at UZCHS. In response it was pointed out that there are opportunities for interdisciplinary coursework among various departments including the holding of joint seminars.
NECTAR Overview – Prof T. Campbell

- NECTAR Goals
  - Increase the number and improve the proficiency of UZCHS medical graduates in PEPFAR priority areas
  - Improve retention of UZCHS graduates in Zimbabwe and increase the proportion of recent graduates who practice in Zimbabwe, serve as faculty at UZCHS, conduct research, and are engaged in PEPFAR priority areas.
  - Improve the recruitment and retention of academic faculty at UZCHS

- Complex organizational chart
  - Committees tasked to accomplish aims
    - Cross-cutting academic committee – common aims of NCI; initial need is curriculum development
- Specific Aim 1 – enhance existing curriculum;
  - competency based curriculum, HIV, TB and malaria
  - standardized learning objectives & assessment
  - learning objectives related to delivery of medical care in rural settings
  - self-learning skills to prepare students for continued learning in resource-sparse settings
  - leadership & communication skills will be stressed
- Specific Aim 2 – mentored clinical scholars program
  - best of the best who want to pursue academic career
  - develop core curriculum in teaching & curriculum development so students become effective educators
  - establish mentoring triangles to develop self-learning ability, peer-teaching, and increase mentoring capacity of the faculty
  - MCSP – advance supplement to NECTAR curriculum

- Specific Aim 3 – research related to PEPFAR health priorities
  - Establish mentorship program including partners

- Specific Aim 4 – improve academic environment
  - Provide faculty with advanced in-depth training in curriculum change implementation – FAIMER
  - establish research support center located in NECTAR home
  - establish college teaching & learning center
  - interrelationship of NECTAR specific aims
  - lead to increased clinical & research capacity
  - improved clinical practice

- Monitoring — Specific Aim 5 – independent of other aims; will make adjustments if things aren’t working
  - Establish capacity for sustainable program evaluation at UZCHS
  - Regular feedback

- Role of Partners
  - UZCHS (Drs. Hakim & Mason)
    - Applicant institution;
    - Overall leadership & administration of NECTAR
    - Site of most NECTAR activities & source of all trainees
  - Stanford (Dr. Barry)
    - Experience & expertise in global health program implementation & global health librarian
    - Successful research & research training programs in Zimbabwe
  - UCD (Dr. Campbell)
    - Design & implementation

- NECTAR Timeline
  - 1st year development of programs, implementation starting in 2nd year (Sept 2011)
CHRIS Program – Prof E. Havranek

- Registry of all heart failure disease patients available which has been developed.
- Medical students in USA to emulate what their counterparts are doing in Zimbabwe – Bedside teachings.

Prof Havranek started his presentation by highlighting the CHRIS specific aims. CHRIS specific aims mirror those of NECTAR but focused on cardiovascular disease and are as follows:

1. Enhance the existing curriculum for ALL medical students in cardiovascular disease
2. Implement a Cardiovascular Clinical Scholars Program - provide the knowledge and skills needed to become effective academic physicians.
3. Engage UZCHS trainees and junior faculty in mentored scholarly activities related to the cardiovascular disease focus areas.
4. Create an academic environment at UZCHS that will enhance the UZCHS faculty
5. Monitor the impact of CHRIS on medical education, research, and practice

And he went on to elaborate how CHRIS was different from NECTAR:
- Smaller budget
- Emphasis on post-graduates
- Cardiologists differ from ID specialists
  - Salary – cardiology has evolved in the US & Europe to be very technology-intensive
  - This is important to consider when developing a cardiology specialty in resource-limited settings in Zimbabwe

The CHRIS content areas are on treatment and prevention to include the following:

- Heart Failure
  - Inpatient, hospital-based
  - Registry of clinical characteristics and outcomes of patients admitted with heart failure.
    - Carefully defined “clinical trials” database of characteristics & outcomes
    - Databases promote disciplined clinical evaluation
    - Serves as focus for quality improvement; clinical characteristics, Length of stay in the hospital, outcomes/patient status of hospitalization
    - Serves as important source for clinical research material; what are primary etiologies in SS Africa etc
  - Skills:
    - Disciplined clinical evaluation
    - Echocardiography (may get donation of instrument)
  - Potential for research into genomics or proteomics of phenotypes unique to Southern Africa.
• Cardio- genetic epidemiology & epigenetics

• Rheumatic Heart Disease
  – Primarily outpatient clinic, also inpatient
  – Registry of clinical characteristics and outcomes using ASAP registry (existing, opening meeting with UCT & New Delhi).
  – Primary and secondary education campaign – prevention efforts
    • Treatment of streptococcal pharyngitis has public health impacts; very challenging
    • Secondary – early rheumatic disease – preventing recurrent episodes of streptococcal infection is very important in preventing disease progression; secondary prophylaxis
  – Skills:
    • Disciplined clinical evaluation, especially physical examination
    • Echocardiography
    • Electrocardiography
  – Potential to develop collaboration across ASAP network
    • Genetic evaluation – what predisposes someone to getting rheumatic heart disease
    • Longer term treatment needs requires serious discussion in terms of resource allocation
    • Balloon angioplasty vs open heart surgery
    • Public health determinations need to be made by people of Zimbabwe
  – Bridge (content) with NECTAR; starts as infectious disease, progresses to chronic disease

• Cerebrovascular Disease
  – End-stage hypertensive disease; huge untreated burden in Zimbabwe; prevalence & severity of hypertension is very high
  – Community-based epidemiology of hypertension
    • Harare
    • Rural attachments
  – Community-based treatment programs; student participation opportunity for epidemiology
  – Community-based Stroke rehabilitation
    • To deal with the large burden of stroke
    • Unknown strategies for Zimbabwe – US strategies may not be applicable here (predominantly in-patient)
    • Ability to conceive & develop programs in stroke is a challenge; US-based neurology practice has moved away from stroke

It’s important to realize that partners have a lot to teach but a lot to learn
  o US is resource-overloaded, wasteful
  o US doctors are too much separated from patients
  o Mentoring triangles/quadrangles – bring U.S. trainees into the mix

IMHERZ – Dr Nhiwatiwa

Dr Nhiwatiwa, the Chairperson of the Department of Psychiatry started by elaborating the inter-relatedness of mental health with CHRIS & NECTAR. She stated that in Zimbabwe there were 7 psychiatrists who are divided among the University (2), government (1), private practice (4), and 1 who has recently graduated and is now a senior registrar. There are 5 students doing the Masters in Medicine – Psychiatry programme and 11 psychiatric nurse practitioners (Masters in Psychiatric Nursing 2008).
They have already started implementing some of the newer teaching methods, including more interactive training and more community-based services during post-graduate training. Benefits of the program (IMHERZ) to the department and faculty are as follows:

• MBChB I & II
  o Behavioural Sciences to try and move from Didactic Teaching to Students interactive learning
  o To Promote information finding via E-Learning and other technological platforms

• MBChB IV
  o To be able to train competent Doctors who deliver high levels of care for people with mental health problems using Evidence based practice.
  o To encourage our students to engage in research relevant to Zimbabwe.
  o To use problem-based learning, e.g. psychological consequences of goiter

• POST-GRADUATES
  o To produce highly competent Specialists.
  o After their post-graduate Studies we hope they will diversify into the different sub-specialities e.g. child psychiatry and also be highly motivated in research.
  o IMERHZ came with support and resources at the time when members in the Department were almost burnt out.
  o There is a sense of excitement and optimism that can help us re-vitalize our training program.

• FACULTY
  o To improve our teaching methods so that we can train better doctors.
  o To provide the opportunity for staff to continue self education.
  o To develop further collaboration with our partners casting the net even wider
  o To be able to develop skills in Research and supervise our students better

• BENEFIT FROM OUR PARTNERS
  o Mentoring in Research and post-graduate training in sub-specialties
  o Improving teaching of under-graduates to produce competent doctors
Discussion Q&A Session

1. What are the interventions regarding surgery for heart diseases in Zimbabwe and plans if any?
   - The current funding is limited and would not be sufficient to implement such a high cost intervention as open heart surgery.
   - For open heart surgery we need infrastructure, drugs and more trained personnel including ancillary staff (e.g. perfusionists, cardiac nurses, physiotherapists, pharmacologists, etc), etc. There is of course emphasis on prioritizing preventive measures although high cost treatment such as cardiac surgery will always be required.
   - Using rheumatic heart disease as an example, RHD complications develop in young adults in their 20s-30; this is a great loss to society. There is need to devote resources to deal with valvular heart disease non-surgically such as diagnosis of acute infection and prevention of recrudescence.

