African Forum for Research and Education in Health (AFREhealth)

Inaugural Symposium

Theme:
Leadership And Capacity Building For Health Professions
Education And Research

August 1-3, 2017
Ghana College of Physicians and Surgeons
Accra, Ghana

www.afrehealth.net
DIGNITARIES

Guest of Honour

His Excellency, Nana Addo Dankwa Akufo-Addo
President of the Republic of Ghana

Guest Speakers

Hon. Kwaku Agyeman Manu
Minister of Health, Ghana

Hon. Matthew Opoku Prempeh
Minister of Education, Ghana

Key Note Speaker

Dr. Roger Glass
Director, Fogarty International Center, USA
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Brief on the African Forum for Research and Education in Health (AFREhealth): Prepared by Prof Peter Donkor, Chair of AFREhealth

Africa remains heavily burdened with infectious diseases including HIV/AIDS, pandemics like Ebola Virus Disease, untreated surgical conditions and road traffic injuries. Coupled with this is the increasing incidence of non-communicable diseases such as diabetes, cancers, and cardiovascular disease. Malaria is responsible for significant morbidity and mortality and infant and maternal mortality rates remain unacceptably high. Sadly, the workforce required to tackle these health challenges is in short supply and health training institutions lack the capacity to meet the demand for places. The few available training schools are under-resourced with poor infrastructure and limited faculty. Curricula are often outdated and access to ICT, Internet, and other training tools are minimal. The skills, administrative support and funding needed for advancing locally relevant research are also lacking.

The African Forum for Research and Education in Health (AFREhealth) is an interdisciplinary health professional grouping that seeks to work with Ministries of Health, training institutions and other stakeholders to improve the quality of health care in Africa through research, education and capacity building. It is a conglomeration of individuals, institutions, associations and networks from all the geographic and linguistic regions of Africa namely Anglophone, Francophone, Lusophone and Arabophone. Membership is open to African and external stakeholders committed to an Africa with strong, self-sustaining and robust health systems. It was launched by the joint leadership of MEPI (Medical Education Partnership Initiative) and NEPI (Nursing Education Partnership Initiative) during the MEPI/NEPI Symposium in Nairobi on 2nd August 2016 through the adoption of the Nairobi Resolution on AFREhealth.

Genesis of AFREhealth

AFREhealth is an independent body that emerged from the Medical Education Partnership Initiative (MEPI) and Nursing Education Partnership Initiative (NEPI). MEPI and NEPI were funded by PEPFAR-NIH in 2010 and 2011, when awards were made to selected African medical, nursing and health science schools. Over the past 7 years, the group of Principal Investigators (PIs) from African beneficiary institutions, worked to enhance education in their schools, to encourage research, promote quality health care and to form a network for Africa. AFREhealth now brings together leadership from more than 60 medical and nursing schools in Africa and seeks to extend the gains of MEPI/NEPI to more schools in Africa.

Both MEPI and NEPI aimed to support medical professional training and research development, address the critical shortage of health personnel including nurses and midwives, strengthen their quality and capacity, and increase the capacity of selected schools and the educational system overall. Specifically the two initiatives’ goals were to: a) increase the numbers and improve the quality of medical and nursing graduates; b) promote retention of graduates where they are most needed; c) improve the capacity to undertake regionally relevant research; d) build communities of practice within Africa and globally; and e) ensure sustainability. MEPI and NEPI brought together African schools and external partners from US, UK, Brazil and Canada. The collaboration helped to augment the leadership, educational and research capacity of beneficiary schools in Africa.
Even though the focus of MEPI and NEPI was on medical and nursing education, it became clear during their implementation that the needs of other health professions could not be overlooked. Thus, schools of pharmacy, dentistry, nutrition, laboratory science, physiotherapy etc. benefited from the training and capacity building activities under the initiatives. AFREhealth’s mission is to be inter-professional, sustain the gains of MEPI/NEPI and expand them to more schools across Africa. This is based on the belief that the complex health problems facing the continent can only be solved by all health professions working together as a team.

Since its inception a year ago AFREhealth has engaged with the leadership of institutions in the so-called fragile states including Liberia, Sierra Leone, and DR Congo. Partnerships are being formed with African and external stakeholders to pursue our goals for research and education. Our representatives have interacted with other delegates to the World Health Assembly and participated in discussions on the health workforce crisis, SDGs and universal health coverage. We have participated in discussions with the African Platform Forum. Our engagements with Ministries of health and Education and other in-country partners are ongoing.

The US government investment in MEPI and NEPI through PEPFAR can be credited for the formation of AFREhealth. However, the sustainability of this body remains the responsibility of African health leaders. Unless funder initiatives become locally owned they will neither be sustained nor make the desired impact on the continent. Stakeholders from medicine, nursing, dentistry, public health, pharmacy, laboratory science, nutrition, etc. must overcome traditional barriers and work together to address Africa’s health challenges. The 2017 Accra Symposium is the first and will bring together nearly 300 health professionals to deliberate on finding solutions to health challenges in Africa and chart a future for AFREhealth.

AFREhealth Executive Committee Members:
Chairperson: Prof Peter Donkor, Kwame Nkrumah University of Science and Technology
Vice-Chairpersons: Prof Marietjie de Villiers, Stellenbosch University
A/Prof Abigail Kazembe, University of Malawi
Members: Dr Miliard Derbew, University of Addis Ababa
Prof James Hakim, University of Zimbabwe
Prof Nelson Sewankambo, Makerere University
Welcome Message from AFREhealth Chairman

It is nearly a year since the African Forum for Research and Education in Health (AFREhealth) was launched in Nairobi on 6th August 2016, having emerged out of the Medical Education Partnership Initiative (MEPI) and Nursing Education Partnership Initiative (NEPI). These two initiatives which were funded by PEPFAR/NIH led to significantly improved educational and research infrastructure in beneficiary medical and nursing schools. We are most grateful to the US government and its agencies as well as the citizens whose taxes made the funding possible.

AFREhealth aims to expand and share these gains with more schools and provide the needed leadership for transforming health professions education, research and service delivery in Africa. Its central philosophy is to be a home for all health professions. It recognizes the complex nature of the health challenges facing the African continent, the need for a well-trained workforce and the need for all hands to be on deck to find solutions. In this regard, it is committed to detribalizing the health ecosystem by promoting cooperation and teamwork. It neither seeks to replace nor threaten the existence of any grouping. Rather it embraces all groups and networks committed to improving health in Africa.

The Forum is a conglomeration of individuals, institutions, associations and networks from all the geographic and linguistic regions of Africa namely Anglophone, Francophone, Lusophone and Arabophone. It will collaborate with governments, professional bodies, NGOs and all stakeholders. Membership is open to African and external partners committed to an Africa with strong, self-sustaining and robust health systems.

It is with the greatest pleasure therefore that I welcome you to this first Symposium here in Accra, Ghana. You are all invited to join AFREhealth and it is my hope that you will be at the next symposium in 2018, and help make Africa healthier and AIDS-free with an adequate and competent health workforce poised to tackle the menace of infectious and non-communicable diseases, injuries, and disasters.

Finally let me express appreciation to the speakers, special guests, delegates, Council members, Symposium Steering Committee, and the Local Organizing Committee for their sacrifices towards the symposium a success. Enjoy the meeting and make new friends!

AKWAABA! WELCOME!

AFREhealth PI Council meeting in Lusaka, January, 2017
Welcome Message from Local Organising Committee Chairman

Colleagues,

In the next couple of days (1st – 3rd, August, 2017), we present an assembly of health professionals from across Africa and other continents to deliberate on how we can better serve our populations by working together as a team.

This very rare opportunity of assembly of experts from all health professions affords us an invaluable platform from which to discuss not only the common health problems bedeviling our continent but also to examine best practices that work to prevent disease, promote health and improve health outcomes.

As local organizing chair for this first symposium of the Africa Forum for Research and Education in Health (AFREhealth), I have had the rare opportunity of working with a wonderful and dedicated ladies and gentlemen. I pay tribute to the Chairman of AFREhealth (Professor Peter Donkor) and all members of the LOC for their selflessness and priceless service that brought this symposium to bear.

Out thoughts for bringing you here to Accra was to engage, keep engaging and to be engaged constantly on issues that bother health across professions. While welcoming you all, please take time to make new friends, visit places and offer practical solutions to the teething problems of health in Africa.

May our days here be fulfilled not just scientifically, but also socially through the network we shall build to find appropriate solutions to our health problems.

Akwaaba!! Bienvenue !!! bem vinda!!!
SPEAKERS

Ahmed Zakariah  National Ambulance Service, Ghana
Ambrose Talisuna  WHO Afro
Benjamin Gyampoh  African Academy of Sciences, Kenya
Bjorg Palsidottir  TheNET
Charles Mock  University of Washington
David Ofori-Adjei  Ghana Medical Journal
Ellis Owusu-Dabo  Kwame Nkrumah University of Science and Technology
Ernest Aryeetey  African Research Universities Alliance
Estella Anku  General Electric Foundation Healthcare
Felix Osei-Sarpong  USAID
Francis Omaswa  African Platform on HRH
Fred Binka  University of Health and Allied Sciences, Ghana
Fred Stephen Sarfo  Kwame Nkrumah University of Science and Technology
Fred Wabwire-Mangen  Makerere University, Uganda
Giorgio Cometto  WHO, Health Workforce Division
Irene Agyapong  Ghana Health Service
John Nkengasong  Africa CDC, Addis Ababa, Ethiopia
Jong-On Hahm  Fogarty International Center, National Institutes of Health (NIH), USA
Joseph Kolars  University of Michigan
Judith Lasker  Coalition for Responsible Short-Term Experiences in Global Health (CORSTEGH)
Kayode Odusote  Foundation for Sustainable Education, Nigeria
Keith Martin  Consortium of Universities for Global Health, USA
Marietjie De Villiers  Stellenbosch University
Myat Htoo Razak  Health Service Resources and Administration (HRSA), USA
Peter Donkor  Kwame Nkrumah University of Science and Technology
Roger Glass  Director, Fogarty International Center, National Institutes of Health, USA
Sabrina Kitaka  Makerere University, Uganda
Wanicha Chuenkongkaew  Asia-Pacific Network on Professional Education Reforms
William K Bosu  West African Health Organization
Key Note Speaker – Dr Roger Glass

Dr. Glass was named Director of the Fogarty International Center and Associate Director for International Research by NIH Director Elias A. Zerhouni, M.D., on March 31, 2006.

Dr. Glass graduated from Harvard College in 1967, received a Fulbright Fellowship to study at the University of Buenos Aires in 1967, and received his M.D. from Harvard Medical School and his M.P.H. from the Harvard School of Public Health in 1972. He joined the Centers for Disease Control and Prevention in 1977 as a medical officer assigned to the Environmental Hazards Branch. He was a Scientist at the International Center for Diarrheal Disease Research in Bangladesh from 1979-1983 and returned to Sweden where he received his doctorate from the University of Goteborg. In 1984, he joined the National Institutes of Health Laboratory of Infectious Diseases, where he worked on the molecular biology of rotavirus. In 1986, Dr. Glass returned to the CDC to become Chief of the Viral Gastroenteritis Unit at the National Center for Infectious Diseases.

Dr. Glass’s research interests are in the prevention of gastroenteritis from rotaviruses and noroviruses through the application of novel scientific research. He has maintained field studies in India, Bangladesh, Brazil, Mexico, Israel, Russia, Vietnam, China and elsewhere. His research has been targeted toward epidemiologic studies to anticipate the introduction of rotavirus vaccines. He is fluent and often lectures in five languages.

Dr. Glass has received numerous awards including the prestigious Charles C. Shepard Lifetime Scientific Achievement Award presented by the CDC in recognition of his 30-year career of scientific research application and leadership, and the Dr. Charles Merieux Award from the National Foundation for Infectious Diseases for his work on rotavirus vaccines in the developing world. Dr. Glass received the 2015 Albert B. Sabin Gold Medal Award for his many contributions to improving children’s health worldwide, including novel scientific research for the prevention of gastroenteritis from rotaviruses and noroviruses. Dr. Glass was also the recipient of the 2016 CuraPersonalis Award from Georgetown University. This award honors individuals whose outstanding contributions to human health are guided by compassion and service. He is a member of the Institute of Medicine of the U.S. National Academy of Medicine. Dr. Glass has co-authored more than 600 research papers and chapters.
# AGENDA

## DAY 1

**TUESDAY, August 1, 2017**

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<td>6:30-8:15</td>
<td><strong>REGISTRATION</strong></td>
<td>Forecourt</td>
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<td>8:30-10:00</td>
<td><strong>PLENARY 1: OPENING SESSION</strong></td>
<td>Main Auditorium</td>
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<td><strong>Moderator:</strong> Ellis Owusu-Dabo</td>
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<td></td>
<td><em>Welcome and Framing the Conference</em></td>
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<td></td>
<td><strong>Name:</strong> Peter Donkor</td>
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<td><em>Chairman, African Forum for Research and Education in Health</em></td>
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<td><strong>Name:</strong> Kwasi Obiri-Danso</td>
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<td><em>Vice Chancellor, Kwame Nkrumah University of Science and Technology</em></td>
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<td><strong>Name:</strong> Jacob Plange-Rhule</td>
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<td><em>Rector, Ghana College of Physicians and Surgeons</em></td>
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<td><strong>Topic:</strong> Health Workforce for Universal Health Coverage</td>
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<td></td>
<td><strong>Name:</strong> Giorgio Cometto</td>
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<td></td>
<td><em>Representative of WHO Headquarters, Geneva</em></td>
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<td><strong>Guest Keynote:</strong> Improving Health Research Capacity in Africa</td>
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<td><strong>Name:</strong> Roger Glass</td>
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<td><em>Director, Fogarty International Center, National Institutes of Health, USA</em></td>
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<td><strong>Name:</strong> Hon. Kwaku Agyeman Manu</td>
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<td><em>Minister of Health, Ghana</em></td>
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<td><strong>Guest of Honour:</strong> His Excellency Nana Addo Dankwa Akufo-Addo</td>
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<td><em>President of the Republic of Ghana</em></td>
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<td><strong>GROUP PHOTOGRAPH</strong></td>
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<td>10:00-10:30</td>
<td><strong>Tea Break</strong></td>
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<td>10:30-12:00</td>
<td><strong>PLENARY 2: Scaling up Health Professions Education in Africa</strong></td>
<td>Main Auditorium</td>
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<td><strong>Moderators:</strong> James Hakim/ Elsie Kiguli-Malwadde</td>
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<td><strong>Topic:</strong> The Global Health Movement in Medical Education: Reconciling views from ‘the North’ and ‘the South’</td>
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<td><strong>Name:</strong> Joseph C. Kolars</td>
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<td><em>University of Michigan, USA</em></td>
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<td><strong>Topic:</strong> Defining Social Accountability for the future in Health Professions Education in Africa.</td>
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<td><strong>Name:</strong> Bjorg Palsidottr</td>
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<td><strong>Topic:</strong> Asia-Pacific experiences in Professional Educational Reforms – Lessons for Africa</td>
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<td><strong>Name:</strong> Wancha Chuenkongkaew</td>
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<td></td>
<td><em>Asia-Pacific Network on Professional Education Reforms</em></td>
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<td>12:00-1:30</td>
<td>Workshop 1 - Examination Room One (1)</td>
<td>Accessing Free Health Sciences Education through NextGenU</td>
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<td>12:00-1:30</td>
<td>Breakout 2 - Education &amp; Training - Main Auditorium</td>
<td>Making Pre-service Nursing Education relevant</td>
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<td>Improving access to nursing services through task shifting</td>
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<td>Point-of-Care Ultrasonography: Understanding its role in Internal Medicine Residency Programs in Africa</td>
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<td>Standardizing Assessment practices of Undergraduate Medical Competencies Across Medical Schools: Challenges, Opportunities and Lessons Learned from a Consortium of medical Schools in Uganda</td>
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<td>Choice of Specialty and willingness to work in rural communities in Ghana</td>
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<td>Student's performance during objective Structured Clinical Examination in Malawi</td>
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<td>12:00-1:30</td>
<td>Breakout 3 - Higher Education for Quality Care - Zero Room</td>
<td>Setting up a Post-Graduate Medical Education Program in a Resource Limited Setting - The Case of Liberia</td>
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<td>E-Learning: A step in the Right Direction in Post Graduate and Continuous Medical Education in Ghana</td>
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<td>Health Systems Strengthening Through Leadership Training of African</td>
<td>Yohana Mashalla</td>
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<td>Health Professionals in Sub-Saharan Africa: Afya Bora Experience</td>
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<td>Impact of PRONTO Training in Emergency Obstetric and Newborn Care on</td>
<td>Gachuno Onesmus</td>
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<td>24 Hour Neonatal Mortality</td>
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<td>The Emerging Need for Reform of Institutional Mechanisms for Assuring</td>
<td>Patrick Kadama</td>
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<td>Quality and Oversight of Health Professionals</td>
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<td>Evaluating Community Health Workers Performance in The Prevention</td>
<td>Helen Chipukuma</td>
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<td>and Control of Malaria in Livingstone District of Zambia</td>
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<td>Development of Higher Education for Nurses and Midwives in Uganda</td>
<td>Rose Nabirye</td>
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**DISCUSSION**

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<tr>
<th>12:00-1:30</th>
<th>BREAKOUT 4: LINKING HEALTH SYSTEMS AND HEALTH PROFESSIONS EDUCATION-Telemedicine Room</th>
<th>Moderators: Francis Omaswa/Victoria Bam</th>
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<tbody>
<tr>
<td>Topic</td>
<td>Advancing Transformative Learning for Post Graduate Training at Universities Lurio-Maputo, Mozambique – Challenges and Lessons Learnt on the Use of ICT</td>
<td>Momade Amisse Ali</td>
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<tr>
<td>Name</td>
<td>Impact of Community –Based Education: Additional Benefit to Communities in Rural Areas of Uganda</td>
<td>Samuel Kizito</td>
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<td>Topic</td>
<td>Video Production in Public Health Education: Proof of Feasibility</td>
<td>Joseph Bonney</td>
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<td>Name</td>
<td>The Use of Open Source Electronic Medical Records at the Komfo Anoye Teaching Hospital Emergency Department. Lessons learnt</td>
<td>Paa Kobina Forson</td>
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<td>Topic</td>
<td>Barriers and Facilitators of Electronic Medical Records usage at an Emergency Centre in Ghana</td>
<td>Adwoa Gyamfi</td>
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<tr>
<td>Name</td>
<td>Public Information and Communication (IEC) of Health: Active Participation of Health Practitioners in a Low Resource Setting</td>
<td>Richard Selormey</td>
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<td>Topic</td>
<td>Gender Issues Affecting Student Performance and Attrition in Midwifery and Medical Laboratory Technician Pre-service Education Programs in Liberia</td>
<td>Mantue Reeves</td>
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**DISCUSSION**
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<tr>
<td>12:00-1:30</td>
<td>BREAKOUT 5: HEALTH SYSTEMS</td>
<td><em>Seminar Room</em>&lt;br&gt;Moderators: Moses Simuyemba/Georgina Odaibo</td>
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<td>Topic: Giant LEAPS: The Healthcare Leadership Academy’s Role in Health System Strengthening</td>
<td>Name: Uju Onyes</td>
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<td>Topic: Patient Centered Care in Africa: Moving Towards A Global Trend</td>
<td>Name: Anuli Erike</td>
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<td>Topic: The Workplace as a Learning Environment at Mulago National Referral and Teaching Hospital in Uganda</td>
<td>Name: Mike Kagawa</td>
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<td>Topic: Catalyzing Healthcare Improvement Through Leadership Development</td>
<td>Name: Anuli Erike</td>
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<td>Topic: Ethical Challenges of Human Resource Shortage: Experiences of Three Health Districts in Botswana</td>
<td>Name: Phaladze NA</td>
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<td>DISCUSSION</td>
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<td>12:00-1:30</td>
<td>BREAKOUT 6 WORKSHOP 2: Developing Health Professions Education Collaborative partnerships – Opportunities for AFREhealth and CUGH - Examination Room Two (2)</td>
<td>Convener: Marietjie de Villiers, Quentin Eichbaum&lt;br&gt;<em>Stellenbosch University</em></td>
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<td>1:30-2:30</td>
<td>Lunch</td>
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<td>2:30 – 4:00</td>
<td>PLENARY 3: Health Workforce Preparedness And Effective Response To Disasters And Epidemics-Main Auditorium</td>
<td>Moderators: Francis Omaswa/ Milliard Derbew</td>
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<td></td>
<td>Topic: Responding to Pandemics in Africa</td>
<td>Name: Ambrose Talisuna&lt;br&gt;<em>WHO Afro</em></td>
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<td>Topic: Integrating clinical research into epidemic response – the Ebola experience</td>
<td>Name: Fred Wabwire-Mangen&lt;br&gt;<em>Makerere University, Uganda</em></td>
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<td>Topic: The Neglected Dimension of Global Health Security</td>
<td>Name: Irene Agyapong&lt;br&gt;<em>Ghana Health Service</em></td>
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<td>Topic: Injury Prevention and Trauma Care in Africa</td>
<td>Name: Charles Mock&lt;br&gt;<em>University of Washington,US</em></td>
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<td>Topic: Role of a National Ambulance Service in Disasters</td>
<td>Name: Ahmed Zakariah&lt;br&gt;<em>National Ambulance Service, Ghana</em></td>
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## BREAKOUT SESSIONS
### INSTITUTIONAL CAPACITY RESEARCH SUPPORT

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<td>4:00-5:30</td>
<td>BREAK OUT 1: COLLABORATIVE RESEARCH-Zero Room</td>
<td>Rogathe Machange /Midion Mapfumo Chidzonga</td>
<td>Building Capacity of Researchers for Evidence Informed Policy making: Collaboration Between WHO/TDR SORT IT, Kenya and Makerere University</td>
<td>Ismael Kawooya</td>
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<td>Impact of Health Research Capacity Course in Komfo Anokye Teaching Hospital, Ghana</td>
<td>Evans Xorse Amuzu</td>
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<td>Impact of Collaborations in Research and Capacity Development - A case of Kenyatta University and University of Nairobi</td>
<td>Gachuno Kahiga</td>
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<td>Post-Award management support within a young research office: The case of University of Zimbabwe College of Health Sciences</td>
<td>Mashaah T</td>
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<td>A Century of Bio-medical Research in Africa: Time for a Paradigm Shift</td>
<td>Vuyu Kanda Golakai</td>
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<td>DISCUSSION</td>
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<td>4:00-5:30</td>
<td>BREAKOUT 2: BUILDING RESEARCH CAPACITY-Seminar Room</td>
<td>Steve Kamiza/ Funmilayo Okanlawon</td>
<td>Requirements for Conducting Clinical Trials in Ghana</td>
<td>Yvonne Adu-Boahen</td>
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<td>Increasing generation and Quality of research among nursing and midwifery students: Empirical findings from Kamuzu College of Nursing (KCN) in Malawi</td>
<td>Gibson Masache</td>
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<td>Still building the pyramid: gaps and priorities for advancing the research careers of independent investigators in Uganda</td>
<td>Andrea Deluca</td>
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<td>Participation in Research Improves Overall Patient Management from the Global Rheumatic Heart Disease Registry (REMEDY)</td>
<td>Prendergast EA</td>
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<td>Nursing and Midwifery Research Output in Africa: A review of Literature</td>
<td>Rose Chalo Nabirye</td>
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<td>Why patients refuse to enroll in hospital-based research</td>
<td>Esi Leeward Amissah</td>
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<td>“You Cannot Collect Data Using Your Own Resources and put it on Open Access”: Perspectives from Africa about Public Health Data Sharing</td>
<td>Evelyn Anane-Sarpong</td>
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<td>Sustaining the research culture of MEPI and producing research leaders in LMIC. Ethiopian experience</td>
<td>Miliard Derbew</td>
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</table>
| 4:00-5:30    | **BREAKOUT 3: SCALING UP HEALTH PROFESSIONS EDUCATION IN AFRICA-Main Auditorium**<br>Moderators: Isaac Kibwage/ Petra Brysiewicz | Topic: Reforming Nursing Education in Lesotho: Culture, Process and Outcomes<br>Name: Champion Nyoni  
Topic: The MEPI Effect on increasing health Profession education and Research capacity in Mozambique<br>Name: Emilia Virginia Noormahomed  
Topic: The Nursing Education Partnership Initiative (NEPI): Advances in Nursing and Midwifery Pre-service education in Ethiopia<br>Name: Eshetu Haileselassie Engeda  
Topic: The contribution of Family Medicine to Undergraduate Medical Training in Sub Saharan Africa<br>Name: Innocent Besigye  
Topic: Solidarity in Health Professions Education: The Forum for Universities and Colleges of Health Sciences in Tanzania<br>Name: Mteta K  
Topic: Collaborative Development of a Virtual Pharmacy Practice Skills Laboratory at the University of Zimbabwe School of Pharmacy<br>Name: Tsitsi G. Monera-Penduka  
Topic: Caring for own child with HIV-related neurodevelopmental disorder/s in Zimbabwe: Mothers’ experiences<br>Name: Munambah N.E |

| DISCUSSION                                            |                                                                                      |
|                                                      |                                                                                      |
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|                                                      |                                                                                      |

| 4:00-5:30    | **BREAKOUT 4: INNOVATIONS IN HEALTH EDUCATION FOR QUALITY CARE-Telemedicine Room**<br>Moderators: Peter Eriki/ Angela Benson | Topic: Regional Networks: An Approach to enhance global exposure for medical and health professional students in Africa<br>Name: Faith Nawagi  
Topic: Career Aspirations of Medical Students and Medical Interns in Ghana<br>Name: A.C Yifieyeh  
Topic: Promoting Socially Accountable Health Professions education: The Role of Network: Towards Unity for Health<br>Name: Godwin Aja  
Topic: Clinical Supervision and Support: Perspectives of Undergraduate nursing students in a BSN program in Malawi<br>Name: Stella Kamphinda  
Topic: Training in Occupational and Environmental Medicine and Pathology in West Africa<br>Name: Maarten Bosland  
Topic: Strengthening Governance, Leadership and Managerial Capacity of District and Regional Health Managers to Improve Health Service Delivery In Uganda<br>Name: Violet Gwokyalya |
**AFREhealth 2017 Symposium**

<table>
<thead>
<tr>
<th>5:30 – 6:00</th>
<th>Poster Session -Mingling Session</th>
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<tr>
<td>6:00 pm</td>
<td>Welcome Reception: Atrium</td>
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**6:00 pm: Reception-Atrium**

**WEDNESDAY, August 2, 2017**

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<th>7:15-8:00</th>
<th>Meeting for special interest groups</th>
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<td>8:15 - 8:30</td>
<td>REVIEW OF DAY 1-Main Auditorium</td>
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<td>8.30 -10.00</td>
<td>PLENARY 4-Main Auditorium</td>
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<tr>
<td></td>
<td>Health Workforce Preparedness And Effective Response To Communicable Diseases</td>
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<td>Moderators: Abigail Kazembe /Jean Nachega</td>
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<p>| Topic: Transforming health worker education – WHO guidelines and policy initiatives  |
| Name: Giorgio Cometto  |
| WHO, Health Workforce Division  |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>10:00-10:30</td>
<td>Tea Break</td>
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<tr>
<td>10:30-12:30</td>
<td>BREAK OUT SESSIONS: HEALTH WORKFORCE PREPAREDNESS AND EFFECTIVE RESPONSE TO HIV/AIDS</td>
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<tr>
<td>10:30-12:30</td>
<td>BREAKOUT 1: HIV/AIDS TREATMENT AND CARE I - Main Auditorium</td>
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<tr>
<td></td>
<td>Moderators: David Olaleye / Aster Tsegaye</td>
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<td>Location:</td>
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<tr>
<td>Topic:</td>
<td>Anti-Retroviral Modification and associated factors in HIV-Infected adult patients at a</td>
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<td>Kenyan Referral Hospital</td>
</tr>
<tr>
<td>Name:</td>
<td>George Mugendi</td>
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<tr>
<td>Topic:</td>
<td>Health Workforce Preparedness and Effective Response to HIV/AIDS and other Epidemics</td>
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<tr>
<td></td>
<td>Achieving National Buy-in for Clinical Simulation Education in Zambia</td>
</tr>
<tr>
<td>Name:</td>
<td>Cheelo C.S</td>
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<tr>
<td>Topic:</td>
<td>Low HIV Incidence in Pregnant and Postpartum Women Reviewing a Community-Based Combination</td>
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<td>HIV prevention Intervention in a High Incidence Setting in South Africa</td>
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<tr>
<td>Name:</td>
<td>Jean B. Nachega</td>
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<tr>
<td>Topic:</td>
<td>The Challenges of Community-based Interventions for People Living with HIV in Ghana:</td>
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<td></td>
<td>Lessons for Africa</td>
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<tr>
<td>Name:</td>
<td>Kofi Akohene Mensah</td>
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<tr>
<td>Topic:</td>
<td>Assessing Quality of HIV Counseling Services offered in Public Health Facilities in Kampala</td>
</tr>
<tr>
<td>Name:</td>
<td>Victor Kyobutungi</td>
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<tr>
<td>Topic:</td>
<td>Health Workforce Preparedness and Effective Response to HIV/AIDS and other Epidemics</td>
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<td></td>
<td>Improving the Relevance of Nursing and Midwifery</td>
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<tr>
<td>Name:</td>
<td>Nchimunya Nambala</td>
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<td>Topic:</td>
<td>Practise of Community-Based Tuberculosis Care Among Health Personnel and Patients in</td>
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<td>Akingbade Oluwadamilare</td>
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<td>DISCUSSION</td>
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<tr>
<td>10:30-12:30</td>
<td>BREAK OUT 2 – HIV/AIDS TREATMENT AND CARE II - Examination Room One (1)</td>
</tr>
<tr>
<td>Moderator:</td>
<td>James Hakim / Hossinatu Koroma</td>
</tr>
</tbody>
</table>
| Topic: The Effectiveness and Cost-Effectiveness of Community-Based Support for Adolescents Receiving Antiretroviral Treatment: An Operational Research Study in South Africa  
Name: Jean Nachega |
| --- |
| Topic: Determinants of the Outcome of PMTCT Measures at Three ART Centres in Kumasi Over a Three-Year Period  
Name: Ayisi-Boateng Nana Kwame |
| Topic: Oral Manifestation and their Correlation to Baseline CD4 Count in HIV/AIDS patients in Ghana  
Name: Emmanuel Amponsah |
| Topic: Guidelines for Nurses to Support Primary Caregivers of People Living with HIV in Malawi: A palliative Approach  
Name: Esmie Mkwinda |
| Topic: Mortality burdens and trends of HIV/AIDS and TB among adults in Ethiopia: Evidence from Verbal Autopsy data  
Name: Bilal Shikur Endris |
| Topic: Stigmatization of People Living With HIV/AIDS by Healthcare Workers: An Advancement in Care in the Emergency Setting  
Name: Chris Oppong |
| Topic: Factors Affecting the Utilization of Tuberculosis Contact Tracing Program in Mulanje and Chiradzulu District Hospitals in Malawi  
Name: Caroline Masangalawe |
| Topic: Knowledge on Hepatitis B and C infection among primary care patients at the Komfo Anokye teaching hospital  
Name: Esther Brafo-Kwakye |

**DISCUSSION**

| 10:30-12:30 BREAK OUT 3 – HEALTH PROFESSIONS EDUCATION – Telemedicine Room  
Moderator: Isaac Kibwage/ Rogathe Machange |
| --- |
| Topic: The Perceived Usefulness of Community Based Education and Service (COBES)  
Name: Anthony Amalba |
| Topic: Health Education in Africa: Time for a paradigm Shift  
Name: Vuyu Kanda Golakai |
| Topic: Training of the Next Generation On Health Workforce: An Experience from a Rural Community in Western Uganda  
Name: Abila Derrick Bary |
| Topic: Pre-Service Nursing and Midwifery Students take a Lead in option B+ online training  
Name: Sikateyo TCC |
| Topic: Building Quality Clinical Nursing and Midwifery Education and Beyond: Implementation of Seven Master’s Programs in Nursing in Rwanda  
Name: Robin Toft Klar |
| Topic: Peripheral Hospital Rotations to Relieve Over-crowding among Medical Students on KCMC Wards  
Name: Ahaz Kulanga |
| Topic: The Effect of Community Based Education and Service (COBES) on Medical Graduates’ Choice of Specialty and Willingness to Work in Rural Communities in Ghana  
Name: Anthony Amalba |
| --- |
| Topic: A partnership Approach to Scaling-up Health Professions Education in Somaliland  
Name: Max Mallas-Secrett |
| DISCUSSION  
10:30-12:30 BREAK OUT 4: TRAINING STRATEGIES - Zero Room  
Moderators: Nthabiseng Phaladze/Abdon Mukalay |
| Topic: Developing Mentorship in Resource-limited Context: A qualitative Research Study of the Experiences and Perceptions of the Makerere University Students And Faculty Mentorship Programme  
Name: Sarah Kiguli |
| Topic: Building Junior faculty research capacity through enhanced training & mentoring curriculum. The Case Study of UZCHS-PERFECT  
Name: Antony Matsika |
| Topic: Addressing the Shortage of Health Professionals through phytomedicine: antimalarial plants used by traditional Healers in the Mogovolas District of Mozambique  
Name: Leonardo Manuel |
| Topic: The Long-term impact of point-of-care cardiopulmonary ultrasound training in Ghana  
Name: Maxwell Osei-Ampofo |
| Topic: A System of Skills for the Medical Major, its relationship with Professional Performance: An Updated Review  
Name: Leyani Chavez Noya de Oliveira |
| Topic: Determinants and Impact of Professionally Determined Unmet Pharmacy Services and/or Practices Needs in Ghana  
Name: Michael Opoku Agyemang |
| Topic: Promoting Research through ICT Excellence (PRICE). A Case Study at the University of Zimbabwe College of Health Sciences (UZCHS)  
Name: M. Muvoti |
| DISCUSSION  
10:30-12:30 BREAK OUT 5: WORKSHOP 4- Finding evidence-based Medical Information on the Internet-Examination Room two (2)  
Convener: Steve Walsh  
Stellenbosch University, SA |
| 10:30-12:30 BREAK OUT 6  
WORKSHOP 5- Establishing a Peer Review Process to Evaluate Teaching-Seminar Room  
Convener: Joe Kolars  
University of Michigan, USA |
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<th>Activity</th>
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<td>Lunch</td>
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<td>1.30-3.00</td>
<td><strong>PLENARY 5: Strengthening Capacity for Health Research - Main Auditorium</strong></td>
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<td><strong>Moderators:</strong> Marietjie de Villiers / Roger Glass</td>
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<td></td>
<td><strong>Topic:</strong> Global Health Research and Implementation for Impact</td>
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<td><strong>Name:</strong> Keith Martin</td>
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<td><strong>Consortium of Universities for Global Health, USA</strong></td>
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<td><strong>Topic:</strong> Building Research Capacity of African Universities</td>
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<td><strong>Name:</strong> Ernest Aryeetey</td>
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<td><strong>African Research Universities Alliance</strong></td>
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<td><strong>Topic:</strong> Role of AESA in building grant management capacity in Africa</td>
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<td><strong>Name:</strong> Benjamin Gyampoh</td>
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<td></td>
<td><strong>African Academy of Sciences, Kenya</strong></td>
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<td><strong>Topic:</strong> Disseminating Research through Publication in a Journal</td>
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<td><strong>Name:</strong> David Ofori-Adjei</td>
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<td><strong>Ghana Medical Journal</strong></td>
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<td><strong>DISCUSSION</strong></td>
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<td>3.15 – 4.30</td>
<td><strong>PLENARY 6: Strengthening Capacity for Research – The Role of External Partners in Funding Research - Main Auditorium</strong></td>
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<td><strong>Moderators:</strong> Jean Nachega / Fatima Suleman</td>
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<td></td>
<td><strong>Topic:</strong> Building Capacity for Diagnosis and Treatment of HIV/AIDS in Africa</td>
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<td><strong>Name:</strong> Myat Htoo Razak</td>
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<td></td>
<td><strong>Health Service Resources and Administration (HRSA), USA</strong></td>
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<td></td>
<td><strong>Topic:</strong> Funding Opportunities for Training in Health Research</td>
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<td><strong>Name:</strong> Jong-On Hahm</td>
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<td><strong>Fogarty international Center, National Institutes of Health (NIH), USA</strong></td>
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<td><strong>Topic:</strong> Impact of USAID sponsored research on the quality of health care in Africa</td>
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<td><strong>Name:</strong> Felix Osei-Sarpong</td>
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<td><strong>USAID</strong></td>
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<td><strong>Topic:</strong> GE Foundation Healthcare Initiatives in Africa</td>
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<td><strong>Name:</strong> Estella Anku</td>
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<td><strong>GE Healthcare</strong></td>
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<td><strong>DISCUSSION</strong></td>
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<td>4:30-5:30</td>
<td>Tea Break and POSTER SESSION - MINGLING SESSION - Forecourt</td>
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<td>5:30</td>
<td>End of Day 2</td>
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<td>7:15-8:00</td>
<td>Meetings for Special interest groups</td>
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<td>A: Defining Social Accountability in Education: Seminar Room</td>
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<td>8:00-8:15</td>
<td>REVIEW OF DAY 2</td>
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<td>8:15-10:30</td>
<td>PLENARY 7</td>
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<td>Health Workforce for Universal Health Coverage- Main Auditorium</td>
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<td>Moderators: Emilia Noormahomed / Keith Martin</td>
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<td>Topic: Addressing workforce challenges – Experience with curriculum</td>
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<td>harmonization in the West African sub-region</td>
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<td>Name: Kayode Odusote</td>
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<td>Foundation for Sustainable Education, Nigeria</td>
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<td>Topic: Effective Global Volunteering</td>
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<td>Name: Judith Lasker</td>
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<td>Coalition for Responsible Short-Term Experiences in Global Health</td>
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<td>Topic: Preparing African Health Workforce for Universal Health</td>
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<td>Coverage; outcome of the 4th African Platform Forum</td>
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<td>Name: Francis Omaswa</td>
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<td>Chairman: African Platform on HRH.</td>
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<td>Topic: Burden of Chronic Non-Communicable Diseases in Africa</td>
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<td>Name: William K Bosu</td>
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<td>Topic: Shaping Africa’s Response to the Stroke Menace</td>
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<td>Name: Fred Stephen Sarfo</td>
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<td>Kwame Nkrumah University of Science and Technology</td>
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<td>Topic: Morbidity and Mortality of Diabetes in Africa</td>
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<td>Name: Ellis Owusu-Dabo</td>
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<td>10:30-11:00</td>
<td>DISCUSSION</td>
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<td>Tea Break</td>
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<td>11:00-12:30</td>
<td>BREAKOUT SESSIONS</td>
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<td>THE BURDEN OF NON-COMMUNICABLE DISEASES IN AFRICA</td>
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<td>BREAK OUT 1: RESEARCH IN NON-COMMUNICABLE DISEASES I-Examination</td>
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<td>Moderators: Hannah Acquah/Fatima Suleman</td>
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<td>Topic: Development and Testing of a Mobile Health Intervention for</td>
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<td>Name: Arti Singh</td>
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<td>Topic: Multi-morbidity and predictors of in-hospital mortality in</td>
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<td>patients with Cardiovascular Disorders: A retrospective Study</td>
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<td>Name: Senbeta Gutela Abdissa</td>
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<td>11:00 – 12:30</td>
<td>BREAK OUT 2: RESEARCH IN NON-COMMUNICABLE DISEASES II-Examination Room two (2)</td>
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<tr>
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<td>Topic: Understanding Care Seeking Pathway for women presenting with Advanced Breast Cancer Symptoms At a tertiary Hospital in Ghana Name: Agbeko Anita Essenam</td>
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<td>Topic: Strategy for breast cancer control in Ghana: The BCI Approach Name: Beatrice Wiafe</td>
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<td>Topic: The Geographical Distribution of Renal Dialysis Services in Ghana Name: Elliot Koranteng Tannor</td>
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<td>Topic: A 7-year Retrospective study of Maxillofacial Tumour-like Lesions in Ghana Name: Paul Frimpong</td>
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<td>Topic: Post- MEPI Progress in Mental Health in Zimbabwe Name: Walter Mangezi</td>
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<td>Topic: Health Workers Knowledge and Perceptions of Current Anti-Malarial Treatment Policy and Prescription Pattern in Nigeria Name: Ezinne Uvere</td>
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<td>Topic: Characterization of HPV in Cervical Cancer and Histological Determination of Cervical Cancer and its precursor lesions in Malawian Women Presenting at the Queen Elizabeth Central Hospital in Malawi Name: Fred Fredrick Bangara</td>
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<td>DISCUSSION</td>
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<td>BREAK OUT 3: THE INJURED AND CRITICALLY ILL- Seminar Room</td>
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<td>Topic: Frequency of Alcohol Use among Injured Adult Patients Presenting to a Ghanaian Emergency Department Name: Paa Kobina Forson</td>
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<td>Topic: District-level hospital trauma care audit filters: Delphi technique for defining context-appropriate indicators for quality improvement initiative evaluation in developing countries Name: Adam Gyedu</td>
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<td>Topic: Impact of bedside Ultrasound on diagnostic accuracy for critically ill patients in Ghana Name: Maxwell Osei-Ampofo</td>
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<td>11:00 – 12:30</td>
<td>BREAK OUT 4: NON-COMMUNICABLE DISEASES-Telemedicine Room</td>
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<tr>
<td>11:00 – 12:30</td>
<td>BREAK OUT 5: WORKSHOP 7: Simulation Based Training - Main Auditorium</td>
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<td>11:00 – 12:30</td>
<td>BREAK OUT 6: WORKSHOP 8: Brain Drain to Brain Gain: African Health</td>
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<td></td>
<td>Workforce Migration challenge - Zero Room</td>
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**DISCUSSION**

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<td>12:30-1:30</td>
<td>Lunch</td>
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<td>1:30-3:30</td>
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<td>HEALTH WORKFORCE PREPAREDNESS AND EFFECTIVE RESPONSE TO DISASTERS AND EPIDEMICS</td>
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<td>1:30-3:30</td>
<td>BREAK OUT 1: DISASTERS AND EPIDEMICS: LESSONS LEARNT-Main Auditorium</td>
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<tr>
<td></td>
<td>Moderator: Vuyu Golakai /Rose Nabirye</td>
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<tr>
<td></td>
<td>Topic: Health Care Workers Indicate Ill Preparedness for Ebola Virus Disease Outbreak in the Ashanti Region of Ghana Name: Augustina Angelina Annan</td>
</tr>
<tr>
<td></td>
<td>Topic: Outcome of Introduction of Emergency Triage Assessment and Treatment Plus (ETAT+) on Inpatient Child Care Delivery in Ugandan Health Units Name: Robert Opoka</td>
</tr>
<tr>
<td></td>
<td>Topic: Health Workforce Preparedness and Effective Response to Disasters and Epidemics in Kumasi Metropolis Name: Alberta Biritwum-Nyarko</td>
</tr>
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<td></td>
<td>Topic: Assessment of Pre-Hospital Care Provided to Road Traffic Injury Patients at the Mulago Hospital in Uganda Name: Namagembe Jennifer</td>
</tr>
<tr>
<td></td>
<td>Topic: Community Disaster Fieldwork and High-Fidelity Moulage Simulation: The Value of “Hands-on Learning” Approach for Emergency Nurses in Disaster Planning and Response Name: Roxane Richter</td>
</tr>
<tr>
<td></td>
<td>Topic: Bed Management Forecast for Disaster Planning: Use of Rate of Transfer System Name: Joseph Bonney</td>
</tr>
<tr>
<td></td>
<td>Topic: Investigating Epidemic Prone Diseases: Knowledge and Practices of Clinical Health Staff in Ghana Name: Francis Adjei Osei</td>
</tr>
<tr>
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<td>Topic: Global Health: A Scoping Review Name: Usuf Chikte</td>
</tr>
<tr>
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<td>DISCUSSION</td>
</tr>
<tr>
<td>1:30-3:30</td>
<td>BREAK OUT 2: HEALTH WORK FORCE – SURGERY AND ACUTE CARE- Seminar Room</td>
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<tr>
<td></td>
<td>Moderators: Francis Abantanga / Alfred Mteta</td>
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<tr>
<td></td>
<td>Topic: Clinical Indicators for predicting mortality in patients with suspected sepsis presenting respiratory symptoms Name: Kwame Ekremet</td>
</tr>
<tr>
<td></td>
<td>Topic: Acute Chest Syndrome in Sickle Cell Disease at Komfo Anokye Teaching Hospital: Clinical Presentation and Pharmacological Management Name: Ansere VA</td>
</tr>
<tr>
<td></td>
<td>Topic: Assessment of Surgical Care provided in National Health Services Hospitals in Mozambique Name: Matchecane Tlhomulo Cossa</td>
</tr>
<tr>
<td>Topic</td>
<td>Name</td>
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</tr>
<tr>
<td>Topic: Evaluation of Emergency, Anesthetic and Essential Surgical Capacity in three rural Hospitals in Mozambique</td>
<td>Carlos Abel Funzamo</td>
</tr>
<tr>
<td>Topic: Pediatric First Aid Practices in Ghana: A population-based Survey</td>
<td>Adam Gyedu</td>
</tr>
<tr>
<td>Topic: Obstetric Haemorrhage-related Severe Maternal Outcomes in HIV-Infected Women</td>
<td>Kwadwo Atobra Antwi</td>
</tr>
<tr>
<td>Topic: Improving the Quality of injury Statistics in Rural Ghana</td>
<td>Adofo Koranteng</td>
</tr>
</tbody>
</table>

### DISCUSSION 1:30-3:30

**BREAK OUT 3: COMPLEX DISEASE CONDITIONS - Telemedicine Room**

**Moderators:** Lonia Mwape / Isaac Kibwage

<table>
<thead>
<tr>
<th>Topic</th>
<th>Name</th>
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<tbody>
<tr>
<td>Topic: Challenges faced by Health Workers involved in Clinic-based ambulatory care of MDR TB patients in Uganda</td>
<td>Stellah Namatovu</td>
</tr>
<tr>
<td>Topic: A case for resuscitation of the Autopsy: A key diagnostic tool</td>
<td>Makunike-Mutasa R</td>
</tr>
<tr>
<td>Topic: Intestinal Parasitic Infections Among HIV Infected and Non- HIV Infected Patients in Mozambique</td>
<td>Borges Zacarias Cerveja</td>
</tr>
<tr>
<td>Topic: A systematic review of factors that shape implementation of mass drug administration for lymphatic filariasis in Sub-Saharan Africa</td>
<td>Adam Silumbwe</td>
</tr>
<tr>
<td>Topic: Characterization of the Steady State Concentrations and Pharmacogenetics of Atazanavir Among HIV patients in Kenya</td>
<td>Mugendi AG</td>
</tr>
<tr>
<td>Topic: Management of Children with Gastroenteritis and Knowledge of Mothers on the Predisposing and/or Risk factors associated with Childhood Gastroenteritis in Ghana</td>
<td>Michael Opoku Agyemang</td>
</tr>
</tbody>
</table>

### DISCUSSION 1:30-3:30

**BREAK OUT 4: FREE PAPERS - Zero Room**

**Moderators:** Abigail Kazembe / James Hakim

<table>
<thead>
<tr>
<th>Topic</th>
<th>Name</th>
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<tbody>
<tr>
<td>Topic: Metabolic Syndrome Among Apparently “Healthy” Ghanaian Adults: A review of the Evidence</td>
<td>Richard Ofori-Asenso</td>
</tr>
<tr>
<td>Topic: Stigma Towards People with Mental Illness: A cross Sectional Study among Nursing Staff in a Post conflict rural district in Uganda</td>
<td>Connie Olwit</td>
</tr>
<tr>
<td>Topic</td>
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<tr>
<td>Prevalence and risk factors associated with Tungiasis in Eastern Uganda</td>
<td>Solomon Tsebeni Wafula</td>
</tr>
<tr>
<td>Caregivers and Health Care Providers Perception, fears and concerns</td>
<td>Mumbi Chola</td>
</tr>
<tr>
<td>Multiple injections: A qualitative case study of Zambia</td>
<td></td>
</tr>
<tr>
<td>Seroepidemiology of Hepatitis E Virus Infection in an Urban Population in Zambia: Strong Associations with HIV and Environmental Enteropathy</td>
<td>Choolwe Jacobs</td>
</tr>
<tr>
<td>The Challenges of Children with Nocturnal Enuresis and Its Psycho-Social Effects on the Family in Ibadan Oyo State</td>
<td>Kuforiji Nwakaku Bibian</td>
</tr>
<tr>
<td>Tracking and assessing the mentoring outcomes of the MEPI program in Zimbabwe.</td>
<td>Madya F</td>
</tr>
</tbody>
</table>

**DISCUSSION**

**1:30-3:30 BREAK OUT 5: MATERNAL AND ADOLESCENT HEALTH-Examination Room One (1)**

- **Moderators:** Onesmus Gachuno / Judy Khanyola

<table>
<thead>
<tr>
<th>Topic</th>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>Predictors of Antenatal care, Skilled Birth attendance and Postnatal Utilization among the Remote and Poorest Rural Communities of Zambia: A multilevel Analysis</td>
<td>Choolwe Nkwemu Jacobs</td>
</tr>
<tr>
<td>Knowledge and practices of pregnant women towards Focused Antenatal Care in Dowa District</td>
<td>Davison M.</td>
</tr>
<tr>
<td>Is the Physical and Social Environment in Selected Community Day Secondary Schools in Malawi driving HIV Transmission or Teenage Pregnancy: Perspectives of Adolescent Girls</td>
<td>Abigail Kazembe</td>
</tr>
<tr>
<td>Strategies for Improving task shifting of ART services to nurses through NIMART</td>
<td>Caleb Wang</td>
</tr>
<tr>
<td>Rapid rollout of HIV universal test and treat resulting in 167 334 patients being initiated on ART within the first 6 months of implementation.</td>
<td>Linda Dlamini</td>
</tr>
<tr>
<td>Using peer motivation to upscale Nurse Initiated Management of ART (NIMART) implementation in KwaZulu Natal, South Africa</td>
<td>Linda Dlamini</td>
</tr>
<tr>
<td>Alcohol Use Disorders intervention for PLWHA: Pilot study at an HIV Clinic</td>
<td>Munya</td>
</tr>
</tbody>
</table>

**DISCUSSION**

**1:30-3:30 BREAKOUT 6 – GRADUATE NURSING EDUCATION-Examination Room Two (2)**

- **Moderators:** Susan Michaels-Strasser/Anthony Amalba
<table>
<thead>
<tr>
<th>Topic</th>
<th>Name</th>
</tr>
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<tbody>
<tr>
<td>Strengthening Nursing and Midwifery Workforce through Specialist Education</td>
<td>Doris Richardson</td>
</tr>
<tr>
<td>A multidimensional approach to strengthening nursing education systems to advance child health: case study of the Ghana-Sickkids paediatric nursing education partnership</td>
<td>Hannah Acquah</td>
</tr>
<tr>
<td>Piloting Objective Structured Clinical Examination for Student and Program Evaluation</td>
<td>Sawdah E. Aryee</td>
</tr>
<tr>
<td>Nurses’ competences in an Emergency Department of a tertiary hospital in Ghana</td>
<td>Victoria Bam</td>
</tr>
<tr>
<td>Requirements for developing a Nationwide Health Professions Tracking System</td>
<td>Usuf Chikte</td>
</tr>
</tbody>
</table>

**DISCUSSION**

### 3:30-4.30

**PLENARY 8: Closing Ceremony-Main Auditorium**

**Moderators:** Peter Donkor/Marietjie De Villiers

<table>
<thead>
<tr>
<th>Topic</th>
<th>Name</th>
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<tbody>
<tr>
<td>Reflections on year one of AFREhealth</td>
<td>Peter Donkor</td>
</tr>
<tr>
<td>Way forward for AFREhealth</td>
<td>Incoming Chair/President, AFREhealth</td>
</tr>
<tr>
<td>Remarks by Representative of external Partners</td>
<td>Myat Htoo Razak, HRSA, USA</td>
</tr>
<tr>
<td>Closing Remarks</td>
<td>Hon. Matthew Opoku-Prempeh, Minister of Education, Ghana</td>
</tr>
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</table>
ORAL PRESENTATIONS

SUB-THEME 1: SCALING UP HEALTH PROFESSIONS EDUCATION IN AFRICA

Increasing Generation and Quality of Research among Nursing and Midwifery Students: Empirical Findings from Kamuzu College of Nursing (KCN) of the University of Malawi

Gibson Masache, University of Malawi

Students, studying for Bachelors, Masters and PhD degrees in nursing and midwifery programmes at Kamuzu College of Nursing conduct research and submit research dissertations in partial fulfillment of their degrees. As KCN increases student intake and academic programs, research generation is obviously on the rise. The aim of the study was to investigate factors, which inhibits and facilitates the conduct of research at KCN and wanted to answer the question “to what extent is the increase in research contributing to improvements in quality of research at KCN?” The study was an exploratory qualitative study. It included a desk review of research proposals and dissertations over 5 academic years and in-depth interviews with students and faculty members. The study findings show some challenges with the quality of research being done despite the potential for improvements. Research is being conducted primarily for the purpose of fulfilling requirements of academic programs; students engage in research not in line with their field of study; faculty members who supervise student research are allocated not based on their areas of specialization and students are not properly prepared to undertake research. The choice of topics and methodologies chosen are basically replication of previous research and qualitative research is more preferred to quantitative methods. KCN has potential to improve quality of research it generates. Gaps and areas that have to be addressed include; development of guidelines for research, reviewing curricula’s to include research methodology modules and introducing quantitative modules including epidemiology, statistics or bio-statistics to prepare students for both quantitative and qualitative studies and to build capacity of faculty to teach and supervise students research adequately.

The Contribution of Family Medicine to Undergraduate Medical Training in Sub-Saharan Africa

Innocent Besigye*, Bob Mash† and Jan DeMaeseneer‡

*Department of Family Medicine, Makerere University, Uganda, †Division of Family Medicine and Primary Care, Stellenbosch University, South Africa, ‡Department of Family Medicine and Primary Health Care, Ghent University, Belgium.

Sub-Saharan Africa (SSA) has the highest global burden of disease and the lowest number of health workers per population. In such a resource-constrained environment, focus on Primary health care (PHC) is most likely to impact on the health of the population and to be cost effective. Globally, there is a move towards strengthening primary health care systems and encouraging community based and socially responsive medical education. This paradigm shift requires strong PHC oriented specialties. The PRIMAFAMED network is an educational and
research network of departments of Family Medicine in SSA. At its meeting in Nairobi, time was devoted to evaluate and reflect on undergraduate family medicine education in the region. This paper summarizes the reflections of participants at the 8th workshop from 21st-24th May 2016 in Nairobi, Kenya. A poster session was conducted. Posters detailed the following: presence or absence of family medicine in the undergraduate curriculum, what teaching and clinical training is provided by family medicine, duration of exposure, lessons learnt and future plans. Delegates whose institutions did not yet embrace family medicine in undergraduate medical education were requested to share verbally any plans for the future. After the group poster presentations, the plenary discussed the question; what lessons can we learn on how to successfully implement undergraduate family medicine training in SSA. Eighteen African Universities presented posters. There was significant heterogeneity in approaches to undergraduate family medicine training between the different institutions. Undergraduate family medicine training is at different levels of development both between and within countries in SSA. In some countries it is well established, other countries are beginning while it is non-existent in others like Tanzania. In most Universities without formal presence of family medicine in the undergraduate curriculum, family medicine departments contribute indirectly in areas such as community health and communication skills. Despite the need for well-trained generalist doctors in the African context to address the burden of disease in PHC and district health services, there is limited space for family medicine and PHC education in most undergraduate curricula. The discipline of family medicine needs to advocate strongly for inclusion.

Impact of Community-Based Education: Additional Benefit to Communities in Rural Areas of Uganda

Samuel Kizito¹, Temper Benjamin¹, Rhona Baingana¹, Kintu Mugagga² et al.
¹Makerere University College of Health Sciences; ²School of Health Sciences, Kampala International University

Ugandan medical institutions introduced Community Based Education Research and Services (COBERS), whose impact on the community has not been evaluated. We assessed the impact of COBERS on community utilization of health services under Pre-post quasi-experimental study design. We employed before-and-after design in a matched case control study among 120 health facilities that accommodate students from 4 medical universities in Uganda for their community placements. We collected data onto questionnaires by review of health facility records at baseline in 2012 and follow up in 2016. We used Wilcoxon signed rank tests; McNemar’s tests as well as student t-test and Mann Whitney U tests during comparisons. Overall utilization of the following health services increased during COBERS at end-line evaluation: a) pediatric outpatient attendance increased by 14% from 391 to 446 patient visits (p values 0.001), b) health education increased by 12% from 17 to 19 sessions per month at the facility (p value 0.04) and by 14% from 7 to 8 times per month in the community, (p value 0.01) , c.) family planning increased by 30% from 33 to 43 services sought (p value 0.002), d.) HIV counselling and testing increased by 67% from 3 to 5, times a month (p value 0.05) and e.) TB DOTS from 4 to 6 times a month, a 50% increase (p value 0.03). These increases were observed in sites that have been receiving students for CBE (cases) while no differences were found in sites without COBERS (control sites). Although similar trends were observed in the baseline data, the increase in utilization was more marked in the end-line data. COBERS has a positive impact on the community utilization of health services. If well implemented it can lead to enhanced health service utilization by communities.
Solidarity in Health Professions Education: The Forum For Universities and Colleges of Health Sciences in Tanzania

K. Mteta¹, P. Rugarabamu¹, E. Kessi¹, M. Ntabaye³, et al.
¹Kilimanjaro Christian Medical University College, ²Catholic University of Health Allied Sciences, ³Hubert Kairuki Memorial University

The Forum for Universities and Colleges of Health Sciences in Tanzania (FUCHS) was established in 2005 to promote discussion, exchange of ideas and problem solving. It was dormant 2007-2012 and did not meet. In 2012 FUCHS was revitalized through the Medical Education Partnership Initiative (MEPI), and four meetings have been held, most recently February 27-28, 2017. All Universities and Colleges of Health Sciences in Tanzania and other key stakeholders (governmental and non-governmental) were invited. Discussion topics were solicited in advance, with the goal of addressing the most pressing issues in health professions education. Five academic institutions and stakeholders participated in the meeting. Key resolutions included the following: 1. Better communication and coordination with the Ministry of Health and Social Welfare, Tanzania Commission on Universities and FUCHS is essential; 2. Efforts should be undertaken to develop a shared competency-based curriculum across all schools. Existing information technology infrastructure can be used to share educational resources such as basic science and research faculty, clinical specialists, and modular learning between institutions; 3. A common admissions process for health professions schools within Tanzania needs to be created; 4. Individual schools should have much more input into the qualifications and numbers of entering students; 5. FUCHS institutions have increased class sizes to produce expanded numbers of health care professionals, but government-sponsored positions have not expanded in a commensurate manner. As an example, each year there are more than 1200 medical school graduates, and only 400 positions in government hospitals and 6. Cooperative efforts should be undertaken within FUCHS partners in teaching and performing regionally relevant research, with the goal of developing independent Tanzanian investigators. FUCHS members face common challenges in Tanzania. Through discussions of these challenges, members have identified cooperative approaches to address them, and optimize the impact of health profession graduates within the country.

Training in Occupational and Environmental Medicine and Pathology in West Africa

Maarten C. Bosland¹, KK Odeluga², Edith Clarke³ et al.
¹University of Illinois at Chicago, USA; ²Occupational Health Center, Franciscan Health, Chicago Heights, USA, ³Ghana Health Service, Accra, Ghana

Non-communicable diseases (NCDs) and injury are increasingly recognized as leading causes of disability and early mortality around the world including West Africa. Occupational and environmental causes of NCDs are important factors in the global burden of disease. While postgraduate training in Occupational and Environmental Medicine (OEM) is available in the US and Europe, many low and low-middle income countries do not cover this material in medical school. A survey we conducted of 80 Ghanaian medical students demonstrated no awareness of the occupational and environmental risk posed by mercury in gold mining. We have developed a one-day general pathology training session for medical students to create
awareness of occupational and environmental hazards, consulting a major pathology textbook (Robbins and Cotran) as a basis. Emphasis is given to specific hazards in the West African context, including mercury exposure, particulate matter from cook stoves, outdoor pollution from burning of garbage, nutritional deficiencies and imbalances, physical trauma, exposure to pesticides and herbicides, and snake bites. In this curriculum, medical students conduct two exercises beforehand: in one they make a list of occupational disease states and hazards they have seen among people they know; in the other, they create a drawing of the area where they grew up identifying various environmental hazards. These exercises are used as a basis for discussion and introduction to the subject matter, with formal lectures and activities designed to fill in gaps. To develop expertise in OEM in West Africa, we are adapting existing modules for continuing professional development of general practitioners as a first step. Next, we will work toward inclusion of OEM in standard West African medical school curricula. Ultimately, we intend to partner with existing medical societies and other stakeholders to develop a regional residency program in OEM leading to formal board certification in West Africa.

**Strengthening Governance, Leadership and Managerial Capacity of District and Regional Health Managers to Improve Health Service Delivery in Uganda**

Violet Gwokalya1, Joseph KB Matovu1, Rhoda K. Wanyenze2, Charles Isabirye3 et al.

1MakSPH-CDC Fellowship Program, Makerere University School of Public Health, Kampala, Uganda
2Department of Disease Control & Environmental Health, Makerere University School of Public Health, Kampala, Uganda
3Ministry of Health, Uganda

Inadequate management competencies among lower level managers is a major challenge to healthcare delivery in low- and middle-income countries. Capacity strengthening initiatives for managers are still limited and primarily focused on individual competences, with limited attention to the governance challenges faced by managers. We share experiences implementing a District Capacity Building Program that utilizes a team approach to equip local government managers with skills in governance, leadership and management to improve service delivery. We implemented a 9-months work-based, action-learning Fellowship that offered managers short workshops with mentorship at their work stations. A total 134 managers (33 District Health Officers, 67 Regional Performance Monitoring Teams, 30 Regional Referral Hospital managers and 4 Principal Medical Officers) were enrolled, and worked in teams to implement 48 projects addressing governance, leadership and management challenges to service delivery at their workplace. They implemented changes; establishing reporting systems, coordination and supervision structures, community engagement platforms, and staff performance management systems. Within 6 months, weekly epidemiological surveillance reporting in 10 districts improved from an average 57.7% to 90%; completeness, accuracy and timely reporting of data in 25 facilities improved from 49% to 91.3%, 43.5% to 81.5%, and 64% to 100% respectively; Measles and DPT3 immunization coverage in 5 districts improved from 54.8% and 57.7% to 98.5% and 92%, respectively; adherence to test and treat Malaria policy in 5 districts improved from 68.3% to 85.6%, staff absenteeism in 20 facilities reduced from 30.9% to 15.4%, and retention of HIV infected mothers in care at 15 facilities improved from 48% to 63%. The training equipped managers with competences in motivating teams, data analysis and use, resource mobilization, and coordination of partners. Developing governance leadership and management skills of managers empowers them to create organizational change that improves service delivery. This training has been scaled up to other managers.
Standardizing Assessment Practices of Undergraduate Medical Competencies across Medical Schools: Challenges, Opportunities and Lessons Learned from A Consortium of Medical Schools in Uganda

Mubuuke Gonzaga Roy
Makerere University, College of Health Sciences

Health professions education is gradually moving away from the more traditional approaches to new innovative ways of training aimed at producing professionals with the necessary competencies to address the community health needs. In response to these emerging trends, Medical Education for Equitable Services to All Ugandans (MESAU), a consortium of Ugandan medical schools developed key competencies desirable of graduates and successfully implemented Competency Based Education (CBE) for undergraduate medical students. The study sought to examine the current situation and establish whether assessment methods of the competencies are standardized across MESAU schools as well as establish the challenges, opportunities and lessons learned from the MESAU consortium. It was a cross-sectional descriptive study involving faculty of the medical schools in Uganda. Data was collected using focus group discussions and document reviews. Thematic analysis was used to analyze the data. Although the MESAU schools have implemented the developed competencies within their curricula, the assessment methods are still not standardized with each institution having its own assessment procedures. Lack of knowledge and skills regarding assessment of the competencies was evident amongst the faculty. The fear for change amongst lecturers was also noted as a major challenge. However, the institutional collaboration created while developing competencies was identified as key strength. Findings demonstrated that despite having common competencies, there is no standardized assessment blueprint applicable to all MESAU schools. Continued collaboration and faculty development in assessment is strongly recommended.

Gender Issues Affecting Student Performance and Attrition in Midwifery and Medical Laboratory Technician Pre-Service Education Programs in Liberia

Allyson Nelson1; Mantue Reeves1; Daisajou Woods1; Varwo Sirtor-Gbassie1 et al.
1 Jhpiego, Monrovia, Liberia, 2 Jhpiego, Washington, DC, USA. 3 Consultant, New York, NY, USA

Gender inequality in Liberia is evident in the significant gender disparities in the workforce, women’s lack of control over resources, secondary education and literacy, and high rates of gender-based violence. The USAID-funded Maternal and Child Survival Program (MCSP) in Liberia is strengthening pre-service education for midwives and medical laboratory technicians (MLTs), two cadres critical to improving health services and outcomes. MCSP conducted a gender analysis to develop strategies to increase matriculation, reduce dropout, and enhance academic performance. This study investigated the gender biases that may affect students’ experiences and performance in school in order to strengthen the gender-responsiveness of pedagogy, curricula, and institutional structures. Twenty-one staff and 128 students participated in key informant interviews and same-sex focus group discussions (FGDs), respectively, from three midwifery programs and two MLT programs. Interviews focused on gender issues that affect student matriculation, dropout, and academic performance, including instructional biases, and health and safety systems. FGDs sought student opinions on hypothetical case studies related to gender issues faced in school. Deductive methods were used to code and analyze interview and FGD notes. Students and health care staff are significantly more aware of sexual harassment issues and how these issues affect performance, absenteeism, and dropout in schools than are
teachers and administrators. Schools lack adequate security, health provisions, and food and accommodation for students. Teaching staff portrayed actions and attitudes reflecting gender biases in students’ abilities with potential impact on student performance. Finally, school policies do not adequately address gender constraints that impact female student retention. Exploration of gender issues in pre-service institutions provides insight into critical issues affecting student performance and retention. Findings can be used to shape gender-responsive policy and gender-sensitive environments in midwifery and MLT schools to improve learning outcomes and ultimately strengthen the health workforce in Liberia and throughout the region.

Regional Networks: An Approach to Enhance Global Exposure for Medical and Health Professional Students in Africa

Faith Nawagi*, Anna Iacone*

*Global Educational Exchanges in the Medicine and the Health Professions (GEMx), a service of ECFMG

Students from Africa have limited access to global learning opportunities in developed countries due to cost and a variety of challenges. With significant differences in health concerns and health care settings across regions of Africa, African students can gain a “global” experience across the continent. Regional networks offering exchange opportunities to students across the continent help to develop future African physicians and health care providers to serve the health care needs of their own patient populations while strengthening their communities and building the African health care workforce. GEMx serves as “facilitator” of African student exchanges through a Charter, a web-based system, and student financial support to help defray costs when going on an elective exchange. To work with African networks comprised of training institutions committed to developing future African physicians and health care workers through medical elective exchanges across the African continent, in partnership with GEMx. GEMx has put in effort to bring together institutions interested to form the Africa regional exchange network, through presentations at conferences, meetings with various institutional council and boards in the region. Through participation at various symposia, GEMx has been able to harness networks and its participating institutions interested to form regional partnerships. These have been bridged together through the GEMx charter and the web based system to streamline electives for each partnering institution. Mobility of the students is currently up and running throughout the year 2017, with the various institutions being able to activate their web based system. AFREhealth (MEPI/NEPI merger), COECSA, EAHPHEA, and South-South Exchange Initiative have welcomed GEMx to facilitate medical electives across Africa. There are a total of 27 participating institutions across all respective networks. Leadership at each network signed the GEMx Charter. Twenty-six out of the 27 institutions published their elective information in the GEMx system. The allocation of student grant funds has been done to each network. The launch for exchanges commenced in April 2017 with four students waiting to go on an elective exchange through the AFREhealth network. The projected number of student exchanges across Africa is 98 by April 2018. Internationalization in Health Professional Education through regional student mobility is possible. In addition to scaling up health Professional education in Africa, this strikes a positive balance with compliance to the values of social accountability in different health care systems. Furthermore, this serves as a platform to define and measure the social accountability of medical schools in Africa.
Peripheral Hospital Rotations to Relieve Over-Crowding among Medical Students on KCMC Wards

Ahaz Kulanga¹, Chrispina Tarimo¹, Gibson Kapanda¹, Lucy Mimano¹ et al.
¹Kilimanjaro Christian Medical University College, ®Duke Global Health Institute

Healthcare worker shortages in sub-Saharan Africa have resulted in increased student enrolment in medical schools, which has not been matched with increased faculty size or physical infrastructure. This process has led to overcrowding and possibly reduced the quality of training. The aim of the study was to expose medical students to real working environments and reduce overcrowding at the teaching hospital; Kilimanjaro Christian Medical University College introduced a 12-week peripheral clerkship rotation in 2012. We explored the effectiveness of this strategy from the student perspective. The clerkship rotations have been conducted in 8 hospitals operating in the northern zone of Tanzania, after establishing optimum number of students at each hospital. Paper-based surveys were conducted with students after rotations from 2014 to 2016. Overall student satisfaction was moderate (strength of consensus measure (sCns), 77%). The three cohorts exhibited improving trends over the 3-year period with respect to satisfaction with clinical skills and attitude towards placements. Student-preceptor interaction was rated highly (sCns 81-84%). Students in the first cohort expressed concern with limited laboratory support, and poor access to internet and learning resources. Specific interventions were undertaken to address these concerns including the development of point of care diagnostic device toolkits to accompany students and enable them to perform laboratory assays, and mi-fi units to support internet connectivity. Student experiences in peripheral clerkship rotations were generally positive with adequate satisfaction levels. Opportunities exist for medical schools in sub-Saharan Africa to enhance clinical training through the use of peripheral clerkship rotations.

A Partnership Approach to Scaling-Up Health Professions Education in Somaliland

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Somaliland is a self-declared, internationally unrecognized, state in the Horn of Africa. Civil war ending in 1991 destroyed much of Somaliland’s infrastructure and displaced many people. Despite resource challenges, Somaliland is described as an overlooked African ‘success story’ and the health education sector has made remarkable progress. KSP, part of an Academic Health Science Centre in London, draws on clinical, educational and research excellence from three NHS hospital trusts and a global top-20 university. It fosters collaboration between health professionals, students and institutions in the UK and Somaliland. When KSP began in 2000 there were no Somaliland medical schools and few hospitals. Achievements since include: Examining 100% of doctors and most BSc nurses graduating since the civil war; Delivering psychiatric training to all doctor graduating since 2008; Co-authoring 13 publications with Somaliland colleagues, 35% of Somaliland’s entire research output; Pioneering synchronous online learning in a post-conflict setting. Lessons learned in 17 years of partnership include: Co-development (UK and Somaliland educators collaborate to address learning needs and capacity gaps; Shared project governance, with equal Somaliland/UK voting rights; Mutual learning, transferable to UK workplaces), Volunteering (Blended delivery model includes low-bandwidth distance technology. UK volunteer experts deliver global health education without disrupting careers; and Somaliland colleagues benefit from quality, year-round support. Active pool of multi-specialist 150 volunteers donated over 21,000 hours and will donate a further estimated 24,000 by 2022), Sustainability is central to
programme design. Incremental process ends with Somaliland institutions and educators taking over programmes and building capacity in Somaliland. These approaches have helped KSP scale-up and become one of the first partnerships to be awarded aDFID-funded SPHEIR grant to deliver systemic and sustainable change for higher education systems in Africa through the Prepared-for-Practice project (2017-2022).

The Workplace as a Learning Environment at Mulago National Referral and Teaching Hospital Kampala in Uganda

Mike Kagawa

A workplace for the practice of medicine can act as a learning environment for clinical medicine. Advances in medical education around the world have led to the establishment of many clinical skills laboratories as places for teaching clinical skills using simulation. However, learners cannot be considered competent until they can translate the skills learnt in the laboratory to the real patient situation. Not only do real patients tell their stories and show physical signs, they also give deeper and broader insights into their problems. Therefore, workplace learning remains important in medical education. The objective is to assess the suitability of the workplace at Mulago Hospital as a learning environment for undergraduate medical students. This was a mixed method design with qualitative and quantitative approaches. The experiences and perceptions of the learners about learning at the workplace were explored using Focus Group Discussions (FGDs) and the Clinical Learning Environment Questionnaire (CLEQ). The findings from overall perception of the learning environment correlated well with the findings from the sub-group analysis. Majority of the learners (75%) perceived the learning environment as having more positives than negatives with negative findings reported for perceptions such as the teachers needed some training (19%) a feeling of total failure by the learners and a feeling that there were many issues which needed changing (29%). The findings indicate a positive perception overall, with majority of the learners feeling confident of acquiring the necessary knowledge, correct attitude and skills while learning at this workplace. These numbers do not tell the whole story about learning at the workplace and FGDs and KII were conducted with the learners and teachers respectively to try and provide an explanation underlying the scores.

Clinical Supervision and Support: Perspectives of Undergraduate Nursing Students in a BSN Programme in Malawi

Stella Kamphinda, Evelyn Chilemba, University of Malawi

The nurse educators’ role in clinical learning is to define the necessary pre-requisites of an ideal clinical learning environment. Clinical learning is a complex endeavour that requires focused supervision, support and is positively related to levels of cohesiveness, satisfaction and task orientation. At Kamuzu College of Nursing (KCN) in Malawi the CLE for the undergraduate nurses has vastly changed since the introduction of the BSN programme in 1996. The purpose of the study was to explore and describe undergraduate nursing students’ perspectives on their clinical learning environment (CLE) and their preferences. A mixed method research approach was deployed to explore and describe clinical supervision and support phenomena from the students’ perspectives on the features of actual and preferred CLE. The study’s population comprised all third and fourth year undergraduate nursing students (n=219). Sample (n=125) was randomly selected; quantitative data and 120 questionnaires were valid for analysis.
representing 96% of the study sample. For qualitative data 20 participants were purposively chosen and interviewed. Data were analyzed using SPSS computer package (Version 16) while the qualitative data analysis used content analysis approach and themes were generated. The results exposed that participants were not satisfied with clinical supervision and support during clinical learning. The participants preferred improved clinical supervision and support in their clinical learning. The t-test results showed that the mean scores between the actual and the preferred versions of the questionnaire items were statistically significant at p<0.05. There is need to improve students' clinical supervision and support to promote clinical performance among the undergraduate nurses. Nurse educators need to effectively plan for clinical supervision and support to promote proficient nursing graduates. The students' learning satisfaction is facilitated when clinical learning is structured.

Key words: Clinical learning environment, Clinical supervision, Clinical learning, Undergraduate nursing students

Building Quality Clinical Nursing and Midwifery Education and Beyond: Implementation of Seven Master’s Programs in Nursing in Rwanda

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In post-conflict countries in Africa much of the nursing and midwifery health workforce was killed, displaced, or education and practice in country disrupted. The goal of Human Resources for Health is capacity building to increase the pedagogical and clinical nursing and midwifery training and research to ultimately improve country-wide prioritized health outcomes.

HRH Rwanda project is a 7-year project, initiated in August, 2012. Visiting faculty from 6 U.S. Colleges of Nursing are hired each year and assigned to either clinical or academic programs to expand expertise, excellence, and extent (capacity) of evidence-based nursing and midwifery. Relationship building takes time, however, once there is trust and ownership capacity building opportunities expand exponentially. Sustainability is achieved through collaboration with academic and clinical partners. Expanded expertise in development of and funding for clinical nursing and midwifery research proposals supports sustainability for academic and clinical systems and faculty/students/clinicians throughout the country. Building up the energy for a long-term health workforce capacity building project is a process. Maintaining the energy for the same project builds the networks and therefore the sustainability once the original funding source expires. The Liberia Health Workforce project is modeled on Lessons Learnt from HRH Rwanda project. There is a learned flexibility with an ever-changing landscape. The importance of having a U.S. academic institution involved that is able to hire non-US Visiting Faculty has been translated to Liberia from Rwanda. Building clinical research capacity from the start allows for longer-term mentoring to gain sustainability sooner while funding is still in place.
Training of the Next Generation on Health Workforce: An Experience from a Rural Community in Western Uganda

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In recent years, 75% of emerging infectious diseases have been caused by pathogens that spread to humans from animals or animal products. In the African region, there have been Yellow fever epidemics in DRC, Uganda, Angola and Kenya, Lasa Fever in Nigeria and Togo, Ebola outbreaks in Uganda, DRC and West Africa. The One Heath Institute at One Health Central and East Africa, OHCEA at Makerere University provides interdisciplinary teams of undergraduate students in their final year of study and at the start of their careers with skills, knowledge and ability to detect, prevent and respond to infectious diseases threats and outbreaks. We were introduced to theoretical courses on the One Health principles of Infectious disease prevention and mitigation followed by simulation practice, field attachment, and field-based community change projects given by experts from National Task force that responds to epidemics in Uganda. At the end of the theoretical course, we were placed in 3 groups of about 12 students each in Kasese District, Western Uganda. We were tasked to identify key health challenges within the community and then come up with solutions to the challenges. An eco-friendly and cost-effective bat repellant was innovated due to the high infestation of bats within about 70% of household structures. Bats posed a risk of spread of zoonotic diseases. Locally available materials were mobilized to reconstruct the water source with a proper drainage channel and soak pit which was responsible for the high burden of water borne diseases. We designed a low cost, re-useable waste combustion pit made out of concrete wall with an ash-pit in response to the poor waste management at the health facility that posed as a risk to spread of infections to the community. We designed an appropriate health awareness campaign to educate the slaughter slab workers on the best practices on meat hygiene and proper management of the slaughter slab. We learnt that interdisciplinary approach and community involvement in identifying health challenges, ideating solutions and implementing is key in implementing One Health interventions.

The Global Nurse Capacity Building Program (GNCBP): A Great Opportunity for Nurses and Government in the Democratic Republic of Congo (DRC)

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A critical health workforce shortage hinders access to quality healthcare and threatens population health in DRC. Efforts to scale up health professional education must increase the quantity, quality and relevance of health workers to meet population health needs. ICAP at Columbia University’s Global Nurse Capacity Building Program (GNCBP), funded by the U.S. Government President’s Emergency Plan for AIDS Relief (PEPFAR) through the Health Resources and Services Administration (HRSA), aims to improve population health by fostering individuals, institutions, and networks to expand, enhance, and sustain the nursing and midwifery (NM) workforce. GNCBP in collaboration with the Ministry of Health, Ministry of Education, a Nursing Technical Working Group, and national experts, supported four nursing and midwifery (NM) education institutions to: strengthen teaching and learning infrastructure; improve quality and relevance of teaching and learning through curricula revision and introduction of innovative best practices; improve production and capacity of faculty; strengthen leadership and financial management capacity; and enhance partnerships with national and regional networks. A total of
14,262 students successfully completed simulation based training and 6,716 final year students graduated from GNCBP-supported NM education institutions. Government collaboration and involvement were essential for program success, particularly in the development of a nursing regulatory body and substantive education reform. Competency-based curricula revisions, computer based learning, infrastructure enhancement and establishment of medium and high fidelity clinical simulation labs strengthened student access to quality education programs. GNCBP implementation of educational best practices such as competency-based curricula reform and simulation-based training were both acceptable and feasible in the DRC context. Although the educational experience was enhanced and a substantial number of new nurses produced, absorption of new graduates remains a challenge. Continued efforts are needed to maximize the return on GNCBP investment through public sector investment in health and development of a comprehensive production, absorption and retention strategy for nurses.

The Nursing Education Partnership Initiative (NEPI): Advances in Nursing and Midwifery Pre-Service Education at the University of Gondar, Northwest Ethiopia

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The expanding health burden requires an increased production of competent nurses who can provide a wider range of health services in Ethiopia. In response to this demand, ICAP at Columbia University has implemented the Health Resources and Services Administration (HRSA)/Presidents Emergency Plan for AIDS Relief (PEPFAR)-funded Nursing Education Partnership Initiative (NEPI) in Ethiopia. NEPI has supported the University of Gondar’s (UoG) School of Nursing and Department of Midwifery since 2012 to strengthen pre-service nursing and midwifery education. The aim of this study was to describe NEPI achievements in nursing and midwifery education at the UoG, Northwest Ethiopia. A baseline assessment conducted by Capacity Plus and the NEPI Core Group at the Federal Ministry of Health (FMOH) identified priorities for NEPI intervention. Data regarding the current status of the two schools was collected through desk review of institutional documents. Student enrollment was increased by from 167 to 600. The clinical skills laboratory (CSL) capacity at UoG increased from 50 students to 160 students at a time. Attrition rate of regular students decreased from 12.9% (baseline) to 0.84% (current). Academic programs were increased from 6 to 14 and one PhD program in nursing was launched. The number of nursing and midwifery educators increased from 33 to 104. Six postgraduate curricula (four Masters-level, two doctorate-level) were revised to employ a competency-based approach and all Master’s curricula contain HIV/AIDS-related competencies. Twelve pre-service education research projects were supported. As a result of the NEPI’s support and the improvements achieved, the Department of Nursing was upgraded to a School of Nursing. Prior to NEPI, there were significant gaps in the organizational and educational capacity of UoG. The implementation of multiple interventions through NEPI support allowed for rapid and substantial improvements in faculty training, academic programs, and the resources available for the programs. A similar model of support is recommended to build capacity and sustain development of Ethiopia’s nursing and midwifery schools.
Reforming Nursing Education in Lesotho: Culture, Process and Outcomes

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WHO Guidelines for Transforming and Scaling up Health Professionals’ Education and Training recommend health professionals’ education and training institutions consider adapting curricula to the evolving health-care needs of their communities. In response, nursing education institutions (NEIs) in Lesotho revised curricula to be competency-based according to population health needs including HIV. Addressing organizational culture was paramount in initiating, diffusing, and sustaining curriculum innovation. ICAP at Columbia University’s Nursing Education Partnership Initiative (NEPI), funded by the U.S. Government President’s Emergency Plan for AIDS Relief (PEPFAR) through the Health Resources Services Administration (HRSA), partnered with six Nursing Education Institutions (NEIs) in Lesotho to address organizational norms and practices to transform nursing and midwifery education from being content-driven and teacher-centred to competency-based and student-centred. A multi-step process framed around a logic model was used to address organizational culture in light of substantive curriculum change. First, a consultative stakeholder meeting identified inputs needed for implementation of curriculum revision. Second, local educators with experience in curriculum revision led faculty development and development of new teaching and learning material. Nursing leaders engaged key stakeholders through a series of workshops. Feedback received during consultative stakeholder meetings was analyzed through inductive and deductive reasoning, applying principles underpinning competency-based education and national accreditation requirements. Institutional culture and faculty empowerment emerged as themes which would drive reform. New teaching and learning material aligned to the principles of competency-based education were developed which led to full accreditation of the new curriculum by relevant regulatory authorities. NEIs need to address institutional culture and foster leadership amongst early curriculum innovation adopters to develop, drive and sustain the major curricula reform. External accreditation drives quality reform and is an important validation of new methods of education.

Development of an E – Learning Diploma in Midwifery Program: The Lesotho Experience

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In response to the high maternal mortality rate and limited access to health services in a predominantly rural and mountainous country, the Ministry of Health (MOH) in Lesotho developed a policy requiring nurses to obtain midwifery qualification to ensure comprehensive service provision. However, many nurses working in remote areas have not yet received midwifery education. ICAP at Columbia University’s Nursing Education Partnership Initiative (NEPI), funded by the U.S. Government President’s Emergency Plan for AIDS Relief (PEPFAR) through the Health Resources and Services Administration (HRSA), facilitated the development of an online diploma in midwifery to reach nurses working in remote areas who could not easily travel to a nursing education institution (NEI). In collaboration with the MOH, Ministry of Education (MOE), Lesotho Nursing Council (LNC), and NEIs, the existing national diploma in midwifery curriculum was converted to an e-learning program. Two NEIs (Maluti Adventist College and National Health Training College) will pilot the program in July, 2017. The development of an e-learning diploma in midwifery program successfully built the capacity of NEIs in Lesotho to
convert an existing diploma in midwifery program into e-learning. Inter-Ministerial collaboration and development of a policy to guide LNC implementation of midwifery e-learning were critical to the project success. The e-learning diploma in midwifery will increase access to midwifery training for nurses who work in rural and underserved locations for whom continuing education or study leave are currently out of reach. This NEPI supported program is expected to effectively upgrade the qualifications of nurses in midwifery so that they may provide essential midwifery services to hard-to-reach populations. Increasing access to quality continuing education is essential to the ongoing development of the nursing workforce. The quality and quantity of the health workforce is critical to decrease maternal mortality in remote areas in Lesotho.