2. Is there a possibility of seeing a multidisciplinary approach to cardiovascular diseases?
   - One of the reasons to focus on RHD is because of the multidisciplinary approach needed for this condition including infectious disease specialists, public health practitioners and physicians
   - Consequences of severe morbidity at a young age are incredibly important.
   - A lot of ground work needs to be put in place before implementation. How to operationalize: registry development is a place to start. Interested post-graduates can collect as many RHD cases in the registry as possible, learn how to do echocardiograms, electrocardiograms; develop secondary prevention programs based in schools and work with microbiology colleagues to understand epidemiology.
   - It was highlighted that the capacity to train personnel is present but there is need for funds and resources to be put in place including infrastructure. We should also train MMeds to be advocates for the health care system; all need to advocate to the Ministries of Health & Education to provide adequate resources.

3. There was a question regarding duplication of initiatives e.g. IT
   - Prof Hakim pointed out that NCI was aware of IT activities that were being sponsored by CDC though their partners so that duplication can be avoided.

4. There was a question regarding appropriate diets consisting of locally available foods to address cardiovascular diseases.
   - It was pointed out that research questions like these should be brought forward so that they can be pursued although specific research funding opportunities should be targeted. NECTAR is not a research program but provides mentoring and infrastructure to support application for research funding.

   - Dr Cowan stated that mental health overlaps hugely with other programs, and a major goal is to figure out how to teach and integrate mental health in both the undergraduate and graduate curriculum.
   - Dr. Lund suggested operationalizing the undergraduate curriculum to integrate mental health, e.g. ARV adherence is better with better mental health.
   - A discussion ensued about training versus availability of facilities. A comment was made that one of the major reasons for emigration is that doctors don’t have the proper facilities to practice within their specialty satisfactorily. In response, it was stated that this was a difficult issue since it requires MOH and other players to make facilities available. NCI can only provide academic assistance including ICT and scholarly material.
   - Dr Masimirembwa suggested the establishment of a BioBank ensuring proper bioethical standards to be used for research purposes in future. He described the African Institute of Biotechnology as being interested in pharmacogenomics and biomarkers for disease susceptibility. Some patients are not responding properly to drug treatments/doses, eg some ARV dosages should be modified to suit African populations. The Biobank would be a common pool for conducting many studies; as new research questions arise, investigators can access specimens from the Biobank for appropriate analysis.
IT Presentation: NECTAR/SACORE/ICOHRTA - What do we need to Achieve an Efficient IT at UZCHS? – Dr T. Simbini

The goal is to ultimately be able to deliver the NCI aims with the proper IT skills and resources. The current status of IT services and needs is as follows:

• Connection is through a radio-link from UZ Campus and a fibre-optic link through CEPHI

Challenges include: Old Computers, missing parts, old hardware, old servers (most >10 years old).

• Few computers with a ratio of 15 - 20 computers:1000 students

• Library: the radio link is frequently down hence slowing down library services

• Internet available at the moment is very poor with limited bandwidth and there is poor communication with the UZ Campus

• The Audio Visual Technical Unit (MRC) is available at the UZCHS but is underutilized, although well equipped.

• VSAT was donated to UZ and is available in the country. Video conferencing and teleconferencing could be introduced to save time and transport - Students could avoid unnecessary movement between hospitals simply to attend a lecture. In addition access to e-learning resources should be widely available.

• There is need to have sufficient human resource capacity to support ICT. There is also need to improve the skills of the users.

Dr Simbini is an Informatics Consultant– at CEPHI. He highlighted the current status of IT services and needs at the UZCHS and gave a summary of findings from the ICT Assessment study which was carried by Inveneo and CEPHI. This included:

• Unreliable Internet Services (Poor Availability/Limited bandwidth)

• Inadequate Computers for students to use especially in the UZCHS library

• Poor Connection with Main Campus resulting in disruptions of services from Main Campus especially at the UZCHS Library

• The AVTU is well equipped but the equipment needs to be upgraded.

• There is sufficient space to set up all of the immediate ICT requirements.

• The bandwidth from Main Campus is limited

• The infrastructure to bring Internet Services to CHS is in place

• BRTI is on the same service provider as CEPHI at CHS.

• Harare Hospital has already started looking at how to provide Internet Services to students, starting with Nursing Students

• SACORE intends to invest in connectivity for its post graduate programmes
• VSAT Equipment to setup Video Conferencing services for e-Learning is already in the country and some groups have begun installations

The following is the wish list Dr Simbini developed:

• Internet
  o Markedly improve bandwidth and reliability.

• Intranet
  o Provide better connectivity between UZCHS departments at Main Campus, Harare Hospital and BRTI

• E-Learning Capabilities
  o Provide reliable, low cost video-conferencing and e-learning services for students across the entire geographical divide

• Communications
  o Internal Voice Over Internet Protocol services
  o What is within our grasp?

• Extending intranet services
  • The infrastructure is present but has not been fully utilized
  • Work on tools (applications) to provide lectures & seminars to much wider audience; interactive student learning tools, mentors & mentees; paradigm shift in teaching methods
  • Provide online resources to students who otherwise do not have access
  • Real time communication over a reliable connection (VOIP)
  • Record, store & review procedure/research work & processes for future use

Internet – better connectivity

• Access to global journals; how to pay for these services
• Interact with global scientific community
• Access to e-learning resources; what do we need? What is feasible? Bandwidth is a major impediment
• Provide supervision for students from outside our walls
  o Field work can be managed online; mobile vs nomadic internet access

• Online management of students
• How can we achieve this
  o Better connectivity – will be 25 Mb/sec,
  o Improve on current bandwidth availability
    - Require at least 1 Mbps with unlimited downloads
    - To download 1 Gigabytes would cost ~$150 (25% of 1 DVD)
    - Need to get lower bandwidth cost
  o Provide robust connection across all teaching sites
  o Ensure high availability (24/7)
    - Requires human resource to maintain network
  o Ensure better security of the network
    - Provide controlled access with appropriate software
  o Make it available everywhere
    - Provide a wireless cloud across all departments
  o Improve on skills of use
    - Users must be proficient in the tools for maximum benefit, access to training, training mentors to effectively make use of applications
  o Managing the services appropriately
    § Must be a core team to maintain this kind of service; policy on use management & upgrading of system
• How can we sustain this
  o Most critical component
  o Work together with understanding of collective ownership
  o Build synergies
- All ICT activities must come under one roof & share the costs
- Upcoming & existing projects must budget towards certain components of UZCHS ICT needs
- Achievable w/in next 3 months to 1 year

Mr Samkange

o 3 projects: NCI, SACORE, ICOHRTA – put resources together & provide a composite IT infrastructure that serves all
o Now that we have the infrastructure, what do we do with it?
   o 1 lecturer available for every 3 who should be there; indeed some depts. have no one
o Issue of delivering lectures to our students
   - Have 2 buses, 1 will be off the road in 6 months, the other not in great shape. Students will not be able to travel easily between hospitals of lectures
   - Videoconferences – 1 way or 2 way; cost is an issue
   - Face-to-face lectures in community medicine
• Create videoconferencing in provincial sites, reduce travel time; lack of vehicles, fuel etc.
• Podcast teaching (for offline learning)
   - Create on-line teaching and learning interactive programmes; teachers can focus on updating & creating new lectures
o Would like this meeting to create the sequence & prioritize
   - U. Toronto has very huge library; S & E Africa have access but internet access is too slow. There is a user agreement for Zimbabwe
   - Also U in Ireland has agreement for library access
   - Negotiate agreement w/institution, Zimbabwe students can get access to whatever material they need.
   - Prioritize what is needed, how to use it

- Internet technicians, must avoid the purchase of the most expensive equipment, more than what we might require
- Security of access; different levels
- Training of users
  • Teachers in creation of learning materials, including on-line assessments
  • Teachers – how to support students
  • Administrative staff need to be well-trained
  • All graduates need to be computer literate & able to train themselves

Discussion topics

- What are the services you think must be made available on the internet & intranet?
  • Quantify & prioritize
- How can we achieve sustainable internet facility at the college?
  • At end of 5 years, don’t let it collapse; replacement, renewing
- Training needs you envision must be provided for staff and students for maximum use of these services
- What key issues must be a UZCHS ICT policy address?
  • What access, who controls access, how do resource issues become addressed

Mr Samkange presenting – Where are with IT Services at UZCHS?
REDCap is a web-based database application for capturing data funded by NIH and designed specifically for capturing data in support of biomedical/clinical research intended to allow investigators to focus on design and execution of the trial rather than on details of IT infrastructure. RedCap’s physical server is located at sponsoring institution e.g. University of Colorado Denver, Stanford. Field forms are designed using interactive web-page or spreadsheet programs e.g. Excel and investigators design and assign user privileges using web-interface. The Data are entered via any web browser connected to internet and stored securely at sponsoring institution and reports can be generated or data can be exported into common statistical packages e.g. excel, R, SAS, SPSS.

How REDCap can be useful to NECTAR

- Can be used in any disease arena
- For COMIRB-approved IRB protocols, use free
  - May be able to get free usage for educational purposes
- Can begin building forms and databases for UZCHS-directed projects immediately
- Data is secure and backed-up off-site
  - Research can begin while IT infrastructure is built
- Low bandwidth requirements for continuous connectivity
- Soon will have of-line version which can be ‘synced’ periodically with host server in event of unreliable internet connection
  - Also low bandwidth requirements
- Large, growing community of users and developers in US who support and possibly produce functionality unique to UZCHS
- Facilitates remote collaboration for issues such as teaching local investigators how to analyze data once collected
- Ultimate goals?
  - Arming investigators with cutting edge clinical data capture technology to support research projects
  - Get project up & rolling quickly
  - End point would be transition to UZ hosting independent, fully functioning REDCap server using RED Cap community for support like peer institutions in US
- What would it take to implement?
  - Idea for a study e.g. CVD registry
  - Intermittent internet connectivity
  - Any web browser
  - Co-sponsored COMIRB protocol
  - ID pilot projects – solicit ideas from UZ faculty
o Use pilot studies to teach faculty how to design
database/forms & establish work-flow of data entry
o Once ideas are selected, start authoring IRB protocols

ICT – University of Zimbabwe - Dr Hapanyengwi
• Highlighted that the human factor can be a prohibiting
factor even if resources are available
• There is now an improved connection at the UZ (25 Mb
for about $62 000 per month). Also the fibre connection
from the main campus to Parirenyatwa has been officially
opened (3/2/2011). More fiber is being brought into
Zimbabwe from neighboring countries; currently satellite
connections are very expensive.
• The Library services are now interlinked between the two
campuses
• There is now need for training so that programs are utilized
effectively

Dr Hapanyengwi presenting on UZ IT

Question and Answer Session
1. What is the timeline for the Intranet to be set up including
   Video conferencing?
   • Basically 3 months are needed for internet and intranet
     set up to be in place
2. Explain the intellectual property rights. How secure is an
   individual’s data on the local server when it can be viewed
   internationally increasing the chances of academic
   terrorism?
   • The person in charge of the data controls access to
     and can provide rights to access his/her data.
3. How can we make Clinical teachings internet friendly?
   • Recording of lectures and procedures such as surgical
     operations which can be played back to students at
     any given time Challenges: people spending more
time on the computer rather than with patients by
the bedside
4. Prof Hakim stated that all this information about the
range of IT possibilities was very exciting to hear, and
he wanted the team to move to an implementation
phase. He also wanted that this dialogue continues
among all stakeholders, and encouraged all College
members to make appropriate suggestions to
contribute to discussions to promote the IT initiative.
Operationalization of NECTAR – Dr T. Campbell

- NECTAR aims spread out within the 5 years according to the timeline in the proposal.
- Year 1 focuses on curriculum development, with implementation beginning in year 2 (September, 2011).
- Multiple committees will focus on implementation of the NECTAR aims, including the Executive Committee, the Cross-cutting Committee, the MCSP, MRSP, the Faculty Development Committee, and the Visiting Professors/lecturers Committee.
- This workshop is intended to jumpstart the committees; there will be committee business sessions, where they are expected to produce a timeline and short, intermediate, and long-term goals, required actions, and delegation of responsibilities.
- There are other research training programs not within NECTAR but closely linked; the goal is not to duplicate what is already ongoing but to utilize available resources as much as possible.
  - ICOHRTA – research training program leading to advanced degrees; short courses are offered as well; supports MMeds doing clinical training, MS, PhD (Prof. Mason)
  - AITRP (AIDS training research programs) – U. Buffalo, UC Berkeley
  - CERTC (Clinical Epidemiology Research and Training Centre), Master's level (Prof. Matenga)
  - SARCORE - Welcome Trust-supported program for Resource-Limited countries (Prof. Chidzonga)
  - FAIMER (Foundation for the Advancement of International Medical Education and Research)
  - MPAETC (Mountain Plains AIDS Education Training Center) – UC-Denver

Operationalization of CHRIS – Dr Edward Havranek

- 1st year is for partnership building; real activity starts in 2nd year
- 2 or 3 postgraduates to work in the cardiovascular diseases area – start and work with registries over next 6 months
- Teaching program in place to start in September – Clinical Teachings (MMeds) and didactic Pre-Clinical Teaching in physiology and pathophysiology of CVD.

Operationalization of IMHERZ – Dr Melanie Abas

Dr Melanie Abas started by defining the key principles of IMHERZ as 1) building on and strengthening existing strong foundations, 2) being responsive to needs, and 3) pilot, review and move forward.

- Assess needs, including student needs, improving public health, service delivery
- Psychiatrists are different from cardiologists; they rely predominantly on human resources with a team focus, including psychiatric nurses and psychologists
- Linkages & context – really exciting time
  - Lancet ran Global Mental Health Series, grand challenges
  - Increasing evidence base on cost-effectiveness of treating mental disorders; stepped-care; task-shifting
  - Funding initiatives, e.g. PRIME, NIMH Research Hubs in LMIC
  - MHGap intervention guide, key interventions for 10 priority mental conditions in nonspecialized care - 200 member review group, 90 studies for meta-analysis

Existing Foundation - Undergraduate Steps:

- Input into years 1 and 2; family health study, communications skills, behavioral sciences, examination
• Year 4, clinical attachment, exam
• Introduce greater variety of teaching techniques across Behavioural Sciences and Psychiatry
• Revise and improve materials
• Strengthen multi-disciplinary aspects
• Encourage and support self-learning
• Teaching mental health in new settings e.g. HIV care, primary care, rural setting
• Shift towards competency-based assessment
• “Crazy person” is a small % of mental health issues that need to be dealt with

Qualitative needs assessment – 75% response, 4/5 diploma; 2/3 MMed
• Dedication
• Career rewards “I can make a difference”
• Appreciation
• Valued all teaching, valued positive feedback, increase recently in training
• “Feeling we had a right to be taught”
• Need more & better materials
• Fill gaps – need rotations in child psychiatry, forensic, “talking therapies”—how to do it and experience it
• More teaching aimed at post-graduates
• More direct observation of clinical skills with feedback
• Training in roles of NGOs, ethics, public health advocacy, management
• Research training early, in undergrad curriculum, so competencies are developed and will be prepared for dissertations & publishable work

Career issues
• Low-income specialty (all subsidized); running businesses on the side, transport businesses, own funds
• Need to raise awareness about treatability of mental disorders among general doctors and nurses
• Raising status of specialty – need to dispel myths e.g. “end up like your patients”
• Research as a way to retain
Postgraduate steps

- Introduce greater variety of teaching techniques
- Revise & strengthen material
- Mental health rotations in new settings
- Shift towards competency

How – link with NECTAR over teaching techniques; MCSP & MRSP

- Identify mentoring triangles, pilot
- Select 1-2 topics; introduce new materials, apply new teaching techniques, pilot, review, extend
- Support to faculty & students from visiting lecturers, peer-mentors, master-classes, distance learning; distance support

Question and Answer Session

1. What is available regarding networking in Mental Health in Zimbabwe?
   - We are open to the inclusion of a range of educators and other professionals

2. What is in place for cardiac surgery in the CHRIS program?
   - At the moment there are no funds for such an expensive program, but NECTAR and CHRIS provide opportunities for partners with different capacities and interests to come on board. CHRIS is basically an education and research capacity building program but other programs are welcome. We expect that surgery and other advanced CVD treatment modalities to grow over the years.
   - Prof Hakim added that even though current resources are limited and cannot fund cardiac surgery, faculty should explore other opportunities to bring on board this important need.

NCI – Evaluation Plan - Dr Connors / Dr Walters

Dr. Walters:

- Spent time walking around – understanding the context very important
  - Campuses, field attachment sites, hospitals, etc
- Hope to be more than “compliance police”; collecting NECTAR to find the honey at the end of 5 years (dean’s comment); we are your partners in formative & summative processes & helping you to tell your story

Dr. Connors:

- Also have junior evaluators, & this is a wonderful opportunity for students
- People who are putting the puzzle together; helping to make meaning out of this

The evaluation plan presentation was done with eight questions, their indicators and methods as follows:

1. To what extent is the UZCHS medical school curriculum and structure effectively revised? (Aim 1)

Indicators

- Increased academic knowledge
- Increased intention of students to practice medicine in Zimbabwe
Methods
- Expert review of curriculum
- Document review
- Key informant interviews

2. To what extent are medical school students trained and mentored to become productive academic educators and physicians? (Aim 2)

Indicators
- Implementation of the MCSP curriculum
- Development of high quality mentoring relationships
- Increased outcome expectations of medical students to pursue careers in academic medicine

Methods
- Reciprocal mentor/student evaluations
- Annual survey of students and graduates

3. To what extent are trainees and junior faculty prepared for scholarly research activities? (Aim 3)

Indicators
- Development of collaborative research partnership
- Increased self-efficacy to be effective researchers

Methods
- Document review (publications, presentations, grants)
- Mentor and student reports of research progress and productivity

4. To what extent is an academic environment developed that supports UZCHS faculty in becoming effective medical educators, investigators, and mentors? (Aim 4)