Simulation Based Education (SBE): An Innovative Clinical Teaching Methodology for Nursing and Midwifery Education in Lesotho

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Nursing education institutions (NEIs) in Lesotho have struggled for decades with graduates not competent to perform upon completion of their education due to NEIs’ insufficient, out-of-date equipment, limited space and lack of trained clinical supervisors to coordinate clinical education. ICAP at Columbia University’s Nursing Education Partnership Initiative (NEPI), funded by the U.S. Government President’s Emergency Plan for AIDS Relief (PEPFAR) through the Health Resources and Services Administration (HRSA), partnered with NEIs in Lesotho to implement Simulation Based Education (SBE) as an innovative strategy to strengthen clinical education. SBE was integrated into nursing education through the following steps: construction of infrastructure and procurement of simulation equipment; employment of clinical supervisors to conduct clinical teaching in the simulation laboratory; training of clinical supervisors in SBE strategic planning, simulation setting, integration of simulation into the curriculum, guided reflection, and engagement of standardized patients; allocation of course hours for students to practice simulation each week; and preparation of administrators to sustain the SBE teaching methodology. SBE was integrated into all the NEIs in Lesotho. Clinical Supervisors have established networks and built clinical teams for sharing of experiences and lessons learned. The clinical skills labs are fully utilized and sustainability mechanisms have been put in place. The acquisition of competencies by students is evidenced by pass rate, whereby 3,709 students successfully completed skills labs. To effectively implement SBE, all stakeholders must engage to sustain all equipment and retain clinical supervisors. Management in all schools, faculty, preceptors and students must embrace SBE including development of policies and procedures for implementing SBE.
Pre-Service Nursing and Midwifery Students Take a Lead in Option B+ Online Training

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Current guidelines for prevention of mother to child transmission (PMTCT) according to the Option B+ approach requires nurses and midwives be trained to initiate and manage lifelong antiretroviral treatment (ART) for HIV-infected pregnant and breastfeeding women. ICAP at Columbia University’s Global Nurse Capacity Building Program (GNCBP), funded by the U.S. Government President’s Emergency Plan for AIDS Relief (PEPFAR) through the Health Resources and Services Administration (HRSA), developed a competency based e-learning course to educate nursing and midwifery faculty and students in the latest PMTCT guidelines. Self-directed learning was facilitated through six online sessions including: 1) PMTCT basics, 2) HIV testing for the mother, 3) ART for the mother, 4) Care of the HIV-exposed infant, 5) Infant diagnosis, and 6) Retention in care. Option B+ e-learning was piloted at Lusaka School of Nursing including orientation of faculty and incorporation into students’ didactic training prior to clinical practicum in ART centers. Student satisfaction and knowledge were assessed through a pre-test and questionnaire. A total of 74 students completed Option B+ e-learning at Lusaka School of Nursing. Students’ knowledge of PMTCT improved from 65% at pre-test to 80% at post-test. A total of 99% of students reported to be satisfied with the e-learning method. Faculty also completed Option B+ e-learning and obtained 6 hours of continuing professional development (CPD) credit from the East, Central, and Southern African Colleges of Nursing (ECSACON) required to re-license with the Zambian nursing council. Implementation revealed that e-learning was most effective when incorporated with classroom discussion and clinical practicum experience. E-learning is acceptable and feasible in Zambia. When combined with classroom and clinical practicum training, it is an effective way to update pre-service nursing and midwifery curricula according to the latest HIV care and treatment guidelines thus ensuring new graduates are fit for practice.

Bedside Ultrasound at KATH Emergency Department Improves Diagnostic Accuracy for Critically Ill Patients

Chelsea Tafoya, Matthew Tafoya, Torben K. Becker, Rockefeller Oteng et al.

Bedside ultrasound is increasingly becoming a standard of care for emergency physicians globally. Its use is however limited in low-and-middle income countries. The study sought to examine the impact of cardiopulmonary ultrasonography (CPUS) on diagnostic accuracy and early clinical care of critically ill patients presenting to the emergency department (ED) at the Komfo Anokye Teaching Hospital in Kumasi, Ghana. Select emergency physicians (EPs) underwent training in CPUS. Adult patients presenting with signs or symptoms of hypoperfusion or hypoxia were enrolled. Patients either received standard care plus CPUS-guided diagnosis and treatment during their initial resuscitation, or standard care alone depending on whether their treating EP had been trained in CPUS. The primary outcome was diagnostic accuracy which was assessed by comparing the treating EPs most likely diagnosis after the initial assessment with the final ED diagnosis. The ED diagnosis was obtained through blinded chart review performed by two board certified emergency physicians with experience working in resource-limited environments. Secondary outcomes were 24-hour mortality and use of IV fluids, diuretics, vasopressors and bronchodilators. Based on local historical data and previous diagnostic accuracy studies, we
planned on enrolling 180 patients. Ninety patients each were enrolled in the intervention and control group. Diagnostic accuracy was 71.9% for patients in the intervention group versus 57.1% in the control group (p = 0.042). This effect was particularly pronounced for patients with a “cardiac” diagnosis (94.7% vs. 40.0%, p=0.003) and those with a predicted mortality of 25-50% as estimated per the Mortality Probability Model II (84.6% vs. 36.8%, p=0.001). There was no significant difference between the two groups in terms of 24-hour mortality or use of IV fluids, diuretics, vasopressors, or bronchodilators. When integrated into the initial assessment of critically ill ED patients in a low-resource environment, CPUS improved the diagnostic accuracy significantly.

The Long-Term Impact of Point-Of-Care Cardio-Pulmonary Ultrasound Training in Ghana

Maxwell Osei-Ampofo, Matthew Tafoya, Chelsea Tafoya, Rockefeller Otengv et al.

Although there has been much research on ultrasound education, there is a paucity of literature on long-term knowledge preservation after initial ultrasound training. We conducted a follow-up assessment to objectively evaluate long-term knowledge and skill retention. In addition, we explored the perspectives of the participants regarding their current use of ultrasound in the evaluation of critically ill patients. This follow-up study was conducted at 9-11 months after initial CPUS training at KATH in Kumasi, Ghana to evaluate the participants’ long-term knowledge retention, the same written test as previous was administered. Additionally, the same Objective Standardized Clinical Examination (OSCE) was administered to assess retention of hands-on ultrasound skills. One-on-one interviews were conducted with each participant to investigate their viewpoints regarding changes in practice patterns after training and the utility of CPUS to clinical care. On the follow-up written test the participants scored a mean of 9.95 out of 12 points (82.9%). The pretest and posttest means from previous training sessions were 7.3 (60.8%) and 11.5 (95.8%), respectively. The difference between the pretest and follow-up means was 2.65 (22.1%) (p=0.000339). The difference between the posttest and follow-up means was 1.55 (12.9%) (p=0.000888). All 20 participants passed the follow-up OSCE with a score of at least 70%. Common themes from the interviews included a marked increase in the participants’ use of ultrasound for medically undifferentiated patients, a desire for consistent and scheduled retraining, and the need for improved access to ultrasound machines. We found that knowledge retention was diminished at 9 to 11 months after training but was still improved compared to baseline knowledge prior to training. This information supports the lasting benefit of short-term training interventions in a low resource setting, yet also highlights the need for reliable and regular retraining.
The Effect of Community Based Education and Service (COBES) on Medical Graduates’ Choice of Specialty and Willingness to Work in Rural Communities in Ghana


Career choices and placements of healthcare professionals in rural areas are a major problem worldwide, and their recruitment and retention to these areas have become a challenge to the health sector. The purpose of this study was to investigate the effect of Community-Based Education and Service (COBES) on medical graduates’ choice of specialty and willingness to work in a rural area. This cross-sectional survey was conducted among 56 pioneering graduates that followed a Problem Based Learning/Community Based Education and Service (PBL/COBES) curriculum. Using a mixed methods approach, open-and closed-ended questionnaire was administered to 56 graduates. Cross tabulation using Chi-square test were used to compare findings of the quantitative data. All qualitative data analysis was performed using the principles of primary, secondary and tertiary coding. All 56 graduates answered and returned the questionnaire giving a 100 % response rate. 57.1 % (32) of them were male. Majority of them lived in towns (41.1 %) and cities (50 %) prior to medical school. A significant number of graduates (53.6 %,) from the cities, without any female or male predominance said COBES had influenced their choice of specialty. Again, a significant proportion of graduates from the towns (60.9 %,) and cities(67.8 %), indicated that COBES had influenced them to work in the rural area. However, there was no significant difference between males and females from the towns and cities regarding the influence of COBES to work in the rural area. Qualitative data supported the finding that COBES will influence graduates’ willingness to work in the rural area. The majority of graduates from the towns and cities in Ghana, with a male predominance, indicated that COBES may have influenced their choice of specialty and willingness to practice in the rural areas despite their town or city based upbringing.

Keywords: Community-based education, Choice of specialty, Rural placement, Medical graduates, Service, Career choice, Community

The Perceived Usefulness of Community Based Education and Service (COBES) Regarding Students’ Rural Workplace Choices

A. Amalba, W. N. K. A. van Mook, V. Mogre and A. J. J. A. Scherpbier

Community Based Education and Service (COBES) are those learning activities that make use of the community as a learning environment. COBES exposes students to the public and primary health care needs of rural communities. The purpose of this study was to investigate students’ perceived usefulness of COBES and its potential effect on their choice of career specialty and willingness to work in rural areas. A mixed method cross sectional study design using semi-structured interviews, questionnaires, and focus group discussions were used for health facility staff, faculty and students and community members. One hundred and seventy questionnaires were administered to students and 134 were returned (78.8 % response rate). The majority (59.7 %) of students were male. Almost 45 % of the students indicated that COBES will have an influence on their choice of career specialty. An almost equal number (44 %) said COBES will not have an influence on their choice of career specialty. However, 60.3 % of the students perceived that COBES could influence their practice location. More males (64.7 %, n = 44) than females (57.8 %, n = 26) were likely to indicate that COBES will influence their practice location but the
differences were statistically insignificant ($p = 0.553$). The majority of students, who stated that COBES could influence their practice location, said that COBES may influence them to choose to practice in the rural area and that exposure to different disease conditions among different population groups may influence them in their career choice. Other stakeholders held similar views. Qualitative data supported the finding that COBES could influence medical students’ choice of specialty and their practice location. Medical students’ perceptions of the influence of COBES on their choice of career specialty were varied. However, most of the students felt that COBES could influence them to practice in rural locations.

**Keywords:** Community-based education, Choice of specialty, Rural placement, Medical students, Service, Career choice, Community.

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**Public Information, Education and Communication (IEC) of Health: Active Participation of Health Practitioners in Urban Radio in a Low Resource Setting**


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Over the last two decades Frequency Modulation (FM) radio has been established as the only form of sound broadcasting in Ghana. Radio is the most accessible of mass media. There are more than 40 operational radio stations in the Ashanti region of Ghana; most, commercial and broadcast in the local language (Asante-Twi). Many urban radio health slots discuss various diseases and their treatments mainly for the benefit of patients. Complementary and Alternative Medicine (CAM) practitioners who are able to pay for airtime dominate as ‘experts’ in most of these shows. We identified an IEC gap regarding policies governing healthcare delivery, healthcare financing, training, ethics and research, and environmental issues. In June, 2015, orthodox medical practitioners collaborated with a private local English-speaking radio station to produce and host a weekly health show whose content was aimed at holistically discussing health from the viewpoint of practitioners, clients, policy makers, administrators and financiers in a simplified language for the consumption of the general public including healthcare trainees. The show dubbed “Staying Alive” first aired on Tuesday, July 7, 2015 at 20:00 GMT continues to air till date, appealing to a wide range of active listeners. “Staying Alive” to the best of our knowledge remains the only show with a holistic approach to health. Over the last 23 months, we have experienced challenges in sustaining sponsorship to fund the cost of production and airtime for the show and in effectively assessing the public health impact of the show. Orthodox medical practitioners as hosts of radio health shows can employ mass radio as an effective tool for advocacy, information dissemination and education of clients and health trainees in a low and middle income urban setting, through effective collaboration with media houses.
Pain Management in Patients on Life Support at the Accident and Emergency Department of Komfo Anokye Teaching Hospital, Kumasi, Ghana

Asante Geoffrey, Komfo Anokye Teaching Hospital, Kumasi, Ghana

Attaining and maintaining an optimum level of comfort for patients through pain management is a universal goal for physicians and nurses because pain minimizes the comfort of patients. Pain mostly suffered by patients emanates from preexisting disease conditions, invasive procedures, or trauma. Pain management is therefore a very important aspect of care as its end result is relief and comfort. The study was conducted at the Adult Intensive Care Unit and Red Unit of the Accident and Emergency department of Komfo Anokye Teaching Hospital and adopted quantitative and cross-sectional research design using all forty-four (44) nursing staff from the Adult Intensive Care Unit and Red Unit. Structured questionnaire was used as the data collection tool.

The study revealed no gaps between the knowledge of respondents and pain management of patients on life support. However, there were limitations to their practical application of their knowledge to pain management of patient on life support. The study also established that nurses use both pharmacological and non-pharmacological approaches in managing pain of patients on life support. A significant 27.3% of the respondents had no idea of considering situational factors such as culture, language, ethnicity and economic aspects as parameters of comprehensive pain assessment and treatment among other parameters. The study also revealed that in adhering to the pain management guidelines, the analgesic ladder is used with few exceptions. It was established in this study that the pain management guidelines for patient on life support are not strictly adhered to. It is recommended to the management of the Accident and Emergency department of Komfo Anokye Teaching Hospital to provide frequent updates on analgesia for patients on life support and also develop an algorithm for pain management in patients on life support and make it visible on a notice to all professionals involved in patient’s care.

Health Systems Strengthening through Leadership Training of African Health Professionals in Sub-Saharan Africa: Afya Bora Experience

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Due to congested medical and nursing training curricula, most health professional in many developing countries go into leadership without adequate training in leadership. Hence, many major health programmes rely on experts from the north which calls for action to bridge the gap by equipping health professionals with practical skills required to lead high-impact health care programme. The Afya Bora Consortium, a consortium consisting of four US-based universities and five Africa-based universities offers a 12-month global health leadership training for doctors, nurses and public health specialists. Applicants are vetted by the Consortium working group members from Botswana, Cameron, Kenya, Uganda, USA and Tanzania. The successful fellows participate in nine didactic modules (relevant for strengthening leadership skills) each lasting one week. In addition, fellows participate in three distance learning modules and two 4.5 months of mentored attachments in the African countries. The attachment sites are pre-accredited including governmental (Ministries of Health) and non-governmental organizations (NGOs). Evaluation reports from the Fellows on both mentors and attachment sites were collected after the first attachment site rotation (January) and again after the second rotation (June).
summarized and analyzed using pre-determined themes to assess the effects of the programme on the fellows’ daily leadership competence. Between January 2011 and June 2017 applications increased from 43 in 2011 to 130 in 2016/2017. From a total of 525 applicants, 119 fellows graduated from the programme. All fellows received nine weeks of didactic training and three online modules to enhance the fellows’ skills in leadership, communication skills, monitoring and evaluation, implementation science, health informatics, research methods and grant writing and responsible conduct of research. Fellows completed projects beneficial to them and to the attachment sites. Of the projects completed, 72% focused on HIV/AIDS, 11% NCDs, 11% mother and child health and 6% monitoring and evaluation. All graduates returned to their respective countries. Experiential training and team mentorship of health professionals is implementable as long as fellows are provided protected time. Collaboration between academic institutions with governmental and non-governmental organization provides potential opportunity for building partnerships for in-service training, building networks across borders and sharing of human resources capacity.

Health Workers’ Knowledge and Perceptions of Current Anti-Malarial Treatment Policy and Prescription Pattern in Ibadan Metropolis

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Malaria is a public health issue despite the existence of a national malaria response and the National Antimalarial Treatment Policy (NATP). This study was designed to investigate health workers’ awareness, knowledge of current treatment policy; perception and prescription pattern of anti-malarial medicines in Ibadan Metropolis. A quasi-experimental design was used for this study. Public Health Workers were purposively selected from primary health care facilities in two Local Government Areas (LGAs) in Ibadan Metropolis. Data were collected using a pretested, interviewer-administered questionnaire; with questions on socio demographic characteristics, awareness, knowledge of the current NATP; perception and antimalarial prescribing patterns. Data were analyzed using descriptive and inferential statistics at p = 0.05. Most respondents (93.8%) were female and over 40% were aged 40 years. About 46% were Community Health Extension Workers, while 6.0% were Nurses. Awareness of the current antimalarial treatment policy was 87.5%. Almost all the respondents had ever heard about Arthemisinin Combination Therapy (ACT). Only 5.0% of respondents indicated that Arthemeter Lumefantrine was the current medicine for malaria treatment. Artesunate Amodiaquine was indicated to be the alternative drug of choice for malaria treatment by 18.0% of respondents. Respondents’ knowledge of NATP was 47.2±7.1 Signs of malaria including a child’s inability to breastfeed, anaemia, fever and hypoglycemia were indicated by over 80.0% of participants. Arthemeter Lumefantrine was most preferred (17.5%) as the first line antimalarial medicine. However, prescription pattern of antimalarial drugs across all ages was not in line with the policy recommendations. Though awareness of the NATP is high among health workers, the prescription pattern of Artemisinin-based Combination Therapy was not in line with the policy recommendation. Therefore, training is recommended to correct anti-malarial prescription pattern among health workers.

Keywords: National anti-malarial treatment policy, Artemisinin-based Combination Therapy, Prescription pattern, Community Health Extension Workers
Ethical Challenges of Human Resources Shortages: Experiences of Three Health Districts in Botswana

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Botswana’s health care, which serves more than 80% of the population, is based on a Primary Health Care model. The distribution of health facilities ensures that 90% of Batswana are within 5KM of a health facility. Being a large sparsely populated country, equitable distribution of resources, especially, health care workers, can present enormous ethical challenges. This article reports on the ethical challenges related to human resources shortages, as perceived by policy makers, health professionals and the community in three selected districts in Botswana. The qualitative study used focus group discussions with policy makers, healthcare workers and the community in three disparate districts. Interviews were conducted in English for health workers and policy makers and in Setswana for the community. Thematic analysis of the data was conducted with the themes derived inductively. ATLAS ti software (version 7.1.3) was used to manage transcribed data and to expedite data analysis. We conducted 15 focus group discussions with a total of 133 participants; 46 health care workers; 27 policy makers; and, 60 community. Major ethical experiences comprised: poor quality patient care compromising patient outcome because of inadequately supervised junior staff; Very long working hours; unsupportive leadership and management; lack of professionalism. Shortages of human resources can significantly compromise care and present ethical Challenges for the health system. Robust human resources management and supportive supervision may alleviate some of these ethical challenges.

Key words: ethical challenges, Botswana, primary health care, resources, human resources for health

Impact of Pronto Training in Emergency Obstetric and Newborn Care on 24 Hour Neonatal Mortality

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In Kenya, neonatal mortality accounts for 60% of infant mortality. One third of neonatal deaths in Kenya are due to preventable intra-partum complications resulting in birth asphyxia that can largely be prevented by enhancing the capacity of health facilities to provide routine and emergency obstetric and newborn care (EmONC). A key strategic component of this is the improvement of service provider skills in EmONC. Our study compares effects of simulation and team training approach (intervention) to the standard of training (comparison) in place for providers in low-resource settings on early neonatal outcomes. The overall goal of the proposed study was to evaluate the effectiveness of simulation and team training in EmONC in Kisii a rural Kenyan setting on early neonatal and maternal morbidity and mortality. We used a standardized tool to capture maternal and newborn outcome throughout the study period. Cluster randomization was effected to designate 8 facilities as intervention and 8 as comparison sites. Simulation training constituted the intervention and was done over a 3 months duration. During the study period, a total of 13, 326 deliveries were recorded with slightly above half (54.1%) occurring at intervention sites. Ninety providers drawn from the 8 intervention sites received simulation training. Most indicators at baseline were statistically not different between the two arms, including neonatal deaths at 15/1937 vs 20/1606 in intervention and comparison
sites respectively (P=0.167). There was a total of 170 neonatal and 4 maternal deaths during the study period. Neonatal mortality in the post-intervention period was significantly lower in the intervention arm 58/4521 (1.3%) vs comparison arm 77/3928 (2.0%) (P=0.014). Simulation training approach in EMONC significantly reduced early neonatal mortality rate.

**Video Production in Public Health Education: Proof of Feasibility**


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Preventive care is now the mainstay of health care. The easiest time to get public health education across patients is when they are waiting in line to be seen in the consulting room. The use of video presentation serves as a very cost-effective means of sending out health information as it involves both video and audio which allows for repetition. The video was developed as part of a project; “Assessing the effectiveness of educating caregivers to recognize early clinical signs of pneumonia in children less than 2 years in Ghana: Proof of concept study”. The current study used a modified Delphi approach by recruiting and interdisciplinary team members from Social Sciences, Industrial Art, Public Health and Child Health. It also included medical students and staff of the various wards. Video Shooting The shooting was done in two days with a total of 20 hours with basic video recording equipment. The first day was shoot at the PEU and MBU. All staff, patients and their relatives in the wards were introduced to the study and the team members. The raw footage was kept in a folder with password protection and all copies on SD cards were stored in a secure safe. A video to educate caregivers to recognize early clinical signs of pneumonia in children less than 2 years in Ghana was produced. The demonstration showed mothers how to count respiratory rates with specially designed bead and to recognize other signs of pneumonia in children. The video being the first of its kind created an avenue for the production of more health educational videos at KATH. The principles learnt here can be applied to various fields of medicine, science and social science to aid in video production. The concept was proven that a complete, ethically and culturally acceptable health video is feasible in a LMIC.

**Development of Higher Education for Nurses and Midwives in Uganda**

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Nurses and midwives form over 60% of the healthcare workforce globally. They therefore play a critical role in reducing mortality, morbidity, disability, and promoting healthy lifestyles. Satisfaction with care often depends on the competences of nurses and midwives who provide the care. Further, health care has become complex, challenging and demanding across diverse socio-cultural and socio-economic changes and environments. Therefore, nurses and midwives need to be prepared with evidence based competences in leadership, health policy and systems, as well as in practice and education. Although research has shown that higher education for nurses is associated with better patient outcomes, the bulk of nurses and midwives are at certificate level, and diploma level. Therefore, there is need for higher education for nurses in Uganda. The paper highlights the developments in training nurses and midwives in Uganda since the first training school in 1931. Objective of the paper is to document universities that train nurses and midwives by level and number of programs. Data was collected through review of literature/documents...
Catalyzing Healthcare Improvement through Leadership Development

Anuli Erike; The Healthcare Leadership Academy, Nigeria

There appears to be a widely held belief that excellent clinicians would make excellent healthcare leaders. As a result, the need to equip them – as they rise through the ranks – with the skills and tools they require to effectively lead healthcare institutions is often overlooked. Extensive engagement by the HLA with senior healthcare executives supports this, with several of those interviewed believing that they required further training in leadership and management, particularly in the context of working in resource constrained settings. The HLA’s flagship program, the Healthcare Executive Leadership Program (HELP) was designed to address these capacity gaps and provide healthcare executives with the fundamental skills they require to provide quality health services while maintaining financially sustainable organizations. HELP adopts a balanced scorecard approach to deliver world-class yet context-specific content across four critical areas – Financial Management; Leadership and Organizational Development; Quality Improvement; and Population Health. A 9-month fellowship following curriculum delivery ensures that capabilities built across each of the aforementioned areas are directly applied to their respective healthcare organizations through the implementation of a capstone project. An externally conducted 4-level Kirk-Patrick evaluation of the programme showed sustained learning and behavior change which participants directly attributed to the programme; with changes centering around a clarity of vision and strategy, attitudinal change, paradigm shifts towards patient centricity and increased financial awareness. It is evident from this programme that through leadership instruction we can see improvements in organisational processes that have a significant impact on patient experience and population health as a whole.

Patient Centred Care in Africa: Moving Towards a Global Trend

Anuli Erike, The Healthcare Leadership Academy, Nigeria

Over the last few decades there has been a paradigm shift in the healthcare industry, characterized by a new focus on providing quality, patient centric care. Studies have shown that there is a strong association between patient experience, clinical safety and effectiveness. While the benefits of creating a patient centric health system are clear, many practitioners and administrators may not have the requisite skillset to take this from an abstract concept to real-life clinical practice. In addition, there is a paucity of programs focused on teaching this particular topic, especially in Sub Saharan Africa. Recognizing this gap, the HLA has designed a Patient Centered Care (PCC) program to build capacity of front-line clinicians to effectively meet the healthcare needs of the populations they serve. The PCC program is delivered as a three-part master class designed to provide multidisciplinary groups of frontline healthcare professionals with the skills and tools they require to deliver personalized care to their patients. The program utilizes case-based
teaching methods to deliver a contextual curriculum which build capabilities in communication, quality improvement and, law and ethics. Skilled mentorship by a group of highly experienced faculty ensures that participants are fully supported to bring to life their understanding of the concepts through the execution of their projects. Evaluation of the PCC programme has shown that there is indeed an appetite for building capacity in this area. Extensive evaluations of HLA programmes has shown that the combination of in class curriculum delivery with on-the-job learning through a practicum has significant potential to spur behaviour change and catalyze institutional improvements. HLA will continue to use high-impact experiential teaching methods and provide students access to the finest thought leaders and mentors. Graduates of our programmes will be armed with the requisite skill set to bring about transformative and sustainable change within the healthcare system.

Taking Giant LEAPS: The Healthcare Leadership Academy’s Role in Health System Strengthening

Uju Onyes, Healthcare Leadership Academy, Nigeria

Despite substantial investment in healthcare in Africa, health outcomes in many countries remain poor. While several factors, such as inadequate demand for, or poor supply of health services influence this, effective governance and stewardship of these complex health systems remains crucial. It is essential that those tasked with this responsibility are equipped with the right set of skills and tools to deliver their mandate. The Leadership Enhancement and Accountability for the Public Sector (LEAPS) programme, was designed for policymakers and senior administrators who operate at the level of the state government. The programme aims to build the leadership effectiveness and execution capacity of cross ministry/agency state teams, foster collaboration and shared learning across peer groups from various regions, and drive system level health care improvements through the execution of capstone projects. Through LEAPS, state teams embark on a learning journey to build and consolidate capabilities in leadership and strategy, management, quality assurance, and health systems thinking. The coaching and mentoring component of the programme supports them to develop and utilize newly acquired skills during project execution. Currently, seven state teams across five of Nigeria’s geopolitical zones are implementing projects geared at improving the primary health care system of their states. The mentoring component of the programme has been critical in enabling participants navigate the complexities of health system governance, and participants continue to report behavior change which has resulted in favourable outcomes in both their personal and professional lives. LEAPS is a novel capacity building effort in Africa currently being piloted in Nigeria. While it is premature to attribute system improvements to participation in the programme, it would be valuable in the long term to assess the impact of aligning capacity building efforts with state health goals as a means of accelerating improvements.
E-Learning: A Step in The Right Direction in Post-Graduate and Continuous Medical Education in Ghana

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Electronic learning (e-Learning) is a type of computer-supported education/learning or most often web-based education that is used either as a complement to face-to-face learning or as standalone and distance learning modules. In Ghana, like any other developing economy, our learning modalities are largely restricted to books and physical interactions between learners and educators. With e-learning, exchange of medical knowledge is made possible between various centers, procedures and cases can be recorded and made accessible for healthcare professionals practicing in rural regions for updating skills and knowledge, conferences can be broadcast live. E-learning platforms allow for virtual collaborations with colleagues outside the borders of Ghana and Africa. It is an innovative model to train large numbers of healthcare workers who hold full-time employment while they study to improve on their skills or knowledge. Amongst its benefits include, cost effectiveness, renewal of teaching methods, flexibility and convenience. Although, the use of e-Learning in medical training has been attempted in Ghana, to date, there is no national scale up application of health information technology methodologies to ensure standardization but rather drafted national e-Learning integration program for pre and in-service education; being piloting in selected nursing training schools. There is only one national teleconference platform that connect 4 main teaching hospitals to Ghana College of Physicians and Surgeons with the capacity to accommodate 8 more other institutions to bring instant information to even distant villages. Skills and human capital have become the backbone of healthcare systems to provide quality healthcare. Enhancing e-learning is a strategic direction in human resource development that would improve capacity of healthcare workers and reduce brain drain.

Keywords: E-learning, digital libraries, human resource development, standards of care

Health Education in Africa: Time for a Paradigm Shift

Vuyu Kanda Golakai

Despite impressive achievements during the early post-independence years, the African continent is still facing multiple challenges, constraints / restraints and draw-backs for effective, impactful and sustainable health educational development. Many major indicators for health educational reform, transformation and development fall short of WHO and international standards. There is, therefore, an urgent need to take a critical look at existing health educational prototypes on the continent with the intention of determining specific development shortcomings, thereby enable concerned individuals, groups and organizations to make useful, meaningful and impactful suggestions for what needs to be done to initiate change for development in the health educational sector. This paper briefly reviews and compares existing teaching / learning modules on the continent; outlining strengths, weaknesses, opportunities and targets (SWOT’s) that account for this lack of sustainable health educational development, and in so doing, makes plausible proposals for meaningful change that could yield sustainable carefully targeted desired results and outcomes on the continent.
Setting Up a Post – Graduate Medical Education Program in a Resource-Limited Setting – The Case of Liberia

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Two major disasters, the 14-year Civil Unrest (1989-2003) and the Ebola Virus Disease (2014) overwhelmed the country’s health system. Liberia has a high disease burden and high maternal and newborn deaths. There are insufficient qualified doctors and mid-level health workers. At current production rates, the country would never reach the targeted number of health professionals in the National Health Plan of 14 per 10,000 population, which is far below WHO-recommended minimum threshold of 23 health professionals per 10,000 population. To build a resilient health system, the Ministry of Health initiated interventions to increase health workers production and established the Liberia College of Physicians and Surgeons in 2012 to train medical specialists. The residency programs are completed in a structured learning environment of hospitals and community settings in obstetrics and gynecology (14), surgery (12), internal medicine (11), and pediatrics (10). Residency training is modeled after the West African College of Physicians and West African College of Surgeons. Major lessons learned in implementing the residency program are: Adequate planning for faculty needed, Curriculum design for program sustainability, Clear career path for graduates, And strong commitment from government. The first cohort will be graduating in 2017. To attract more trainees and retain graduates in country, there is need for improved learning and working environment, improved remuneration, and career paths. If not, gains made would be eroded and guarantee access to specialized care lost. Continued efforts are ongoing to support and sustain the residency program.

African Healthcare Systems: Paradigm Shift for Effective Health Action and Impactful Sustainable Development

Vuyu Kanda Golakai

Despite impressive achievements during the last 50 years, healthcare systems on the African continent are still facing multiple challenges, constraints / restraints and draw-backs for effective healthcare service delivery and impactful healthcare system transformation and development. Most healthcare indicators for health educational reform, transformation and development fall short of WHO benchmarks. There is, therefore, an urgent need to take a critical look at existing healthcare systems in general in order to determine definable shortfalls with the intention of making useful, meaningful and impactful suggestions for change in health systems performance in order to initiate transformation for sustainable healthcare systems development to meet not only basic primary healthcare service needs, but to stimulate systems managers and professional health experts to close the existing gap by eliminating these shortcomings. This paper identifies and proposes four (4) cardinal reasons for a paradigm shift needed to achieve sustainable development in healthcare systems administration /management, namely: (1) failed lessons learned from the past that account for lack of sustainable development, (2) cogent reasons / mandate for a paradigm shift, (3) components for a proposed transforming paradigm shift, and (4) conclusions that support the plausible proposals for meaningful change that could yield desired and carefully targeted results and outcomes.
Advancing Transformative Learning for Post Graduate Training at Universidade Lúrio, Maputo, Mozambique: Challenges and Lessons Learned on the Use of ICT

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Like other African Universities, the University of Lúrio (Unilurio), is challenged with qualified faculties with skills for research and teaching, limited infrastructure and financial resources. To ensure transformative learning, investments with optic fiber, computers, LCD, software, virtually libraries were made with support of MEPI. Furthermore, to enhance didactic and research capabilities of Unilurio’s faculty members, 3 master programs were created between 2013-2016. Subjects as such distance learning, literature review and web-based tools such as GoToMeeting were incorporated in the masters courses curricula. The present study reports, outcomes, challenges and lessons learned regarding the use of ICTs for teaching and research for post graduate level at Unilurio.

We surveyed 10 Unilurio faculty members. The participants were asked questions such as time spend to use ICTs for teaching and research, place where these ICTs were accessed, internet availability and constrains faced, and the use of digital database to access scientific and biomedical literature. All participants reported the use of computer and accessing the internet at least once a day, 70% reported working with ICTs at least 5 hours a week. Half of respondents referred to use both personal and institutional Internet. Seventh percent of respondents answered to be knowledgeable and use database such as INASP, HINARI, AGORA and OMS Portals, while 60% referred to experience limitations on access scientific journals and medical databases. Challenges identified included limited financial resources to extend and expand internet bandwidth within University; limited skilled personnel and knowledge to use ICTs applications for distance learning; frequent electrical power disruptions interfering with good internet provision, lack of an appropriated working environment including desktops availability. We have learned that, despite limitations in bioinformatics infrastructure, it is possible to scale up training of health professionals and develop joint research and mentorship as illustrated by the 32 master students that have finished their dissertation with support of ICTs. Inequities and retention of health professionals can also be addressed through the use of ICTs.
Towards a Framework for Analysing Determinants of Performance of Community Health Workers in Malaria Prevention and Control: A Systematic Review

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Community Health Workers (CHWs) are an important human resource in improving coverage of and success to interventions aimed at reducing malaria incidence. Evidence suggests that the performance of CHWs in malaria programs varies in different contexts. However, comprehensive frameworks, based on systematic reviews, to guide the analysis of determinants of performance of CHWs in malaria prevention and control programs are lacking. We systematically searched Google Scholar, Science Direct, Medline, Pub Med, Cochrane Library including reference lists that had English language publications. We included thirteen full text articles that evaluated CHW performance in malaria control. Search terms were used and studies that had performance as an outcome of interest attributed to community based interventions done by CHWs were included. Thirteen studies were included in the final review and were mostly on malaria Rapid Diagnosis and Treatment, as well as adherence to referral guidelines. Factors determining performance and effective implementation of CHW malaria programs included health system factors such as, nature of training of CHWs, type of supervision including feedback process, availability of stocks and supplies and job aids, nature of work environment and reporting systems, availability of financial resources and transport systems, types of remuneration, health staff confidence in CHWs and work load. In addition, community dynamics such as nature of community connectedness and support from the community and utilization of services by the community also influenced performance. Furthermore, community health worker characteristics such marital status, sex and CHW confidence levels also shaped CHW performance. Effectively analyzing and promoting the performance of CHWs in malaria prevention and control programs may require adopting a framework that considers health systems and community factors as well as community health worker characteristics.

Keywords: Community Health worker, Performance, Evaluation, Malaria prevention and control, Assessment, Utilization, Implementation, Policy

Predictors of Antenatal Care, Skilled Birth Attendance and Postnatal Care Utilisation among the Remote and Poorest Rural Communities of Zambia: A Multilevel Analysis

Choolwe Nkwemu Jacobs¹, ², Mosa Moshabela¹, ³, Sitali Maswenyeho⁴, Nildah Lambo⁵, Charles Michelo²

Optimal utilization of maternal health care services is associated with reduction of mortality and morbidity for both mothers and their neonates. However, deficiencies and disparity in the use of key maternal health services within most developing countries still persist. We examined patterns and predictors associated with the utilization of specific indicators for maternal health services among mothers living in the poorest and remote district populations of Zambia. A cross-sectional baseline household survey was conducted in May 2012. A total of 551 mothers with children between the ages 0 – 5 months were sampled from 29 catchment areas in four rural and
remote districts of Zambia using the Lot Quality Assurance Sampling method. Using multilevel modelling, we accounted for individual and community level factors associated with utilization of maternal health care services, with a focus on antenatal care (ANC), skilled birth attendance (SBA), and postnatal care (PNC). Utilization rates of focused ANC, SBA and PNC within 48 hours were 30%, 37%, and 28%, respectively. The mother’s ability to take an HIV test and receiving test results, and uptake of Intermittent Preventive Treatment for malaria were positive predictors of focused ANC. Receiving ANC at least once from skilled personnel was a significant predictor of SBA and PNC within 48 hours after delivery. Women who live in centralized rural areas were more likely to use SBA than those living in remote rural areas. Utilization of maternal health services by mothers living among the remote and poor marginalized populations of Zambia is much lower than the national averages. Finding that women that receive ANC once from a skilled attendant among the remote and poorest populations are more likely to have a SBA and PNC, suggests the importance of contact with a skilled health worker even if it is just once, in influencing use of services. Therefore, it appears that in order for women in these marginalized communities to benefit from SBA and PNC, it is important for them to have at least one ANC provided by skilled personnel, rather than non-skilled health care providers.

Keywords: Antenatal Care, Focused Antenatal Care, Skilled Birth Attendance, Postnatal Care, Maternal Health Care Utilization

Evaluating Community Health Workers Performance in the Prevention and Control of Malaria in Livingstone District, Zambia - A Bottleneck Analysis

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Community Health Workers (CHWs) are an important human resource in improving community malaria intervention coverages and success in reducing malaria incidence has been attributed to them. However, malaria resurgence cases have been reported in various countries including Zambia. With reports of resurgence, this study evaluates CHW performance and quality of service in malaria prevention and control in Livingstone district highlighting specific factors that determine effective implementation of the CHW strategy in malaria programs. A mixed method concurrent approach was used to evaluate performance and service quality for the two catchment areas in Livingstone district. For quantitative analysis, 34 CHWs were taken as complete enumeration with evaluation based on CHW knowledge on malaria, report submission, health education, testing and treating. Service quality was assessed based on active detection, diagnosis and treatment, prescription of drugs, follow up and dissemination of malaria preventive messages and actions. A community survey of 464 participants was also done to assess the services rendered to the community. Two focused group discussions from CHWs and three key informant interviews from the CHW supervisors were done for qualitative analysis. The study findings indicate that overall only 5(14.7%) of the CHWs had good performance and 29 (85.3%) performed poorly varying with specific indicators. With quality, 27(79.4%) portrayed substandard quality and only 7(20.6%) CHWs had at least good quality service of community malaria. For malaria preventive actions by CHWs; 24(70.5%) of the malaria CHWs reported to practice at least 80% of the correct preventive actions and vector control measures. Being married, record for reports, supervision, and work experience were found to be significant determinants of performance, and only supervision was found to be a significant determinant of quality service. From the survey, results indicated a lot more services are rendered by the CHW and are not documented in the CHW records with ITN distribution as the most service received from the community (75%) and 59% for IRS. Lack of supplies, insufficient remuneration and lack
of ownership by the supervising district were main qualitative findings that were reported to hinder ideal implementation of the CHW strategy. The study concluded that improvement in the organizational factors in terms of supervision stock supplies and recruiting more CHWs on a more standardized level of recognition and remuneration would render an effective quality implementation of the CHW malaria strategy for this setting.

Key words: community health worker, malaria interventions, evaluation, performance, quality, fidelity, coverage, policy, implementation

Strengthening Nursing and Midwifery Workforce in Ghana through Specialist Education

Hannah A. O. Acquah, Doris Richardson, Dzigbodi Kpikpitse, Charity Djokoto

Global trends in health suggest that every client deserves specialized care from health professionals. Nurses and Midwives form a larger proportion of the health workforce, therefore, the time to invest in their professional development for improved health outcomes is now. Ghana College of Nurses and Midwives (GCNM) was established and mandated to offer specialist education, continuous professional development, postgraduate nursing and midwifery programmes and contribute to health policy formulation. GCNM aims to develop nurses and midwives with higher education, who are motivated in leading and developing the future of nursing and midwifery as specialist clinicians, academicians, researchers and managers. Levels of Professional development include one-year Associate Membership in Paediatric nursing; three-year membership in Paediatric, Emergency, Palliative care, Oncology, Haematology, Neuroscience, Neonatal Intensive Care Nursing, and Well Woman Care programmes. Faculty and curriculum development activities were carried-out to build solid foundation to roll-out the programmes. Competency-based teaching-learning approaches are employed to facilitate achievement of desired competencies. These include leadership change, research and clinical teaching-learning. Intensive clinical teaching of Residents by a four-member team of experts constitutes 70% of the programme. GCNM is strategically poised to develop highly competent nurse/midwife Specialists towards health system strengthening. Critical thinking skills acquired by residents has enhanced their clinical judgement, decision making and problem-solving abilities. Multidisciplinary team engagement in teaching and learning has improved inter-professional learning and team work. Role modelling and mentorship has played a crucial role in clinical learning. Leadership skills they have acquired has prepared them to implement change in their respective areas of practice. Main constraints have been inadequate financial, material and human resources. The next steps will address constraints confronting the College, Roll out CPDs, Fellowship and Post-Doctoral Programmes
A System of Skills for the Medical Major, Its Relationship with Professional Performance: An Updated Review

Leyani Chávez Noya de Oliveira, Carlos Manuel Souchet de Oliveira

This paper has the purpose to support the importance for curricular design of identifying and systemically conceiving a set of skills that may contribute to the professional skills that must characterize the physician demanded by the current society, as well as to provide scientific foundations for the training relevance to precise and derive a system of logical-intellectual skills oriented to guarantee the building of the forthcoming physician’s professional skills and ultimately to the achievement of the competences that distinguish this major’s working profile. An evaluation of the competencies proposed for the proposal of the new medical curriculum at Lurio University that led to specifying the skill as one of the constituent elements of these, since its lack of definition hinders the achievement of the previewed competences. This professional’s proper skills constitute the practical expression of health care that they will carry out, which should be evidenced in the different training environments directed to this end characterized by a series of unrepeatable conditions of the medical profession, where the achievement will be shown or not by the competences considered for the medical major.

Key words: skills system; logical-intellectual skills; professional skills; Medicine major syllabus

Student’s Performance During Objective Structured Clinical Examination (OSCE) in Christian Health Association of Malawi Colleges of Nursing, Southern Malawi

Uzehlaphi N. Phoya, St. Joseph College of Nursing and Midwifery

Students’ performance during Objective Structured Clinical Examination (OSCE) in Christian Health Association of Malawi (CHAM) colleges of nursing is poor. About 25% of students in these colleges do not perform well during OSCE. The factors that contribute to the poor or good performance are not known. The aim of the study was to describe factors that affect student’s performance during OSCE. The study was a Cross Sectional Descriptive survey which triangulated quantitative and qualitative data collection and analysis methods. A total of 259 subjects participated in the study, 13 respondents and 246 participants. Quantitative data was collected using a self-administered questionnaire and qualitative data was collected using a semi structured interview guide developed by the researcher. Quantitative Data analysis was done by computer using Statistical Package for Social Studies (SPSS) version 16. The test level of significance was 5%. The qualitative data was reported as detailed descriptions of the themes and subthemes identified. About 80% (n=199) of the students practiced skills and this assisted them to perform well. However only 67.9% (n=167) were supervised during practicing, which reduced chances of correcting and coaching them on the proper way of doing the skill. About 43% (n=106) of the students had one assessor during OSCE and 66.3% (n=163) were tested on three or less skills at a time, this reduced the reliability and validity of the test results. Some of the recommendations are that students should be encouraged to practice the learned skills and Colleges should ensure that students are examined on a wide range of skills and that the assessment is done by two tutors to increase objectivity.
Tracking and Assessing the Mentoring Outcomes of the MEPI Program in Zimbabwe

Madya F, Matsika, A., Hakim, J.G.