Indicators
- Establishment of the College Teaching and Learning Centre

Methods
- Increased self-efficacy as medical educators, investigators, mentors

5. To what extent has the evaluation/monitoring of NECTAR provided useful and actionable formative and summative information? (Aim 5)

Indicators
- Evidence of incorporation of evaluation data
- Satisfaction of program officers with quality and usefulness of evaluation
- Establishment of participatory evaluation

Methods
- Key informant interviews
- Document review
- Participatory evaluation rubric

6. To what extent are sustainable program components implemented with quality and fidelity?

Indicators
- Satisfaction of faculty and students with curriculum, research, and field attachments
- Establishment of material and structural supports

Methods
- Interviews
- Artifact review
- Sustainability rubric

7. What lessons are being learned about effective ways to develop a sustainable, collaborative, research-focused medical school program in Zimbabwe?
Indicators
- Identification of barriers and facilitators
- Identification of effective practices

Methods
- Artifact review
- Key informant interview
- Case studies of exemplary practices

8. How are technology, communication, and collaboration strengthened at UZCHS?

Indicators
- Adoption of technology infrastructure
- Improved communication and collaboration
- Sharing of effective educational practices

Methods
- Social network analysis of research collaboration
- Program observation/site visits

MEPI Logic Model – was provided by MEPI
- Really need your assistance to provide us w/ information for putting the pieces together; e.g. what is your timeline & what are your questions

Question and Answer Session

1. Are you going to look at indicators beyond the output of number of students being trained, but also to evaluate relevance of the graduates trained to meet the needs of the country as a whole?
   i) Yes, we will definitely want to look at qualitative studies, need your input; context is everything. This is not a football score!

2. Is there going to be a local unit available to monitor and evaluate the program since the international partners will be coming in only periodically?
   i) A local unit is available to monitor the program; Prof Rusakaniko is the head of the local evaluation team.

3. The partnership is for five years. Is there going to be filming of procedures for future reference?
   i) Filming is definitely a method available in the toolbox. This is one of the qualitative methods that can be used.

Prof Hakim thanked all the participants for their participation and closed the workshop for the day.
Recap of Day 1

Prof Matenga started the day by a recap of the previous day’s deliberations.

- The Vice-chancellor’s speech came from the heart. Most of us were excited that the institution truly supports this initiative.
- MEPI, NECTAR, etc.– PI & Co-PIs explained the objectives of the initiatives; thought they did exceptionally well in explaining what everything is about;
  - There was discussion about whether this program only refers to doctors – although the RFA was directed to the training of medical doctors, the whole College will benefit from the initiative.
- IT presentation – Drs Simbini/Samkange/Hapanyengwi/Kao – the four evangelists!
  - The presentation was not in Greek so that everybody could understand.
  - Dr. Kao said at the end, what are we waiting for, let’s get on with it!
  - We were not aware that basic IT capacity was available. This should serve as a good basis for the future.
- Monitoring & evaluation – previously thought that monitors were like spies, but now realized that they are part of the team and who will make the program more effective. An excellent presentation. The way they put together the matrix was very helpful. It clearly shows the relationship between the different components of the program.
- Today – what shall we do with these findings – as we proceed with this meeting, we will define what it is we will actually do.
- This morning, we will have presentations from the other evangelists about rural attachments.

Field attachment Program – Prof S. Rusakaniko

Prof Rusakaniko started by highlighting the field attachment groups as the 2nd Year, 3rd year, 4th year medical students, rehabilitation students and pharmacy students. The objective for the 2nd year medical students’ attachment is to expose students to a good understanding of community diagnosis with a focus on 5 key questions:

- Where and how do people in Zimbabwe live?
- What illnesses do they experience?
- What are their perceived and actual health needs?
- What health care and health related facilities are available?
- How are these facilities organized at different levels to meet health needs?
Field attachment Program

The focus is on community diagnosis in communal areas, urban areas and large-scale farming areas.

For the 3rd and 4th years the focus is on:

- Clinical diagnosis
- There is increasing clinical and community health inputs
- Clinical focus is mainly on medicine and surgery
- This is regarded as a transitional period between community-based exposure of the 2nd year and the clinical-based approach of the 5th year
- It builds knowledge gained during second year attachment by identifying major disease problems in adults and children reporting to district health services, their management, follow-up and control

By the end of the attachment the following should be achieved:

- Determine demographic data of the district/area under study
- Identify the major (top ten) acute disease problems affecting adults and children at health facilities in the area under study-estimate incidence rates and trends over time
- Familiarization with and describe the health facilities available in the district. Pay visits to at least two of these facilities
- Identified the five most important chronic diseases affecting adults and estimate their prevalence
- Determining the top five in-patient medical and surgical conditions in adults and children
- Assess the district health information system and quality of data collected
- Observe and participated in the general medical activities of the district Hospital
- Assess the services offered by the laboratory and their utilization, with particular reference to the range of tests available and the interpretation and use of the results
- Clerk, interview and follow up at least 3 adult medical and two adult surgical patients
- Carry out home visits to at least one in-patient

Prof Rusakaniko also indicated that UZCHS staff pay supervisory visits during the 2-4 weeks of field attachment.

- We need to generate reports from the students to assess their learning experience, so that the attachment doesn’t degenerate into a mere holiday.
- Since the attachment is to various places, we should be in a position to compare experiences in areas with various endemic diseases such as malaria-endemic areas, HIV high prevalence areas, etc. This will give a reasonable national perspective of disease pattern and distribution.

Challenges

- Accommodation for both students and staff during attachment
- Financial Support for the needs of the attachment
- Remuneration for staff to supervise students on attachment is limited

Max Katana – 4th year Student – Rural Attachment

- The students are grouped into teams by the field attachment office before they are provided with transport to go for their attachments.
- The students provide their own money to buy food when they are on attachment.
- When they get there they are welcomed and shown around the hospital by relevant authorities, e.g. the Matron, medical officer.

Challenges:

- There is limited clinical staff to follow up students during the attachment to monitor their work.
- Students experience food shortage during attachments.
- Accommodation at times is bad. Generally they learn to adjust to what is there; “we are here to become
doctors and when we come back as doctors we will make a difference”.

- Data collected in the districts is at times not up to standard. The 10 top diseases are collected according to the registry forms. But data on HIV-related illnesses is lumped under “others” which hides the actual burden of HIV in the community.
- The challenges dependent on where you are posted.
  - Mission hospitals are better staffed and resourced so there is a good learning experience for those posted there.
  - Provincial hospitals, community hospitals are not so well resourced.
    - Sometimes the DMO is never seen on-site because of multiple engagements that keep them out of the hospital.
    - No mentors available; often matrons/sisters instruct students on what drugs to prescribe, dosage, etc.
- Mentors are often not available.
- The electives office is non-functional.
  - The 6-12 weeks elective period is after completion of the 4th year. There is difficulty identifying hospitals for all students which offer good supervision & mentoring.
- Many patients are referred to Harare because they cannot be taken care of at the hospital.
- Until she heard today’s presentation, she didn’t know what the students were supposed to achieve.
- Matrons/sisters show the students the hospital, labs, x-ray unit, etc.
  - Medical students are keen to learn, but mentorship is very poor. Appeal to the Dean to support students when they come out for attachment.
- Nurses sometimes need to correct the students especially errors in prescription, which they graciously accept.
- However when the doctors are present, they are very helpful to the students.

**Challenges:**
- Accommodation not friendly at all; this is a serious issue.
- No electricity, no stove, no generator, and at times no water available.
  - No suitable place to study.
  - Sometimes the students gather firewood to prepare their meals.

**Matron Mbambo – Mvurwi Hospital**
- Matron Mbambo has been at Mvurwi Hospital for 21 years, 7 years as matron.
- Medical students, student nurses, rehabilitation & pharmacy students all go to Mvurwi for attachment.
- Mvurwi has been without a GMO for 5 years. The hospital is run by the matron and DMO. The doctors who are assigned there are rarely on site.
- The hospital staff is tasked with familiarizing students with the activities of the hospital.
- He has fond memories of his field attachment during the good old days, when social amenities were also good.
- Now-a-days young medical students don’t have financial support. In his days students were paid to...

**Dr Rushwaya (Murambinda Mission Hospital)**
- Murambinda hospital (250 km from Harare, 3 hour drive) is well-funded and well-staffed. Students generally have a good learning experience during their attachment to the hospital.
- Today is the first time he has been able to leave the hospital to attend a workshop because of the amount of work at the hospital.
- He has fond memories of his field attachment during the good old days, when social amenities were also good.
- Now-a-days young medical students don’t have financial support. In his days students were paid to...
be in school. Ironically students these days are even keener to learn, much more so than the students of yesteryears.