The University of Zimbabwe College of Health Sciences (UZCHS), under the Medical Education Partnership Initiative (MEPI) program invested resources in strengthening post graduate medical education through mentoring initiatives namely; mentored research scholars program (MRSP), mentored clinical scholars program (MCSP), CHRIS clinical scholars program (CCSP) and IMHERZ mental health scholars program (IMSP). The overarching goal was to produce skilled and competent clinicians, cardiologists, mental health and medical research experts. This abstract highlights the mentoring outcomes of the former scholars. The programme was implemented through collaboration between UZCHS and regional and international partners. Under MCSP post graduate students were trained in academic and professional clinical practice. These were facilitated by UCD faculty in conjunction with local faculty. CCSP trained MMeds in specialty areas such as cardiology, diabetology, broncoscopy, Endocrine, ECHOs, ECGs, etc. IMSP focused on training scholars in mental health specialty areas such as child and adolescent psychiatry, community psychiatry and forensic psychiatry. CCSP and IMSP scholars were involved in attachments at UCT and UCD. Visiting lecturers played a part in imparting knowledge and skills. Without tracking beneficiaries and documenting outcomes the initiatives that transformed medical education can easily be forgotten. Mentorship can promote skills transfer, improve knowledge levels and strengthen research capacity. It is important to build sustainability mechanisms for mentorship programmes that involve collaborations so that the local institutions can continue to leverage on their expertise. Similar programmes modeled along MEPI mentoring initiatives have been established although targeting a different audience. The PEFRECT program focuses on mentoring and training junior faculty in research. The AMARI program focuses on training and mentoring PhD students in a consortium of sub-Saharan Africa countries.

A Multidimensional Approach to Strengthening Nursing Education Systems to Advance Child Health: Case Study of the Ghana-SickKids Paediatric Nursing Education Partnership

Stephanie de Youn, Hannah Acquah

The Centre for Global Child Health at the Hospital for Sick Children (SickKids) in Toronto, Canada collaborates with governments, health facilities, nursing associations and academic training institutions in resource-poor settings to strengthen paediatric nursing education to train professionals with the required skills, knowledge and leadership to improve access to quality paediatric care. With a focus on strategic partnerships, capacity building and sustaining change, SickKids and partners uses a strength-based approach to develop and integrate innovative education programs into local health systems. From 2010 -2014, SickKids and Ghana partners designed and implemented the first post-basic education program for paediatric nurses in Ghana. Building on this successful pilot, the GCNM and SickKids are currently working in partnership to expand the education to three sites in Ghana using a national, accredited curriculum. By 2020 the partnership in Ghana will have trained over 700 paediatric nurses. The following areas will be explored: 1) partnership engagement strategies that promote local ownership, 2) program design that translates evidence-based education models into local contexts with a focus on faculty development, 3) evaluation models and approaches, 4) scaling-up successful pilot
initiatives in a country-wide context, and 5) reciprocal learning within and between partners. Key considerations, successes, lessons learned and challenges will be highlighted. Overall, there is increasing recognition that advancing nursing practice and enhancing nursing leadership through collaborative partnerships can have a positive impact on many levels from a direct impact on individual patient outcomes to an indirect impact on a country’s economy. It is important to continue to explore effective collaborative approaches to advance paediatric nursing practice to impact child health globally.

Piloting Objective Structured Clinical Examination for Student and Program Evaluation

Hannah Acquah

The use of Objective Structured Clinical Examinations (OSCE) for assessing clinical competencies is a common component of health professional training programs and helps educators measure what a nurse can do, as opposed to what he/she might know. In Ghana, OSCEs were piloted to assess both program effectiveness and student competence as part of the Ghana College of Nurses and Midwives’ 1-year post-registration nursing education program. This presentation will focus on the process undertaken by the education team during the 2017 pilot. The objective of the pilot was to ensure a standardized method for evaluating the students’ clinical competence in the areas of Physical Assessment, Emergency Management and Family-Centred Communication. This was completed through: i) the development & implementation of OSCE tools (rating checklists, facilitator guides and case studies) and training materials from evidence found in literature, from educational experts and regional stakeholders; ii) evaluation of the effectiveness of the training for raters (through interrater reliability analysis); iii) evaluate standardized patient training and clarity of OSCE tools through debriefing sessions with raters, standardized patients and residents. Little evidence is available regarding using OSCEs for program evaluation although they have been widely used to measure student competence. Selection criteria and training for raters and standardized patients is an important step in carrying out an OCSE. Using concrete examples, we will discuss the considerations for educators and evaluators when OSCEs are being used as a measurement tool for both program and student evaluation. Implications for tools and processes will be discussed. Revisions will be made to the OSCE tools and training session informed by data collected during the pilot for the OSCEs used for program and student evaluation going forward.

Nurses’ Competences in an Emergency Department of a Tertiary Hospital in Ghana

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The critical role of the emergency nurse in the initial phase of patient care determines the patient’s survival to the next phase of care. An Accident and Emergency Centre was established in a tertiary hospital in Ghana in 2009, and the country began training emergency nurses. A needs assessment was conducted to identify gaps in knowledge and skills to inform development of appropriate curriculum which incorporated a trainer-of trainers model with external expert support as part of the Medical Education Partnership Initiative (MEPI). The objective of the study was to determine the procedures performed and competency level of the emergency
department nurses in a tertiary level hospital. A quantitative descriptive design was used and 109 nurses contacted through convenience sampling. A proportionate sample of trained emergency nurses and general nurses was included. A self-administered questionnaire categorized in five domains of emergency room nursing skills; diagnostic function, administering and therapeutic monitoring, effective management of rapidly changing situations, organizational and work load competencies, and helping role was used to elicit information from participants on the frequency of procedure they performed and self-assessed competency levels. From the five major areas of procedures assessed and compared, there were significant differences in competences between the emergency nurses and the general nurses with emergency nurses recording higher competences in four areas (P < 0.006, 0.014, 0.037, 0.003) except in performing diagnostic functions (p = 0.129). However, frequency of procedures performed indicates a difference in only the domain of administering and monitoring therapeutic interventions (0.037). Specialist training in emergency care enhances nurses’ competences in implementing advanced procedures and playing leadership roles in the emergency centre. Incorporating a trainer-of-trainers model in curriculum for specialist training in resource-limited settings has the benefit of enhancing knowledge and skills transfer and sustainability of externally supported programme.

Point-Of-Care Ultrasonography: Understanding its Role in Internal Medicine Residency Programs in Africa

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The disease profile in Mozambique is such that many patients would benefit from easy access to ultrasonography. However, access to this diagnostic technique is hampered by the extreme shortage of specialists and the absence of ultrasound training in Internal medicine (IM) residency program curriculum. Under the Medical Education Partnership Initiative, we designed a study to assess the feasibility of incorporating Point-Of-Care ultrasonography (POCUS) in the IM residency program. Hand-held battery-powered ultrasound machines were used to train IM residents in performing focused ultrasound applying standard protocols for clinical screening, image acquisition and interpretation. Training used mixed modules including face-to-face sessions, distance learning and remote supervision using electronic tools. There were three phases: introductory lectures; hands-on supervised sessions; and, autonomous training with standard reporting and electronic image transfer for review. Four specialists reviewed the exams for adherence to guidelines and correctness of diagnosis. Forty residents without prior formal ultrasound training entered the study. Of these, 12 progressed to hands-on sessions and finally, four reached the autonomous training phase, during which 96 scans were performed. The most used applications were echocardiography (61;63.5%), abdominal (31;32.3%) and pleural (4;4.2%) scans. Image reporting and interpretation followed the protocols in 69.8% and the results were correct for 81.3% of the scans. Significant improvement in management occurred as assessed by the resident’s decision of pleural, pericardial or peritoneal drainage (15) as well as urgent referral to specialist care (4). In areas with shortage of specialists training of residents in POCUS applications may help reducing the gaps in imaging diagnosis, improving diagnostic accuracy outside the major referral hospitals, and fostering research. There is need to better understand areas for improvement in POCUS training so that it can be incorporated in all residency programs in settings with critical lack of imaging diagnosis.
Career Aspirations of Medical Students and Medical Interns in Ghana

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Medical students in Ghana, anecdotally, prefer a postgraduate career in surgery. The factors responsible for their postgraduate choices should be understood in order to predict the trend of specialization, inform policy formulation and facilitate curricular adjustments. In addition, their career aspirations as students may change as they progress to become interns. We set out to verify the trends in the career choices of medical students and those of interns. It was a cross sectional study using semi-structured questionnaires administered to 340 clinical students of the School of Medical Sciences, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana during the final semester of the 2014 academic session. First and second year interns at the Komfo Anoyoe Teaching Hospital and the Regional Hospital, Sunyani respectively were issued similar questionnaires. SPSS 23.0 was used to analyze the data. 315 students and 75 interns responded. Most respondents desired an additional non-medical degree in addition to postgraduate specialization (78%-Students, 77.3%-Interns). Most students (43.5%) and first year interns (36.4%) preferred surgery while Paediatrics was the most preferred choice by second year interns (30%). Personal interest was the most frequently cited reason for the choices in both groups and 68% of interns maintained the choices they had made as students. Most medical students and first year interns desire a career in surgery. Deepening the interest in sub and super specialization in this field may be necessary. Parental occupation and financial remuneration played very little roles in influencing the career aspirations of these medical trainees.

Knowledge and Practices of Pregnant Women Towards Focused Antenatal Care in Dowa District

David Machika, Reproductive Health

Despite evidence supporting use of Focused Antenatal Care (FANC) to improve maternal and neonatal outcomes in developing countries, most women underutilize the service. The aim of the study was to assess pregnant women's knowledge and practices about Focused Antenatal Care (FANC) in one district hospital in Malawi. The study used a cross sectional descriptive design, with a random sample of 386 pregnant women. A structured questionnaire was used to collect data about women's knowledge and practices regarding FANC. Descriptive statistics were used to analyze data. Majority of women knew when to start antenatal care and the benefits of FANC, 72% (n=272) and 67% (n=259) respectively. Only11.8% (n = 46) knew about number of visits to make. Regarding practice, only 28. 8%, (n=111) started antenatal care on time. There is a discrepancy between knowledge and practice, therefore a qualitative study is recommended to investigate reasons for poor attendance of FANC.

Keywords: Focused Antenatal Care, Knowledge and practices of pregnant women, Malawi
SUB-THEME 2: INSTITUTIONAL RESEARCH CAPACITY

Developing Mentorship in a Resource-Limited Context: A Qualitative Research Study of the Experiences and Perceptions of the Makerere University Student and Faculty Mentorship Programme

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The aim of mentorship is to build the mentees capacity, enhance their skills and improve their ability to produce desired outcomes. However, the mentoring relationship is vulnerable to a number of challenges that may undermine its effectiveness and sustainability. This study sought to explore the experiences and perceptions of student and junior faculty mentees and senior faculty mentors at the Makerere University College of Health Sciences and identify the key factors defined by mentees and mentors as necessary for a successful mentorship program. A qualitative design involving focus group discussions (FGDs) and key informant interviews (KII) was used. A total of eight KII and four FGDs were conducted, audio recorded and transcribed verbatim. Open coding of the transcripts was performed, and major themes were identified through multiple readings based on thematic analysis. Six key themes were shared by students and faculty members including: 1) defining the role of the mentor; 2) desired characteristics of a mentor and a mentoring relationship, with an emphasis on mutual trust and respect; 3) overlapping roles of mentors and supervisors; 4) issues with the process for identifying mentors, including the benefits and drawbacks of the mentee selecting mentor vs. being assigned a mentor; 5) current barriers to mentoring, including lack of knowledge about current program, lack of formal structure, uncertainly about who should initiate relationship, and unclear roles and expectations and 6) recommendations for the future development of mentoring programme, including the need for a formalized programme, and training adapted to the local context. Post-graduate students and faculty members described the role of the mentor and desired characteristics of mentors and a mentoring relationship similarly. Most concerns about mentoring occurred when current mentoring programmes and practices were not well aligned with these desired characteristics. Recommendations for future development of mentoring included greater formalization of mentoring with mentoring programmes based on shared expectations and adapted to the local context.

Key words: Mentorship, mentor, mentee, students, faculty, supervision, Low and middle income country
Collaborative Development of a Virtual Pharmacy Practice Skills Laboratory at The University of Zimbabwe School of Pharmacy

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Difficulty in securing and coordinating pharmacy practice placements may result in pharmacy graduates lacking in clinical skills and confidence required for practice. Due to large undergraduate student numbers at the University of Zimbabwe (UZ), the dispensing course is currently taught and assessed in the classroom setting. Virtual pharmacy software programs can be used to teach and assess clinical competencies. However, they are costly to develop and out of reach of academic institutions in resource-limited settings. To improve the clinical skills and confidence for pharmacy graduates at the UZ, a virtual pharmacy software was collaboratively developed with the University of Monash School of Pharmacy. MyDispense® software was customized by activating and adding drug products that are registered with the national drug regulatory authority and included in the essential drug list (n= 119). Detailed drug picture profiles including alternative brands were created (n=118). Twenty-one unique patient profiles were then created, differentiated by disease, age, sex and other demographic characteristics such as ethnicity, residential location and common name variations. A custom face was assigned to each patient profile. Practice exercises meeting the objectives of third and fourth year Pharmacy Practice courses were then developed. A randomly selected group of third year students who gave consent, were given a Pharmacy Practice pre-test and then given access to the customized version of MyDispense® for two weeks. Collaborative programing can be implemented successfully to scale-up and improve quality of Pharmacy Education in resource-limited countries. Pharmacy students in developing countries like Zimbabwe are very capable and eager to engage with ICT methods of teaching. The software will be evaluated by means of a survey assessing user experiences as well as pre/post Pharmacy Practice test score analysis. Practice exercises will be developed to incorporate selected learning objectives for the Pharmacotherapeutics course.

Participation in Research Improves Overall Patient Management – Insights from the Global Rheumatic Heart Disease Registry (REMEDY)

Prendergast EA, Perkins S, Engel M, Cupido B et al.

The REMEDY study recorded prospective data on the mortality and morbidity associated with rheumatic heart disease (RHD) in 3343 patients from 25 sites in 14 low- and middle-income countries. The registry drew attention to many concerns including the high mortality and morbidity of RHD in young patients. We aimed to identify the major challenges and opportunities encountered by investigators during the study to provide a useful reference for researchers working on similar projects in low- and middle-income countries. We created an online survey comprising 4 sections (‘Personal Information’, ‘About Your Site’, ‘Organisation and Accessibility’ and ‘Patients’) to quantify the challenges and opportunities encountered during the study. In addition, telephone interviews were conducted with a subset of respondents to gather qualitative data on their experiences during the study. All participants in our sample (n=30) experienced significant difficulties in follow up of their RHD patients. Strategies to reduce the loss to follow-up included the use of several telephone numbers from both patients and relatives and offering remuneration for long distances travelled. Respondents in both the survey
(24/30) and telephone interviews (18/19) were positive when asked whether REMEDY changed their management of RHD patients. Administrative changes included increased frequency of follow-up appointments and increased detail in records. Clinical changes included more rigorous administration of penicillin prophylaxis and anticoagulation and increased efforts to provide contraceptive advice to post-menarchal females. Although these findings were consistent across study sites, wide variation in income and access to healthcare resources provided a unique set of challenges at each site. For example, those that had participated in multi-centre projects before REMEDY had greater administrative, human and material resources than those that had only previously engaged in single-site research projects. Sites also stressed the importance of on-site initiation and monitoring to assess a site’s resources individually and determine appropriate allocation of research, infrastructural and financial support. Our study demonstrates that research into RHD has a positive effect on research capacity and patient management. Researchers in the field should draw confidence from our results and employ the lessons learnt during REMEDY in future related projects.

District-Level Hospital Trauma Care Audit Filters: Delphi Technique for Defining Context-Appropriate Indicators for Quality Improvement Initiative Evaluation in Developing Countries

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Prospective clinical audit of trauma care improves outcomes for the injured in high-income countries (HICs). However, equivalent, context-appropriate audit filters for use in low- and middle-income country (LMIC) district-level hospitals have not been well established. The aim of the study was to develop context-appropriate trauma care audit filters for district-level hospitals in Ghana, and other LMICs more broadly. Consensus on trauma care audit filters was built between twenty panelists using a Delphi technique with four anonymous, iterative surveys designed to elicit: (i) trauma care processes to be measured; (ii) important features of audit filters for the district-level hospital setting; and (iii) potentially useful filters. Filters were ranked on a scale from 0 to 10 (10 being very useful). Consensus was measured with average percent majority opinion (APMO) cut-off rate. Target consensus was defined a priori as: a median rank of 9 for each filter and an APMO cut-off rate of 0.8. Panelists agreed on trauma care processes to target (e.g. triage, phases of trauma assessment, early referral if needed) and specific features of filters for district-level hospital use (e.g. simplicity, unassuming of resource capacity). APMO cut-off rate increased successively: After Round 4, target consensus on 22 trauma care and referral-specific filters was reached. Example filters include: triage – vital signs are recorded within 15 min of arrival; circulation – a large bore IV was placed within 15 min of patient arrival; referral – if referral is activated, the referring clinician and receiving facility communicate by phone or radio prior to transfer. This study proposes trauma care audit filters appropriate for LMIC district-level hospitals. Given the successes of similar filters in HICs and obstetric care filters in LMICs, the collection and reporting of prospective trauma care audit filters may be an important step towards improving care for the injured at district-level hospitals in LMICs.
Improving the Quality of Injury Statistics in Rural Ghana

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Unreliable injury statistics contributes to ineffective planning and decisions to address the injury pandemic in rural Ghana. Piloting strategies to upgrade staff of medical records in data management could improve the quality of injury data. Adequacy of injury data was assessed through review of the 2009 annual reports at a rural hospital (Ejura District Government Hospital). A 10-hour training course to strengthen injury data management was designed and conducted. Staff data management skills were assessed before and 6 months after this course. Adequacy of injury data after the course was assessed through review of data collected in preparation for the 2010 annual report. Twenty-four (24) medical records staff participated in the training. Self-reported capacity for the following injury data management tasks improved after the training: data entry (67% felt capable before vs. 98% after p=0.007); data analysis/interpretation (11% vs. 87% p=0.003); data presentation/dissemination (9% vs. 60%, p=0.18). Prior to the training, only data on injury cases was recorded if they were in the top 10 causes of admissions and of outpatient visits. Road traffic crashes (RTCs) accounted for 3.2% and domestic injuries account for 0.9% of all outpatient visits. RTCs accounted for 2.7% of all admissions. After the training, over a 6-month period (July – Dec, 2010), a total of 218 injury cases were recorded. There was 100% capture of key variables such as age, sex, and intent etc., in conformity to WHO core minimum injury data standards. This pilot injury data training programme yielded improved injury data, conforming to WHO core minimum data standards, capable of providing accurate and reliable injury statistics in supporting decisions on safety. The course was affordable and eminently feasible to implement in other similar locations.

The Use of Open Source Electronic Medical Records in an Urban Emergency Department in Kumasi - Ghana

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In a busy Emergency Department (ED), missing patient medical records is a common complaint to contend with. Electronic medical records (EMR) may be one useful way of ensuring patient record integrity and confidentiality. KATH ED sees 28,000 patients a year and integrity of patient records is a major challenge. This study sought to improve the integrity of medical records within the ED and efficiency of patient flow within the ED. Regular panel meetings of emergency physicians, IT specialists and biostatisticians were held from February, 2012 to February, 2013. Open source software, Open EMR was adapted in the creation of electronic medical records for the ED of KATH in February, 2012. Changes made to the software included registration and patient search, triage board, doctors’ notes whiteboard to reflect the pattern of practice in KATH ED. The EMR allows registration, triage and the entire medical records to be stored on patients. 150,000 patient demographics have been migrated on to the EMR. Triaging of patients is currently being done electronically. Old medical records of patients are scanned and attached to patient demographics. Open source medical records may be the most appropriate and cost-effective software to adapt for keeping patient records electronically in a low resource setting. Further studies need to be conducted to demonstrate how EMR may affect the pace of work in the ED.
Barriers and Facilitators to Electronic Medical Records Usage in The Emergency Centre at Komfo Anokye Teaching Hospital, Kumasi - Ghana

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The use of paper for record keeping (manual system) has been the order of the day in almost all the health care facilities of resource poor setting countries such as Ghana. This system has presented numerous challenges which the use of Electronic Medical Records (EMR) seeks to address. This study sought to identify facilitators and barriers to EMR implementation in Komfo Anokye Teaching Hospital’s (KATH) Emergency Center (EC) and to identify lessons learned. These will help in implementation of EMR in ECs in similar settings. This was a non-interventional, descriptive cross-sectional and purely qualitative study using semi-structured interview format. The study population was twenty-four. The interviews were manually recorded and analyzed thematically. EMR implementation has been piloted in the KATH EC for three years. Some of the EC staff doubled as EMR personnel. An open source EMR was freely downloaded and customized to meet the needs of the EC. The EMR database created was a hybrid one comprising of digital bio-data of patients and scanned copies of their paper EC records. The facilitators for utilizing the system included training provided to the staff, availability of some logistics, and the commitment of staff. The project had barriers of funding, fulltime information technology expertise, and automatic data and power backups. It was observed that with the provision of adequate human and financial resources the challenges would be overcome and the adoption of the EMR improved. The KATH EC EMR has been a partial success. The facilitators identified in this study namely training, provision of logistics and staff commitment represent foundations to be built upon. The barriers identified could be addressed with additional funding, provision of information technology expertise and data and power back up.

The MEPI Effect on Increasing Health Profession Education and Research Capacity in Mozambique

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The Mozambique Medical Education Partnership Initiative (MEPI) launched in 2010, aimed to develop transformative models to scale up training of physicians and other health professionals. The aim of the study was to provide an overview of MEPI Mozambique activities, its outcomes, lessons learnt, and how this has built sustainability for the health sector in the country. Eduardo Mondlane University (UEM) formed a partnership with the University of California, San Diego (UCSD) to implement MEPI in Mozambique. This abstract outlines activities of Mozambique MEPI Program (in medical education, research capacity development, bioinformatics and development of communities of practice). The activities and innovations introduced under MEPI became
part of daily routine in medical education in Mozambique, dramatically influencing attitudes and perception: formal training and curriculum innovation of medical specialists training was structured and organized, and included teleconferences, afternoon lectures, case discussions, journal clubs and practical clinical sessions. The firm chief’s system involving 12 young specialists in internal medicine, contributed for training in teaching and research methods and improved health care delivery. Five master’s courses were established, for local sustainability and to date 26 students finished their dissertations. Laboratory infrastructure were reinforced at UEM’s Faculty of Medicine to support research; 63 joint research projects with external partners, 26 short courses on research matters and 37 peer reviewed publications were produced. Some scientific knowledge generated through research has been translated into practice and policy. MIHER, a Research Support Center created under MEPI has administered 22 projects and coordinated 45 short training courses, offering a mechanism to sustainably build on MEPI achievements. A partnership formed between MIHER, Ministry of health and Cure International contributed for treatment of 1600 children with club foot. The use of interactive communication technologies introduced at UEM, MCH and UniLurio, and reinforcement of informatics infrastructure in those institutions enabled scaling up training and research in sustainable way, and created communities of practice. MEPI-Mozambique developed a transformational long-term partnership between UEM, UCSD and other partners that is changing the trajectory of training physicians and other health professionals, and developing sustainable capacities for research development.

Key words: MEPI Mozambique; Research Capacity Building; Medical Education; North-south collaboration

Nursing and Midwifery Research Output in Africa: A Review of Literature

Rose Chalo Nabirye, Alison Kinengyere and Grace Edwards

Nurses and midwives form the backbone of health service delivery and satisfaction with care often depends on the competences of nurses and midwives who provide the care (WHA, 2002). Health care has become complex, challenging and demanding across diverse socio-cultural and socio-economic changes and environments. To optimize their impact, nurses and midwives therefore need to be prepared with evidence based competences. Nursing research therefore, is the cornerstone for evidence based practice and for establishing the professional status of nursing and building research capacity. However, although nursing research begun in the 19th Century, it is limited in Africa, with little evidence generated to inform policy and practice. Although nursing and midwifery education in the region has advanced with bachelorette and graduate level education, little is known about research conducted in universities and where to find such research. The study aimed at quantifying and identifying the types and gaps in nursing and midwives’ research in Africa. Data from January 1st, 2007 to January 1st, 2017 was retrieved from PubMed and CINAHL (Cumulative Index to Nursing and Allied Health Literature) with a search strategy that will employ four sets of terms: (1) terms identifying published research done by nurses or midwives, or both; (2) terms identifying types of publications; (3) terms identifying filters for African countries; (4) filters for publication dates. We also searched Google Scholar to capture non-indexed sources. This is work in progress, however capacity of nurses and midwives in the African region to conduct research and produce evidence for quality care will be assessed.

Key terms: Nursing, midwifery, nurse, midwife, nursing research, Africa
Nurture: A MEPI Junior Faculty Research Capacity Building Program at Makerere University College of Health Sciences (MAKCHS)

Sewankambo N. K., Nambooze H, Nakanjako D, and NURTURE Mentors Group

Launched January 2016, NURTURE is a 5-year NIH supported program for mentoring MakCHS' low and mid-level faculty (LMF) of up to senior lecturer level to become independent researchers. We describe our experiences so far. At the launch, senior faculty agreed on (a) procedures for selection of the most promising candidates, (b) processes for nurturing them to progress towards development into independent research leaders, and (c) the metrics for individual and program success. Through a competitive process 26 LMFs were selected in 2016 and 2017. Each developed individual personal development plan (PDP) which is used to self-monitor progress. Each fellow was matched to suitable supervisor(s)/mentor(s) who provide him/her with research support, group and individual mentorship and supervision, to implement IRB approved, well designed studies. Since January 2016 nine research groups have formed, hold regular research meetings, provide peer support and have attracted masters and PhD students into their group discussions. Fellows have demonstrated career progression: attended 21 research courses, published 13 papers in peer reviewed journals, made 12 conference presentations, won 3 international grants, submitted 11 grant applications (still under review), received 3 meritorious awards, 2 graduated with PhD and 24 have taken on supervision and mentorship roles to 69 masters and 3 junior faculty. At the beginning only one faculty had used PDP. All 26 are now using them. Whereas LMF didn’t routinely use PDPs they accepted them when mentored and supported. Structured mentorship of LMFs contributes to achieving more rapid career progression. Though implemented for 1.5 of the planned 5 years the NURTURE program has registered positive contributions to the career development of LMFs.

Building Capacity of Researchers for Evidence Informed Policy Making: Collaboration Between WHO/TDR SORT IT, Kenya and Makerere University

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The interest in the use of evidence to improve and scale up health systems in low and middle income countries has doubled in the last two decades. However, the uptake of evidence for policy making (EIP) has not always been straight forward because of the complexity of the process and communication gap between the researchers and policy makers. In addition, researchers do not always know how to add value to their work and contextualize it to be considered for policy making. The WHO/TDR Structured operation research and training initiative (SORT IT) programme, Kenya at the University of Nairobi seeks to promote evidence informed policy making (EIP). As a first step, a knowledge and skills gap for EIP among the researchers was identified. Trainers from Makerere University College of Health Sciences through Evidence-Informed Policy Network (EVIPNet) were then invited to build the capacity of the researchers in Kenya in a training workshop. Here we describe the results of evaluation from the first of two workshops. This was a four (4) day workshop organized in Nairobi between May 22nd - 25th, 2017 involving 15 participants from University of Nairobi, Ministry of Health Kenya, Kenya Medical Research institute (KEMRI) Wellcome trust and Kiambu county research department. The workshop included topics in public policy, the EVIPNet EIP framework, critical appraisal
of evidence, pedagogy and andragogy skills. For evaluation, a self-administered questionnaire containing both closed and open-ended questions was used. The close ended questions were on a 7-point likert scale from 1 – “very poor, or strongly disagree” to 7 – “Excellent, Much too long or strongly agree.” Average scores were computed for each aspect assessed in the close ended questions. Content analysis was used for the open-ended questions. All the participants thought the workshop was generally at least very good with an average score of 6.3±0.7. The participants noted that the material presented to them was new (6.3±0.7), applicable to their work setting (6.9±0.3) and relevant to their professional development (6.9±0.3). The participants appreciated the contents of the materials presented and techniques used with all of them noting that they will modify their facilitation techniques and also draft a policy brief after the workshop. Most of the participants noted that there was need to add at least an extra day for the workshop. It is important to train researchers in evidence informed policy making without assuming they know how to use research to inform policy. Building capacity is a process and there will be continuous engagement between the two teams.

Impact of the Health Research Capacity Building Course in Komfo Anokye Teaching Hospital, Kumasi - Ghana

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Research is below its expected volume in the Sub-Saharan region and requires training of local expertise in conducting research. Health Research opens doors to improved technologies and evidence-based practice leading to improved health equity and development. 14% of researchers in Ghana are in the Medical and Health Sciences. Health Research Capacity Strengthening (HRCS) helps improve research focus and relevance which will impact on health policies and programmes. Diploma in Project Design and Management (DPDM) course is a 1-year, work-based professional Diploma Off-site award of the Liverpool School of Tropical Medicine (LSTM)-UK. DPDM course started at Komfo Anokye Teaching Hospital (KATH) in 2003 to help build research capacity among healthcare staff and fortify research capacity of KATH. We retrospectively assessed the impact of the DPDM course on research capacity and healthcare at KATH. Past candidates were invited to fill a questionnaire which collected information on candidates’ career progression and perceived impact of their studies on healthcare at KATH. 57 candidates participated with 82.14% successfully completing DPDM. Article publication increased from initial 12.28% pre-course to 38.60% after course with 8% publishing the findings of their coursework and 77.19% designing and conducting other research. 78.26% of respondents reported making changes to practice based on their studies which had a tendency to improve clinical care. Those who submitted all assignments were 3.46 times likely to publish, 4.25 times likely to go on to further study, 6.69 times likely to do design personal research and 18.20 times likely to take up roles in research work. The difference between candidates who submitted all assignments and those who did not, was significant in the area of involvement in research activities. Graduates need encouragement and support to translate their findings into actions, policies and also into publication to fortify the research capacity of KATH.
Why Patients Refuse to Enroll in Hospital-Based Research: Perception of Patients Presenting to KATH Emergency Department

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Komfo Anokye Teaching Hospital emergency department (KATH ED) is a level I trauma centre and the main tertiary referral centre for eight out of ten regions in Ghana. Research is one of the mandates of every tertiary health institution. Anecdotally, patients seeking care at KATH ED do not actively participate in research initiatives. The purpose of this study was to find out why patients presenting to KATH ED do not enroll in research studies that are conducted in department. The study was a cross-sectional survey of patients presenting to the ED for one month in June 2017. A semi-structured questionnaire was presented to patients presenting to KATH ED from 8am to 8pm each day. Patients who were interviewed were all patients presenting to the ED for care including those who had refuse to enroll in the ongoing ACESO study. Patients had to be conscious, alert and with conditions that did not require immediate management. Patients were interviewed by research assistants in the local language to establish why they may not want to enroll in a research study. Patients’ anonymity was assured by using patient IDs instead of names. Analysis was done using Statistical Package for Social Sciences (SPSS). A total of 260 patients were interviewed over one month. The mean age of participants was 48.9 years; 58.1% were males and 41.9% females. Up to 89% of the participants had secondary school as their highest education. However, 30% of participants had had no formal education. A majority of participants interviewed were triaged to yellow – low acuity zone (44.6%) followed by Orange – moderate acuity zone (39.2%), Green – outpatient (10.8%) and Red – resuscitation zone (5.4%). About a third (35%) of the interviewees (91/260) had been approached to enroll in research studies at some point in the past. 13.5% had had to refuse to enroll in a research study. 45.7% of those who refused to enroll admitted that they were afraid to enroll in a study; 28.6% said they had inadequate information and 22.9% said they perceived enrolling in a study would delay their treatment. 89% of patients who claimed they had been approached to enroll in a hospital-based study claimed they were satisfied with the language research assistants communicated with them in. The Akan language (73%) was most commonly used by research assistants then English (26%) and finally Hausa (1%) to interact with patients. More than 90% of participants interviewed claimed they would be willing to enroll in an ongoing study or future studies and even allow for personal information and body fluids to be taken. There was a significant association between educational background and explaining a study to a patient before they enrolled (p-value = 0.025). Males were more willing to enroll in an ongoing study compared to females (p-value = 0.059). All age groups correlated significantly with being approached to enroll in a research study (p-value=0.014) and similarly all age groups also correlated with refusing to enroll in a research study (p-value=0.047). Patients are paramount to hospital-research. Effort must be made to ensure that patients concerns and needs are addressed to ensure increasing participation.
The Emerging Need for Reform of Institutional Mechanisms for Assuring Quality and Oversight of Health Professionals

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The scaling up of Health Professional Education in Africa is embracing numerous innovations to address new approaches to service delivery that have implications on the scope of practice of traditional health workforce cadres. Their role out are running outside of existing legal frameworks as well as existing arrangements for oversight of the practice and the quality assurance of services. Campaigns for training massive numbers of community health workers and other allied health are not matched with attention to their oversight and regulation. At the same time, hands-on training of medical practitioners through health professional colleges has faced slow recognition. The legal framework for health workforce regulation in Uganda is presented. A SWOT analysis of the existing framework and oversight arrangements are outlined. Key issues are articulated regarding the introduction of new cadres, task shifting and the implications of expansion of space for practice by some cadres discussed. The trend towards stronger health professional colleges of practice is also presented and the emerging resistance to recognize their status and potential for both capacity development of professional practice and career development are discussed with options for possible future solutions. Learning Objectives/Lessons/Next steps are i. sharing findings from a case study in Uganda on the current limitations of existing legal frameworks for health professional regulation in the face of scale up initiatives for training new types of health workforce Cadres for deployment in primary care settings ii. Stimulate debate to explore approaches for reform of existing arrangements for oversight of health workforce practice, iii. Advocate for more systematic and inclusive dialogue on introduction of new health workforce cadres for primary care and community services as well as to promote explicit recognition of health professional colleges.

A Century of Bio-Medical Research in Africa: Time for a Paradigm Shift

Vuyu Kanda Golakai

Since colonial days, bio-medical and related other health research, such as “tropical research”, “infectious disease research” “emergency response research”, and epidemiological research” have been conducted on the continent unabated, often unsupervised or even unauthorized. The impetus of such foreign generated and supported research continues to gain momentum, intensity and diversification, while having little direct impact or benefits for the communities, countries let alone the continent in which the research activities were conducted. A brief review, at least of selected countries and communities, leaves no doubt that there are many obstacles, pitfalls and challenges facing research professionals as well as decision-makers in African countries where such research activities were conducted. The paper reviews research trends in Africa from the colonial past to the present, in selected countries, as examples to high-light the trend that such research activities have taken and still continue to pursue. The intention is not only to document and draw attention to the alarming breaches of accepted international research protocols and practices, but to alert African professionals, and their international research partners, that this trend must be brought under control. In so doing, the attention of African research experts, the international research syndicates and the newly inaugurated AFREHealth organization is drawn to the following: 1. Review and documentation of past and current research activities
since 1940 in selected countries, 2. Presentation and analysis major challenges facing African researchers and their communities, 3. Focusing attention on major malpractices in order to claim the attention of experts, and finally 4. Soliciting individual and collective effort to address this trend of malpractices and dangers. The endpoint intention is to avoid what one may call research entrenchment in Africa, research colonization of the continent or for that matter turning the continent into one vast research laboratory. Besides, some current and past research activities pose potential biological, bio-medical and health hazards for the continent and its peoples.

“You Cannot Collect Data Using Your Own Resources and Put it on Open Access”: Perspectives from Africa about Public Health Data Sharing


Data sharing is a desired default in the field of public health and a source of much ethical deliberation. Sharing data potentially contributes the largest, most efficient source of scientific data, but is fraught with contextual challenges which make stakeholders, particularly those in under-resourced contexts hesitant or slow to share. Relatively little empirical research has engaged stakeholders in discussing the issue. This study sought to explore relevant experiences, contextual, and subjective explanations around the topic to provide a rich and detailed presentation of what it means to different stakeholders and contexts to share data and how that can guide practice and ethical guidance. A qualitative design involving interviews was undertaken with professionals working in public health institutions endowed with data (HDSS), ethics committees, and advisory agencies which help shape health research in Africa. A descriptive form of thematic analysis was used to summarize results into six key themes: (1) The role of HDSSs in research using public health data and data sharing; (2) Ownership and funding are critical factors influencing data sharing; (3) Other factors discourage data sharing; (4) Promoting and sustaining data sharing; (5) Ethical guidance structures; and (6) Establishing effective guidance. The themes reveal factors regarding the willingness or not to share and an intricate ethical system that current discourse could reflect. Many of the concerns resonate with the literature, but a whole other gamut of people and process issues; commitments, investments, careers, and the right ethical guidance are needed to realize a sustainable goal of reaching ‘share’ as a default.

Key words: Data sharing; Public health; Health and demographic surveillance systems; Research involving public health data; Research ethics; Africa
Building Junior Faculty Research Capacity through Enhanced Training & Mentoring Curriculum: The Case Study of UZCHS-PERFECT

Antony Matsika, James G. Hakim, Thokozile Mashaah

The University of Zimbabwe College of Health Sciences, through the Promoting Excellence in Research and Faculty Enhanced Career Training (PERFECT) program is implementing a junior faculty research mentoring and training initiative. The abstract describes the comprehensive curriculum that was developed and being implemented. The PERFECT program desires to develop junior faculty into independent researchers capable of networking, writing grants and leading research entities. This necessitated the development of a comprehensive curriculum that addresses all these competences. The program developed a curriculum that is premised on three key pillars i.e. didactic training, mentored research projects and attachments in well-established research entities. Under didactic training it has two sub-themes i.e. research methodology module and associated courses comprising of Health Systems and leadership and governance, Intellectual Property Rights (IPR), Bio-informatics, grants writing, scientific writing for publication, presentation skills, ethics and library information search. Facilitators were identified and engaged from various expert groups such as UZCHS, Ministry of Health and Child Care, ARIPO, Medical Research Council of Zimbabwe and University of Colorado, Denver. A well established and coordinated curriculum is an effective tool for achieving success in research training and mentoring. Time allocation can be a challenge if not managed well with so much to cover in short periods of time. A good practice will be to guard against exhaustion and boredom by making the sessions more practical oriented with problem-solving tasks. The program will continue with the training plan for both cohorts 1 and 2. Using M&E information the program will continue to improve in all areas of implementation. This will see some aspects of the curriculum being reviewed to add basic monitoring and evaluation skills and also increase time allocations for some sessions.

Promoting Research through ICT Excellence (PRICE): A Case Study at the University of Zimbabwe College of Health Sciences (UZCHS)

M. Muvoti, J. G. Hakim, A. Matsika, D. Kao

Research efficiency and output can be maximized when biomedical researchers and ICT experts work collaboratively from the onset of research projects. PRICE is a follow-up grant, which seeks to strengthen local ICT expertise in supporting biomedical research and to engage biomedical researchers in the use of ICTs for research. PRICE is a three-year program funded by NIH. It’s implemented through biannual workshops, monthly Skype calls, exchange visits, email correspondence, and web-accessible training resources. The workshops cover training in REDCAP, EpiInfo, Excel, R and GWAS after which researchers are supported throughout their studies; the first birth cohort study in Zimbabwe is supported. An mHealth application has been developed using Open Data Kit (ODK) and will be piloted on 2 applications. Exchange visits are done, with in-depth mentoring and training of UZ ICT experts in registry and administration; biostatistics; translational research and mHealth. PRICE has become a hub for researchers soliciting ICT support for their projects. Lessons learnt in implementation of capacity building programs are: researcher training followed-up by support gives maximum results of an innovation; the collaboration of researchers and ICT experts from the onset is key in developing a successful and scientifically sound study; effective and efficient researcher support requires a strong team with complementing skills; continuous engagement is required to maintain the momentum.
of an innovation. The PRICE initiative has actively capacitated a sizeable group of biomedical researchers and ICT experts. College ICT experts are better positioned to support the conduct of biomedical research at UZ. Engagement of faculty, through regular faculty guest lectures on informatics is ongoing. Plans are underway to lobby for the setting up of an informatics unit within the college to bridge the gap between medical education and medical informatics.

**Post-Award Management Support within a Young Research Office: The Case of University of Zimbabwe College of Health Sciences**

*T Mashaah, K Chatindo, A Matsika, E Gomo, JG Hakim*

Effective post-award management support is critical as a business function of an institution so as to acquire grants as well as to ensure accountability to funders. It is against this background that the University of Zimbabwe College of Health Sciences established a multi-funded Research Support Centre in 2010 whose key mandate is provision of pre- and post-award support. The post-award portfolio involves functions such as contract negotiations and management, project management, fiscal management, risk management/compliance and auditing. From managing one grant in 2010, the RSC was managing 17 grants in 2016. These are funded by agencies, which include NIH, Gates Foundation, Wellcome Trust, EDCTP, CDC, USAID-JSI, Dutch and Norwegian governments, Grand Challenges amongst others. The awards vary in size and type, which present challenges in ensuring proper management. Staff has been employed to provide support in these processes. Systems and manuals such as financial accounting, grants management and finance manuals have been established to complement the human resources in effective and efficient management of the awards. Regular grants management training of research office staff is essential to keep abreast with the ever changing funder requirements. Researchers and project teams need to be trained on grants management procedures to reduce unnecessary delays during implementation. Grants management manuals and procedures need to be availed to researchers. The post-award office needs to work closely with the legal department for provision of expert support in contracts management. A fairly young office presents a challenge of adequate staffing, thus versatile staff are needed who quickly grasp various funder requirements. The RSC represents a research office that is steadily progressing. Immediate plans of the office include engagement of a resident legal person to work closely with the office as well as conducting regular trainings for researchers and research administrators in post-award.