Challenges:

- Mentoring
- Keeping in line with the proper methods of treatment is difficult; hence doctors end up improvising and not showing the students what they have been taught at medical school.
  - Patients don’t want to be referred to Harare because they don’t have the money, so at Murambinda they try to make do & improvise.
  - For teaching students, they tell them “this is what we do here for such a case”.
- They need to keep abreast with what is currently going on in modern medicine.
- Problems with investigations
  - Trained personnel are not available
  - There is need for all kinds of lab tests but can only do full blood count, chest X-ray and a few other tests
  - Students are very eager to make accurate clinical assessments e.g., what is this abdominal mass? But the only diagnostic ability available is an ultrasound machine for estimating gestational age
- When faculty come to visit, let the students present their patients so that faculty can give them diagnostic and therapeutic advice.

Dr Chimedza (Guruve Hospital)

- Guruve hospital is located in the middle of nowhere-in a very hot malaria endemic area.
- His attachment experience was good, but there was no medical officer
- In Dali, the population is largely hunter/gatherers; who when they get to the township they think they’re in Harare
  - Culture shock for students because Guruve is far from civilization
  - But students get much needed exposure to minorities

Challenges:

- Visits by consultants are needed
- No notifications are done that students are coming
- Laptops are useless; they have no data line and power is not consistent
- There is need for guidelines to be put in place regarding the supervision of students
- There is also a problem with proper accommodation and availability of food for students

Recommendations: IT!

- Sites for students to work – give them old CHS computers? Computers needed for both the students on attachment and the doctors supervising them so that they keep up to date.
- Internet access
- Power cuts are frequent; give them old textbooks from medical schools

Colorado Attachment – Dr Bradley-Springer

- Rural areas are also very far from the cities just like here in Zimbabwe
- There is also a shortage of health care providers
- Clinicians also travel a long way to educate everyone
Question and Answer Session

1. It looks like the Nursing students have been left out.
   - All departments are involved and all students who go out on attachment (medical, nursing, pharmacy, rehab, etc.) will benefit from the improvements coming from the NCI program.

2. Is there still a prize for the best report for students after attachments?
   - Yes the best presentation is selected and the student is given an opportunity to present during the Research day.

3. Students are usually left on their own during attachment and there is need to include mental health as a component during attachment. IMHERZ to look into that.

4. There is need for regular visits to rural sites from Specialists to enhance training during attachment. Coordination by the rural attachment program?

5. The economic hardships are a contributing factor to all the problems faced at the different institutions. Noted.

6. Departments also have a tendency of not responding when they are asked to produce names of people to go for attachment supervision. Faculty members should be encouraged to support this excellent learning opportunity for their students.

7. Motivation/incentives for lecturers needed so that it would be easier to supervise the student on attachments.

8. There is also a need to resuscitate the infrastructure so that they become favorable – rural attachment. Possible assistance from NGOs?

Student/Faculty Needs Assessment results – Dr S. Connors/Dr Mark Broderson

A survey was conducted in January 2011 at the request of NCI PIs to determine student/faculty perceptions current academic needs and assets.

- Parallel surveys were developed for students and faculty
- Item development was informed by Carnegie Institute’s ‘Educating Physicians’
- Items were refined based on feedback from NCI leaders

Surveys were administered with the assistance of Dr. Rusakaniko, Dr. Borok, and Dr. Hakim

To date, responses have been received and analyzed for:

- Faculty: 18 of 139 (12.9%)
- Students: 267 of 569 (46.9%) – all in Years 2 – 5
(Surveys are still being submitted and will be added to the analysis.)

- Any trends with limited faculty data?
  - How important are various features vs status
  - Top 2 are use of education innovations such as e-learning & simulation, and learner-centered education (involving the learner & focusing on best practices in learning)
  - Faculty interest in professional development
    - Very interested in all areas – e.g. writing for publication, collaborative research, grant-writing skills, mentoring/coaching skills, etc.
  - Greatest needs/challenges – technology access – internet, computers, e-learning
  - Greatest assets/strengths – teachers/staff: human resources, lecturers, teachers
• **Student data:**
  o 52 second year, 61 third, 124 fourth, 30 fifth
  o On 5 point scale, range from 2.8 to 4.1
    - Highest ratings –
      • Diagnose medical conditions seen in Zimbabwe
      • Communication with patients
      • Prevention & treatment of malaria
      • Think & act like doctor
    - Lowest
      • Conduct clinical research
      • Prepare publications & presentations
      • Prevention & treatment of childhood mental disorders,
      • Treatment of chronic mental conditions

• **Faculty ratings of student preparedness**
  o Poorest – ability to conduct clinical research, prep pubs/presentation, substance abuse treatment

• **Qualitative questions of students**
  o Most satisfied with expectations from clinical experiences
  o Most dissatisfied with feedback on performance with teachers & professors (other than standard tests)

• **Students – needed resources**
  o Textbooks, internet, clinical learning, computers, tutoring in clinical setting, electronic books

• **Options for plans for the future**
  o Highest is practice at central/referral hospital – 61%
  o 58% in private practice
  o Only 15% prefer to practice at rural sites
  o Other – pursue MMed/grad degree/specialization; pursue career outside of medicine; practice med in Zimbabwe 55% plan to practice in Zimbabwe

• **Challenges** (open-ended question) – types of answers:
  o Resource access, financing, technology access, curriculum/instruction, housing, high student/teacher ratio, facilities/maintenance, faculty/staff interactions, personal health/safety, transportation
  o Major problem is financial
  o Transition between preclinical & clinical education
  o Housing

• **What’s working**
  o Clinical experiences, patient contact, faculty, field attachments, basic science foundation
    - Good exposure to patients; coping ability; priority of saving lives

• **Next steps – please send in faculty surveys; continue data collection, prepare full report; follow up**

Question from Ed Havranek: speculate on same survey in the US?
  o Susan – they’ve done a similar survey with college of nursing at UC-Denver; similar results in appreciating faculty; clinical exposure here in Zimbabwe is unique
Cross Cutting Academic Committee – Prof Nathoo

Introduced the members of the committee which consists of the following:

Prof Nathoo, Prof B. Maldonado, Dr Borok, Prof E. Aagaard, Dr C.E. Ndhlovu, Dr F. Bwakura, Dr H. Mujuru, Dr T. Chipato, Prof Chirenje, Mrs Marimbe, Prof Muguti, Dr Samkange, Mr Chifamba, Dr Mangezi.

The committee consists of faculty involved in curriculum development, clinical work at Harare Hospital and some research. We will try to improve quality of assessment and the quality of future doctors; we should all try to learn something from this long-overdue important step because of this opportunity. No excuses should be used!

Tasks –

• develop competency-based curricula for MMeds initially in Medicine & Paediatrics; Psychiatry
  - Zimbabwe specific performance standards in each competency area
  - Integrate NECTAR/CHRIS/IMHERZ areas into curriculum

Process

• The meeting at end of Nov 2010 in Harare the initial goal was to develop a competency-based curriculum for MMeds
• Reach consensus on the action items & timelines needed to develop & implement the MMed programs

Step 1: What’s your goal/product

• What knowledge, attitudes & skills should every doctor have?
  - 2 levels:
    • Competencies - necessary physician attributes, e.g. medical expert
    • Performance standards – refined, more specific description of outcomes; e.g. ability to obtain & document a complete medical history

Dr. Eva Aagaard

• Steps of competency-based curriculum development; huge task ahead
• Landmark Carnegie study – just published – 100 year follow-up to Flexner report; basis for physician training around the world
Step 2: What are you going to teach?

- Curriculum development – decide on specific learning objectives

  Why is this important – in Zimbabwe, a lot of people emigrated and those remaining didn’t know what they should be teaching; should be reproducible year after year, everyone knows exactly what they’re supposed to teach because it’s what we have decided is important; this is the content we’re asking you to teach, this is what you will be tested on; also helps decide how you’re going to teach it – lectures for specific content; but if teaching how to do clinical exam, lectures not the best method; gives you ideas on how you will teach – it should flow logically

- Time-consuming part is deciding what you’re going to teach

Step 3: How are you going to teach it

- Pedagogy = method

Step 4: Do it

- Obtain buy-in
- Obtain resources
- Implement curriculum

Step 5: Feedback & evaluation

- Was curriculum well-received, e.g. surveys
- Have learners achieved the goals
  - Direct observation on standardized patient
  - Exams

- Congruence is key: learning objectives flow into methods which flow into assessments

- But it’s also a continuous cycle, with feedback to refine learning objects, evaluation
- Never a perfect product, always need to modify, update etc.

- What have we done so far? Meeting in November, 2010

  - Developed 7 core competencies
    - Patient centered care
    1. Medical expert – knowledge, history, physical exam
    2. Communicator/relationship builder
    3. Scholar/researcher
    4. Ethical/ professional
    5. Educator of other physicians, patients, other colleagues
    6. Community health advocate
    7. Manager & leader – run a team within a hospital, district medical officer

Question and Answer Session

- When you looked at the MMed current curriculum, was it not based on competency, doesn't it already cover these areas?