**Still Building the Pyramid: Gaps and Priorities for Advancing the Research Careers of Independent Investigators in Uganda**

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In 2014, we published a description of research capacity building efforts at the Infectious Disease Institute (IDI) of Makerere University in Uganda. We wanted to assess how well the Capacity Building Pyramid we developed projects the course towards independence for IDI’s trainees. We therefore undertook an evaluation of current and past trainees to better understand remaining gaps and future priorities. In 2017, we distributed an online anonymous questionnaire to a list-
serve of 47 contacts. The 35-question survey covered research career progress, priorities, and areas where IDI can improve capacity-building efforts. Seventeen (40%) unique respondents initiated the survey, with 14 respondents viewing each question. Seven of the 17 respondents (41%) are current trainees, with a mean training start year of 2013. Core support questions indicated that training programs have built confidence in the ability to source information and navigate the publishing cycle. Having financial support was ‘extremely important’ to 7/10 respondents (70%). Workshops and training opportunities were also identified by 8/11 (73%) of respondents as being extremely important. In terms of structure and roles, IDI’s partnership within Makerere’s infrastructure was cited as being ‘extremely important’ by 7/11 (63%) of respondents. Eleven of 12 (92%) said that developing locally-relevant research questions was extremely important, more so than seeing mentees grow and succeed (10/12, 83%), securing funding (10/12, 83%), and becoming a professor (6/12, 50%). IDI has successfully established the core support and training required to build their trainee’s confidence in publishing and applying for grants, a key component of the Capacity Building Pyramid plan. Several gaps remain in assisting trainees as they expand their networks beyond IDI, and for successfully obtaining funding for locally-relevant research. Priorities for this program include bridging to external partners, and providing additional grant writing training to complete implementation of the pyramid levels.

**Figure 1: Capacity Building Pyramid Update**

**Sustaining the Research Culture of MEPI and Producing Research Leaders in LMIC. Ethiopian Experience**

*Miliard Derbew*

The Medical Education Partnership Initiative Junior Faculty, MEPI-JF program is launched to continue the research culture and opportunity created in the original MEPI institutes and to create a platform for junior faculty to advance their research careers and become the next generation of leaders in health research.

The goal of the MEPI-JF project is to provide research training and mentored research opportunities for junior faculty in the College who seek careers in research that contribute to improved human health. The program provides research training for those who have joined the program through merit based competition in four priority scientific areas including HIV/AIDS and related Infections; Maternal and Child Health; Non-Communicable Diseases with focus on diabetes and cardiovascular conditions; and Mental Health with focus on community interventions. The scholars undertake mentored research project in one of the scientific areas.
In Addis Ababa University College of Health Sciences, seventeen scholars are enrolled in two cohorts with the aim of building skills to apply for and secure independent research funding, get exposure to the principles underlying appropriately executed research and experience and expertise to engage in both independent and international collaborative research. The trainees have demonstrated an advance in their research career. They have published more fifteen original articles, participated in more than seventeen workshops as moderators, speakers and attendee and have presented more than ten of their research findings in international and local platforms. The trainees participate in a monthly journal club presentation and critically review different articles with the College community. Last but not least, the trainings they have so far completed have enabled them to write research grants as they have been part of six successful grants and five grants which are under review. Building up on the MEPI project the MEPI JF program has created a platform for young faculty to sustain research culture in their institutions.

Impact of Collaborations in Research and Capacity Development: A Case of Kenyatta University and University of Nairobi

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Kenyatta University was a college of university of Nairobi, specializing in training of high school teachers until 1985 when it became an autonomous university. The new university expanded on its programs and currently has diverse programs in agriculture, sports, engineering, etc. In 2009 KU established a medical school to train medical officers, Pharmacists, Nurses and Medical laboratory technologists. In spite of the historical connection not much collaboration had taken place since 1985. In 2013, through the Prime –K grant of the National institute of Health, the college of Health Sciences of University of Nairobi entered into a collaborative arrangement with the school of medicine of KU to support capacity development. The program supported the development of post-graduate programs in Family medicine, Obstetrics, Surgery, Medicine and Pharmacy. It supported development of a faculty and student journal. Further it organized a number of workshops to train faculty in manuscript writing with the support of external faculty sourced locally and internationally. The project supported training in biomedical ethics training for the committee responsible for research in the university and the department of special education where a special cohort of visually impaired faculty were capacitated to undertake biomedical research. We were able to demonstrate that different competing institutions can have a mutually beneficial relationship have impact in unrelated areas that were not part of the original aim. There are to date many spins offs and collaborative efforts that continue to exist between the two institutions. We need to build on the momentum generated by this program to build capacity in research and continue to do collaborative studies and joint funded projects.
SUB-THEME 3: HEALTH WORKFORCE PREPAREDNESS AND EFFECTIVE RESPONSE TO HIV/AIDS, OTHER EPIDEMICS AND DISASTERS

Low HIV Incidence in Pregnant & Postpartum Women Receiving a Community-Based Combination HIV Prevention Intervention in a High Incidence Setting in South Africa


Young Southern African women have the highest HIV incidence globally. Pregnancy doubles the risk of HIV acquisition, and maternal HIV acquisition contributes significantly to the paediatric HIV burden. Little data on combination HIV prevention interventions during pregnancy and lactation are available. We measured HIV incidence amongst pregnant/postpartum women receiving a community-based combination HIV prevention intervention in a high HIV incidence setting in South Africa. The study was a Cohort study including HIV-uninfected pregnant women. Community-based workers provided sexual health counselling and performed three-monthly home and clinic-based individual and couples HIV testing and counselling (HTC). Male partners were referred for circumcision, sexually transmitted infections or HIV treatment as appropriate. Kaplan-Meier analyses and Cox’s regression were used to estimate HIV incidence and factors associated with HIV acquisition. Amongst 1356 women, 11 new HIV infections were detected over 828.3 person-years (PY) of follow-up, with the HIV incidence rate being 1.33 infections/100 PY (95% CI: 0.74-2.40). Antenatally, HIV incidence was 1.49 infections/100 PY (95% CI: 0.64-2.93). Women within known serodiscordant couples, and women with newly diagnosed HIV-infected partners, adjusted hazard ratio (aHR)=32.7 (95% CI: 3.8-282.2) and a HR=126.4 (95% CI: 33.8-472.2) had substantially increased HIV acquisition, respectively. Women with circumcised partners had a reduced risk of incident HIV infection, aHR=0.22 (95% CI: 0.03-1.86). Maternal HIV incidence was 73%-86% lower than previous regional studies. Community-based combination HIV prevention interventions show promise in reducing high maternal HIV incidence. Expanded roll-out of home-based couples HTC and initiating pre-exposure prophylaxis for pregnant women within serodiscordant couples should be considered in Southern Africa.

Key words: Prevention of sexual transmission; women; HIV incidence; pregnancy and postpartum; Southern Africa; community-based intervention; partner and couples HIV testing
Challenges Faced By Health Workers Involved in Clinic-Based Ambulatory Care of the MDRTB Patients in Kampala Uganda: A Cross Sectional Study


Multidrug resistant TB (MDR-TB) caused by a strain of mycobacterium tuberculosis which is resistant to isoniazid and rifampicin is a growing concern in Uganda. To address the issue of costs of hospitalization and limited space, clinic-based ambulatory care has been adopted. This study explored the challenges faced by health workers involved in clinic-based ambulatory care of the MDR-TB patients in Kampala, Uganda. For this cross-sectional study, we conducted 9 key informant interviews among health workers involved in providing clinic based ambulatory care. The focus was on the salient themes and recurring points with respect to challenges faced by health workers. Thematic analysis was conducted and contents of the key informant interviews were then grouped according to themes and analyzed in an excel sheet. From the 9 key informant interviews, the major challenge consistently identified by health workers who manage MDR-TB patients was non-adherence of patients. Health workers also reported drug stock-outs issues, difficulties when treating children and limited space at the peripheral facilities where patients go for supervision. Non-adherence among MDR-TB patients was a key challenge identified by the health workers hence the number of counselling sessions should be increased. There is need for the National Tuberculosis and Leprosy Program and Ministry of Health to ensure an uninterrupted supply of quality-assured second-line drugs to avoid drug stock-outs. Policy makers and MDR-TB health workers should work together to come up with the strategies to acquire excellent patient retention in care. For the Clinic-based ambulatory care approach to be effective, there’s need to address the challenges reported in Uganda.

Kofi Akohene Mensah

The increase in the number of people living with HIV (PLHIV), especially on sub-Saharan Africa, is a major public health concern. In a response, extensive studies have been conducted to provide an evidence base for effective and efficient interventions to combat the epidemic and support those affected by the disease. To date, most attention has been paid to prevention strategies, changing risk taking behaviour, and clinical trial of therapy. In comparison there have been very few studies of care and support programmes for PLHIV. The ‘HOPE’ programme is a major community-based care and support programme in Ghana and this paper therefore explores the challenges confronting the ‘HOPE’ programme and discussed them in the context of wider literature to provide lessons for Ghana and Africa. The views of the patients and stakeholders on the programme activities were explored. In-depth semi-structured interviews were carried out with 14 stakeholders and 8 focus group discussions were held with the programme beneficiaries. The data was analysed using thematic analysis. Qualitative findings were based on three themes which demonstrated enormous challenges. These included beneficiaries and stakeholders’ views on the skills offered, food supplementation and health education. Beneficiaries and stakeholders reported that only a few of the beneficiaries benefited from skills training leading to employment due to inadequate funding, slow cash flow and inadequate inter-sectoral collaborations. To compound these weaknesses, most reported that they preferred petty trading to the skills offered. Also, the long-term sustainability of the food supplementation once funding is discontinued was a major concern. However, the health education component could be sustained due to peer educators trained. The study identified challenges that impeded successful implementation of the programme. However, community participation, using local produce and inter-sectoral cooperation were seen as key to minimize these challenges but under-utilized ingredients.
Intestinal Parasitic Infections among HIV Infected and HIV Non-Infected Patients from Centro De Saúde 1º De Maio in Maputo, Mozambique

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Intestinal parasites and HIV infection cause substantial morbidity and mortality in sub-Saharan Africa. Increased evidence suggests intestinal parasitic infections can negatively affect the acquisition and progression of HIV disease. The aim of this study was to determine the frequency of co-infection HIV intestinal parasites, its association with the patient’s immunological status as well as the effect of HAART and Trimethoprim-sulphamethoxazole (TS) on patients attended at Centro de Saúde 1º de Maio in Maputo, Mozambique. A cross-sectional study was conducted from December 2015 to June 2016. A total of 517 stool samples from 371 (71.8%) HIV infected and 146 (28.2%) HIV non-infected patients were collected. Microscopic examination was done to identify different parasite stages. A stool subsample of 201 HIV infected patients was processed for the detection of coproantigens of Cryptosporidium spp. Overall, 148 (27.7%) of the individuals were infected with at least one parasite. The intestinal parasites frequency was 98 (26.1%) and 50 (34.9%) in HIV infected and non-HIV infected patients respectively. We identified 10 different parasites species and the median parasitic load in HIV infected patients was significantly twice than in non-HIV patients, although these differences were not statistically significant. The most frequently detected helminthes in both population were Trichuris trichiura 67 (12.9%) Ascaris lumbricoides 27 (5.2%), while the most frequent protozoan was Entamoeba coli 40 (7.7%). Giardia intestinalis frequency was 4.6 times higher in HIV infected patients 12 (3.2%) and these differences were statistically significant for p=0.02. Coproantigen detection of Cryptosporidium spp revealed a frequency of 8/201 (6%) of infection. Patient’s immunological status was associated with higher frequency of parasitism in the group with CD4 cell count less than 500 for p=0.047. Parasitism was 5 times lower than among HIV infected patients with TS intake 16/98 (16.3%), but these differences were not statistically significant. Intestinal parasites in HIV infected patients seem to be associated with patient’s immunological status. The clinical implications of the co-infection HIV and intestinal parasites, specially the effect of TS and HAART warrant further study.

Keywords: Co-infection HIV intestinal parasites, helminthe, protozoan, coccidiae

Health Workforce Preparedness and Effective Response to Disasters and Epidemics in Kumasi Metropolis

Alberta Biritwum-Nyarko

Emergency preparedness and response activities at Kumasi South Hospital begun in earnest during the Ebola outbreak in mid-2014 after a rapid assessment showed appalling observations. The objective was to create a system in which health workforce was adequately trained and resourced to quickly identify potential cases of Ebola and rapidly and appropriately respond to such cases. Staff were trained/retrained in disease surveillance and control, contact tracing and rapid reporting using E-mail and social media platforms like WhatsApp. Rapid response teams (RRT) were also trained in infection prevention and control and case management. Guidelines and protocols were developed locally and used. A directory of all trained rapid response team staff was
developed and used. Alert telephone lines were created and circulated. Jingles were developed in English and the local language to educate the public. Existing buildings were refurbished for use as isolation facilities using WHO recommended floor plans. Personal protective equipment was procured for use as well as other medical and non-medical consumables and placed in ready-for-use areas with back up. Simulation exercises were conducted periodically. Systems and structures so developed are still in use till date. The epidemic preparedness and response team is still vibrant managing epidemic prone diseases including Influenza and Multi-drug resistant Tuberculosis. Influenza sentinel surveillance has been tightened. Simulation exercises are routinely carried out to test response and results are used to guide preparedness efforts. The lessons learnt from Kumasi South Hospital were replicated at the regional level for preparedness and response activities. The Kumasi Metropolitan Assembly Public Health Emergency Management Committee has been duly inaugurated to support the RRT. Good preparedness and response efforts bring confidence to a health workforce and assures the community in which they work.

**ART Regimen Modification and Associated Factors in HIV Infected Adult Patients at a Kenyan Referral Hospital**

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Identifying factors associated with regimen modification can potentially improve clinical outcomes through preparedness, early detection and intervention. We sought to describe reasons for regimen modification, the nature of modifications and the associated factors. A cross sectional study enrolling 345 HIV+ patients aged ≥18 years on ART between July and August 2015 was conducted at the Kenyatta National Hospital HIV clinic. There were 143 (41.5%) males and the mean (SD) age of the study population was 42 (± 9.5) years. Ninety-three patients (27 %), mostly women (60%) had their regimens modified. Toxicity was the leading cause for modification (54%) followed by treatment failure (30%) as well as tuberculosis (5%) and pregnancy (2%). Three and 4 patients respectively had their regimens modified due to a drug phase out and non-adherence. When compared, there was no statistically significant difference between the median ages (years) of the participants whose regimens were modified due to a drug phase out and non-adherence. The mean time on ART in years was longer among patients who had a regimen switch compared to those who did not (8.7 (2.8) vs 4.4 (2.8)). Slightly more than half of patients (55%) who switched regimens were initially on stavudine based regimens while almost a third (27%) were on zidovudine based regimens. Patients who did not switch regimens were 8 times more likely to achieve viral suppression compared to those who did (OR=7.9 p=0.01, 95% CI 2.3-27). Age, diabetes and hypertension were found to be significantly associated with regimen modification (p <0.05). Associations between hypertension, diabetes and age with regimen modification were found; strong conclusions however must await confirmation in independent data. Occurrence of side effects was the most common reason for regimen modification and stavudine based therapies were the most modified. Key words: ART, Regimen, modification
Task Shifting and Test and Treat: Building the Capacity of Nurses and Midwives in Cameroon

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A Task-shifting Policy was developed in Cameroon to expand access to HIV care and treatment. Building the capacity of nurses and midwives to take an expanded role in HIV treatment is vital, as they are the largest frontline care providers responding to an increasing demand for antiretroviral therapy under new guidelines for Test and Treat (T&T). ICAP at Columbia University’s Global Nurse Capacity Building Program (GNCBP), funded by the U.S. Government President’s Emergency Plan for AIDS Relief (PEPFAR) through the Health Resources and Services Administration (HRSA), provided up-to-date knowledge on T&T to pre-service nurses and midwives through certified master trainers in Cameroon. Training modules in prevention of mother to child transmission (PMTCT) and maternal health in line with T&T were designed in collaboration with Ministry of Health experts and blended with ICAP’s e-learning Option B+ program. Training of Trainers (ToT) workshops trained nursing and midwifery (NM) faculty as certified master trainers in T&T. After the ToT sessions, the master trainers trained pre-service nurses and midwives. Pre-and post-test scores were analyzed in Excel. Through GNCBP, Cameroon has trained 95 NM faculty certified as master trainers in T&T. Average pre and post-test scores were 36% and 76%, respectively. Pre and post-test evaluations demonstrated that this training equips students with up-to-date knowledge that will be required upon deployment into public health service. This program provided an opportunity for up-to-date knowledge on HIV care and Treatment Guidelines to be effectively integrated into the training curriculum of nurses and midwives including faculty leaders and students. Further investment is needed to scale up this pre-service training and ensure all the NM graduates in Cameroon enter the workforce ready to provide quality HIV care and treatment services.

Capacity Building Interventions to Help Nursing and Midwifery Students Attain HIV/AIDS Management Competencies: The NEPI Program in Ethiopia

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The health care system in Ethiopia largely depends on the nursing and midwifery workforce to deliver services. The Ethiopia Human Resources for Health (HRH) strategy included the production of an additional 11,450 nurses and 5,584 midwives by 2015. While the scale up in the number of the nursing and midwifery cadre is progressing well, the ability to produce HIV competent nurses and midwives is posing a major challenge. Inadequate clinical practice sites and opportunities for supervised practice in simulated and real life settings are key factors affecting the quality of HIV pre-service education and the competency of graduating nurses and midwives in Ethiopia. The purpose of this review was to present the experience and achievements of the approach adopted by the Nursing Education Partnership Initiative (NEPI) of ICAP at Columbia University and implemented in partnership with the Federal Ministry of Health (FMoH) to enhance the acquisition of HIV/AIDS clinical competencies by nurses and midwives. A baseline assessment was conducted at the launch of the project in 2012 to identify and determine gaps in pre-service education at the three NEPI supported schools in Ethiopia. Key intervention strategies aimed at increasing the nursing and midwifery workforce and improving the quality and relevance of nursing and midwifery pre-service education. Teaching and learning infrastructure was
The development of a competency-based clinical preceptorship curriculum was driven by an assessment conducted by the Ministry of Health (MoH) and Clinton Health Access Initiative (CHAI) which identified a critical need to strengthen clinical practicum, a vital component of nursing and midwifery training. Clinical practicum is taught by clinical preceptors that do not receive formal training for their role. In addition, the number of clinical preceptors (60) is inadequate per the 260 target set in the National Training Operational Plan (NTOP). A formal training program would increase the number of clinical preceptors and improve and standardize the quality of clinical training across Zambia. ICAP-Columbia University Coordinating Center for the PEPFAR-funded Nursing Education Partnership Initiative (NEPI) in collaboration with the Ministry of Health (MoH) and General Nursing Council of Zambia (GNC) led the development of a new one-year competency-based clinical preceptorship curriculum to train nurses and midwives involved in the clinical practicum education of pre-service students. The curriculum was accredited by the GNC in 2012 to prepare nurses and midwives with clinical preceptorship skills relevant to help learners translate theory to practice. The curriculum is used to train qualified clinical preceptors to teach and supervise students in clinical practicum sites and includes both theory and practicum components and courses in professional practice, management and leadership, clinical training, research, educational sociology, and educational psychology.

Development of a competency-based curriculum for clinical preceptorship education in Zambia resulted in formalizing clinical preceptors’ training. Graduates reported improved skills in clinical teaching and mentoring of learners in the acquisition of clinical competencies. Clinical preceptors improve the relevance of nursing and midwifery education, thus increasing the availability of competently trained nurses and midwives who enter the workforce prepared to provide quality care to the Zambian population.
Health Workforce Preparedness and Effective Response to HIV/AIDS and other Disasters and Epidemics: Achieving National Buy-In for Clinical Simulation Education in Zambia

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The General Nursing Council of Zambia (GNC) in collaboration with the Ministry of Health (MOH), and financial and technical support from ICAP developed a competence based curriculum that introduced a 3½ year registered nursing and midwifery (RNM) program at Lusaka Schools of Nursing (LSN) and Monze Schools of Nursing (MSN) in 2012. The acquisition of competencies is only possible through focused and well-designed clinical practice of the learners by use of innovative teaching methods with well-equipped clinical wards or skills labs. ICAP-Columbia University, Coordinating Center for the U.S. Government President’s Emergency Plan for AIDS Relief (PEPFAR) funded and Health Resources and Services Administration (HRSA) administered Nursing Education Partnership Initiative (NEPI), embarked on strengthening simulation training to enable students acquire HIV competencies while practicing on manikins in readiness for clinical attachment. Consensus was reached on procurement and installation of simulation equipment with high fidelity to mimic clients with HIV related conditions. Faculty were trained in preceptorship and simulation by Faculty for University Deans in South Africa (FUNDISA) to prepare them to manage the simulation labs and students learning using simulation manikins. Schools procured high fidelity manikins relevant for the acquisition of HIV competencies. The Council introduced Objective-structured Clinical Examination (OSCE) to assess students’ practical learning. MoH embarked on training faculty in other nursing and midwifery schools in simulation to enhance standardization. Scenarios developed on an array of patients’ experiences including HIV and AIDS. The successful simulation training ensured functionality and completeness of manikins procured by MoH for other schools. Simulation is key in producing nurse midwife who will provide holistic care to our populations including HIV care and treatment given the inadequacies in our clinical settings. It enhances patient’s safety and quality of care as it contributes to production of a safe and competent practitioner.


Bilal Shikur Endris

HIV/AIDS and Tuberculosis killed 2.3 million people worldwide in 2015. For the last decade deaths due to HIV/AIDS and TB have fallen by 33.4% and 17.4%, respectively. However, measuring TB and HIV/AIDS mortality continues to be a challenging issue, particularly in Africa including Ethiopia, where rates are high and data are often unavailable. This study aimed to assess the burden and trend of mortality from TB and HIV/AIDS among adults. We used data from Addis Ababa Mortality Surveillance Program (AAMSP). AAMSP follows a burial based surveillance system since 2001. All deaths have been registered from all cemeteries in the city limit of AA. All registered deaths entered into a database system and 10% sample were drown for VA interview. Causes of registered deaths were identified using VA method. This analysis covered data from the period 2007 to 2012. We used 6,001 cases where specified cause of death is assigned using verbal autopsy method from 2007-2012. This study showed that 15.3% of adult deaths were attributable to HIV/AIDS. Tuberculosis was attributable to about 7.2% of the deaths. Trend of death from 2007 to 2012 showed a substantial reduction in HIV/AIDS deaths (from 25.8% in 2007 to 10.4%
in 2012). The pattern of TB deaths varied where it increased from 5.4% in 2007 to 9.7% in 2009 and then showed declining pattern (from 8% in 2010 and 2011 to 5% in 2012). Young and middle age groups were affected more by HIV/AIDS and TB mortality. There was a substantial decline in HIV/AIDS proportionate mortality from 2007 to 2012. However, HIV/AIDS and TB continue to be the major cause of death among adults especially in the young and middle age groups. Concerted efforts in the prevention and control of HIV/AIDS and TB should continue to meet the global target.

Health Care Workers Indicate Ill Preparedness for Ebola Virus Disease Outbreak in Ashanti Region of Ghana

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The recent Ebola Virus Disease (EVD) epidemic that hit some countries in West Africa underscores the need to train front line high-risk health workers on disease prevention skills. Although Ghana did not record (and is yet to) any case, and several health workers have received numerous training schemes, there is no record of any study that assessed preparedness of healthcare workers (HCWS) regarding EVD and any emergency prone disease in Ghana. We conducted a hospital based cross sectional study involving 101 HCWs from two facilities in Kumasi, Ghana to assess the level of preparedness of HCWs to respond to any possible EVD. We administered a face-to-face questionnaire using an adapted WHO (2015) and CDC (2014) Checklist for Ebola Preparedness and assessed overall knowledge gaps, and preparedness of the Ghanaian HCWs in selected health facilities of the Ashanti Region of Ghana from October to December 2015. A total 92 (91.09%) HCWs indicated they were not adequately trained to handle an EVD suspected case. Only 25.74% (n=26) considered their facilities sufficiently equipped to handle and manage EVD patients. When asked which disinfectant to use after attending to and caring for a suspected patient with EVD, only 8.91% (n=9) could correctly identify the right disinfectant ($\chi^2 = 28.52, p=0.001$). Our study demonstrates poor knowledge and ill preparedness and unwillingness of many HCWs to attend to EVD. Beyond knowledge acquisition, there is the need for more training from time to time to fully prepare HCWs to handle any possible EVD case.

Guidelines for Nurses to Support Primary Caregivers of People Living with HIV in Malawi: A Palliative Care Approach

Esmie Mkwinda, Mamsey Sengane, Ecebicious Lekalakala-Mokgele

The primary interest in the management of Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) with Antiretroviral Therapy (ART) is to prolong the lives of People Living With HIV/AIDS (PLWHA). However, PLWHA still require care to improve their quality of life and productivity. In Malawi, palliative care approach has been advocated in improving the quality of life for PLWHA and is being provided at the clinics by nurses and continuity of care is provided at home by primary caregivers (PCG). This has placed a paramount task of care on PCG in most households affected by HIV/AIDS. Supporting PCG is a key component to improving quality and continuity of care provided to PLWHA. This study was conducted to
explore needs of palliative care nurses, PCG and PLWHA and develop guidelines for nurses to support PCG in Malawi. A qualitative approach utilizing descriptive, explorative and contextual research design and semi-structured interview guide to collect data from three focus groups of nurses and individual interviews from PCG and PLWHA was used. A purposive sample of 15 nurses, 18 PCG and 18 PLWHA from three palliative care clinics in Lilongwe and Salima districts were utilized. Data were analyzed using Tesch’s steps and Nvivo software package version 10. Findings revealed the need guidelines where all needs of nurses, PCG and PLWHA would be met. Therefore, guidelines were developed for nurses to support PCG and improve the quality of life and survival of PLWHA. Guidelines had five dimensions of ethics and caring; holistic approach; improving knowledge; record keeping; monitoring; evaluation and resources management. The dimensions were vital in supporting PCG and improving quality of life for PLWHA.

Community Disaster Fieldwork and High-Fidelity Moulage Simulation: The Value of “Hands-On Learning” Approach for Emergency Nurses in Disaster Planning and Response

Roxane Richter, Thomas Flowers, Victoria Bam, Emmanuel Acheampong

Due to the favorable nurse-to-patient ratios in Ghana, two nurse-led Hands-On Learning (HOL) community exercises in Mass Casualty/Disaster planning and response were incorporated into Kwame Nkrumah University of Science & Technology (KNUST) 4th year emergency nurses’ “Care in Mass Casualties” course. The two exercises included the creation of 8 hospital Emergency Operations Plans (compiling hazard vulnerability assessments, trauma acuity classifications, surge capacities, etc.) and 1 Mass Casualty Incident (MCI) ‘moulage’ (the art of applying mock injuries for training purposes) simulation – both introduced as new and unfamiliar healthcare concepts to the Kumasi area. Both HOL exercises were positioned to increase students’ self-efficacy, confidence and competencies in medical surge capacity scenarios. These HOL techniques allowed for: proactive community stakeholder interactions, repeated practice in controlled environs, and increased face validity (realism) and content validity (appropriateness) in simulations. Brain scans have shown that students who physically experience scientific learning via activation in both sensory and motor-related parts of the brain understand them more deeply and score higher on science exams. The aim of this project is to assess the effects of 2 nurse-led HOL experiences via 8 nurse-led hospital Emergency Operations Plans (EOPs) and 1 high-fidelity moulage simulation on 45 KNUST emergency nurses’ self-efficacy, competency, and confidence in Mass Casualty Incident (MCI) planning and response. Anonymous, qualitative responses were gathered from all 45 nursing students in the “Care in Mass Casualties” course. While all the nurses responded positively to the nurse-led moulage simulation, several challenges concerning the Kumasi-area hospital administration’s cooperation, lack of knowledge/prior exposure to EOPs (at the outset) needed to be overcome. There is persuasive evidence² that the transition of new emergency nurses into their professional roles can be enhanced via nurse-led HOL immersion of Mass Casualty Incident nursing skills, professional guidance, and engagement of community stakeholders.
Obstetric Haemorrhage-Related Severe Maternal Outcomes in HIV-Infected Women

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There is paucity of data on the contribution of HIV infection to obstetric haemorrhage-related severe maternal outcomes (SMO) – near-misses and maternal deaths, with some literature suggesting an increased risk in HIV-infected women. Since the two leading causes of maternal mortality in South Africa are non-pregnancy related infections, which are largely HIV-related, and obstetric haemorrhage, there is the possibility of a relationship between HIV infection and obstetric haemorrhage-related severe maternal outcomes. The aim of this study was to determine whether obstetric haemorrhage-related SMO are increased in HIV-infected women. This was a retrospective record review of all cases of obstetric haemorrhage-related SMO at Chris Hani Baragwanath Academic Hospital (CHBAH), from January to December 2015. Further information was obtained from near-miss and maternal mortality audit reports conducted at CHBAH. In the study period, a total of 73 women had obstetric haemorrhage-related SMO. Of these, 18 (24.7%) women were HIV-infected, 50 (68.5%) were HIV-uninfected, and the HIV statuses of the rest were unknown. All the HIV-infected women were on antiretroviral therapy (ART), 50% initiated pre-pregnancy, and the median CD4 count (n=13) was 409 (IQR: 222-636). There were 65 near-misses, 15 (23.1%) in HIV-infected women, and there were three maternal deaths, two in HIV-infected women. With regards to known risk factors for obstetric haemorrhage, 6/18 (33.3%) HIV-infected women and 9/50 (18.0%) HIV-uninfected women had a previous caesarean section, p=0.179, while 8/16 HIV-infected and 14/44 HIV-uninfected women were anaemic, p=0.340. The commonest cause of haemorrhage was postpartum haemorrhage (PPH), diagnosed in 65/68 women, and there was no significant difference between the two groups of women. There were no significant differences in the medical and surgical interventions that the patients needed. One out of 18 HIV-infected women was admitted to ICU, compared to nine out of 50 HIV-uninfected women, and there was no difference in the median duration of hospital stay at 6 days for both groups. In this study, obstetric haemorrhage-related SMO were not increased in HIV-infected women. This may be because it was a relatively healthy population of HIV-infected women and all of them were on treatment. Larger studies are needed to throw more light on our findings.
Determinants of the Outcome of PMTCT Measures at Three ART Centres in Kumasi over a Three-Year Period

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In 2011, the Ministry of Health through the Ghana AIDS Commission published new guidelines for the PMTCT. The guidelines (Option B) recommended the initiation of a combined antiretroviral treatment (CART) to HIV-positive women at 14 weeks gestation, administration of syrup zidovudine to the HIV-exposed baby for 6 weeks, early infant diagnosis (EID) using DNA PCR at 6 weeks of age, exclusive breastfeeding for 6 months and continuous breastfeeding for 1 year and antibody test for the baby at 18 months. The main objective of this study was to assess the factors that determine the success or otherwise of the revised PMTCT policy.

This was a retrospective hospital-based study sponsored by the Medical Partnership Initiative (MEPI-PEPFAR, KNUST) that involved review of patients’ medical records at the Infectious Disease Unit (IDU) at KNUST Hospital, Chronic Care Clinic (CCC) at Kumasi South Hospital (KSH) and the Antiretroviral Therapy (ART) Centre at Bomso Clinic. A total of 145 records of HIV-positive pregnant women within the years 2012, 2013 and 2014 were selected based on the inclusion criteria. KSH recorded the highest number of participants (63.5%) followed by Bomso Clinic (29.7%) and then KNUST (6.9%). The highest prevalence rate of HIV infection among pregnant women was 3.4%, which is within the national prevalence. Overall, all the 145 babies tested negative for HIV at 6 weeks of age but 1 tested positive at 18 months. This resulted in mother-to-child transmission (MTCT) rates of 1.01% at KSH but 0% at KNUST and Bomso Clinic. These were far below the national transmission rates within the same period. Even though factors such as breastfeeding options, mode of delivery and gestational age at which ARVs are initiated have been found to contribute to the risk of HIV transmission, this study could not attribute any of these to be a definite determinant of PMTCT outcome. It was observed that Option B interventions instituted since 2011 at the three ART centres have been generally effective.

Investigating Epidemic Prone Diseases: Knowledge and Practices of Clinical Health Staff in Ghana

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Early detection and prompt reporting of epidemic prone diseases (EPD’s) has been cited as the pivot in the surveillance and control of outbreaks. The contributions by clinical staff towards early detections is highly relevant, however the level of knowledge and attitude towards reporting remains unknown. The study was conducted to examine the knowledge and reporting standards of clinical staff towards outbreak investigations. A cross sectional study design was conducted in Komfo Anokye Teaching Hospital (KATH), tertiary hospital in Kumasi-Ghana between February and May 2013. Stratified, simple random sampling was used to select 111 participants and a structured questionnaire used as the instrument for data collection. The mean age was 31.1(±6.8) years. About 87% (n=95/111) indicated knowledge of EPD’s. More than half of these, 62.1% (n=59/95) had no idea of the definition and 30.5% (n=29/95) gave correct definition of EPD’s but had limited knowledge on the laboratory specimen required for its investigation. About 48%
(n=46/95) of the respondents indicated that they would consult the nurse-in-charge of the ward instead of the public health official when an outbreak is suspected. The knowledge level of EPD’s was generally low but was found to be high with meningitis and poliomyelitis. The study has shown that the procedure for reporting EPD’s remains a challenge in the Komfo Anokye Teaching Hospital. A protocol on outbreak investigation procedures would address the gaps identified in the study.

The Effectiveness and Cost-Effectiveness of Community-Based Support for Adolescents Receiving Antiretroviral Treatment: An Operational Research Study in South Africa

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High HIV incidence amongst sub-Saharan African adolescents requires large numbers of adolescents to initiate antiretroviral treatment (ART) annually. However, adolescents receiving ART have increased attrition and inadequate ART outcomes. Community-based patient support (CBS) programs are task-shifting interventions addressing critical sub-Saharan African healthcare worker shortages, which may support several Sustainable Development Goal (SDG) targets. Effectiveness and cost-effectiveness evaluations of interventions improving ART outcomes amongst adolescents are very limited. This study measured the effectiveness and cost-effectiveness of a large CBS program for adolescents receiving ART in South Africa, the country with the highest HIV burden globally. The study was a Cohort study including adolescents and youth who initiated ART at 47 facilities. Previously unemployed CBS-workers provided home-based ART-related education, psychosocial support, symptom screening for opportunistic infections, and support to access government grants. Outcomes were compared between participants who received CBS plus standard clinic-based care vs. participants who received standard care only. Cumulative incidences of all-cause mortality and loss to follow-up (LTFU), adherence measured using medication possession ratios (MPR), CD4 count slope, and virological suppression were analyzed using multivariable Cox, competing-risks regression, generalized estimating equations and mixed-effects models over five years of ART. An expenditure approach was used to determine the incremental cost of CBS to usual care from a provider perspective. Incremental cost-effectiveness ratios were calculated as annual cost per patient-loss (through death or LTFU) averted. Amongst 6706 participants included, 2100 (31.3%) received CBS. Participants who received CBS had reduced mortality, adjusted hazard ratio (aHR)=0.52 (95% CI: 0.37-0.73; P<0.0001). Cumulative LTFU was 40% lower amongst participants receiving CBS (29.9%) compared with participants without CBS (38.9%), aHR=0.60 (95% CI: 0.51-0.71); P<0.0001. The effectiveness of CBS in reducing attrition ranged from 42.2% after one year to 35.9% after five years. There were no significant differences in MPR, CD4 count slope and virological suppression. The average cost of CBS was US$49.5/patient/year. The incremental cost per patient-loss averted was US$600 and US$776 after one and two years, respectively. CBS for adolescents receiving ART was associated with substantially reduced patient attrition, and is a low-cost intervention with reasonable cost-effectiveness that can aid progress toward several health, economic and equity-related SDG targets.
**Bed Management Forecast for Disaster Planning: Use of Rate of Transfer System**

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Emergency Department (ED) overcrowding affects quality of care of the patient. Overcrowding increases morbidity and mortality, increases stress to health workers and dissatisfaction among patients and workers. During a disaster or mass casualty incidence the availability of hospital bed will need to be forecast to predict which hospital can have bed space for patients. Secondary data collected from the various zones in the ED, triage and records were used to establish the total number of patients that were seen in the ED as per every zone per 24-hour period. A total number of patients that had the chance to be admitted to the wards were determined by excluding the patients that were discharged or died during the 24-hour period who had no chance of being admitted to the wards. The rate of admission was calculated by finding the percentage of patients that got bed space on the main wards to be admitted compared to the total number of patients that had the chance to be admitted to the wards. The daily rate of transfer of the values units in the emergency department were measured on a daily base. The units included Yellow, Orange, Red, Critical Decision units for male, female and pediatrics. The summary of the rates of transfer of patients from the A&E shows a minimum value of 11.70%, mean of 23.30% and a maximum of 34.30%. A breakdown of the values in the main units of the Emergency Medicine Department; yellow, orange and red shows 25.79%, 26.99% and 45.48% respectively. The rate of transfer prediction shows the pitfalls in smooth patient flow and is the basis of development of solutions of bed management especially during disaster preparedness.

**Stigmatization of People Living with HIV/AIDS by Healthcare Workers: An Advancement in Care in the Emergency Setting**

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Reduction in stigma is important in the fight against HIV/AIDS in Africa since stigma may affect patient attendance at healthcare centres to obtain antiretroviral (ARV) medications and receive regular medical check-ups. It has also been suggested that reduction of HIV/AIDS-related stigma and discrimination amongst healthcare workers (HCW) is also beneficial for healthcare professionals with HIV. The study was conducted to assess the level of stigmatization of PLWHA by healthcare workers at the emergency setting. Data was collected by means of a questionnaire and in-depth interviews. In-depth interviews were transcribed and analyzed. Ninety (90) HCW participated in the study, 41.1% were males. 67.7% were nurses, 25.5% were doctors and 6.6% were nurse assistants. The average age was 32.0 years (SD = 4.19), and the average work experience was 4.53 (SD 3.37) years. 66.6% of the study participants had never attended training on topics related to stigma and discrimination. 22.2% of respondents expressed discomfort in taking care of HIV patients. Refusal of care and/or provision of sub-optimal care to patients, excessive precautions and physical distancing by HCW, testing of clients by HCW and disclosure of the test results without consent were the forms of stigma which were highlighted by HCW. The findings highlight stigma and discrimination in the care of HIV patients in the Emergency Setting.
Training which are targeted at the issues raised will reduce stigma thereby enhancing HIV care in Ghana. Policies that will be developed to reduce HIV stigma should also consider the peculiarity of emergency settings and recommend higher HCW safety standards with respect to personal protective clothing.

**Is the Physical and Social Environment in Selected Community Day Secondary Schools in Malawi Driving HIV Transmission or Teenage Pregnancy?: Perspectives of Adolescent Girls**

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Physical and social environment can promote or inhibit risky sexual behaviors. However, schools are one of the societal institutions that can potentially influence unprotected sexual behavior, because it is where sexuality is explored. Little is known about how physical and social environment could influence sexual behavior of adolescent girls in school in Malawi. The purpose of this study was to explore aspects of the physical and social environment in community day secondary schools (CDSS) that predispose adolescent girls in the school environment to sexual behavior that could lead to pregnancy or HIV acquisition. An explorative qualitative study was conducted in seven community secondary schools in one district in the central region of Malawi. A sample of 45 participants was purposively selected to participate in the study. A Semi-structured interview was used to collect data from participants. Data were analyzed using content analysis. Four themes emerged and include rented facilities, lack of supervision after school contact hours with teachers and opportunity for relationships during leisure time influenced unsafe sexual behavior among in-school adolescents. Results have shown that in-school adolescent girls experience some challenges when they attend school away from home, where physical and social structures make them vulnerable to acquire HIV or pregnancy. Therefore, interventions to prevent HIV and pregnancy should target physical and social structures of community secondary schools.

Keywords: Female adolescents, Physical and social environment, Community Secondary Schools, Malawi

**Rapid Rollout of HIV Universal Test and Treat Resulting in 167, 334 Patients being Initiated on ART within the First 6 Months of Implementation**

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KwaZulu Natal Provincial (KZN) Department of Health took an initiative in June to start preparing for Universal Test and Treat before any guidance was received from the SA National Department of Health (SA NDoH). A signed national circular on Universal Test and Treat was received on 31/09/2016 and distributed to all 11 districts on the same day. Having trained clinicians through sub district and facility workshops the province was ready and set to implement universal test and treat on 01 September 2016. Other cadres of lay workers were trained to task shift and thereby decongest high burdened facilities. This operational research used the WHO health systems strengthening strategy and the Input – Process – Output Systems theory framework to plan for implementation and evaluate the outcomes of the universal HIV test and treat policy. Inputs to the plan were guidelines, circular, standard operating procedures, implementation plan,
patient recall plan, and facility decongestion plan, models of care, human resources, medicines, laboratory services and training. KwaZulu Natal was on average initiating about 40,000 patients on ART per quarter. For the first 4 weeks of implementation in September 2016, 31,410 patients were initiated on ART. HIV Positive: 15,030, Total Clients started on ART-31,410. Numbers of patients initiated on ART during September indicate that the implementation plan for universal test and treat and the patient recall strategy was implemented. The provincial clinical governance pharmaco vigi-lance committee is responsible for monitoring clinical care and adverse drug reactions. Clinical staff should continuously be trained on advanced clinical care and lay cadres be trained on chronic disease management to facilitate task shifting.

Group Support Psychotherapy for Depression Treatment in People with HIV/AIDS in Northern Uganda: A Single-Centre Randomized Controlled Trial

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Group support psychotherapy (GSP) is a culturally sensitive intervention that aims to treat depression by enhancing social support, teaching coping skills, and income-generating skills. We compared GSP with group HIV education (GHE) for treatment of depression in people with HIV in Uganda. In this open-label randomised controlled trial, we included men and women with HIV, aged 19 years or older, who met the Mini International Neuropsychiatric Interview criteria for major depression from an urban HIV care centre in Kitgum district, northern Uganda. Participants were randomly assigned to receive eight weekly sessions of either GSP or GHE. Randomization was achieved by urn (men and women separately picked a paper containing the intervention allocation from a basket; ratio 1:1), and the intervention sessions were given to gender-specific groups. Participants were followed up immediately after the intervention and 6 months after the end of treatment. The primary outcomes were change in depressive symptom scores (measured with the Self-Reporting Questionnaire) and in function scores (measured with a locally developed method), analyzed by intention to treat using cluster-adjusted t tests and permutation tests. This trial is registered with The Pan African Clinical Trials Registry, number PACTR201402000742370. Between Jan 6, and Jan 20, 2014, we assessed 150 individuals, of whom 109 were randomly assigned to receive eight weekly sessions of either GSP (n=57) or GHE (n=52). Change in mean depression scores immediately after intervention did not differ between groups (mean difference -0.19, 95% CI -1.77 to 1.39, p=0.78). Mean function scores did not differ between groups either (0.24, 0.41 to 0.88; p=0.41). At 6 months after end of treatment, participants in the GSP group had lower mean depression scores than did those in the GHE group (-2.50, -3.98 to 1.02, p value=0.005), and higher function scores (0.74, -0.17 to 1.65, p=0.09) than did participants in the GHE group. No adverse events were reported. The benefits of existing HIV educational interventions in HIV care services could be improved by the addition of GSP content. Potential benefits of the integration of GSP into existing HIV interventions, such as adherence counseling or group HIV educational programmes, should be addressed in future studies.
Caring for Own Child with HIV-Related Neuro Developmental Disorder/s in Zimbabwe: Mothers’ Experiences

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Although various measures have been put in place to compact HIV/AIDS, it is still prevalent in Zimbabwe. The Prevention of Mother to Child Transmission (PMTCT) programme was implemented in Zimbabwe but there are still cases of children being born infected with HIV. Children born to HIV have been reported to be at risk of having neuro-developmental disorders (NDDs) which is often disabling. The technological advances in the field of HIV/AIDS have however resulted in prolonged life to people infected with HIV/AIDS. Thus, there is a growing population of mothers caring for their biological children infected with HIV and at risk of neuro-developmental delays. The purpose of this study was to describe the mother’s experiences of engaging in daily occupations of caring for a child with NDDs. Also, to explore and describe factors that mother perceive to impact on their experience of caring for their children and how this caring shapes the mothers own occupational engagement. A qualitative descriptive phenomenological approach was used. In-depth phenomenological conversations were used to collect data from five biological mothers caring for own children diagnosed of HIV-related neuro-developmental disorders. A thematic analysis guided by a simplified version of the Stevick-Colaizz-Keen method was used for data analysis. The findings revealed that the transactional nature of the occupation of caring for a child with HIV related NDD. Personal and contextual factors such as culture shaped the caring experience of the mothers. Although caring for the child was noted to be difficult, mothers in this study engaged in a meaning making process where they found meaning in being a good mother to a child with HIV related NDD. The study concluded that caring for a child with HIV related NDD was unidirectional, with the mother doing most occupations for the child. Occupational therapists have a role to promote positive engagement and participation in caregiving.

Alcohol Use Disorders Intervention For Plwha: Pilot Study at an HIV Clinic

Munya

Alcohol use is associated with riskysexual behaviour, poor adherence to HAART, treatment failure and increased physiologic harm. Alcohol use disorders interventions have targeted these. In this study, an alcohol use disorders intervention that was developed through adaptation of evidence based psychological treatments was piloted at a tertiary HIV care clinic in Zimbabwe. This study aimed to assess the feasibility of recruitment and retention of participants, and pilot the administration of the study instruments. The intervention was compared with an equal attention WHO mhGAP intervention guides. The screening and outcome measures included, the AUDIT, theCD4, viral load, the WHODAS HIV and the WHOQoL. Registered general nurses, using a manualised protocol, carried out the interventions. Data was analyzed using Stata version 14. Forty patients were recruited over thirty days and followed up for three months. At the end of three months 31 patients were successfully assessed for the outcomes. At the end of the study period the mean audit score fell from 15 (SD 6) to 10 (SD 4). The study instruments included the socio-demographic data, the eligibility tools, and the moderator tools. The eligibility tools included the DUDIT, SAMISS, IHDS and the M.I.N.I. There was evidence of unhealthy alcohol use in this sample at a tertiary HIV care facility. This pilot study has shown that an intervention for alcohol use disorders is feasible in terms of recruitment, retention and does lead to change in drinking behaviour in people living with HIV/AIDS.
Assessing Quality of HIV Counselling Services Offered in Public Health Facilities in Kampala

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HIV counseling has increasingly become available in public health facilities in Uganda. Counseling is a key component in HIV/AIDS prevention programs as an entry point into care, treatment and support services, but there is paucity of literature about the quality of counseling provided during HIV/AIDS care. We assessed the quality of HIV counseling services offered in public health facilities in Kampala by reviewing adherence to the HCT policy guidelines, content of counseling information and health facility amenities. This was a cross-sectional study utilizing quantitative methods of data collection, with particular focus on the provider’s perspective. The sample size constituted of 74 health workers offering HIV counseling services in five public health facilities. The overall quality of HIV counseling was categorized as ‘poor’ if the final composite score was below 70% and ‘good’ if the composite score was above 70%. Likewise, for the three dimensions of quality, the same cut off of 70% was considered. Principal component analysis was utilized to obtain and reveal current composite scores of the variables. Data were summarized into frequencies and proportions using STATA, version 13.0. Overall the quality of HIV counseling was found to be ‘poor’ as only 26% of the HIV counseling service providers offered ‘good’ quality of HIV counseling. Results also revealed poor adherence to the HIV Counseling and Testing guidelines as only 25.6% of the counseling service providers adhered to the guidelines. In addition, 67.6% of the health workers offered ‘poor’ content of counseling information. Also, only one out of five health facilities was found to have adequate amenities. Overall quality of HIV counseling was found to be poor. Amenities in health facilities were largely found to be inadequate. Provision of modest space for counseling is required so as to ensure privacy during counseling sessions.

Practice of Community-Based Tuberculosis Care among Health Personnel and Patients in Ibadan

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The year 2014 WHO report on Tuberculosis (TB) placed Nigeria as the country with the highest TB burden in Africa and the third in the whole world. Community-based Tuberculosis Care (CTBC) which refers to TB prevention and control activities that extend beyond the confines of the health facility to the community has been found to be effective, acceptable, affordable and cost-effective in previous multi-national projects. This study aimed at assessing the current practice of CTBC at the local government level. This study was a cross sectional study carried out using simple random sampling technique for selecting 75 patients living with TB and 101 healthcare workers from the Primary Health Care (PHC) centres in the local government. Semi-structured questionnaires were administered to them. Data were analyzed using Statistical Package for the Social Science (SPSS) version 22 and hypotheses were tested to compare summary of statistics at P<0.05 significance level. The findings revealed that the level of involvement of health workers in CTBC is low as 62.7% of the healthcare workers on a scale of 1-10 rated their level of involvement in CTBC between 1 and 3. Also, there is no significant association between the profession of the
TB officers and their level of involvement in CTBC ($X^2 = 7.241, p≤0.05$). A significant association was found between the training undergone by TB officers and their level of practice of CTBC ($X^2 = 44.055, p≤0.05$). The outcome suggests that practice of CTBC in this local government needs to be scaled up. The health professionals will benefit from training on CTBC and the patients, from financial support; thus aligning the local government with the third target of the third Sustainable Development Goals which is to end the epidemic of Tuberculosis by the year 2030.

**Keywords:** Community-Based, Tuberculosis, Practice.

**Outcome of Introduction of Emergency Triage Assessment and Treatment Plus (ETAT+) on Inpatient Child Care Delivery in Ugandan Health Units**

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Over half of child deaths in sub-saharan Africa occur in the health facilities within the first 48 hours of admission. Better organization of care and the implementation of standardized, evidence-based clinical management protocols therefore have potential for reducing morbidity and mortality in such settings. We describe the outcome of the implementation of Emergency Triage assessment and Treatment plus (ETAT+) on inpatient child care delivery in Ugandan Health Facilities. ETAT+ is a comprehensive programme which involves the training of front-line health workers in evidence based guidelines to enhance their clinical knowledge, practice, problem identification and problem solving skills. We undertook a pilot project to introduce ETAT+ into 6 selected district hospitals in Uganda over a 18-month period with the overall goal of reducing childhood mortality by improving inpatient care of sick children. Data was collected to document changes on inpatient admissions, morbidity and mortality before and after the ETAT+ trainings in the hospitals. The programme resulted in the following changes in practice. 1) Triage systems were instituted with separate lines for children and adults. 2) Health workers reported improved confidence in resuscitation and more attempts were to resuscitate asphyxiated newborns 3) Quality improvement teams were established to conduct regular clinical audits 4) There was reduction in deaths across all hospitals from 102/7293 (1.40%) to 80/7433 (1.08%) in the three months’ period before the provider trainings to a similar 3 months’ period after completion of the trainings. 5) Active support supervision is required to maintain quality of care gains. ETAT has been introduced in Ugandan and has led to change in health care practice. There is need to scale up the implementation of ETAT+ to the other units in the country and to conduct more studies to assess the impact of ETAT on inpatient morbidity.
**SUB-THEME 4: THE BURDEN OF NON-COMMUNICABLE DISEASES IN AFRICA**

**Children’s Heart Disease: A Research Imperative in the Era of Non-Communicable Disease**

Zühlke L J, Engel M E, Perkins S, Joachim A et al.

Congenital heart disease (CHD) is the most common birth defect, with a birth prevalence of approximately 8 in every 1000 births and killing more children each year than all the childhood cancers combined. Yet, the epidemiology of CHD in Africa is poorly defined with a dearth of data on prevalence and predictors of mortality. Simultaneously, the population of adults with CHD is steadily increasing, and incorrect or inadequate management of this critical transition period has direct influence on maternal mortality and morbidity. An entirely preventable condition, rheumatic heart disease (RHD) is undergoing a renewed focus in research and scientific activism, spearheaded by researchers from endemic countries. Finally, the new epidemic of Non-Communicable Disease (NCDs) has hit Africa with the largest burden being Cardiovascular Disease. Research to identify predictors of mortality and morbidity highlight gaps in implementation and provide evidence for improved and focused interventions for children with heart disease is urgently needed. We recently established the children’s heart disease research unit at the Red Cross War Memorial Children’s Hospital, University of Cape Town with the specific goals to conduct, promote and support children’s heart research on the African continent, facilitate Implementation Science and provide postgraduate supervision and training in children’s heart research. The unit is led by a paediatric cardiologist and encompasses clinical research, research training and capacity building with flagship programs around CHD and RHD. We have been able to conduct several studies in both CHD and RHD with over 30 publications and 6 book chapters in 24 months. Several Masters students have been mentored and programs assisted globally and in Tanzania and Uganda. The Unit collaborates with several key initiatives and institutions and have hosted two large patient and family empowerment events. We are embarking on a large CHD epidemiology and genetics study which we anticipate will be rolled out into Africa in due course. As we focus on the new epidemic of NCDs on our continent, research into children’s heart disease will be critically important to explore antecedents of adult disease and answer key questions regarding cardiovascular disease in the young.

**Rheumatic Heart Disease: Burden of Disease and Platform for Capacity Building**

Zuhlke L J, Engel ME, Barth D, Watkins BM et al.

The impact of change on the incidence, prevalence and outcome of rheumatic heart disease (RHD) is unknown in South Africa. Yet, RHD-endemic countries in Africa constitute almost 60% of the deaths due to RHD globally. RHD can thus provide a platform for capacity building and research training on our continent. We conducted a systematic overview of the incidence, prevalence and outcomes of RHD in South Africa over the past two decades according to a published protocol. Furthermore, we established several large studies incorporating capacity building- the REMEDY study (Global Registry of Rheumatic Heart Disease) involving 25 centres and 14 countries and RHDGen (Rheumatic Heart Disease Genetic Network) focused on Rheumatic Heart Disease
while the Afrostrep register focuses on group A streptococcus. In addition, we collaborated with Ethiopia and Zambia, with knowledge translation, health system strengthening and task sharing as key components. Finally, as part of RHDAction and RhEACH (Rheumatic heart Disease Evidence Advocacy, Communication and Hope) we created several important tools, data sets and framework to support regional and local RHD activities. Echocardiographic screening revealed 55 cases of definite and borderline RHD by WHF criteria in South Africa and 61 cases in Ethiopia, corresponding to a prevalence of 20.2 cases per 1000 (95% CI 15.3 to 26.2) and 31 cases per 1000 (95% CI 23.4 to 39.0), respectively. The cause-specific mortality rate per 100,000 population in South Africa decreased from 1.27 (95% CI 1.17 to 1.39) in 1997 to 0.7 (95% CI 0.63 to 0.78) in 2012. REMEDY demonstrated a mortality rate of 116.3/1000 patient-years in the first year and 65.4/1000 patient-years in the second year. Median age at death was 28.7 years. Enrollment in REMEDY and RHDGen has produced several Masters and PhD students. Other tools have been extensively downloaded and shared. Advocacy efforts have benefitted tremendously from these research networks. The variation in the prevalence of RHD between countries and communities has important implications for the modelling of the global burden of RHD. RHD has provided a significant platform for capacity building and creating research infrastructure on the African continent.

Stigma Towards People with Mental Illness: A Cross-Sectional Study among Nursing Staff in a Post Conflict Rural District in Uganda

Connie Olwit, Claire van der Westhuizen, Charles Peter Osingada, Seggane Musisi et al.

Integrating mental health services into primary health care is one of the strategies recommended by the World Health Organisation (WHO) in order to improve health outcomes of the population. However, stigma towards mental illness by health workers in primary health care facilities is one of the potential barriers to effective delivery of mental health services. Since nurses constitute the majority of primary health care personnel, this study aimed at exploring stigma towards patients with mental illness so as to identify opportunities for training interventions for primary health care nurses. We conducted a cross-sectional quantitative study. Self-administered questionnaires were used to collect data on knowledge, attitudes and behaviour towards individuals living with mental illness and familiarity with mental illness. Descriptive statistics, linear and logistic regressions were performed to answer study objectives. Sixty-three nurses participated in the study of which 65% were female with mean age of 33.2 years (SD 7). Only a quarter scored above 80% on knowledge about mental illness and 79% considered stress to be mental illness. The nurses were benevolent (mean 3.06, s.d 0.29) (paternalistic and sympathetic view of individuals with mental illness) and accepted mental health services and individuals living with mental illness in the community (mean 3.56, s.d 0.30). However, the nurses tended towards authoritarianism (viewed the person diagnosed with mental illness as inferior and requires coercive handling) with mean 3.74, s.d 0.34. They also showed social restrictiveness towards people living with mental illness (mean 2.98, s.d 0.27). Increased familiarity with mental illness predicted community mental health ideology and authoritarianism. Some nurses are still demonstrating some negative attitudes towards people living with mental illness. Additional training in mental health is needed which may improve their attitude towards mental illness and people living with mental illness.
Predictors of Complete Hepatitis B Vaccination among College of Health Science Students, Makerere University

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Hepatitis B virus (HBV) is highly infectious, and health workers and students are particularly vulnerable to Hepatitis B infection. The prevalence of hepatitis B virus infection among health care workers and students is high. Health care professional student are at an increased risk of acquiring HBV infection. Fortunately, a highly protective vaccine is available. An individual is considered to have completed HBV vaccination if they have received three doses of Hepatitis B vaccine. The purpose of this study was to determine the predictors of complete vaccination status among students at Makerere University, College of Health Sciences. In this cross-sectional study, we collected data from 265 students at the college of health Sciences, Makerere University. Data was collected using a self-administered questionnaire. Eligible participants were students from second to fifth year from MBchB, nursing and BDS programs. Proportionate to size sampling was used to determine the number of participants from each program and year of study. We used simple random sampling to select participants from each year of study. Ethical clearance was sought and granted from the IRB, school of health sciences. Bivariate and multivariate logistic regression was used to determine factors associated with complete vaccination. About one half (51%) of the 265 participants received at least one dose of HBV vaccine. Only 67 (25%) had received the recommended three doses. Having been screened for HBV (OR =0.13, 95% CI 0.04-0.39), self-perception of being less likely to acquire HBV infection (OR =0.21, 95% CI 0.08-0.52), and being in the clinical year (OR =3.17, 95%CI 1.17-8.60) were independent predictors of complete vaccination status. Health professional students at Makerere University College of health Sciences are at a high risk of acquiring HBV infection. HBV vaccination should be promoted at CHS, Makerere.

National Peripheral Artery Disease Risk and Assessment of Vascular Care Capacity in Ghana: A Look to the Future

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The burden of peripheral vascular disease (PVD) in low- and middle-income countries (LMICs) is likely increasing, though it remains under-characterized. This burden will fall on health systems least equipped to care for surgical conditions. This study was conducted to i) to estimate the number of Ghanaians at risk of peripheral vascular disease; ii) quantify national vascular care capacity and iii) identify factors contributing to item or service non-availability to identify potential targets for intervention. Data on PVD risk factor prevalence from the World Health Organization’s Study on Global Ageing and Health (SAGE) in Ghana were analyzed alongside a nation-wide assessment of vascular care capacity at district, regional and tertiary hospitals. Twenty (20) equipment and technology-related items essential for vascular care were assessed. Direct inspection and structured interviews with administrative, clinical and biomedical engineering staff were conducted to define the challenges of item availability at 40 district,
regional and tertiary hospitals in Ghana. Factors contributing to item non-availability were also evaluated. There were 4,305 respondents aged at least 50 years with data to estimate PVD risk representing 2,879,318 Ghanaians. Of these, 57% were at moderate to high risk for PVD (≥3 risk factors; 1,654,557 persons when extrapolated nationally). Vascular care capacity assessment demonstrated marked deficiencies in diagnostics (i.e. duplex ultrasonography, angiography), and items for perioperative (i.e. airway equipment, electronic cardiac monitors) and surgical care (i.e. anastomosis capability, suture, graft material). Deficiencies were most often due to equipment absence, lack of training and technology breakage. PVD risk factors are highly prevalent in Ghana, which also has critical vascular care capacity deficiencies. Several targets for interventions to improve item availability were identified, namely training of clinicians, technicians and biomedical engineers. Improving vascular care capacity will be increasingly important as the burden of PVD increases in Ghana and other LMICs.

**Multimorbidity and Predictors of In-Hospital Mortality in Patients with Cardiovascular Disorders: A Retrospective Study**

*Senbeta Guteta Abdissa, Tola Bayisa, Seman Kedir*

Multimorbidity presents challenges for patient and clinician. It is associated with significantly increased risk of cardiovascular mortality. This study aimed at examining the magnitude of multimorbidity and predictors of in-hospital mortality in patients with cardiovascular disease (CVD). A 5-year retrospective study was conducted from November 01, 2015 to January 01, 2016 on patients admitted to medical intensive care unit (MICU) of Saint Paul's Hospital Millennium Medical College (SPHMMC). Study population consisted of 362 patients with CVD who had complete data. Primary endpoint was death from any cause in MICU. Secondary endpoint was a cardiovascular composite endpoint: myocardial infarction, stroke, and heart failure. Most common causes of cardiovascular admission were heart failure, 137 (37.8%), acute myocardial infarction, 83 (22.9%), hemorrhagic stroke, 95 (26.2%) and ischemic stroke, 24 (6.6%). A total of 71 (19.6%) patients had a diagnosis of multimorbidity. There were 162 (45%) deaths. Myocardial infarction [COR 0.3 (0.18-0.53)], hemorrhagic stroke [COR 3.3 (2.0-5.5)] and age groups 55-64 years [COR 2.7 (1.2-6.1)] and 65-74 years [COR 2.6 (1.1-6.1)] were significantly associated with mortality. From cardiovascular composite endpoint, there was a significant interaction between diabetes and myocardial infarction (AOR 4.33 [95% CI 1.96-9.58]) and between hypertension and hemorrhagic stroke (AOR 2.27 [95% CI 1.42-3.63]). Heart failure had significant interaction with both diabetes (AOR 3.31 [95% CI 1.43-7.68]) and hypertension (AOR 0.50 [95% CI 0.25-0.99]). There is a significant proportion of multimorbidity in our study population. Multimorbidity may be used as a factor in prioritizing management of patients. Measures to prevent CVD in people who already have risk factors need to be emphasized in primary care settings. Capacity building of the higher levels of care; to enable early management of acute CVD is indispensable to improve patients’ survival, physical functioning, and quality of life.

**Keywords:** Cardiovascular disease, multimorbidity, mortality
Understanding the Care Seeking Pathway for Women Presenting with Advanced Breast Cancer Symptoms to a Tertiary Hospital in Ghana

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About 85% of breast cancer patients who attend Komfo Anokye Teaching Hospital (KATH), Ghana, present with stage III/IV disease and similar situations exist in most African countries. Challenges with access and the nature of care given at health facilities are contributory factors. This study sought to understand the care seeking trajectory of women with breast cancer symptoms seen at KATH. Women presenting at first clinic attendance with clinical stage III/IV breast cancer at KATH were purposively selected for the study between May 2015 and March 2016. In-depth interviews were conducted to explore the women’s care seeking pathways after symptom identification until arrival at KATH. Thematic data analysis was conducted using the Andersen behavioural model for health service use with a critical realist perspective. Fifteen women aged between 24 – 79 years were interviewed. The first symptom identified was a breast lump or breast swelling. The time from symptom identification to reporting to KATH was 4 - 24 months. Self-care initiatives like applying locally prepared topical creams or herbal preparation were initially employed. Symptom progression in spite of these triggered seeking care from health facilities. All the women visited at least one health facility on multiple occasions, including travelling to other towns for diagnostic investigations before being seen in KATH. The availability of money to pay for care and diagnostic investigations influenced the time taken to navigate the referral pathway. The women had no understanding of the import of the investigations to evaluate their symptoms nor the effect of timelines on the evolution of their breast symptoms. Navigating the health care system can be complicated for women seeking care for breast cancer symptoms. Counseling offered during the first patient-clinician contact for care can influence the time women take to navigate the care seeking trajectory to KATH.

Burden of Heart Diseases in Children Attending Cardiology Clinic in a Regional Referral Hospital in Uganda

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Patterns and prevalence of heart diseases are different between the high income countries and low income countries. Acquired heart diseases like RHD, cardiomyopathies, pericarditis are still a public health burden while congenital heart diseases still carry a poor outcome among children. The aim of this study was to report the burden and pattern of heart diseases in a semi urban referral hospital in Uganda. This was a prospective study in the paediatrics department at a regional referral hospital in south western Uganda over a period of 20 months. All children from birth up to 12 years who were referred or presented at the paediatrics department from different areas in the region for an index cardiac evaluation and had their transthoracic echo done were included in the study. These children were enrolled and followed up in the cardiology clinic for chronic care. Those who did not turn up for their expected reviews were followed up with phone calls to find out their outcome. Two hundred and forty children were screened during this period and 158 (65.8%) had abnormal echocardiological findings. Mean age at diagnosis of congenital heart disease was 28 months (SD 33). More females than males were had abnormal Echos at 51.9%. VSD were the commonest acyanotic heart disease followed by PDA at 37% and 17% respectively. TOF has the highest prevalence at 8.23% followed by Truncus arteriosus at 5.9%
amongst the cyanotic heart diseases. RHD was the commonest acquired heart diseases (72.5%).
Sixty-three percent of children needed and were referred to the national cardiac centre. Only 52% of referred children managed to go to the national referral cardiac centre. Of all the children who needed surgical intervention, 4.4% got the intervention. 25% of the children died while 12.7% were lost to follow up. There is a high burden of heart diseases in south western Uganda with limited access to interventional services.

A 7-Year Retrospective Study of Maxillofacial Tumours and Tumour-Like Lesions in Sunyani, Ghana

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This paper retrospectively reviews and documents the prevalence, types and demographic distributions of maxillofacial tumours and tumour-like lesions in a Ghanaian population over a seven-year period.

The medical records and histology report of patients with maxillofacial tumours and tumour-like lesions who presented at our department from January 2010 to December 2016 were retrospectively reviewed. Information on demographic, histological types and clinical presentation were obtained and analyzed. A total of 139 patients aged 2 to 83 years (mean 38.5) were seen over the period of our study. There were 81 males and 58 females giving a male to female ratio of 1.4:1. Malignant tumours accounted for 59.7% (n=83) and benign tumours 40.3% (n=56). Squamous cell carcinoma was the most prevalent malignant tumour (n=58; 69.9%) and pleomorphic adenoma was the most common benign tumour (19; 33.9%) observed. 17 cases of ameloblastoma was observed in our study representing 30.3% of all benign tumours. 23 (39.65%) of patients with Squamous cell carcinoma had clinical signs and symptoms for more than a year before reporting to our department. Late presentation still remains the main challenging factor in the early detection and management of maxillofacial tumors in our study population. More awareness campaign is necessary, especially at the primary health care level, to educate the populace on the need for early presentation at treatment centers. Also noted in our study was the use of agro-chemicals among patients with malignant tumours. Further study is needed in the area to draw possible correlation between malignant tumours and agro-chemical agents.

The Geographical Distribution of Renal Dialysis Services in Ghana

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Chronic kidney disease (CKD) is an important global health challenge with increasing burden worldwide. CKD and acute kidney injury (AKI) may require renal replacement therapy (RRT) at some stage of the disease. Ghana currently has no renal transplant programme. Dialysis services still remain a mirage to many kidney disease patients in Ghana due to cost and paucity of haemodialysis machines. This survey highlights the geographical distribution of renal dialysis services in Ghana. A cross sectional situational survey of dialysis centres in the ten regions of Ghana was conducted by interviewing doctors and other health care professionals in all health institutions. Information on dialysis services, staff status and number of hemodialysis machines and presence of peritoneal dialysis services in both private and government facilities was obtained and mapped out. There were 15 centres with a total of 111 hemodialysis machines identified with majority (53.2%) in state-owned facilities. One half of regions in Ghana do not have any form of
dialysis facilities. Majority 73 (65.8%) of hemodialysis machines are in the Greater Accra region. Private haemodialysis services are available only in Greater Accra and Ashanti regions. The overall national haemodialysis machines per million population (pmp) is 4.50. The Greater Accra region has 18.2 haemodialysis machines pmp followed by the Ashanti region of 4.81 hemodialysis machines pmp and central region of 4.54 machines pmp. There is no chronic peritoneal dialysis in Ghana but limited acute peritoneal dialysis services. Ghana currently has 8 nephrologists therefore most haemodialysis units across the country are supported by non-nephrologists. There are few hemodialysis centres in Ghana with skewed distribution to few regions across the country. There is a need to improve dialysis services and distribute them equitably across the country.

**The Use of Community Engagement in Strengthening Design and Implementation of Secondary Stroke Preventive Interventions: The THRIVES Study**


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Stroke is the second leading cause of death worldwide, with low- and middle-income countries accounting for over 85%. Though largely preventable and given the role of hypertension as the leading modifiable risk factor, data on use of community engagement to explore experience of living with stroke, enhance feasibility and strengthen adaptive issues in the design and implementation of stroke preventative interventions in developing countries is lacking. This study sought to explore communities’ perception on the challenges of living with stroke; its management and to capture feedback to improve adaptability and efficient delivery of a multimodal preventive intervention for secondary stroke disease in Nigeria. This study employed qualitative data collection methods. Participants were purposively recruited and included health care professionals, stroke survivors and caregivers. A total of 22 Key Informant Interviews (KIs) were conducted with healthcare professionals selected locally from four hospital sites in Nigeria. Also, twelve focus group discussions (FGDs) were conducted with stroke survivors and caregivers who met the following criteria: >18 years, no aphasia, dementia (CSID ≥20) or disability (modified Rankin Scale <3). Findings revealed four operational domains to improve strategies for implementation of primary intervention components: (1) barriers and facilitators influencing optimal medical adherence in stroke survivors, (2) patient health beliefs and perceptions of patient health beliefs by others, (3) adoption of the “patient report card,” one of the multimodal interventions (4) medical action plan and benefits for increased family management strategies. Results from this phase of study demonstrate the importance of using qualitative methods to understand challenges of living with stroke; intervention development for secondary stroke care prevention research and challenges in adherence and uptake. It also pointed out potential intervention and implementation modifications which were taken to consideration in the ongoing clinical trial phase of the multimodal THRIVES preventive intervention for stroke survivors.
Metabolic Syndrome among Apparently “Healthy” Ghanaian Adults: A Review of the Evidence

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Metabolic syndrome (MetS) is an important public health problem in Sub-Saharan Africa. We sought to synthesize evidence on the prevalence of MetS among apparently “healthy” adult Ghanaians. Searches were performed (up to September 2016) in PubMed, Web of Science, Scopus, Africa Journals Online, African Index Medicus and Google Scholar for articles in English reporting on MetS among Ghanaians. We also searched the websites of the Ministry of Health and the Ghana Health service for non-indexed studies. We included only studies conducted in apparently healthy (no established disease) adult Ghanaians aged ≥18 years. Data were analyzed via meta-analysis using random effect modeling with inverse variance weighting. Nine (9) studies involving a total population of 1,559 sampled across 4 regions of Ghana were included in the review. The prevalence of MetS among apparently healthy adult Ghanaians was estimated to be in the range 6-21.2%. MetS prevalence based on the National Cholesterol Education Program Adult Treatment Panel (NCEP-ATP) classification was 12.6% (95% CI 8.3-17.6%), according to the World Health Organisation (WHO) criteria was 6.4% (95% CI 1.6-14.1%) whereas prevalence of 21.2% (95% CI 12.9-30.9) was estimated using the International Diabetes Federation (IDF) classification. There was higher prevalence of MetS among females than males. NCEP-ATP guidelines appear to be the most frequently used classification among Ghanaian researchers. In a population of adult Ghanaians deemed to be “healthy”, there is a high prevalence of MetS. Nonetheless, the existence of multiple classifications makes precise estimation of MetS prevalence a difficult task. The efficiency of the various guidelines need to be assessed within the Ghanaian context and efforts must be made towards defining standard criteria for the local population. Preventive measures are required to address the risk components of MetS (such as obesity and hypertension) which are rapidly rising in Ghana.

Stroke Prevention Across Communities: The Stroke Investigative Research and Education Network (SIREN) Study

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Stroke is the leading cause of neurological hospital admissions and second cause of deaths in Sub-Saharan Africa (SSA). The burden of stroke, which disproportionately affects the young and middle-aged, is expected to rise in the coming decades considering the epidemiologic transition from communicable diseases. The aim of this study was to survey and elucidate the knowledge, attitude, beliefs and practices of individuals in SSA about stroke and its risk factors, performance of genetic testing, and participation in research studies. This was a community based descriptive, cross-sectional study conducted in ten cities in Nigeria and Ghana. Entry, mobilization and recruitment of adults >18 years purposively, is facilitated by the community advisory board (CAB). Semi-structured questionnaire was used to document knowledge, attitude, beliefs and practice of stroke risk factors, willingness to participate in research and genetic testing. Currently, community sensitization and outreach package, facilitated by the study’s medical team includes
risk factor identification, prevention and encouragement of early referral in the event of stroke. Data was analyzed using the NVivo software. Findings revealed a limited stroke knowledge across communities. Most participants recognize hypertension as risk. About 20% do not know the organ affected by stroke. Over 80.0% of participants are willing to participate, pay for genetic testing and recommend same to others. About 50% reported that stroke is hereditary. Majority of participants indicated that genetic testing could help health providers better treat stroke and help scientists better understand the causes of stroke. This research presents a grounded theory related to knowledge, attitude, perception of risk factors for developing stroke, health-seeking behaviors and willingness to be part of a genomic study. Data from the study have the potential for changing both policy and practice related to stroke prevention, management, and recovery in SSA.

Acute Chest Syndrome in Sickle Cell Disease at Komfo Anokye Teaching Hospital: Clinical Presentation and Pharmacological Management

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Acute chest syndrome (ACS) contributes significantly to morbidity and mortality in children with sickle cell disease (SCD). However, there is paucity of data concerning ACS and its pharmacological management in Ghana in particular, and Africa in general. This study was aimed at assessing the clinical presentation and pharmacotherapy of ACS in children with SCD at Komfo Anokye Teaching Hospital (KATH), Kumasi, Ghana. The design was retrospective, with data retrieved and reviewed from the medical records of children (≤14 years) with SCD and at least an episode of ACS at the Child Health Department of KATH. One hundred and seven cases out of 1336 children with SCD met the inclusion criteria and were selected. Data on clinical presentation along with pharmacotherapy was then extracted and recorded. Chi square test was used to assess the relationship between the disease characteristics or clinical presentation and the various age groups. P value less than 0.05 was considered statistically significant. Seventy-five percent (n=80) of the patients presented with fever and 65% (n=70) presented with cough. Rhinorrhoea and irritability were common in the younger patients (age < 5 years), p = 0.012 and 0.001 respectively. Abdominal pain and chest pain also occurred mostly in older children (≥ 5 years), p = 0.024 and < 0.001 respectively. Bacteria isolates were found in 12 of 79 cases that had blood culture information. Eighty-four patients (80.7%) received cefuroxime and gentamicin for empiric treatment of infection in ACS. The dose range of gentamicin was 3 to 9 mg/kg body weight as opposed to the recommended 5 to 7 mg/kg once daily. Empiric antibiotic therapy for infections in ACS seem not cover for atypical bacteria as recommended in the standard guidelines. Morphine was the preferred opioid for analgesia, and this is in line with the WHO guidelines for pain management in SCD patients. Other supportive therapy used included blood transfusion for anemia and intravenous infusions for dehydration. ACS as a complication of SCD was seen and documented at KATH. The management intervention of ACS at the hospital included pharmacotherapy for infections, pain management, adequate hydration and blood transfusion in the patients with severe anaemia as recommended in the standard guidelines.
Knowledge on Hepatitis B and C Infection among Primary Care Patients at the Komfo Anokye Teaching Hospital

Esther Brafo-Kwakye, Emmanuel Ati, Nicolas Karikari Mensah, Francis Owusu Adjei

Hepatitis B virus (HBV) and Hepatitis C (HCV) infections are a global public health problem. Despite the gains made with the diagnosis, prevention and treatment of Hepatitis B and C infection, public awareness of these infections is low. The aim of this study was to assess the awareness of Hepatitis B and C among primary care patients. The study was a cross-sectional study carried out at the Family Medicine Directorate of the Komfo Anokye Teaching Hospital from June 2016 to August 2016. A total of 452 participants aged 10 years and above were selected by systematic random sampling. Data on their socio-demographic characteristics and their knowledge on Hepatitis B and C infection was assessed using a pretested structured questionnaire. Data obtained was analyzed using STATA 12.3. Out of the participants, 86% had heard of Hepatitis B infection, while only 25% had ever heard of Hepatitis C infection. The main source of information on Hepatitis B and Hepatitis C was from the mass media (61% and 53% respectively), 60% knew that Hepatitis B was a liver disease while 53% knew that Hepatitis C was a liver disease. Furthermore, 31% knew that HBV could be spread through sharp items while 26% knew HCV can be spread through sharp items. In regards to Hepatitis B, 69% knew that it is preventable and 65% of the participants knew that Hepatitis C is treatable. General knowledge on both Hepatitis B and Hepatitis C is low. Primary care physicians should seize each patient encounter as an opportunity to educate their patient on preventive measures.

Keywords: Hepatitis B, Hepatitis C, Knowledge, Primary Care, Komfo Anokye Teaching Hospital

Seroepidemiology of Hepatitis E Virus Infection in an Urban Population in Zambia: Strong Association with HIV and Environmental Enteropathy

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Hepatitis E virus (HEV) infection is a significant public health problem that causes major epidemics of infectious hepatitis in developing countries, with high mortality rates in pregnant women. Recent reports indicate that HEV co-infections with HIV may have a more protracted course. However, the impact of HEV infections in communities heavily affected by HIV remains poorly studied. We set out to examine age-related seroprevalence in a community where we have previously carried out studies on environmental enteropathy. Blood samples from 194 children and 106 adults were examined for IgG and IgM antibodies for HEV. HEV data were correlated with HIV status and morphometric analysis of small intestinal biopsies. Seroprevalence rose throughout childhood, from 8% in children aged 1-4 years, to 36% in children aged 10-14 years. In adults the overall prevalence was 42%, with 28% in HIV seronegative adults and 71% in seropositive adults (OR 6.2; 95%CI 2.2-18; P=0.0001). In children, the univariate logistic analysis showed that the type of vessel used for storage of drinking water in the children’s household was significantly associated with anti-HEV seropositive. In adults, villous height and crypt depth measurements showed that HEV seropositivity was associated with worse enteropathy (P=0.05
and 0.005 respectively). HEV infection is common in Zambia. The study shows that acquisition of HEV antibodies starts early in life and increases with age. In adults, it is strongly associated with HIV status, and also with environmental enteropathy.

The Challenges of Children with Nocturnal Enuresis and its Psycho-Social Effects on the Family in Ibadan Oyo State

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Nocturnal Enuresis (NE) is a condition in which children find it difficult to control their bladder while asleep. It represents a functional difficulty in bladder control in normal healthy children above the age of ten years. It remains a neglected, stigmatized and misunderstood phenomenon in the African context. It becomes a source of shame and anxiety with a reflective effect on self-perception, relationship building and school attendance to many. NE exists in many homes, without being addressed; hence it continues and impinges on the psychological stability of the child and the family. To overcome negative impact on emotional health of the child and relationship building in the family, there is need for early recognition of challenges associated with NE. The aim of the study was to identify challenges of NE on children aged ten to sixteen years and the psycho-social impact on the child and family in a typical African community and suggest appropriate recommendations. This was a descriptive cross-sectional study. Five Local Government Areas (LGAs), from the eleven in Ibadan, were selected by simple random sampling technique. All the Wards in the five LGAs were visited. Two hundred and fifty-two (252) caregivers and 57 children were purposively selected. Instruments for data collection (semi structured questionnaire and self-structured In-Depth Interview Guide) were used to assess reported effect of NE on children and families. Information obtained was summarized and interpreted based on computation of the outcome. Data collected were analyzed using descriptive statistics of frequency, percentage counts and mean. Chi-square and student independent t-test were used to test the hypotheses generated at five percent level of significance. Findings revealed that out of 252 caregivers and 57 children, the prevalence of nocturnal enuresis among male children was 58.3% higher than female 41.7%, 40.5% caregivers understood bedwetting as unconscious urination on bed during sleep at any time. Majority of the caregivers (94.8%) viewed bed wetting above 10 years as abnormal while 94.4% viewed it as behavioral problem and 92.1% considered bed wetting as a problem after nine years of age. Report on self-esteem indicates that many of the affected children expressed feelings of shame and rejection both at home and at school. Hypothetical interpretations showed: significant association between self-esteem and performance at school in children challenged with NE (p<0.05); there was no significant association between caregiver’s understanding of nature of bed wetting and seeking for health care provider to overcome bed wetting(p>0.05); there was no significant gender difference in perception of nocturnal enuresis among caregivers (p>0.05), there was significant association between caregivers classification of NE and psychological effect on the family (worried about the bedwetting) (p<0.05) and there is significant association between caregivers classification of NE and stigmatization in family (p <0.05) and the child. Conclusively, the study revealed specific challenges of NE and psychological effect on the child and family. Based on the findings, there is need to reinforce counseling on NE in school health services.

Keywords: Nocturnal Enuresis, Stigmatized, Psychosocial, Challenge, Children
"I Will Feel Like I Am Talking To God": Exploring Perceptions Towards mHealth Technology for Blood Pressure Control in Ghana

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Sub-Saharan African (SSA) countries including Ghana are experiencing an epidemic of cardiovascular disease (CVD) propelled by rapidly increasing rates of hypertension. Inadequate diagnosis, suboptimal control and non-adherence to treatment of hypertension (HTN) are an emerging major public health concern as the population with HTN in Ghana grows. Mobile health (mHealth) has increasingly been signaled as an effective means to expedite communication and improve medical regimen adherence, especially for patients with chronic health conditions such as HTN. However, data on perception, attitude and expectation of patients with HTN towards mHealth and use for blood pressure control in Ghana is understudied. An exploration of patient’s attitudes and perceptions surrounding 4 domains: 1) experiences and challenges of current HTN management 2) current mobile phone use 3) desired mHealth applications and 4) expectations of and barriers to mobile phone use in blood pressure control was done using focus group discussions (n=7) among 46 patients aged 40 and above with HTN in Kumasi, Ghana. Although all participants had access to mobile phones, less than half had smartphones. The main themes identified related to challenges in blood pressure control were a lack of lifestyle educational messages by the physicians and inadequate physician-patient time spent in the consulting room. The expectations of mHealth use were mainly to provide education on diet and exercise as well as clinic appointments and reminders. Voice calls were preferred to text and video messages. Although all participants found mhealth highly acceptable and usable for blood pressure control, a perceived barrier was fears of mhealth replacing physical consultations with physicians. Patients with HTN are willing to embrace mHealth to assist in the management of their blood pressure particularly for providing educational messages on lifestyle and clinic appointments and reminders.

Keywords: mHealth, Hypertension, mobile phone, Qualitative study, focus group discussions

Development and Testing of a Mobile Health Intervention for Type II Diabetes Control in Ghana

Singh Arti, Nicols Michelle, Singh Bhavana, Owusu-Dabo Ellis et al.

Diabetes is a major risk factor for the growing burden of cardiovascular diseases (CVDs) worldwide, particularly in low and middle-income countries. Sub-Saharan countries, currently experiencing one of the most rapid epidemiological transitions characterized by increasing urbanization and changing lifestyle factors is distinct with socioeconomic obstacles, under diagnosis of diabetes, poor compliance to treatment by people with diabetes and shortage of physicians. Ghana is no exception to this rapidly increasing burden of diabetes. Mobile health (mHealth) for diabetes is making rapid strides and is expected. Self-management is critical to achieving diabetes treatment goals. Interventions to support the effective self-management of diabetes such as mobile technology have the potential to reduce the risk of costly and debilitating complications. The objectives of this study is/are to design a mobile health diabetes control program for patients with type II diabetes in Kumasi, Ghana and to evaluate its effectiveness on glycemic control.
and clinical outcomes. The study will also assess the impact of the mobile health intervention on diabetes knowledge and self-management among patients with type II diabetes in addition to examining the usability and acceptability of the mobile health intervention among type 2 diabetic patients.

**Strategy for Breast Cancer Control in Ghana: The BCI Approach**

*Beatrice Wiafe*

Over 80% of deaths from chronic diseases occur in low and middle-income countries (LMICs). Although approximately 17,000 new cases of all types of cancer occur annually, Ghana has historically had very limited treatment options for cancer patients. As the leading cause of cancer deaths among Ghanaian women, breast cancer has been identified as one of the neglected non-communicable diseases. In 2012, Globocan reported that approximately 2,260 people were diagnosed with breast cancer in Ghana with a high age standardized mortality rate of 11.7 per 100,000. Although, it is acknowledged that early detection reduces mortality, 80% of newly diagnosed breast cancer patients delay presentation. Early detection and prompt treatment has been the focus of Breast Care International (BCI). Since its inception, in 2002, BCI has developed a well-structured outreach program that reaches a significant portion of the population with the goal of demystify the disease and enhance appreciation of women and their role in the society. The objective of the study was to explore the effectiveness of advocacy and information dissemination model that promote early presentation of breast cancer symptoms to appropriate healthcare professional for further evaluation and treatment. Using the community participatory advocacy model as a case study, BCI collaborates with local health organizations, community health nurses, professional groups, and local community to increase knowledge on risk factors, warning signs, value of screening, and early detection techniques. The BCI program has improved the knowledge, attitudes, and practices of breast cancer among the participants, which is exemplified in more women being diagnosed at early stages of the disease. A short community-based breast health educational program might influence early detection of breast cancer.