  - To some extent it does exist in terms of the large goals; as everywhere in the world, curriculum reflects experience desired but not fully developed

Question/comment (Mary Bassett):
These competencies seem like what should be achieved over a lifetime of work; someone should come out of medical school with the clinical competencies etc. in pediatrics, e.g.

- Dr. Maldonado – different way of looking at what you’re already doing; if you take a test & pass, you’ve demonstrated competency
  - At Stanford, have some issues with ethics & professional conduct
  - Or could be addressed in practice & what you’re already doing – leadership & communication could be judged by how student interacts w/nurses on ward rounds etc.

- Prof Nathoo said that the specialist also has the role of educating the people around them, students, allied health professionals

- Dr. Reid – diagram is a flower, competencies are petals, need all the petals for flower to mature & be beautiful; teach our students what we’re aiming for at the start. In his generation, they stumbled around without an idea of what the goals were which they found out by mistake. Doctors need to be leaders & managers. Medicine has lagged way behind business & other spheres need to incorporate leadership guru ideas into medicine. Medicine is short-sighted – eyes on teaching genetics or leading a team.

- Question from the Dept. of Paediatrics – what is the relationship of this curriculum to the general curriculum – is it an add-on, how does it fit?
  - Prof Chidzonga – current funding is to review current curriculum (from 1992) – look at it in a new light; won’t change content but rearrange it; document what we expect you to teach

- Comment from the Department of Surgery – 7 competency areas listed; must prioritize
  - James Hakim – sat in on process for identifying competencies so have an idea how they were developed; but fully formed flower looks very onerous; how to explain this in such a way that the doctors we aim to produce are fully formed

- Eva – competencies are general attributes, but what they mean in practical terms depends on different evaluation stages; continuous life-long learning; each doesn’t get equally emphasized at the beginning but will develop at different rates

- Dr. Ndhlovu — A lot of this we are already teaching, e.g. are you nicely dressed, are you coming to work on time

- Dr. Maldonado – this is a way to evaluate what you’re already doing – how to help the person learn how to be better in that particular competency – i.e. always late is a defect in professionalism

- Margaret – exercise in preserving the flower rather than watching it wither & die which is what happened in previous review

- Eva – this will be the template/backbone for what is used in the starting areas, can be translated into other areas; what can be sustainable after current funding goes; this backbone will be there; implementation will be key, how will we carry this out when we don’t have visiting faculty every 3 weeks
The Committee has developed performance standards; today we will work on 2 performance standards & develop learning objectives that are NECTAR specific

- The template form can be used by CHRIS & IMHERZ
- E.g. medical expert – everyone must achieve
- Thorough knowledge etc.…
  - Specific learning objectives with respect to HIV, TB, Malaria (NECTAR)
- Ability to perform complete physical & mental exam
- Take medical history
- Differential diagnosis
- Therapeutic plan
  - Define topics/learning objectives for each so that different faculty will teach to the same goals for each topic
- US ACGME requires goals & objectives (Dr. Maldonado) Peds ID
  - Example: patient care goal –
    - 6 objectives in 1 yr
      - Elicit comprehensive history
      - Gather epidemiological info
    - Assessment 180 vs. 360°
- Teacher assessing student, also student assessing professors; also include nurses, other health professionals
- Dr. Maldonado’s explanation of process – fitting existing curriculum for MMeds in Peds & Medicine into this framework, small numbers of students; first iteration by May, implement in September; can be used as model for CHRIS & IMHERZ; eventually expand to undergrad education in future years

Feedback from Prof. Chipato

- Worked on matrix defining competencies, performance standards, & specific learning objectives
- Physical exam elements
- Teaching methods – some already available, some on wish list (e.g. video conferencing)
- Assessment methods
- Assistance from UCD but most work will be done by UZCHS faculty to complete curricula for Paeds & Medicine
- Also try to get other departments involved

Prof Hakim – focus for NECTAR on PEPFAR areas, but no need to stop there

Prof. Chipato will also involve his own dept to engage them in process for their own MMeds

Prof Nathoo reiterates that this initiative started in Zimbabwe, involves Zimbabweans; we are involving partners with expertise; Zimbabwe has had problems because of our own constraints, while other countries have moved forward. Zimbabwe faculty has defined the competencies.

Differences – we don’t need simulation because the students have lots of clinical experiences; this program belongs to us (Zimbabwe), it’s up to us to make the best program in Africa.
Workshop Session 6: Co-Chairing
(Dr Borok and Prof Chirenje)

Mentored Research Scholars Program (MRSP) Committee – Prof Chirenje and Dr Chipato

- Research methodology introduced at 2nd year of undergraduate training; important to start the students early, attach them to mentors & develop a scientific project. Is it appropriate to start with undergrads for this program?
- MMeds in years 3 & 4; recent graduates to be appointed as Assistant Lecturers. Identification of good students who can be supported to go forward and be somewhere by the time the program ends.
- It should be taken into account that departments are different and some are better staffed than others so the slots should be identified accordingly depending on the capacity of the department. Currently the Departments of Psychiatry and Medicine are already targeted.
- It was also highlighted that measures should be put in place to curb the issue of double dipping for students whereby at the end a student will end up benefitting from the two committees (MRSP and MCSP)
- What are the courses? ICHOHTA, SACORE already provide some. CERTC and BRTI should work together and complement each other.
- Set priorities & goals for the short, medium, & long term
- What level of training:
  - Basic research methods course
  - Protocol development
  - Grant writing

Prof. Chirenje: Resources should also go to students who’ve never used a laptop, how to get pilot grant funding, etc.

Peter Mason: ICOHRTA program

- Directed at the postgraduate program for research in HIV, TB, malaria
- As part of program, developed series of courses
  - Core – research development, methods, grant writing skills,
  - Research conduct – data management & quality issues, ethical issues
  - Research reporting – manuscript writing, presentations
  - Funding for 10 people, try to take 20; try to run the core courses 1X/year
- ICOHRTA has just been renewed for another 5 years
- Want to develop program as diploma level so it would be applicable to anyone in any discipline
- Would like to see collaboration between ICOHRTA & this committee to decide on competencies needed for someone to conduct research

Dr. Maldonado:

- described an Intensive Course in Clinical Research that is run by the Stanford Center for Clinical and Translational Education and Research:
  - A week-long intensive “immersion” experience intended for senior residents and fellows who are interested in clinical and translational research involving adult or pediatric health.
  - Stanford’s faculty & staff who teach this course would be willing to run it in Zimbabwe and train UZCHS faculty to teach it in future years.

Prof Matenga:

- CERTC also offers research training courses in college, over a period of time, targeting members of faculty who want to get some skills in research methods; also used to run course in research methodology over 10 weeks over lunch hour; now great opportunity to coordinate all parts; also community medicine under Prof Rusakaniko offer MSc degrees in clinical epidemiology; let’s coordinate
everything and figure out what competencies we need, what groups should we be teaching

- one of the purposes of MEPI is to strengthen capacity of faculty to do research; target MMeds at the beginning to develop interest in academic life to eventually become lecturers, researchers; by 2\textsuperscript{nd} or 3\textsuperscript{rd} year can identify the best ones to give further incentives

Prof Chirenje:
- Some departments don't offer MMeds and have 0 teachers; need to include them
- Want to have measurable results: i.e., we have created X #s of teachers, researchers

General discussion points:
- Could we start with graduates who have finished physiology; take the bright ones, get training in neurophysiology, BSc, MMed?
- How would you maintain continuity from one department to another?
  - Each department needs to identify its own weaknesses; identify focus for capacity development
- All departments are depleted but some are worse than others; obviously there's more support already in departments who have researchers
- IMHERZ will provide ongoing mentorship, triangles; a 7 day short course on mental health research methodologies; help fellows to develop research.
- Short courses seem to be a common theme; maybe there should be a single basic course for all?
- There are multiple descriptions of the mentoring triangles
  - Triangles may include student (mentee), local mentors (senior & junior faculty), partner mentor (UCT, Stanford, UCD, etc.)
- Possible for triangles to be created with local fellows & partners – research capacity development spreading to more targets.
- Are we planning to make Clinical Scholars researchers? Are the research triangles being applied to Clinical Scholars?
- What are the incentives?
  - Examples: here is a Net book, or cheap laptops for mentored clinical & research scholars (in budget), plus stipend to support them in this endeavor; plus special training they get, the mentoring relationship that's established, other things they can get through the grant
- How long are these fellowships being envisioned? Mentors & mentee need to develop a long-term plan;
  - 6 mental health fellows in plan – 4 PhD & 2 MS? Does this define the time frame? Also need to define numbers per department.
  - In CHRIS, they're spread them out over the 5 years – 4 in 1\textsuperscript{st} year, 2 in each following year.
  - Minimum 3 years for a PhD for support in ICOHRTA
  - It was also highlighted that measures should be put in place to attract students to do research rather than spend more time running their own businesses which have nothing to do with their training.
  - A selection committee is to be set up which is transparent and consistent. It will be a competitive process to select scholars, projects, seed money. ICOHRTA rules say PIs cannot sit on selection committee but have final approval.
The goals for the committee were tabulated as follows:

<table>
<thead>
<tr>
<th>Goal</th>
<th>Action</th>
<th>Person</th>
<th>Date of Completion</th>
</tr>
</thead>
</table>
| 1. Establishment of a standardized selection procedure | *meet the MSCP to harmonize  
*establish selection criteria for research scholars  
*propose program – visit departments & present case, sensitization; get feedback | Chair, Gift | Feb – May 2011 |
| 2. Have candidates in place. | *advertize  
*Interview  
*selection  
*review existing courses  
*Harmonize  
*Adopt  
*produce a time table | TBA | June – Aug 2011 |
| | Establish short course framework | | |
| 3. Identify mentors, local & international | *database of mentors and areas of interest | A. Chingono Jeph | June – Aug 2011 |
| 4. Scholars to develop proposals  
b. Identify new scholars  
CHRIS Operationalization – Prof J. Matenga/Prof J. Hakim/Prof E. Havranek

- The main goal for CHRIS was highlighted as to produce more cardiologists in the country who can be trained through CHRIS and be able to stay in the country.
- Lectures on video already available from Prof Havranek and it was suggested that the lectures be first looked at before being used to make sure that they are relevant to our environment as some of them won’t be appropriate to us.
- It was also suggested that there should be a mechanism in place for students to show what they have learnt as they go through the program (certification or something)
- It was also highlighted to introduce more programs like this so as to lure more students to do research because most of them do not get something to do after MMed. Motivate 3 students to train in cardiology.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Action</th>
<th>Lead Person</th>
<th>Date of Completion</th>
</tr>
</thead>
</table>
| 1. Enhance Curriculum | Acquire digital lecturers/ servers  
Review e material  
Lectures and skills  
Develop Curriculum  
Pre Clinical Physiology  
4th & 5th yr  
Pathophysiology  
Purchase ECHO, ECG, BP machines/Paediatric Probs, Neurology equipment | Dr T. Simbini and Prof E. Havranek  
T.B.A | Feb – May 2011  
May - Aug 2011 |
| 1b. Visiting Faculties |  |  |
| 2. Establish CCSP  
2b. Neurologist  
2c. Rehabilitation  
2d. ECHO Cardios | Advertise, Interview & Select  
Establish Selection  
Committee & Criteria | Matenga & Mujuru | May – Aug 2011 |
| 3. Establish Registries | Start Registries and special clinics  
Data handling & training | Matenga, Hakim,D, Kao, Bwakura M. | May – Aug 2011 |
| 4. Triangular Mentoring | Bilateral elective visits for fellows  
Develop skills set | TBA | Sept 2011 – Oct 2012 |
| 5. Evaluation | Practice test |  |

IMHERZ Operationalization – Dr. Cowan

- Ultimate goal is to have 5 trained specialists at the end of 5 years
- Need to motivate people to do MMeds in psychiatry
- Things to decide now:
<table>
<thead>
<tr>
<th>Goals</th>
<th>Actions</th>
<th>Person responsible</th>
<th>Date of completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of resources/materials</td>
<td>Buy computers for resource center, start sourcing teaching / learning materials from partners; start loading materials / establishing resource centre</td>
<td>Shamie Jombo</td>
<td>April 30 2011</td>
</tr>
<tr>
<td>Mentoring format decided; role</td>
<td>Models of mentorship that could be considered; Model of mentoring to be adopted</td>
<td>Melanie Abas / Amy Iversen / IMHERZ Team</td>
<td>April 30 2011 / May 31 2011</td>
</tr>
<tr>
<td>Draw up in more detail what IMHERZ mentored research and clinical school programme will entail</td>
<td>Draft format of how mentoring / exchange programmes and visiting lecturers programme will interdigitate to form the scholar program; Agree / reformat draft with IMHERZ Team</td>
<td>Nghiwatiwa / Kajawu / Chingono / Chibanda / Mangezi / Cowan / IMHERZ team</td>
<td>April 31 2011 / May 31 2011</td>
</tr>
<tr>
<td>Selection criteria for IMCFs, IMRFs – all MMed candidates in Psychiatry</td>
<td>Meeting to decide criteria for selection of IMCFs and IMRFs</td>
<td>IMHERZ Team</td>
<td>May 31 2011</td>
</tr>
<tr>
<td>Template for individualized plans for current MMed students (n=5)</td>
<td>Get and adapt template; Draw up individualized plans</td>
<td>Melanie Abas / Amy Iversen – Sekai Nghiwatiwa / Frances Cowan</td>
<td>31 March 2011 / 31 May 2011</td>
</tr>
<tr>
<td>Review curriculum topic areas for all years in terms of structure and content; form of delivery to be decided later; Master classes content</td>
<td>Decide form and content (50%) of first Master class to be delivered in 2011-12</td>
<td>Walter Mangezi / Lazarus Kajawu / Melanie Abas</td>
<td>31 May 2011 / 31 August</td>
</tr>
<tr>
<td>Selection of mentor</td>
<td>IMHERZ partners, MMed students and faculty who need mentoring</td>
<td></td>
<td>31 August</td>
</tr>
<tr>
<td>Select topic area to pilot, apply to other modules</td>
<td>Select topic area; Pilot module and evaluate; Adapt 6 other modules</td>
<td>Nghiwatiwa / Mangezi / Abas; UZ Dept Psych – Mangezi / Nghiwatiwa; Mangezi / Nghiwatiwa supported by Abas / Araya</td>
<td>30 Sept 2011 / Mar 2012 / 31 Aug 2012</td>
</tr>
<tr>
<td>Run 1 master class</td>
<td>Finalise masterclass content</td>
<td>IMHERZ partners</td>
<td>31 Dec 2011</td>
</tr>
</tbody>
</table>
Recap of Day 2

Visiting Lecturers / Professors Committee Business meeting: Dr Matenga & Dr Brandenburg

Discussion of needs:

- Visitors wanted to find out who does most of the basic science teaching at medical school? It was highlighted that teaching is done mostly by teaching assistants.
- To try and identify visiting professors who can teach both clinical skills and basic sciences, to make the visit more cost-effective
  - E.g. Dr. Havranek could come to teach clinical cardiology and also teach cardiovascular physiology
  - A challenge will be linking clinical and basic science academic calendars to the visits
- For the visiting professors, need to define which preclinical sections are most important, as well as the scope of didactic teaching responsibilities – preclinical lectures, small group teaching (PE & history taking).
- Prof. Chifamba reviewed the timetable for the undergraduate curriculum; It is flexible except for neurophysiology/Head & neck; currently exams are in May.
  - Physiology and behavioral sciences are taught 1st & 2nd years; biochemistry in the 2nd year.
  - Visiting surgeons could help with anatomy
  - Suggestion was made that a stipend incentive be provided to MMeds to help with anatomy teaching.
    - Departments need to give the MMeds release time; in the past this hasn’t worked, but it is a good idea to use local talent including doctors in private practice.
- Visitors will need registration and other permits; this is on the agenda for the Executive Committee
- Scope of clinical teaching responsibilities will be focused on MMeds: bedside rounds, morning report etc. These could be scheduled at any time except during exams (Nov/Dec).
- Location of responsibilities: Harare, field attachments
- Equipment was said to be available for teaching purpose although there was need for other equipment like endoscopes, bronchoscopes etc.
- The team in Zimbabwe is charged with listing procedures they desperately need help in teaching.
- Look for funding outside NECTAR for instruments if there are people able to use them; ask home institutions for equipment donations, e.g. pediatric size bronchoscopes; ultrasound machines, etc.
- Prof V. Robertson said that she used to process/interpret slides from the bronchoscopes; could revive this service.
- Surgery says there are too many patients for the pieces of available equipment; some staff know how to do procedures but need more instruments.
- Is it possible to reallocate funding to buy basic equipment, e.g. use some funding for faculty travel to beef up local instrument capacity?
  - Use NECTAR to leverage other grant applications (e.g. company funding for ultrasound)
- Limited hematology expertise is available; need someone to help in MMed teaching and interpretation of tests such as bone marrows
- The visitors highlighted that it would be very difficult to treat patients in rural areas/districts as the facilities are non-functional. They pointed out that they are used to working with a strong lab and facilities support. It was suggested that they will get assistance and training of how to work with minimum lab support (sub-standards).
• It was also suggested that a document should be prepared for the visiting professors as a guideline for the approach to various local procedures.

• NECTAR and The Dean’s office to develop a schedule to capture the activities of visiting professors/lecturers for the entire duration of their stay.

• If US Residents come to Zimbabwe for attachment we should consider a reciprocal arrangement for our MMeds students to go for attachment to the USA. This is a possibility as long as we spell out what we expect our students to learn and get exposed to in the USA. Moreover it will not be possible for them to practice in the USA.