**Ethiopian Religious Cleric and Traditional Healers Knowledge, Attitude and Practice Towards Epilepsy: The Case of Addis Ababa**

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In Ethiopia epilepsy is perceived by the general public to be caused by supernatural powers. Spiritual and traditional treatments are thus the principal and time-honored treatment modalities for epilepsy than is for physical illness like malaria. Understanding cleric and healers’ knowledge, attitude and practices towards epilepsy is crucial to figure out the mechanisms of epilepsy stigma in Ethiopia. This cross-sectional study characterizes the social and demographic determinants of knowledge, attitude and practices of cleric and healers towards PWE in Addis Ababa, Ethiopia. Six sub-cities were purposively selected from 10 sub-cities of Addis Ababa and a total of 440 clerics and healers were interviewed, 250 Christians and 190 Muslims, by trained data collectors using a pre-tested structured questionnaire. Where multiple responses were allowed, the variable sets were predefined before calculating the multiple response frequencies. The count sum of
the outcome variables were grouped in the categories of “biologically plausible responses” and “culturally plausible responses.” Ordinal regression analysis was performed for each outcome variable against the socio-demographic variables of interest. Religious clerics and traditional healers perceived epilepsy to be caused by evil spirit, demons, evil eye, and witchcraft or as curse of God, or as a mental illness. Spiritual and traditional treatments were thus considered as the principal treatment modalities for epilepsy. The findings of this study are in agreement with similar studies conducted on teachers, students and the general public, where in all scenarios epilepsy is considered to be caused by evil spirit, mental illness, witchcraft or a curse of God; and where the treatment recommendations pertain to the causes identified in ways which are acceptable to Ethiopian cultural context.

Key words: Epilepsy, Clerics, Healers, KAP, Ethiopia

Prevalence and Predictors of Cardio-Metabolic Disease and Association with Antiretroviral Therapy Use in HIV-Infected Adults, Eastern Democratic Republic of the Congo

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The purpose of this study was to determine the prevalence and risk factors of dyslipidaemia and cardiovascular disease in HIV-infected adults. The study was a cross-sectional study. From July to September 2016, a structured questionnaire was administered to HIV-infected adults attending three HIV clinics in Bukavu, Democratic Republic of the Congo. Data on socio-demographic and clinical characteristics were collected. Fasting blood sugar (FBS) and lipids were measured; most recent CD4+ T-cell count was extracted from medical records. Metabolic syndrome (MS) was defined per the International Diabetes Federation (IDF) and National Cholesterol Education Program Adult Treatment Panel III (ATPIII) criteria. Adjusted odds ratio was generated through logistic regression. Of the 495 study participants, 356 (72%) were women: 474 (95.8%) were receiving antiretroviral therapy (ART). The median age was 43 years [interquartile range (IQR) 36-51]. FBS ≥100 mg/dl and low-density lipoprotein cholesterol (LDL-c)>150mg/dl were more prevalent in ART-arm (p=0.05 and p=0.009, respectively). The overall prevalence of MS per IDF and ATPIII criteria were 30%[95%CI, 23%-38%] and 27%[95%CI, 20%-35%], respectively. In a multivariate logistic regression, low physical activity (OR 2.47, 95%CI: 1.40-4.36, p= 0.002); daily exposure to household air pollution (HAP) from biomass of more than two hours (OR 2.18, 95%CI: 1.01-4.68, p= 0.05); ART exposure (OR 7.46, 95%CI: 1.21-45.96, p= 0.03); stavudine containing-ART (OR: 2.57, 95%CI: 1.11-5.93, p= 0.03) and protease inhibitor containing-ART (OR: 2.96, 95%CI: 1.07-8.18, p= 0.04) were independently associated with the MS. MS is highly prevalent among HIV-infected adults in Bukavu. Beside traditional risk factors and the known contribution of certain ART on MS, daily exposure to HAP with cooking fumes is of specific concern. Targeted prevention interventions and avoidance of stavudine-containing ART regimens are critical to decrease the burden of MS in HIV-infected adults.
Global Health: A Scoping Review

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There is a growing interest in global health with its spectrum of definitions and meaning. This has been accompanied by an accelerated expansion of programs and competencies required for contributing to sustainable, transdisciplinary, and systems-based solutions to transnational problems to combat inequity globally and locally. The newly established Department of Global Health at the Faculty of Medicine and Health Sciences at the University of Stellenbosch has undertaken a scoping review with objectives to: (i) provide definition of global health within the context it operates; (ii) describe the research focus of global health; (iii) describe educational programs that are offered in global health; (iv) describe the engagement of Brazil, Russia, India, China and South Africa (BRICS countries) in global health; (v) To describe the engagement of low and middle income countries (LMICs) in global health; and (vi) describe the focus of African institutions on global health. A framework for the scoping review was developed. Inclusion and exclusion criteria were defined. Relevant studies were identified, followed by classification of relevant studies and data extraction and a narrative synthesis of results. The preliminary results of the review indicate that: (i) the majority of the studies were conducted in USA (ii) most studies focused on education (iii) most research methodology was exploratory and curriculum focused (iv) Africa as a continent and UK as a country have the same number of global health research conducted and (v) LMICs and BRICS have the lowest classification with regards to objectives of this scoping review. As the dominant focus of the global health programs is largely about health needs of LMICs, improvement of health worldwide, reduction of disparities, protection of societies against global threats that disregard national boundaries, it is essential that academic institutions work on an equal footing towards the development of a mutual understanding of the scope of global health with a shared education, research and implementation agenda for global health.
OTHER ABSTRACTS
Prevalence and Risk Factors Associated with Tungiasisin Mayuge District, Eastern Uganda

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Tungiasis is an endemic but neglected health problem in Uganda especially in resource poor communities. It is largely affecting rural communities in the Eastern, West Nile and Central regions. This study assessed prevalence and risk factors associated with Tungiasis in Mayuge district, Eastern Uganda. This was a cross sectional study that used a semi-structured questionnaire and observational checklist to collect quantitative data from 422 households in 12 villages. Prevalence of Tungiasis was defined as presence of Tunga penetrans in the skin of any household member at the time of data collection. The prevalence of Tungiasis was 22.5%. However, a big percentage 41.5% of households were reported to have had T. penetrans in the previous month while 49.5% had T. penetrans for more than one month. Majority (90.5%) of the participants used a pin, needle, or thorn to remove sand flea from infected body parts. Having dirty feet (AOR 3.86, CI (1.76-8.34)), dirty clothes (AOR 3.46, CI (2.00-5.97)), cracked house floor (AOR =6.28, CI (3.28-12.03)), dirty floor (AOR 3.21, CI (1.38-7.46)), littered compounds (AOR= 2.95, CI (1.66-5.26)) and rearing cattle (AOR 2.38, CI (1.28-4.45)) were associated with Tungiasis. However, practicing preventive measures (AOR 0.51, CI (0.29-0.90)) was found protective for disease. Tungiasis is still a prevalent health problem in rural communities in Eastern Uganda. There is need to increase awareness regarding improvement in sanitation and hygiene to enable communities’ implements interventions for prevention of T. penetrans.

Key words: Jigger, Jigger Infestation, Prevalence, Household, Uganda

Addressing the Shortage of Health Professionals through Phytomedicine: Anti Malarial Plants Used by Traditional Healers in the Mogovolas District, Northern Region of Mozambique

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The national health system in Mozambique covers only 65% of the population due to shortage of health professionals, financial resources and infrastructure. Phytomedicine, mainly provided by traditional healers is widely used throughout the country, specially, in remote rural districts like Mogovolas to provide health care to the population. This study describes the findings aiming to identify and catalogue some medicinal plants used to treat malaria in Mogovolas district. We interviewed 16 traditional healers between June-August 2015, to access their knowledge about malaria and the plants they use for its treatment. We collected 38 different plants, preserved them in alcohol and sent them to Eduardo Mondlane University, Biological Science Herbarium for identification using dichotomy keys. Half of the interviewed traditional healers were male. The median age of the traditional healers interviewed was 52 years with an average of 19 years work experience. We identified 20 plant Families, comprising 34 Genus and 38 Species. The most used species are Ochna kirkii 5(31.25%) and Pteleopsis myrtifolia 3(18.75%).
were other plants identified such as Senna petersiana and Adansonia digitata. The medicinal extracts were prepared using leaves (37.7 %), roots (31.1 %), barks (26.2 %) and stems (4.9 %). Maceration was the main way used to prepare the medicinal extract with (60%), decoction (25%) and infusion (15 %). Although the most used plants to treat malaria were Ochna kirkii and Pteleopsis myrtifolia, their antimalarial properties are still unknown. Other plants identified in this study like Pterocarpus angolenses and Erythrina abyssinica have antimalarial activity, but pharmacokinetics studies including dosage and duration of treatment deserve further studies. Senna petersiana and Adansonia digitata have antipyretic properties and are widely used in Nigeria and Mozambique. Given the huge fraction of people attended by traditional healers, the limitation of the Mozambique National health System to provide universal health coverage and the emergence of resistance to existing anti-malarial and to another microorganism, phytomedicine studies should be encouraged.

Keywords: Medicinal plants; malaria, Mogovolas-Mozambique; traditional healers; phytomedicine

Pediatric First Aid Practices in Ghana: A Population-Based Survey

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Children in low- and middle-income countries (LMIC) often receive care outside the formal medical sector. Improving pre-hospital first aid has proven to be highly cost-effective in lowering trauma mortality. Few studies in LMIC have examined home first aid practices for injured children. We conducted a representative population-based survey of 200 caregivers of children under-18, representing 6520 households. Caregivers were interviewed about their first aid practices and care-seeking behaviors when a child sustained an injury at home. Injuries of interest included burns, lacerations, fractures and choking. Reported practices were characterized as: recommended, low-risk, and potentially harmful. For common injuries, 75%-96% of caregivers reported employing a recommended practice (e.g. running cool water over a burn injury). However, for these same injuries, 13%-61% of caregivers also identified potentially harmful management strategies (e.g. applying sand to a laceration). Choking had the highest proportion (96%) of recommended first aid practice (e.g. hitting the child’s back) and the lowest percent (13%) of potentially harmful practices (e.g. attempting manual removal). Fractures had the lowest percent (75%) of recommended practices (e.g. immediately bringing the child to a health facility). Burns had the highest percent (61%) of potentially harmful practices (e.g. applying kerosene).While most caregivers were aware of helpful first aid practices to administer for a child injury, many parents also described potentially harmful practices or delays in seeking medical attention. As parents are the de facto first responders to childhood injury, there are opportunities to strengthen pre-hospital care for children in LMICs.
Assessment of Surgical Care Provided in National Health Services Hospitals in Mozambique

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With the passage of World Health Assembly resolution 68.15, “Strengthening emergency and essential surgical care and anesthesia as a component of universal health coverage” in 2015, there is growing interest in developing strategies to scale up surgical care in sub-Saharan Africa. Under the Medical Education Partnership Initiative Surgery Linked Award we assessed Mozambique’s National Health System (NHS) hospitals using surgical indicators developed by the Lancet Commission on Global surgery and recently adopted by the World Bank. We collected data on the number of surgical and anesthesia providers, operating rooms (OR), surgical procedures performed, and the 24 hours post-operative mortality rates (POMR) in all 54 Mozambican public hospitals providing surgical care during the period from July to December 2015. Among the Mozambican hospitals providing surgical care, 30 (55%) did not have an accredited surgeon and 40 (74%) did not have accredited anesthesiologist. The per capita surgical and anesthesia workforce were estimated to be 0.1 and 1.1 per 100,000 people, respectively. The surgical output from the 130 NHS operating rooms was 47,189 surgical procedures (183 surgeries per 100,000 people), with 348 deaths (737 deaths per 100,000 surgical cases). The same day mortality was 99 deaths (210 deaths per 100,000 surgical cases). Non-physician surgeons performed 18,769 (39.7%) of all surgeries. Our preliminary assessment of NHS hospitals in Mozambique illustrates major deficits in the surgical and anesthesia workforce, as well as the accessibility to surgical services. Nonetheless the safeties of the OR are acceptable when compared to other sub Saharan countries with 24hPOM varying from 200 to 600 per 100 000 surgical cases. Given, the Lancet Commission on Global Surgery estimated a minimum target of ~5000 cases per 100,000/year there is also a large unmet need for surgical care. Further research is needed to identify strategies for reducing the POMR and for increasing surgical outputs. Our findings suggest a critical need to develop a national surgical plan in Mozambique.

Key words: MEPI surgery linked award; WHO; Lancet Commission on Global surgery; Mozambique
Accessibility of Prescription Medicine, Perception about COBERS Students and Socio-Demographic Characteristics Associated with Healthcare Seeking at COBERS Health Centres in Northern Uganda

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Medicines are integral parts of the health care as they not only save lives and promote health, but also prevent epidemics and diseases. Limited access to prescription medicines are still experienced by Ugandans. The purpose of the study was to determine the accessibility of prescription medicine, perception about COBERS students and socio-demographic characteristics associated with healthcare seeking at COBERS health centres in Northern Uganda by former patients. A Cross – sectional analytical study was conducted among patients who were treated in the two months prior to data collection in nine COBERS health centres. We used cluster proportional-to-size sampling method to get the numbers of research participants to be selected for interview from each COBERS site and logistic regression model was used to assess the associations. Health seeking before coming to the COBERS health centres was 11.76% (95%CI 10.02 – 13.36%). A total of 1,357 (85.35%) had ever missed prescription medicines due to stock out. 1,054 (91.41%) participants reported that presence of medical students made them access services free of charge. 1,048 (75.83%) participants indicated that health workers always refer them to buy medicine while 982 (87.06%) participants reported that presence of medical students enhance their access to medical care. A total of 1,498 (92.81%) participants were seen by health workers and 1,349 (91.03%) were prescribed medicine for their sickness. Only 884 (63.97%) of the participants accessed their medication. 93 (15.68%) of the participants who missed medicine returned to health centre to collect medicine, 489 (82.46%) bought medicine from drug shops and 11 (1.85%) returned home and used herbs. Socio-demographic characteristics associated with healthcare seeking were: Advanced level of education (AOR= 1.99, 95%CI 1.01 - 3.91, p= 0.046), Tertiary education level (AOR= 3.75, 95%CI 1.20 - 11.76, p= 0.023), Being married (AOR= 1.66, 95%CI 1.07 – 2.60, p= 0.025), Cohabiting (AOR=0.43, 95%CI 0.21 - 0.88, p= 0.021). A low proportion of the participants sought health care elsewhere before coming to the COBERS health centres with their previous illness. Majority of participants were positive about presence of medical students at the health centres during COBERS. Therefore, stakeholders should review the COBERS curriculum and use the elective period for more COBERS exposure so as to reach wider communities. Also, stakeholders should ensure adequate stocking of medication so that patients do not miss them when prescribed and resort to waiting for new stock to arrive or use herbs which may pose serious ill health to them.

Key words: Accessibility of prescription medicine, Perception, COBERS students, Socio-demographic characteristics, Healthcare seeking, Northern Uganda
Assessment of the Nature of Pre-Hospital Care Provided to Road Traffic Injury Patients Reporting at Mulago Hospital, Kampala Uganda.

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Globally, injuries are the leading cause of death with road traffic injuries (RTI) causing most premature deaths and years lived with disability. Post-crash response including pre-hospital care is a key strategy highlighted by the World Health Organization to reduce RTI global burden. However, there is paucity of data on pre-hospital care for RTI patients in Uganda. This study sought to assess the nature of pre-hospital care provided to RTI patients reporting at Mulago hospital. This hospital based cross-sectional study employed both qualitative and quantitative methods of data collection. The study was carried out at the Accident and Emergency department of Mulago hospital. The study population comprised RTI patients. A total of 348 patients were recruited. Four key informant interviews were conducted with patrol traffic officers that brought patients to hospital. Majority of patients were young males aged 18-30 years. Male to female ratio was 4:1. Mean age was 33.2 years (SD±13.8). Approximately 50% of the participants were pedestrians, 54% of the road traffic crashes occurred Kampala district. Pre-hospital care was inadequate. Only 4% (n=384) of the patients received care at the scene while 5% of the patients were transported by ambulance to places of definitive care. The average waiting time for help at the scene was approximately 38 minutes (95% CI; 35.43-41.45). The mean transport time from the scene to the place of definitive care was 72 minutes (95% CI; 66.28-78.31). There was no relationship between injury severity and pre-hospital care provided for the patients. Factors that hinder effective pre-hospital care for RTI patients were poor organization and administration, staff qualification, lack of knowledge and skills, poor infrastructure and unavailability of resource. This study established that pre-hospital care provided to RTI patients reporting to Mulago hospital is inadequate and it is not determined by injury severity.

Frequency of Alcohol Use Among Injured Adult Patients Presenting to a Ghanaian Emergency Department

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Injuries cause almost six million deaths annually worldwide, with 15-20% alcohol-associated. The frequency of alcohol-associated injury varies among countries, and is unknown in Ghana. Any relationship with described general population alcohol use estimates is uncertain. Therefore, we investigated the prevalence of alcohol among the injured presenting to an emergency department(ED) in Ghana. This was a cross-sectional prevalence study of consecutive injured patients aged 18 years and older treated in the Komfo Anokye Teaching Hospital ED. Subjects were 18 years and older, presenting to the ED within eight hours of injury. Patients were excluded if they had substantial blood in the mouth that interfered with testing, minor injuries resulting in referral to a separate outpatient clinic, or death prior to admission. Results of alcohol breath or saliva tests in addition to patient and injury characteristics were measured. Medians and proportions (with 95% confidence intervals (CIs)) were calculated. 2,488 injured patients entered
the sampling frame with 1,085 (43%) included. Thirty-five percent (95% CI 32-38) of these patients tested alcohol positive, with alcohol detected in 53% (95% CI 25-82) of those who died in the ED. The prevalence was greatest among males (42%), adults 25-44 years (40%), drivers (42%), pedestrians (42%), penetrating injuries (44%), assaults (49%), and patients with serious injuries (40%). The frequency of alcohol-associated injury was 35% in this tertiary teaching hospital ED. These findings have implications for health policy, ED and legislative-based interventions, and acute care.

Management of Children with Gastroenteritis and Knowledge of Mothers on the Predisposing and/or Risk Factors Associated with Childhood Gastroenteritis: An Evaluation Study at Tafo Hospital in Ashanti Region, Ghana

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Gastroenteritis continues to represent a significant burden of illness in Ghana. In spite of the knowledge gained by the mothers of children and other clients of Tafo hospital in the Ashanti region, gastroenteritis was the first, among the top ten (10) diseases in the year 2016 of the hospital. It is against this background of the cases and magnitude of gastroenteritis, its associated implications and complications and the need for child safety and health promotion that this research was conducted to ascertain the management of children with gastroenteritis by the health workers; as well as the knowledge of the mothers on predisposing and/or risk factors associated with childhood gastroenteritis at the Tafo hospital in Ashanti. This study was a retrospective review of 30 in-patient records of children affected by gastroenteritis, consecutively admitted to the Tafo hospital’s paediatric service along two years (2015 to 2016) and a prospective assessment of the knowledge of the mothers (of children diagnosed with gastroenteritis at the hospital) on the predisposing and/or risk factors associated with gastroenteritis during a 3-months period (January 2017 to March 2017), using face to face interview guided by a semi-structured questionnaire. Mothers had high level (76.5%) of knowledge of the modes of transmission of childhood gastroenteritis. Almost 24% of the mothers were aware of the risk factors for childhood gastroenteritis that cited poor sanitation and water as the main factors. Approximately 21% of the mothers regarded gastroenteritis as part and parcel of normal growth process and that were caused by several “illnesses”. Of the 47%(14) of children diagnosed with severe dehydration, about 14% (2/14) were correctly classified. Of those diagnosed with some dehydration, about 93%(13/14) were correctly classified. Of those diagnosed with severe dehydration, 65% were not given the correct treatment. About 7% of the children were reported to have bloody diarrhea and received antibiotics therapy for dysentery. Of those diagnosed with some dehydration, 73% were given the correct fluid management. Zinc sulphate tablets were prescribed for almost 83% of the patients admitted with gastroenteritis. The compliance level of Ghana’s national and WHO’s guidelines on management of gastroenteritis was quite good and there is need for improvement. The possibility for reducing childhood gastroenteritis morbidity and mortality resides on a well-informed mother and/or caregiver. There is a need to improve mothers’/clients’ knowledge of preventive measures, predisposing factors of childhood gastroenteritis.
Determinants and Impacts of Professionally Determined Unmet Pharmacy Services’ and/or Practices’ Needs in Ashanti Region, Ghana

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The ability to address health (including pharmacy) systems or services or care needs in Ghana is undesirably changing over time. Unmet service and/or practice needs depict the service and/or practice conditions or resources, as well as policies and technical competence that are required or wanted and have not yet been done or provided. The purpose of this study was to identify critical areas of unmet needs in terms of pharmaceutical services and/or practices; as well as to examine their determinants and impacts on the pharmaceutical and/or health sector's productivity in Ghana. This was a cross-sectional study conducted at both hospital and private community pharmacies in Ashanti region, Ghana. After the critical areas of the unmet needs were identified; participants completed a validated, semi-structured questionnaire from May to July 2015. Sample size was generally included 385 pharmaceutical service practitioners (pharmacists, pharmacy technicians and other persons—pharmacy interns and medicine counter assistants) working in the pharmacies within the study period. A probability proportionate to size (PPS), multi-stage cluster sampling procedure was used to ensure that sample obtained was representative of the overall pharmaceutical service practitioners in the Ashanti region, Ghana. P-value- 0.05 and 95% confidence level. Of the 432 potential responders who received the questionnaires, 385 responded, giving a response rate more than eighty percent (89.1%). The study shows that pharmacy systems in Ghana have general strengths of strong professional competencies (96.6% agreed) and more pharmacists are needed in Ghana (96.9% agreed). For non-recognition of pharmacists’ real value (69.9% agreed). For pharmacists’ future workplace choices: opportunity for advancement, job security and salary were the major determinants. Factors influencing the unmet need were delayed payment of NHIA claims (100% agreed), pharmacists’ unwilling to practice in community pharmacy (49.6% disagreed), the right of non-professionals/physician running their own dispensary/medical stores (94.5% agreed) and lack of incentives for efficient behavior (94.8% agreed). The pharmaceutical service practitioners in Ghana believe that dealing with problems associated with these unmet needs will require better health systems for implementing proven effective measures.

Keywords: Pharmacy practice, Pharmacy service, Pharmacy systems, Red tape, Unmet needs.

Evaluation of Emergency, Anaesthetic and Essential Surgical Capacity in 3 Rural Hospitals in Mozambique

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Conditions that can be treated with surgery account for 11% of the world's disability-adjusted life years. Despite recent data estimating the global volume of surgery there are 234 million surgical procedures annually and significant disparities between procedures performed in high-income and low-income countries. The objective of the study was to assess the current capacity for essential surgical and anaesthesia care in the Rural Mozambique for the purpose of providing a benchmark for critical areas needing improvement. We carried a cross-sectional survey in three country’s secondary referral hospital located in south, center and northern regions of Mozambique that perform primary care in surgery. The WHO Tool for Situational
Analysis to Assess Emergency and Essential Surgical Care was employed to capture the health facility's capacity to deliver surgical and anaesthesia services by investigating four categories of data: infrastructure, human resources, interventions available and equipment. The hospitals serve an average patient population of 337,894 people. Despite that the major surgical procedures were provided at three hospitals (caesarean section, laparotomy, appendicectomy, etc), only 1 (33%) hospital had fully available electricity and none of the three had any area designated for emergency care. Management guidelines for emergency and surgical care were available in 2 (66.7%) hospitals. Furthermore, none of them were able to provide complete resuscitation procedure due to lack of skills, supplies and equipment. Basic supplies for airway management and the prevention of infection transmission were severely lacking in the all hospitals. According to the results of the WHO Tool for Situational Analysis to Assess Emergency and Essential Surgical Care survey, there is a significant gap in the capacity of emergency and essential surgical services in those hospitals including inadequacies in essential equipment, service provision and infrastructure. The information provided by the WHO tool can serve as a basis for evidence-based decisions on country-level policy regarding the allocation of resources and provision of emergency and essential surgical services.

**Keywords:** Surgical Care, Rural Hospitals, MEPI surgery linked award, World Health Organization

**One Year Review of Minor Cardiothoracic Surgery Procedures at the Minor Procedure Room at an Accident and Emergency Centre in Ghana**

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Cardiothoracic surgery, tube thoracostomy, Pericardiocentesis, Pleurodesis, Empyema, KATH (Komfo Anokye Teaching Hospital) The Accident and Emergency Center at KATH is a State-of-the-Art Centre comprising of highly skilled and efficient team of specialists, residents and well-trained nursing staff equipped to respond to patients who need immediate and prompt medical care in all sorts of emergencies. Attached is a Minor Procedure Room for performing minor emergency procedures 24x7 on call support from various specialties including Cardiovascular and Thoracic Surgery. We report a one-year review of cardiothoracic minor procedures performed from March 2016 to May 2017 was analyzed. Data was obtained from the patient and procedure record books. A total of 529 subjects were studied with an average age of 40.05 years; minimum age of 3 weeks and maximum age of 100 years. The most common procedure was tube thoracostomy 81.2% (n=444), followed by chest tube Change 9.5% (n=52), Thoracocentesis 4.45% (24), and Pericardiocentesis 2.7% (n=15). Pleural effusion was the commonest indication 50.55% (n=277), followed by Haemothorax 21.35% (n=117) and Empyema 10.95% (n=60).

The commonest cardiothoracic procedure performed at the minor procedure room at the Accident and Emergency Centre at KATH is tube thoracostomy with the leading indication being pleural effusion.
Promoting Socially Accountable Health Professions Education: The Role of the Network: Towards Unity for Health

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Health professions education in Africa, and indeed globally, requires partnership and organizational support to improve community health. The Network: Towards Unity for Health (TUFH), in official relationship with the World Health Organization (WHO), is a global network of individuals, institutions and organizations committed to improving the health of the people and their communities. With its longstanding history, The Network: TUFH fosters community-oriented innovations, leading to curriculum reforms in education institutions around the globe. The objective of this presentation is to highlight the activities of The Network: Towards Unity for Health in “supporting the development and sustainability of socially accountable educational institutions for health workers through partnerships between those institutions and policy makers, health service organizations, health professionals and communities.” Members connect and collaborate via Online Community, as well as meet face-to-face at the international meetings held each year in a different WHO region, where they become inspired by the multi-institutional projects geared towards improvement of community health. We create partnerships between academic health professions institutions and communities, health services, health providers and their professional organizations, and other health-related sectors. We act locally and internationally, sharing expertise to promote change and change processes, working with Taskforces (Women and Health, Inter-professional Education, Social Accountability and Accreditation, Integrating Medicine and Public Health, Community-Based Care for the Elderly, and Scaling Up and Transforming Health Professional Education). The Network: TUFH has dues-paying member institutions, organizations and individuals, with the vast majority from developing countries. Students, as the future of healthcare are provided with mentors, given leadership training, and contribute significantly to the conversation on global health. Overall, The Network: TUFH provides a platform to promote socially accountable health professions education that would benefit member African institutions and contribute to achieving health for all.

Keywords: Osteomyelitis, cervicothoracic junction, median Sternotomy, Laminectomy

Oral Manifestations and their Correlation to Baseline CD4 Count in HIV/AIDS Patients in Ghana

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Acquired Immunodeficiency Syndrome (AIDS) is a disease of the human immune system caused by the human immunodeficiency virus (HIV). People with AIDS are much more vulnerable to infections including opportunistic infections and tumors than people with healthy immune system. The objective of this study was to correlate oral lesions associated with HIV/AIDS and immunosuppression levels by measuring Cluster of Differentiation 4 (CD4) cell counts among patients living in the Middle Western regions of Ghana. A total 120 patients who visited the HIV
Clinic at the Komfo Anokye Teaching Hospital and the Regional Hospital Sunyani of Ghana were consecutively enrolled in this prospective and cross-sectional study. Referred patients’ baseline CD4 count were obtained from medical records and each patient received and initial physician assessment. Intraoral diagnoses were based on the classification and diagnostic criteria of EEC Clearinghouse, 1993. After the initial assessment, extra and intra oral tissues from each enrolled patient were examined. Data analysis was carried out using simple proportions, frequency and the chi-square test of significance. Our study included 120 patients, and was comprised of 42(35.0%) males and 78(65.0%) females, ranging in age from 21 to 67 years with sex-specific mean ages of 39.31 years (males) and 39.28 years (females). Patient CD4 count values ranged from 3 to 985 cells/ml with a mean baseline CD4 count of 291.29 cells/ml for males and 325.92 cells/ml for females. The mean baseline CD4 count for the entire sample was 313.80 cells/ml. Of the 120 patients we examined, 99(82.5%) were observed to have at least one HIV associated intraoral lesion while 21(17.5%) had no intraoral lesion. Oral candidiasis, periodontitis, melanotic hyperpigmentation, gingivitis and xerostomia were the most common oral lesions. From a total of nine orofacial lesions, six lesions that included oral candidiasis, periodontitis, melanotic hyperpigmentation, gingivitis, xerostomia and oral hairy leukoplakia were significantly correlated with declining CD4 count.

**Work-Related Injuries among Health Workers at the Accident and Emergency Department of Komfo Anokye Teaching Hospital in Kumasi, Ghana**

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Accidental work-related injuries to health care workers remains a significant problem in healthcare systems and accounts for the associated risk of acquiring infections such as hepatitis B, and musculoskeletal injuries with associated productivity losses. The study sought to determine the prevalence of work related injuries (WRIs) and the underlying risk factors that lead to WRI among health workers at the Accident and Emergency (A&E) Department of Komfo Anokye Teaching Hospital (KATH). This was a cross-sectional study comprising of health workers at the accident and emergency department of KATH was done. Simple Random sampling was used to select 200 respondents between November and December 2016. A structured questionnaire was used to collect data. We applied a descriptive and inferential statistics on study variables. Bivariate logistics regression model was used to unearth the risk factors of WRI's. The prevalence of work related injuries among health staff studied was 52% with wards being the area most people get affected. The commonest injuries encountered by respondents were needle prick (52.88%, n=55/104) and splash of blood (36.54%, n=38/104). The risk of work related injuries increased among alcohol drinkers (OR=3.14, p=0.02), and staff exposed to; persons with infectious diseases (OR=3.14, p=0.01), corrosive chemical (OR=2.19, p=0.03), anaesthetic agents (OR=2.26, p=0.03) and carcinogenic substances (OR=2.57, p=0.01). The study has revealed that work-related injuries of different forms are common among health workers at the A&E department of KATH. Health staff who drink alcohol, those working with sharps and those exposed to chemical agents are most at risk.

**Keywords: injuries, health staff, Kumasi, Ghana**
Characterization of the Steady State Concentrations and Pharmacogenetics of Atazanavir in Kenyan HIV Positive Patients

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Atazanavir is a protease inhibitor used as a second line agent in HAART. Its pharmacokinetics are highly variable. A paucity of Kenyan data on its pharmacokinetics, pharmacogenomics and prevalence of hyperbilirubinemia exists. The objective of this study is to determine the relationship between peak and trough steady state plasma concentrations of atazanavir and hyperbilirubinemia, and whether single nucleotide polymorphisms in cytochrome P450 subfamily 3A5 (CYP3A5) are associated with higher atazanavir plasma concentrations and a greater risk for hyperbilirubinemia in Kenyan HIV positive patients. We shall conduct a cross sectional study enrolling up to 109 male and female HIV positive patients on atazanavir from two hospitals; Kenyatta National Hospital and Mbagathi District Hospitals. Participants will be above 18 years and shall provide written informed consent. We will abstract data from patient files, conduct interviews and obtain blood samples at timed intervals. Genotyping and liver function tests samples will also be drawn. High performance liquid chromatography with ultraviolet detection will be used to determine plasma drug concentrations. Analysis will be done in R i3.8.6 version 3.3.1 with the level of significance set at ≤ 0.05. Our findings will demonstrate whether Kenyan patients on atazanavir are being adequately dosed, and whether dosage revisions are required. Additionally, the role of genetics in the disposition of atazanavir and risk of hyperbilirubinemia will be determined.

Factors Affecting the Utilization of Tuberculosis Contact Tracing Program in Mulanje Andchiradzulu District Hospitals in Malawi

Caroline Masangalawe, Gershom Chongwe, Monde Muyoyeta

Tuberculosis (TB) remains a serious threat to the public health especially in the sub-Saharan African countries. The World Health Organization (WHO) in 2014, estimated that there were 9.6 million incidents of TB cases globally. Malawi is also burdened by TB disease. Currently, WHO recommends contact investigation in two high-risk populations for low and middle income countries. However, in the vast majority of countries, it is either not undertaken or not implemented. Malawi which is a low income country, also adopted contact investigation as one of its strategies in the fight against tuberculosis. However, the policy is not followed in most hospitals. This study aimed at determining factors affecting utilization of contact tracing services in Mulanje and Chiradzulu district Hospital among pulmonary TB patients in Malawi. It was a cross section study which took place between November 2016 to February 2017 and the sample size was 404. The results showed that 44.8% index cases brought at least one household contact for screening. All health workers involved in this study inform patients about contact screening and over 95% of them were very knowledgeable about this service. On the determinants of TB contact tracing, the participants who were between the ages of 26-35 had low chance of bringing their house hold contacts for screening compared to those below age of 25 and below in age (AOR 0.3, P=0.031, 95%CI 0.1,0.9). Participants who were informed about contact screening, had an increased chance of bringing their household contact for screening than those who were
not informed (AOR 6, P=0.006, 95%CI 1.8, 20.8) so was being a husband or a child to the index case (AOR 8, P=0.044, 95%CI 1.1, 8.3). Participants who were coming from Chiradzulu district hospital had a less chance of bringing household contacts for screening than those from Mulanje (AOR 0.37, P=0.009, 95% CI 0.2, 0.7). This study concludes that less than half of the TB patients brought at least one household contact for screening. Health workers are well knowledgeable about TB contact tracing and reported that they inform and teach patients about TB and TB contact tracing. However, TB patients reported that they are not informed about these services. This shows some discrepancy from the two groups of participants in this study. We recommend a fidelity study to evaluate if health workers carry out contact tracing program accordingly and make amendments depending on these findings. Hence reducing further spread of pulmonary TB.

Key words: Contact investigation; underutilisation; determinants

Compliance and Early Uptake of Iron and Folic Acid in Pregnancy: An Operational Research Study in Zambia under the Scaling Up Nutrition (SUN) Fund

Mumbi Chola

Anaemia is particularly a problem of health concern among pregnant women in Zambia. About one out ten women experience iron deficiency anaemia during pregnancy. To control the deficiency, women are supported with universal supplementation of iron and folic acid through antenatal clinics. However, due to limited data it is difficult to establish if women benefit from the supplementation. This research was done to determine factors that influence compliance and early uptake of iron and folic acid among women in Zambia. This was a mixed method cross sectional study conducted between August and September 2015. Data was collected from six purposively selected districts namely, Kasama and Kaputa (Northern Province), Chipata and Lundazi (Eastern Province) and Mongu and Shangombo (Western Province). Multistage cluster sampling was used to select 426 males (ages between 15-59 years) and women (aged between 15-49 years). A structured household questionnaire was used to collect data. Ethical approval was obtained from ERES Converge in Lusaka. A total of 426 respondents (75% females and 25% males) participated in the study. Majority (80%) of participants were married. ANC attendance was almost universal (98%) although only 28% of the women attended ANC in the first trimester with 63% attending in the second trimester. With regard to frequency of attendance, slightly over one third (34%) attended ANC 4 times while 30% had attended ANC 3 times and very few (14%) had attended 5 times. There was no significant difference in ANC attendance among the different age groups or by district. Almost all women (97%) reported taking iron tablets during their last pregnancy, with 63% taking the iron during for the first time in their second trimester, and about 29% during the first trimester. Almost all (99%) women obtained their iron tablets from the health facility. Similar patterns were observed with Folic Acid. About 63% of the women reported first taking folic acid in the second trimester while only about 29% first took folic acid in the first trimester. Fourteen percent of the women reported not taking all the tablets they were given and reasons given for not taking the tablets included bad taste, nausea and bad smell. Some lost them, forgot to take the tablets or thought they were not important. Others indicated that they were told they would have no energy if they took the tablets. Results from the Fisher’s exact test for association showed no association between taking folic acid and the women’s age (p=0.110), marital status (p=1.000), education level (p=0.079) and parity (p=0.216). The study found that uptake of iron and folic acid occurred late in pregnancy than the recommended period.
Although uptake was high, compliance was a challenge at a practical level due to forgetfulness, misconceptions, restocking challenges for women and lack of knowledge of alternatives sources. It is clear that iron and folic acid uptake and compliance needs to be promoted hand in hand with early institution of ANC and regular attendance for optimal maternal outcomes.

**Caregivers and Health Care Providers’ Perceptions, Fears and Concerns Towards Multiple Injections: A Qualitative Case Study of Zambia**

*Mumbi Chola, Charles Michelo, Chama Mulubwa, Givas Kalangu et al.*

Since the first tetravalent combination introduced into Expanded Program on Immunisation (EPI) in 2005 in Zambia, several vaccines have been added to the immunization schedule. However, the perceptions and concerns of parents and health care providers towards multiple injections in Zambia are not well known. We aimed at exploring perceptions, fears and concerns of parents/caregivers and health workers’ towards multiple injections in Zambia. An explorative qualitative case study was conducted between March and April 2015 in 5 districts of Zambia. Focus group discussions and in-depth interviews were conducted among caregivers, health workers and opinion leaders. Perceptions on multiple injections and fears and concerns towards multiple injections were explored. Data was managed using QSR NVIVO-9 and analyzed thematically. Majority of parents perceived injections as important for the prevention of diseases. However, parents expressed fears and concerns about pain, swelling and high temperature that children have after injections, crippling of the child from multiple injections, site of the injection and how to carry the child who was in pain over long distances from health facilities. Parents also indicated that due to inadequate skilled providers, multiple injections may lead to possible errors and compromise quality of care. Health care providers were also concerned about the pain children experience after receiving injections, inadequate skilled providers to administer the injections and failure to complete immunization schedules by parents. Both parents and health care providers in Zambia have fears and concerns towards multiple injections for immunizations. However, despite these concerns, parents believe that prevention is better than cure. Therefore, effective and optimal implementation of communication strategies that contain key messages aimed at allaying fears and concerns raised by both caregivers and health workers should be considered significant before introducing a new vaccine.

**A Systematic Review of Factors that Shape Implementation of Mass Drug Administration for Lymphatic Filariasis in Sub-Saharan Africa**

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Understanding factors surrounding the implementation process of mass drug administration for lymphatic filariasis (MDA for LF) elimination programmes is critical for successful implementation of similar interventions. The sub-Saharan Africa (SSA) region records the second highest prevalence of the disease and subsequently several countries have initiated and implemented MDA for LF. Systematic reviews have largely focused on factors that affect coverage and compliance, with less attention on the implementation of MDA for LF activities. This review therefore sought to document facilitators and barriers to implementation of MDA for LF in sub-Saharan Africa. A systematic search of databases PubMed, Science Direct and Google Scholar
was conducted. English peer-reviewed publications focusing on implementation of MDA for LF from 2000-2016 were considered for analysis. Using thematic analysis, we synthesized the final 18 articles to identify key facilitators and barriers to MDA for LF programme implementation. The main factors facilitating implementation of MDA for LF programmes were awareness creation through innovative community health education programmes, creation of partnerships and collaborations, integration with existing programmes, creation of morbidity management programmes, motivation of community drug distributors through incentives and training, and management of adverse effects. Barriers to implementation included the lack of geographical demarcations and unregistered migrations into rapidly urbanizing areas, major disease outbreaks like the Ebola virus disease in West Africa, delayed drug deliveries at both country and community levels, inappropriate drug delivery strategies, limited number of drug distributors and the large number of households allocated for drug distribution. Mass drug administration for lymphatic filariasis elimination programmes should design their implementation strategies differently based on specific contextual factors to improve implementation outcomes. Successfully achieving this requires undertaking formative research on the possible constraining and inhibiting factors, and incorporating the findings in the design and implementation of MDA for LF.

Key words: Lymphatic filariasis, Mass drug administration, Implementation, Barriers and facilitators, Sub-Saharan Africa

Palliative Care Aspects in Patients with Alzheimer’s Disease in Uganda

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Alzheimer’s disease (AD) is estimated to affect 46.8 million people worldwide. This number is expected to double every 20 years. Among the elderly are other chronic illnesses most of which have no definitive cures and could benefit from palliative management for improved quality of life. There is scanty literature about the magnitude of this problem in the Ugandan setting. We set out to determine the burden of stress and coping of the caregivers of patients with Alzheimer’s disease dementia in Uganda. We sampled villages in Busukuma and Nansana Municipality communities of Wakiso District. Village health officers introduced the study team to the elderly in the community. The participants were interviewed in their homes by 3 research assistants. We used the 10/66 short dementia tool to determine dementia and also assessed for chronic ailments. Data was captured using a computerized tool on Samsung tablets. Preliminary statistics have been evaluated using descriptive statistics that were determined by univariate analysis. We enrolled 115 participants. The age range was 60-101 years with a mean of 70 years. They were mainly living with their children or spouse. The HIV prevalence was 6.9%. Half the participants had arthritic pains and moderate to severe eye sight impairment however hearing was not impaired. Details of the rest of the statistical analyses will be shared. The elderly do not only have dementia as the commonest ailment but they also suffer from multiple chronic illnesses for which there is need for palliation.
Requirements for Developing a Nationwide Health Professions Tracking System

Kalay Moodley

The evidence base on the quantity, quality and tracking of human resources for health (HRH) globally is lacking due to poor institutional capacity to collect and use data for HRH development. This research aimed to survey the HRH landscape in SA to better understand the data collected and systems utilized by the various national organisations to ascertain to what extent information can be pooled together to answer key questions on HRH. The objectives for this research aimed to assess the information collected by national stakeholders; the relevance of the information; the systems interoperability and accuracy of data collections. Qualitative research design was employed to conduct semi-structured interviews and document analysis in 5 institutions collecting information on HRH. Purposive sampling identified the key stakeholders. Thematic content analysis was undertaken from codes derived using a qualitative analytics tool (Atlas ti). All institutions collected information on HRH, which was not standardised between organisations. Information was duplicated and rarely shared between stakeholders. There was no automated process for obtaining data on key HRH questions such as the current stocks and flows of the various health profession cadres in SA. A glaring gap in all organisations was the lack of tracking of HRH annually. Although 2 health professional councils have started an online annual registration system to collect current HRH data, there is no single database that draws information for all health cadres. A comprehensive data collection system on all health professionals is lacking in SA. Based on these findings and understanding the interoperability of each organisation, an application was created that facilitate the standardisation of HRH data between organisations. This will facilitate the collection and collation of data across multiple sectors to inform HRH training, development and retention and link HRH data to broader health outcomes.