• Sentiments were expressed that the program should not leave out allied health professionals like nurses, rehabilitation technicians, etc from training opportunities. It was pointed out that funding was targeted to strengthening of medical students but the entire College will benefit from the improvement in academic infrastructure that the initiative will bring.

Faculty Development Program Committee Business meeting: Prof Chidzonga and Dr Bradley-Springer

NECTAR Aim 4 – creates an academic environment at UZCHS that will enhance the ability of UZCHS faculty to serve as medical educators, investigators and mentors

Plan in the grant:
• 2 centres: Research Support Centre (RSC) and a College Teaching and Learning Centre (CLTC)
• Visiting professors and lecturers
• FAIMER fellowships
• Faculty development for part-time faculty at attachment sites (DMOs)

DMO Faculty Development
• Include district medical officers in faculty development activities

What information do you think would help the DMOs do a better job of teaching students?
• Needs assessment
• Learn how to learn, to become better teachers
• Motivation to teach
• Ethics
• Written guidelines/manual (with detail), objectives of the rural attachment sites, know curriculum
• Training tool, the material
• Continuing medical education
• Student support services
• Research techniques
• Internet/computers with DVDs
• Management leadership
• Outreach by specialist
• Standardized teaching DVDs
• Conference/workshop at least 1 x year
• Self care
• Appreciation and accountability
• Public health issues
• Use of side labs

What information do you think would help the junior faculty do a better job of teaching students?
• Orientation course (compulsory)
• Staff development opportunities
• Start-up grant for research
• MMed 3 to join faculty
Report Back – Cross Cutting Academic Committee – Prof Nathoo

- SWOT analysis
- 7 Competency areas
- Competency-based learning – next steps
- Begin process for MMed medicine, adapt, add, and adjust for other depts.
- Develop curriculum to specifically teach these competencies/performance standards
- Are we not producing competent doctors? Do we need competency based learning?
- Important question; often ask this question, but don’t really know how good they are; more structured w/competency based learning
  - competencies are of different types; will be achieved at different stages of learning
  - team work - worked through specific objectives for Medical Expert

Discussion - Question and Answer

1. What can be done to improve the shortage of Physicians

- It was suggested to develop physician assistants and nurse practitioners and try to train professionals aligned to medicine during the program. Echo cardiographers to be trained through CHRIS.
- Mental health ranging from primary mental health care upwards to be provided through IMHERZ.
Workshop Session 10: Chairing (Prof Campbell/Prof Barry)

Report from Mentored Clinical Scholars Program [MCSP] Committee – Dr Borok

Short-term goals:
- establish mentoring triangle structure – longevity of triangles, formal vs. informal; dept identification, trainee level for Int. Medicine; trainee level for Paeds; faculty ID & approval
- curriculum identified
  - incorporate feedback from committee & faculty, modify goals;
  - re-present to committee for approval

Mid-term
- Curriculum development
- solicit applications, interview & accept scholars
  - Advertise, flyer?
  - Coordinate with other committees
- Initial training of mentors – AIM4 workshop?
- identify liaison mentors in US
- training venues – meeting space
- resources – common use computers
- establish evaluation program

Long-term
- teach academic curriculum; AIM4 sessions established

Report from Faculty Development Committee – Dr L. Bradley-Springer

Committee members (Prof. Midion Chidzonga, Chair, Mr. L. Kanjawu, Dr. Sekai Nhiwatiwa, Prof. Alfred Gomo, Dr. Lucy Bradley-Springer, Ms. Lauren Maggio)

<table>
<thead>
<tr>
<th>Goals</th>
<th>Actions</th>
<th>Responsible Persons</th>
<th>By</th>
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<tr>
<td>Complete FAIMER training in SA</td>
<td>2 faculty to attend</td>
<td>Prof Chidzonga</td>
<td>Team, L. Bradley-Springer</td>
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<td>2 faculty projects in place</td>
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<tr>
<td></td>
<td>2 faculty from US to attend</td>
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<tr>
<td>Start to develop implementation plan for DMO trainings</td>
<td>Team meetings in SA</td>
<td>Prof Chidzonga</td>
<td>Team, L. Bradley-Springer</td>
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<td>Meet with curriculum development group</td>
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<td>Develop plan for training DMOs</td>
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<tr>
<td>Develop DMO curriculum</td>
<td>Work with Curriculum Committee to assure consistency</td>
<td>Prof Chidzonga</td>
<td>Team, L. Bradley-Springer</td>
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<td>Develop goals, objectives, implementation plan, evaluation</td>
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<tr>
<td>Develop plan to deliver teaching</td>
<td>Work with Field Attachment faculty &amp; staff to schedule training sessions</td>
<td>Prof Chidzonga</td>
<td>Team, L. Bradley-Springer</td>
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<td></td>
<td>Finalize logistics for who, what, when, where, how to deliver education</td>
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<tr>
<td>Deliver training to DMOs</td>
<td>Begin planning for continuation</td>
<td>Prof Chidzonga</td>
<td>Team, L. Bradley-Springer</td>
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</table>
Report from Visiting Professors/Lecturers committee – Dr. Brandenburg

- scope of didactic teaching responsibilities (focus on medical students)
- preclinical lectures
- focus on MMeds
- location of responsibilities
- Harare – majority so they can teach UME; need to finalize/remodel housing
- rural attachments; 1-2 days for most
- most visiting professors will come for 2 weeks; paired with local faculty for rounds at first; develop daily/weekly schedule
- lecture times, rounding schedule (Take vs Business)
- Clinics, new morning report?
- faculty development
- orientation packet
- What schedule works best to optimize preclinical lecturing?
- What procedures needed for training?
- Other needs – integrating fellows & residents from Stanford & UCD; targeted observerships in USA

Report from Mentored Research Scholars Program (MRSP) Committee – Dr Chibanda

Discussions – Question and Answer

- Documentation: Experiences, lessons learnt along the way should be available and document review to be done through the Monitoring and Evaluation team.
- Coordinate research training among the 3 programs (NECTAR, CHRIS, IMHERZ); also include ICOHRTA, BRTI, SACCORE, etc.
- Registry: A register should be done on where the students have gone to over the years.
- It was highlighted that conditions that cannot be handled in the districts are usually referred to the Central hospitals for further care.
- MMeds were encouraged to select topics that are not well covered in their curriculum for research topics

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<th>Person</th>
<th>Date of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Establishment of a standardized selection procedure</td>
<td>*meet the MCSP to harmonize *establish selection criteria</td>
<td>Chair, Gift</td>
<td>Feb – May 2011</td>
</tr>
<tr>
<td>2. Have candidates in place. Establish short course framework</td>
<td>*advertize *Interview *selection *review existing courses *Harmonize *Adopt *produce a time table</td>
<td>TBA</td>
<td>June – Aug 2011</td>
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<tr>
<td>3. Identify mentors areas of interest</td>
<td>*database of mentors and</td>
<td>A. Chingono</td>
<td>June – Aug 2011</td>
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<tr>
<td></td>
<td>a. Identify new scholars</td>
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<td>b. Evaluation</td>
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• Comment – on issue of documentation & recording; go back to archival records to see how many & where students have gone since 1982, graduation rate – this will aid in evaluation of success of NECTAR;

• Every year DMOs are invited to send conditions they find difficult to deal with & try to address them. Reports should be available on these. We also have reports from 2nd year students from past years.

• There has been a lot of discussion of monitoring & evaluation, but nothing about educational research & capacity building research; also discussed MMed's identifying gaps in curriculum to research, peer teaching

• Prof Hakim agrees that education research has not been given prominence, but will be an important component of faculty development. This is an important area and huge opportunities exist in this area.

Closing Remarks Prof Hakim and Prof Chidzonga

Prof Chidzonga thanked all the participants for making time to attend the workshop and for their active participation in all the deliberations of the workshop. He encouraged everyone to continue supporting and helping the initiative. Prof Hakim thanked the Vice Chancellor Prof Nyagura for opening the workshop and went on to thank the following:

• Chair of the Health Board
• The 25 visitors from the USA, UK and South Africa
• UZ-College of Health Sciences Faculty members and other faculty members of the University of Zimbabwe
• Chief Executive Officers of the Central hospitals
• Clinical Directors and Consultants
• Administrative staff- NECTAR, CHRIS, IMHERZ, CERTC, Medicine, ICHE, Psychiatry
• Those involved in the recording of all the proceedings
• And everyone else who attended.

Prof Hakim then went on to ask the Co-PIs of the program to say their remarks. Prof Campbell thanked the participants for a chance to meet together and discuss the way forward. Prof Barry said she was looking forward to working together with everyone and thanked Prof Hakim for all his effort. Dr Melanie said this has been an opportunity to harmonize mental health with all the other programs.

Prof Hakim then invited everyone to gather for a group photo marking the end of the workshop.
# Appendixes:
## List of Participants

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Organisation</th>
<th>Email address</th>
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