Clinical Indicators for Predicting Mortality in Patients with Suspected Sepsis Presenting with Respiratory Symptoms

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Sepsis is a major presentation to the Emergency Department (ED) of which respiratory emergencies accounts for the majority of these cases. Some of these patients die during their medical care. Twenty percent of people die from respiratory diseases and a third of these are attributable to infection according to the British Thoracic Society. There is limited experience in the use of clinical predictors of mortality in patients with septic respiratory emergencies especially in low resource settings. This study sought to identify clinical predictors of mortality in patients with suspected sepsis presenting with respiratory symptoms at KATH ED. An observational study carried out from August 2017. Study participants above 18 years were subjected to eligibility criteria and consented before being recruited into the study. All patients were triaged using the South African Triage Scale (SATS). Medical records of participants including their vital signs, diagnoses and outcomes were abstracted retrospectively. Patients were followed upon discharge. Analysis was done using Stata 13. 147 patients met the inclusion criteria, consented and were recruited into the study. Mean age of patients was 49.9 years (males: 50.3; females: 49.6). Fever (73%), headache (50.4%), rigors (48.9%), cough (31.4%), and shortness of breath (27.7%) were the top complaints presented by patients. The mean respiratory rate was 26 cpm (SD 6.8cpm),
heart rate 114 bpm and systolic blood pressure 134 mmHg. The average length of stay was 8 days. Using the quick sequential (sepsis related) organ failure assessment (qSOFA) score as a model for risk stratifying patients, 36 % (53 patients) had high qSOFA scores. Cross-tabulating qSOFA with SATS, 82.1% of patients who triaged Red – high acuity, had high qSOFA scores followed by 31% of Orange patients and 16% of Yellow patients. Using the Mortality in Emergency Department Sepsis (MEDS) Score for predicting disease severity among patients with respiratory symptoms, 14% of patients were very low risk, 22% low risk, 34.7% moderate risk, 28.6% high risk and 1.4% very high risk. 92% of patients with severe sepsis had moderate risk MEDS scores and higher; 62% of patients diagnosed with sepsis had moderate risk MEDS scores and higher (Fisher’s exact 0.075). Patients triaged to Red zone had higher MEDS scores compared to Orange and Yellow. The odds of mortality for a one unit increase in MEDS score was 0.9 (p-value = 0.003). Logistic regression analysis of the components of the MEDS score model found age above 90 as a significant predictor of mortality among study participants (p-value = 0.001). It is useful to identify patients at the time of admission who are likely to have poor outcomes. In a low resource setting, the ability to identify significant mortality risk among patients early in their disease processes may not only allow for the initiation of more aggressive and specific therapies to impact survival but may also help in judicious resource allocation.

POST- MEPI Progress in Mental Health in Zimbabwe

Walter Mangezi

In 2010 the centralized Mental Health Services of Zimbabwe had 7 Psychiatrist with only one Psychiatrist servicing the Department of Psychiatry at the University of Zimbabwe. The sub-specialities (i.e. child/adolescent, forensic and community) did not have formal service deliveries. On this background in 2010 Zimbabwe was granted a mental Health MEPI sub-award called Improving Mental Health Education and Research in Zimbabwe (Imherz). Imherz focused on capacity building using a model of having a triangular mentorship were a local Psychiatrist, an external Psychiatrist in a sub-speciality and a Zimbabwe trainee Psychiatrist collaborated. Together they planned a master-class a week long for all mental health cadres, an exchange programme were the Zimbabwe Psychiatrist and trainee would visit the sub-speciality services in the country of the external sub-speciality specialist and this would be followed by the setting up of Zimbabwe sub-speciality services. MEPI has produced two Psychiatrist based in each of the sub-specialties and we now have smooth sub-specialities services. The increased mental health activities have increased psychiatrist trainees from an average of a total of 2 trainees per year before 2010 to 11 trainees in 2017. Imherz has been consolidated by the award of a second MEPI grant which has 1 Psychiatrist in the department of Psychiatry working towards his PhD. Zimbabwe was awarded a Welcome Trust grant in 2016 called African Mental Health Research Initiative (AMARI) which aims to recruit 47 PhDs and 9 post-doc fellows in four countries Malawi, Ethiopia, South Africa and Zimbabwe. Zimbabwe has recruited 6 PhD fellows from the different mental health cadres in the Mental Health team and 2 post-doc fellows. AMARI is developing a team of mental health practitioners who will work together and grow an African Mental Health Research Hub.
POSTER PRESENTATIONS

“All In All, At The End Of The Day You Find That You Have Achieved Professionally, You Have Improved”. Involvement of Health Facility Staff in Community-Based Education Impacts Their Professional Practice

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During community-based education (CBE), students participate in the provision of health services as they learn. In the CBE model implemented by the Uganda MESAU institutions, health workers of the host health facilities are responsible for the students’ day-to-day activities while faculty of the MESAU institutions carry out supervisory visits. Although CBE has been implemented in Uganda since the 1990s, the effect on health workers of participating in students’ activities during CBE have not been documented. The aim of the study was to describe how professional practice of health workers at the facilities where students are placed for CBE is affected by their involvement in CBE. We carried out Key Informant Interviews (KIIs) with 34 health workers at 12 health facilities that had hosted students for the first time. The key informants included the in-charges of the health facilities and at least one other health worker directly involved in students’ activities. The KIIs were conducted between August 2012 and January 2013 after CBE placements. The KII transcripts were analysed using Atlas.ti version 7. Health facility staff stated that they were involved in teaching and supervision, mentorship and in imparting practical skills. From the perspective of the health workers, being involved in students’ activities brought about improvements in the health workers’ confidence, in their interaction with the communities they serve and in their work ethic. Some health workers reported that they learn from the students while others were inspired to consider undertaking further studies. At some facilities, the presence of students was a motivator for continuing medical education sessions. Participation of health workers in students’ activities during CBE placements has a positive impact on the health workers. A closer partnership between the MESAU institutions and the CBE facilities could further enhance the positive effects documented here.

Key words: Community Based Education, Continuing Medical Education, Health Worker

Bleaching (Skin-Lightening) among Senior High Students in the Brong Ahafo Region of Ghana

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The habit of skin-lightening (SL) is global and persist despite warnings about harmful health effects. Adolescents are vulnerable and at risk of the adverse effect of prolonged use of SL products. Very little is known about SL among adolescents in sub-Saharan Africa. We used a self-administered questionnaire in a survey among randomly-selected female students in five Senior High Schools in the Brong Ahafo Region of Ghana to explore the practice of SL. We determined the prevalence of SL and used bivariate and multivariate analysis to identify factors associated with the practice. Four hundred and ten students with a mean age of 17.6 (+1.6) participated
in the survey. While 71.5% students indicated that they had been approached by relatives and
friends to use SL creams, 65.6% admitted to actually using it. Most (85.5%) students could identify
at least 5 friends who were using SL products at the time of the survey. Between 22.0 – 44.0%
of students knew female teachers who practiced SL. Students in first year were nearly twice as
likely to practice SL compared to students in third year (OR=1.90 95% CI 1.15-3.13). Compared
with those who had never been approached students who had been approached by relatives
and friends to use SL products were likely to be using it (OR=2.24, 95% CI 1.43 - 3.53) Students
who had sisters who used SL products were also nearly twice as likely to be users themselves
(OR=1.82, 95% CI 1.12 - 2.95). The practice of SL among female students in this study is high
and about same as reported among adults in Ghana and other parts of sub-Saharan Africa. This
suggests the practice is well-entrenched. A ban on the sale of SL products to adolescents in
Ghana should be considered.

Decompressive Laminectomy Via Median Sternotomy Approach for Treatment
of Upper Thoracic Vertebral Tuberculosis in Ghana

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Direct anterior approach to the cervicothoracic spine (C7-T4) poses a technical challenge
in neurosurgery, due to the presence of important neurovascular structures anterior to the
cervicothoracic junction (CTJ). Median Sternotomy approach is a surgical option that allows for
direct anterior exposure of the lower cervical and upper thoracic vertebrae. We report the first
case from Ghana, West Africa as far as we know, of a young man who developed post-tuberculosis
osteomyelitis of upper thoracic (T1-2) vertebrae with cord compression after spinal tuberculosis
in childhood. He underwent a full median Sternotomy for Anterior Decompressive Laminectomy
and fusion of C7-T2 with autologous iliac crest bone graft. We detail our operative procedure and
review the relevant literature. The anterior approach to directly access the pathologies of the
lower cervical and upper thoracic vertebrae via a full Median Sternotomy is a safe and effective
surgical approach option. Full Median Sternotomy is simpler, provides better exposure and it
does not complicate the shoulder girdle. The incision can also be extended caudally and cephalically.

Water Quality Assessment at the Asante-Akyem North and Central Districts in
Ashanti Region Ghana

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Clean water is an important life sustaining commodity and good for health. Newspaper reports
and other publications from the Assemblies of Asante-Akyem North and Central Districts suggest
that water resources used for drinking and domestic purposes are mostly polluted, due to illegal
mining activities and indiscriminate disposal of household waste into the environment. This study
was aimed at assessing the water used by the indigenes for drinking and domestic purposes, to
ascertain its quality and safety. Different methodological approaches were used for the relevant
data. Household survey was done to determine the types of water used for drinking and domestic
purposes. Based on that, harvested rain, sachet and tap water, water from wells and streams were sampled and analyzed for heavy metals, microbial contaminants and the toxicological effects of these pollutants on zebrafish embryos. pH of the various water samples ranged from 4.6-6.8 and conductance within 12-366µS/m. Amoxicillin, metronidazole, paracetamol and salicylates were pharmaceutical residues that were detected in water sourced from streams and wells around the streams. Lead and mercury were detected in some of the water sources including sachet and tap water. E coli, indicating fecal contamination was also detected in samples from streams and tap water. Twenty nine percent (29%) of the water samples, mostly stream and well water, were found to be toxic to zebra fish and its embryo. Most of the water resources used for drinking and domestic purposes were contaminated with heavy metals, pharmaceutical waste and coliforms. Water for drinking and domestic use in the study area must therefore be effectively treated, detoxified to improve its safety.

A Six-Year Review of Orofacial Human Bites at the Komfo Anokye Teaching Hospital

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The orofacial region of the human body is usually not protected during a fight, making it prone to injuries including human bite. Patients with human bite injury are often either intoxicated or are known to their assailant, and this makes the process of obtaining a reliable history especially about the aetiology difficult. In 2002, a study estimated the rate of infection secondary to human bite to be about 10%. The aim of this study was to review orofacial human bites seen at our unit and determine the aetiology, clinical presentation, anatomic location, treatment and outcome. This was a retrospective study. Medical records of consecutive patients seen during the six-year period (2009 to 2014) were reviewed. All patients had a history of human bite. Information gathered from their medical records included age, sex, occupation, assailant, location of bite and the relationship with the assailant. Treatment and outcome after two months were also evaluated. The information was coded to mask the identity of the patients. Cleaned data from excel was exported into SPSS II for descriptive analysis. 127 patients were seen over the six-year period, comprising 31 males and 96 females, giving a male to female ratio of approximately 1:3. Age range for females was 15-61 years with an average of 29.9 years; and the range for males was from 17 to 60 years with an average of 30.2 years. All the cases resulted from a fight and most of the offenders were known to the victims. Majority of the cases, except those infected at the time of presentation, were treated on the same day under local anaesthesia following anti-tetanus and antibiotics prophylaxis. Early repair is recommended, accompanied by good oral hygiene, and broad-spectrum antibiotics.

Keywords: human bite, orofacial, assault, lip, nose
Epidemiological Characteristics of Patients Presenting with Suspected Sepsis to KATH Emergency Department

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Sepsis is an important cause of morbidity and mortality globally in patients attending the emergency department.

This study sought to determine the epidemiological characteristics of patients presenting with suspected sepsis to the Komfo Anokye Teaching Hospital Emergency Department (KATH ED). An observational study of patients with suspected sepsis was carried out in July, 2016 in KATH ED. Patients above 18 years who met the inclusion criteria were recruited. All patients were triaged using the South African Triage Scale (SATS). Medical records of patients were abstracted retrospectively for demographic and clinical details. Preliminary data from this on-going study was analyzed using Stata 13. 147 patients have been consented and enrolled into the study. Females were 56% (83/147) and males 44% (64/147), with a mean age of 49.6 and 50.2 respectively. Concerning distribution across decades, the data demonstrates a consistent frequency from the third to the eighth decade, peaking in the fifth decade. Most patients (89.8%) had secondary school education or lower. Fever, chills, headache, cough, fatigue and shortness of breath were the top complaints presented by patients. A greater number of patients were self-referred (46.3%) than referred from a hospital (33.3%), or private clinic (17%). Hypertension, previous CVA, chronic renal failure and dyslipidaemia were the most common co-morbidities among enrolled patients. About a third of patients presented with altered mental status at enrolment. Most patients (37%) were triaged to Orange – intermediate acuity, 23% to Yellow – mild acuity, and 20% to Red – highest acuity zones. 134 (91%) of the patients had confirmed sepsis, 8% (12) had severe sepsis and one patient met the SIRS criteria without a septic focus. 8.6 % of patients who were diagnosed with sepsis were HIV positive. The mean length of stay was 7.6 days with the maximum length of stay being 29 days. Twenty-four percent (34) of patients enrolled died in hospital and 8% died after discharge. 64.3% of patients triaged to Red died compared to 24% in Orange and 23.3% in Yellow (Fisher’s exact 0.002). Sepsis constitutes a significant burden of morbidity and mortality across a wide age range of patients attending KATH ED. Further studies should be carried out to understand the contributory factors, to establish causal relationships, to improve risk stratification, thereby reduce the clinical impact of sepsis.
Wound Healing Effect of Propolis at the Komfo Anokye Teaching Hospital, Kumasi Ghana

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Propolis is an ancient healer and natural immune system booster from BEES. It is rich in antioxidants which are responsible for its broad healing properties. With over 200 bioflavonoids, it has anti-bacterial, anti-fungal, anti-viral, anti-inflammatory, anti-cancer and tumor effects on the human body. Propolis burns fats and cholesterol, regulates blood pressure and sugar levels and helps detoxify the body. The above scientific findings motivated initial treatment of various wound cases at the Komfo Anokye Teaching Hospital, Kumasi, Ghana from December 2016 to May 2017. Categories of Patients included those with: Chronic Non-healing ulcers, Infected ulcers, Diabetic ulcers, Post-surgical patients requiring wound care of incision sites, and Traumatic Ulcers. Wounds of test patients were treated with Stingless Bees (Meliponula bocandei) Propolis solution with their permission. Exposed wounds were cleaned with normal Saline and then cleaned with propolis solution. Wounds within cavities had propolis solution poured into them. Superficial wounds were just dabbed and wiped with propolis-soaked gauze. Propolis-Soaked Gauze was then directly applied to the wound and packed with dry gauze before Crepe Bandage or plaster was applied to secure the dressing in place. Wounds were inspected daily or alternate daily depending on the doctor’s directive based on the nature of the wounds. Observations showed that in about 99% of the cases, the wounds that were previously covered in slough were noticed to be improving with the formation of healthy pink granulation tissue and a reduction in the amount of slough. After 3-10 days of usage, 98% of these wounds had formed healthy pink granulation tissue totally devoid of slough. Stingless bee propolis produced at the International Stingless Bee Centre (ISBC) has proven to be effective in wound treatments.

Key words: propolis, stingless bees, wounds, ulcers, cancer, slough

Chikungunya or Sepsis: Expanding the Differential Diagnoses for Fever


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Febrile illnesses are one of the common presentations seen in the Emergency Department (ED) worldwide. In Ghana, malaria ranks high in differential diagnosis of fever. However, there are emerging tropical diseases which mimic malaria and one of them is Chikungunya, an arthropod-borne viral disease. This is a rare disease which tends to present as joint aches with general malaise. Published mortality for this disease is around 5%. The presentation and management of two cases of Chikungunya recently diagnosed in the emergency department at KATH are described. This was an observational study that commenced in August 2016 at the KATH ED. Study participants were all screened using rapid diagnostic test (RDT) kits to detect six infections including Hepatitis A, B, and C, Chikungunya, Dengue fever and Malaria. The first patient was a 74-year old male with no known chronic medical illness who presented with reduced level of consciousness, neck pain and cough of one week’s duration. Physical examination revealed a febrile, pale, dehydrated gentleman. There was right sided lung consolidation. The blood culture was negative for growth. He was treated with antibiotics, fluids and antipyretics. The second case
was a 57-year old female with hypertension and diabetes who presented with a two-day history of difficulty breathing and fever. Blood culture isolated Staphylococcus aureus, and urine culture isolated E. coli. She was treated with antibiotics, fluids and antipyretics.

Both patients tested positive for Chikungunya but negative for all the other tests by RDT panel; they both died in the hospital, the first died after 18 days of admission and the second, after five days. Chikungunya virus is transmitted by the Aedes aegypti and Aedes albopictus mosquitoes which also transmits Dengue, Zika and yellow fever viruses. Similarity of Chikungunya to other febrile illnesses calls for careful consideration of a wider differential diagnosis. The reported rarity probably obscures a higher prevalence because the vector is present in Ghana. Apparent high mortality in these cases raises the possibility of a mutant strain. Emergency departments in low resource settings, given the availability of inexpensive RDTs, can play an important role in the public health surveillance of emerging tropical diseases.

Assessing Student Progress During Practical Rotations with Logbooks – An Evaluation of Findings from the MI Programme of Chainama College of Health Sciences, Lusaka, Zambia

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Medical Licentiate Practitioners (MLs) are trained at a Bachelor of Science (BSc) level to perform a range of clinical tasks independently. The last two years of training are practical rotations in the four specialties Internal Medicine (IM), Surgery (S), Paediatrics (P), and Obstetrics/Gynaecology (OG). As part of the continuous assessment, logbooks were introduced in the academic year 2015/16 which are meant to be used in both junior and senior clerkship rotations. For each specialty 64 logbooks were analyzed regarding structure, average activities/procedures completed, proportion of students who completed less than 50% of activities (since only one year was analyzed), and any other remarkable findings. The number of different activities/procedures students were supposed to perform was 21 for IM, 10 for P, 27 for S, and 36 for OG. Logbooks for IM, P, and OG also contained sections on overall performance and recommendations. The average proportion of activities completed ranged from 54% (OG) to 80% (IM); the proportion of students who failed to complete 50% of activities ranged from 16% (IM) to 41% (OG). Recommendations were missing in 80% of IM logbooks, and up to 25% of logbooks were incompletely filled by students. Moreover, more than half of all logbooks were signed in bulk by the mentors. Since logbooks are designed to monitor two years, but only evaluated over one year, the evaluation was limited. On average, students managed to perform more than 50% of procedures, as would be expected within one year. However, there was a wide range of numbers, with a substantial proportion of students not fulfilling the requirements. Logbooks were not filled and signed consistently by both students and mentors, which reflects poorly on their credibility. Moreover, there is little to no information on the actual performance of the students.
Evaluating a Coaching & Mentoring Model for Healthcare Management Capacity Development in the Overberg District

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Health systems strengthening is a national priority to prepare for Universal Health Coverage, focusing on improved leadership and governance. In 2012, a needs assessment survey with healthcare managers in Overberg District indicated a need for support for leadership and management to improve quality of service delivery. Together with district management, it was decided to implement a model of coaching and action learning for operational managers, focusing on reception services. The aim of the study was to evaluate whether coaching skills training improved leadership and management in clinics. A process evaluation assessed the coaching approach, content of the training and implementation. Frameworks of realist evaluation and most significant change informed the outcome evaluation. Identification of coaching objectives, key informant interviews and focus groups with primary health care managers and operational managers were done to obtain an in-depth understanding of their experience of the coaching and mentoring activities and to identify facilitators and barriers. Coaching opened up options as mental frameworks were revealed: “nurses are expected to diagnose and have answers”. This could translate into an inflexible, authoritarian command and control style management practice, as current managers have not had formal management skills training. Introducing coaching as a management skill seems to create a shift towards a proactive approach of a supportive manager with an empowered team working together to solve problems. Coaching can be an on the job skills capacity development for supportive, empowered management. It does require dedicated time and management commitment.

Trends in Emergency Department Visits of Mental Health Conditions at Komfo Anokye Teaching Hospital

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Patients presenting to emergency departments with mental health conditions have become a significant feature in the developed world. Appropriate training and protocols have been developed to enable emergency care providers to better deal with such emergencies. KATH emergency department is a general emergency department that sees about 30,000 patients annually. This department receives patients who present with mental health emergencies. This study sought to describe the mental health conditions that present to the Emergency Department (ED). A retrospective cross-sectional survey carried out from November, 2014 to October, 2015. Chart reviews were carried out of patients who presented with mental health conditions within the study period. All patients were triaged using the South African Triage Scoring System. Patients were selected from the admission book purposively using the complaints and referral diagnosis. The charts of these patients were retrieved and patient demographics, cause of condition, emergency management and management by psychiatrist were abstracted. Data was entered and analyzed using Microsoft Excel 2010. A total of 221 patients visited the emergency department over the study period with mental health conditions. The mean age was 34 years; range being 82 years to 4 years. There were 122 males and 99 females. All the patients
who presented required admission in the Emergency department for care. Most of the patients required care in a moderate acuity zone (Orange ward); two patients needed care in resuscitation zone. The main complaint patients presented with were incoherent speech, abnormal behavior including suicidal ideation, aggression and confusion. Mental health emergencies in KATH are increasing and there is the need to equip emergency care providers with appropriate training to care for them.

The Use of Mobile and Electronic Technology in the Emergency Department: An Emerging Tool for Research and Clinical Practice for the Competent Physician

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The application of technology has revolutionized the care pathway in many clinical settings in developed countries. mHealth and eHealth tools have found useful application in the emergency department in recent times and has been shown to improve the dispatch in care of patients. Knowledge of the principles and concepts of mHealth and eHealth tools is important to accrue its benefits. mHealth tool designers advice that there is the need to developed tools with the end-user in mind. The product must be user friendly and adaptable to the end-user as well. In the clinical setting too, there is the need to appropriately incorporate the end-user in the conceptualization of an application. In considering the end-user, psychosocial, socio-cultural, educational and behavioral principles need to be applied to ensure compliance and measurable benefits of the tool. When these principles are applied rightly, the physician in the emergency setting or any clinical setting for that matter will find useful benefits in the expanded interaction interface with his patients and clinical staff that mHealth and eHealth tools bring. Komfo Anokye Teaching Emergency Department (ED) as the largest ED West Africa is currently taking steps to incorporate mHealth and eHealth tools in addressing various clinical needs within its setting. The new generation physician has tools at his disposal to improve his competence; the appropriate application of principles and knowledge will yield good results.

Knowledge, Attitudes and Perceptions of Secondary School Teenagers Towards HIV Transmission and Prevention in Rural and Urban Areas of Central Uganda

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HIV/AIDS has remains a challenge in Uganda among adolescents despite the ABC strategy used globally to prevent HIV infection. The study was carried out to assess the knowledge, attitudes and perceptions of secondary school teenagers towards HIV transmission and prevention in rural and urban areas of central Uganda. A cross sectional study using self-administered questionnaires and structured interviews was used to collect data from adolescents in secondary schools in Kampala and Buikwe districts. A total of 245 students were recruited from schools in Kampala and rural Buikwe district. Data was analyzed using SPSS version 11. The mean age of the participants was 15.9±2.5 years. Results showed 95.1% participants had knowledge on HIV/AIDS. 27.4% knew all modes of HIV transmission. About 83.7% knew the ABC strategy for HIV prevention. 37.6% would talk about HIV/AIDS mainly with friends. 62.0% knew HIV had no cure, 24.9% were unsure while the rest thought spiritual healing, transmission to others, and ARVs can cure HIV/AIDS.
65.7% of participants reported they could recognize people with HIV/AIDS because they have red lips, skin rash, weight loss, are sickly and wealthy. Participants reported condoms are a sign of mistrust, reduce sexual pleasure and are embarrassing to buy. Majority of the participants in both urban and rural schools had some knowledge on HIV/AIDS and the ABC strategy for HIV prevention. However, there was knowledge gap on the various modes of HIV transmission and prevention. There were misconceptions, especially about HIV/AIDS cure, condom use and on the chances of contracting HIV. Majority of the participants were getting information on HIV/AIDS from friends of which some information was misleading. This false information could possibly be the reason for the increased HIV prevalence reported in the adolescent age group in the study schools.

Comparing the Incidence of Cervical Cancer and Funding of Cancer Management in Uganda

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Cancer of the cervix uteri is the fourth most common cancer among women worldwide with an estimated 527,624 new cases and 265,672 deaths in 2012. It is the first leading cause of female cancer in Uganda and also the most common female cancer in women aged 15-44 years. The incidence rate of cervical cancer in Uganda is high but the funding of management of cancers is still low. The focus of this study was to establish if low funding towards management of cancers could lead to the high incidence rates; and to establish the incidence rate of cervical cancer in Uganda and establish the expenditure towards management of cancer in Uganda. A review of various studies and documents on cervical cancer and expenditures in health, budget reports and articles was done. The data got from those documents was then thematically analyzed. From the studies, about 3915 new cases of cervical cancer are diagnosed annually. The crude incidence rate as per 2015 was 22.0 per 100000 women per year and the age standardised incidence rate was at 44.4 per 100000 women per year. The Ugandan government spent 5.7% of 22.6 trillion Uganda Shillings 2016/2017 budget on health with 70% of the entire health care budget allocated to HIV/AIDs, Malaria and tuberculosis. And the Uganda Cancer Institute has a budget of less than 2 billion Uganda Shillings. Uganda government expenditure on cancer treatment of its own citizens was at 24% and 49% was by the individuals. The incidence rate of cervical cancer is high and government expenditure on cancer management is still so low that it mightn’t address the high incidence rate. The Ugandan government should increase on the budget allocated toward management of cancers especially cervical cancer.
HIV Status and Hearing Loss Among Children Between 6 to 12 Years of Age at a Large Urban Health Facility in South Western Uganda

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There is limited data on pediatric HIV infection and hearing loss from sub Saharan Africa. The aim of this study was to compare the prevalence of hearing loss among HIV positive (HIV+) and negative (HIV-) children and whether antiretroviral therapy (ART) is associated with HL. We conducted a cross sectional study at two tertiary health facilities. We consecutively enrolled 78 HIV- and 148 HIV+ children aged between 6 and 12 years. Inclusion criteria were completion of written consent, ability to follow audiometry instructions and absence of congenital HL. We conducted hearing screening using the iPad Shoebox® audiometer, and confirmed HL using pure tone audiometry. Hearing was classified as either normal hearing, CHL, SNHL or mixed. Of the 226 children enrolled, 115 (50.7%) were female. The mean age was 9.2 years (median= 9). From self-report, frequency of HL among HIV+ children (6.8%) was higher than the HIV- (20.3%) with p=<0.01. Using objective measures, prevalence of HL among the HIV+ children was 8.8% compared to 10.1% among the HIV-children (p= 0.74). CHL was generally more frequent than SNHL but SNHL occurred more frequently among HIV+ (7.4%) than HIV- children (3.8%). No association was found between NVP based ART and HL (p=0.41). Logistic regression showed that older age of the child (p=0.01), previous ear infection (p=<0.01), tuberculosis (TB) treatment (p=<0.01) and long-term duration on ART (p=<0.01) were significantly associated with HL. Age (p=0.02), previous ear infection (p=0.01) and TB treatment (p=0.005) remained significant in the multiple regression model. Prevalence of HL is similar among HIV positive and negative children. Older age of the child, previous ear infection, use of TB drugs and long duration on ART among the HIV positive children increase the odds of having hearing loss among children. However, use of NVP was not associated with HL.

Frequency of Drug-Associated Injuries in Adult Patients Presenting to KATH Emergency Department

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Psychoactive substance use is a significant contributor to global morbidity, mortality, and health resource utilization. The prevalence of psychoactive substance use in the ED setting has rarely been reported in lower-middle income countries, including Ghana. We sought to describe the frequency of illicit drug use among adult injured patients presenting to the KATH ED. A cross-sectional study was carried out for six months involving all trauma patients presenting to the ED. Trauma patients who presented to the ED within 8 hours of injury occurrence were sampled and tested for presence of alcohol and drugs. Blood alcohol concentration was evaluated with SureScreen Alcometer Breathalyzer, which provided a numeric breath alcohol concentration in mg/L units (BAC). Illicit substance presence was evaluated via saliva strips with Micro-Distribution STATSWAB 6 panel oral fluid devices. Medical charts were reviewed retrospectively. A total of 1468 trauma patients and 236 altered patients presented to the ED over the study period representing 16.4% and 2.6% respectively of all admissions to the ED (8954). Out of the
total trauma admissions 139 (9.5%) patients met the inclusion criteria and were tested. Twenty – four percent of patients tested positive for drugs. Of these 41 patients, 29 tested positive for marijuana, 6 tested for opiates, oxycodone and cocaine 2 respectively, and benzodiazepines and methamphetamines 1. About a third (29%) of the patients tested positive for alcohol. Road traffic accidents accounted for half of all injured patients who were tested. Lower limb injuries (42.1%), upper limb injuries (29.2%) and head injuries constituted the most common injuries. Alcohol may not be the only intoxicant that contributes to cause of injuries among patients presenting to KATH ED.

Profile of Patients Pronounced Dead on Arrival at the Accident and Emergency Unit of a Tertiary Hospital, Ghana

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The Komfo Anokye Teaching Hospital (KATH) operates the only Emergency Department (ED) in Ghana staffed by dedicated Emergency Medicine specialists. The KATH Emergency Department serves a core population of about 4.6 million people in the Ashanti region, but receives cases from a wider population base from the northern half of the country and beyond. The aim of this study was to describe the demographic patterns of mortality, and to identify the various causes of death in patients pronounced dead on arrival at the KATH ED. A 2-year retrospective study (January 2011 to December 2012) of the medical and nursing records of all patients seen and pronounced dead on arrival in the KATH Accident & Emergency department was carried out. A data sheet was used to collect all relevant data. The data was analyzed using SPSS statistical tools. A total of 54,825 patients were seen at the ED during the period under review. A total of 898 patients were pronounced dead on arrival during the study period representing 1.64% of the patients that came to the ED during this period. The mean age of patients declared dead on arrival was 49.5 +/- 21.1 years (mean +/- standard deviation) with majority of the dead (41.6%) falling between the ages of 35-59 years. 5% of these patients were under 14 years, 19.8% were between the ages of 15-34 years while approximately a third (33.5%) were aged 60 years and above. The male: female ratio was 1.36:1. Trauma related deaths accounted for 9% of the victims, 85% were non-trauma with inability to ascertain the involvement of trauma in the remaining 6%. As many as 102 victims who were declared dead on arrival had complained of, or had been observed to be breathless prior to arrival. In total, 46 victims had collapsed and 9 complained of chest pain before arrival. There was no documentation for 458 patients on their initial complaint prior to arrival. 5.7% of victims were referrals from peripheral hospitals and 84.3% were brought in from home, workplace and site of injuries by relatives, friends or good Samaritans. Only 90 victims had documentation as far as concomitant illness is concerned, 45 had both hypertension and diabetes,16 had a history of stroke,10 had only hypertension,10 were known asthmatics,5 had only diabetes and 4 had PTB and 4 had HIV infection. Significant numbers of the productive population in Ghana are brought to the emergency unit already dead. Several factors may have contributed to these deaths. These include poor emergency medical systems, poor referral systems, increase in non-communicable diseases with associated complications, trauma, increasing burden of diseases in the general population, and poor access to emergency medical services with associated preference of unorthodox medical care of a section of Ghanaians. Efforts should be made to document these events to influence health care policy in the country.
Trends of Incidence of Childhood and Adolescent Cancers in Kampala and Wakiso Districts, Kyadondo County, 2009 to 2014

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Cancer is relatively rare in childhood compared to later in life. Worldwide, the common malignant diseases of childhood are leukaemia, lymphomas, central nervous system tumors and embryonic solid tumors whereas among the adolescents, sarcomas of bone and soft tissue, and tumors of the male and female genital tracts. In Africa, the distribution of childhood cancers is quite similar, commonest being Kaposi sarcoma, Burkitt's lymphoma, retinoblastoma, leukaemia and Hodgkin lymphomas. This study aimed at describing the incidence of cancer among children and adolescents in Kampala and Wakiso Districts, Uganda from 2009 to 2014. This was a retrospective cross-sectional study which involved review of cancer patient's information from Kampala cancer registry which collects information on cancers diagnosed within Kampala and part of Wakiso districts and included children (0-14 years) and adolescents (15-19 years). The data was analysed using SPSS. A total of 752 patients, 71.7% (n=539) were children (0-14 years) and 29.3% (n=213) were adolescents (15-19 years) diagnosed with cancer between January, 2009 and December, 2014. Among the children, Hodgkin lymphoma was 21%, 12% Kaposi Sarcoma, 9% nephroblastoma, 7% retinoblastoma, 11% unspecified malignancies and 40% others. Among the adolescents, 20% were Kaposi Sarcoma, 18% Non-Hodgkin lymphoma, 8% Hodgkin lymphoma, 7% Hodgkin Lymphoma, 6% Chronic Myeloid leukaemia and 41% other malignancies. Cancer is common among children compared to adolescents. Nephroblastoma and retinoblastoma cases were found in only the children. National cancer registries should be put in place to provide timely information on the changing incidences of childhood and adolescent cancers. New prospective studies should be done on children and adolescent cancers.

An Assessment of Cold Chain Management for Childhood Vaccines in Ashanti Region

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For effective immunization, vaccine potency has to be maintained from the manufacturer through to the end user. This can be achieved through an adequate cold chain infrastructure. The objective of the study was to assess the cold chain management of childhood vaccines in Ashanti Region. A cross-sectional approach was used. The study covered eighty-four (84) cold chain facilities and one hundred and forty (140) cold chain handlers. Availability of cold chain equipment and the knowledge and skills of cold chain handlers were assessed. Data collection methods included questionnaires, observations and pictures. All the facilities assessed had cold chain equipment in working condition. Power supply was a major problem in all the facilities. Only the Community-Based Health Planning and Service (CHPS) compounds stored vaccines in cold boxes. None of the facilities assessed had a written Standard Operation Procedure (SOP) or guidelines for vaccine storage or handling. With the exception of the Regional Cold Room (RCR) most of the parameters for storage of vaccines were not met in the other facilities assessed. The knowledge level of cold chain handlers was average, whiles their skill level was poor. The availability
of cold chain equipment was good but the accessories such as temperature monitoring devices were inadequate and not calibrated. There was the need to provide alternate power sources. Cold chain handlers should undergo adequate training and supervision to improve their knowledge and skills in cold chain management.

**Knowledge and Awareness of HIV/AIDS Infection among Patients with Sexually Transmitted Infections (STIs) at KATH Polyclinic**

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Ghana has an overall HIV prevalence of 1.3%. Like other developing countries, it is still considered a high-risk country for several reasons: the presence of covert multi-partner sexual activity, low level of knowledge and low condom use, unsafe professional blood donation, high incidence of self-reported sexually transmitted infections (STIs) among vulnerable groups, infected expatriates who infect their sexual partners when they return to Ghana, and high levels of HIV/AIDS in the bordering countries all contribute to the spread. This study was conducted to describe the knowledge and awareness of HIV/AIDS among patients with sexually transmitted infections at KATH. A cross-sectional study was carried out at the Family Medicine directorate of KATH for three months. We interviewed participants using a structured questionnaire. Patients were consented before being interviewed. After the interview, patients were then educated on HIV/AIDS and its relatedness to other STIs using an educational material that was developed by investigators. Analysis was done using SPSS 16.0. 112 participants were recruited but four participants refused to consent, therefore, 108 interviewed over the study period. The average age at which participants became sexually active was 19 years. Two-thirds of the participants had had up to 4 lifetime sexual partners. Sixteen percent had had between 5 and 25 lifetime partners. Males had more lifetime partners compared to females. Patients practised risky and unprotected sexual behaviours including exposure to IVDU. Participants were generally aware of HIV/AIDS and admitted that HIV/AIDS more than pregnancy and other STIs was going to significantly change their lives, change their career goals and affect their social lives. STI remains a major risk factor for HIV/AIDS infection among youth. Frequent education for this high-risk group will be useful in changing behaviour and reducing the transmission of STIs and HIV/AIDS.

**Open Heart Surgery in Kumasi**

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The challenge of commencing open heart surgery in developing countries is onerous. The Komfo Anokye Teaching Hospital is the second largest teaching Hospital in Ghana located in the garden city of Ghana, Kumasi. We review the practice of cardiac surgery as compared to the National Cardiothoracic Centre in Accra which serves as the main training centre in Ghana and the sub-region. We present our experience of cardiac surgeries at the Komfo Anokye Teaching Hospital in Kumasi in Ghana from 2007 to 2016. We share our challenges of starting open heart surgery in a resource limited environment like ours. Over the 10-year period, 207 cases including 157 Cardiac Surgical Cases and 50 pacemaker implantation were carried out. This includes 122 pediatric and
35 adult cardiac surgical cases and the first series of AICDS (Automated Implantable Cardioverter Defibrillator) implantation in Ghana and in West Africa. We conclude that open heart surgery is possible in less resource countries like Ghana but owing to the huge financial investment and the highly skilled training needed to establish Heart Centres in Africa, governmental commitment for sponsorship as well as collaboration with overseas based and local non-governmental agencies is mandatory.

Working among the Rural Communities in Ghana - A Survey of Doctors about the Motivations for Engaging in Rural Practice


A number of factors influence medical doctors’ decision making concerning the desire and willingness to practice in rural remote communities. Research findings indicate that the unequal global distribution of health personnel is a longstanding and serious problem leading to unfavourable disparities in health outcomes between the rural and urban populations. The purpose of this study was to explore the factors that are associated with medical doctors’ preferences in deciding to work in the rural areas. A cross-sectional descriptive study was performed using a questionnaire among doctors working in health facilities in the Northern Region of Ghana. Qualitative data analysis was iteratively performed according to generally accepted open, axial and selective coding principles. Forty questionnaires were administered to doctors at the health facilities and 27 were completed and returned, giving a response rate of 67.5%. The majority of the doctors was male (88.9%) and 63% of the doctors working in the district and rural areas in northern Ghana were UDS, SMHS trained. Though the majority of the doctors was motivated to work in the rural areas, a number of barriers such as lack of social amenities, financial and material resources and career progression and medical school curriculum not emphasize rural practice, negatively affected most of them regarding the acceptance of rural postings. The majority of the doctors attributed a major role in enhancing rural postings to important stakeholders regarding attracting doctors to work in the rural areas. These included the Government of Ghana, the Ministry of Health and Education, the medical schools and the community. Medical doctors, though motivated to work in the rural areas to acquire clinical skills, experience and professional independence, felt that addressing the challenges related to rural postings such as improved career progression, improvement of social amenities and basic tools and equipment to work with at the facilities, will improve the attraction and retention of medical doctors to the rural communities. This calls for a long-term, attractive and enforceable national policy on rural posting with a strong political commitment and leadership. There is the need for some strong collaborative efforts between Ministries of Education and Health and the community to clearly acknowledged the role of medical education as paramount in the attraction and retention of doctors to the rural areas by adopting appropriate teaching methodology incorporating in their curricula COBES and rural rotation and outreaches by medical schools.
Knowledge, Attitude and Practices of Tuberculosis (TB) Management among Health Workers at the Emergency Department (ED) of Komfo Anokye Teaching Hospital, (KATH) in a Low Emergency Resource Setting in West Africa

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TB has long been known as an occupational hazard among Health Care Workers (HCWs). Previous research in Africa found that HCWs often lack knowledge about TB and its infection control. Key factors facilitating nosocomial TB transmission include: delayed diagnosis, ineffective treatment of patients, and lack or inadequate TB Infection Control (TBIC) measures. In Ghana, many TB infected patients present late to the hospitals with various complications. Initial diagnosis of TB is usually delayed due to insufficient resources, lack of diagnostic tests and inadequate isolation units. This usually leads to long boarding hours of these patients which facilitates health worker associated TB. Poor infection control practices by health workers also contribute to their increased risk of TB infection. There is little literature in Ghana on the assessment of the knowledge, attitude and practices of HCW in the ED regarding TB management. This research seeks to assess the knowledge, attitude and practices of health workers at the ED of KATH towards TB. A cross-sectional descriptive study will be conducted among the HCWs. All 200 health workers in the ED will be included. A structured based self-administered questionnaire will be used to assess the knowledge, attitudes and practices of TB management among HCWs which will include whether they are willing to screen for TB. The study will identify previously unknown gaps in TB treatment among health workers. Poor attitude of HCW towards TB management may be highlighted. Inadequate TBIC measures may also be identified. Findings will help provide the needed support, resources and training in order to reduce health worker associated TB. It will also necessitate further studies to determine the TB burden among health workers in the ED.

Overcrowding in A low Resource Emergency Setting in West Africa: Perception by Health Workers in the Accident and Emergency Centre, Komfo Anokye Teaching Hospital (KATH) Kumasi, Ghana

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Emergency department (ED) overcrowding is gradually becoming a growing trend in many hospitals worldwide. ED overcrowding has negative effects on the quality of patients’ care. It increases staff stress and produces poor work satisfaction among health workers. KATH ED receives an average of 84 patients daily with overcrowding being a challenge. The aim of the study was to assess the health workers’ perception of overcrowding in the Emergency Department (ED). A cross-sectional study which recruited 110 ED health care workers using systematic random sampling was carried out for three months in 2015. Structured questionnaire based interviews which were pretested and validated were administered. Analysis was done using Epi Info 7 by CDC. Of the 110 health workers, 59 (53.64%) were nurses and 51 (46.36%) were doctors. Females were 52 (47.27%) and males were 58 (52.73%). The perceived average waiting time of a patient to see a physician at the ED was 30 minutes. 24.54% thought the afternoon shifts were congested. Inappropriate referrals (59.63%) and delays in getting radiological imaging (49.07%) were the
main perceived causes of overcrowding. The negative effects of overcrowding on health workers included increased staff stress (71.03%), poor work satisfaction (57.41%) and increased margin of errors (32.41%). 95% said that overcrowding in the ED contributed to poor patient outcome by increasing staff exhaustion (40.37%) and compromising quality of patient care (36.70%). Health personnel strongly agreed that equipping district hospitals to handle non-emergency cases (77.78%), appropriate referral system (75.93%) and provision of adequate logistics and consumables (57.41%) are ways to curb overcrowding. 98% agreed that 6 hourly bed occupancy data from the admitting wards was important to reduce ED overcrowding. Overcrowding in the ED is perceived to cause staff burn-out and result in poor patient outcomes. Evidence-based interventions may improve overcrowding in EDs.

The Quality of Care Provided to Children Presenting with Severe Anemia in Ugandan Hospitals

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Severe anemia (SA) is a common reason for hospitalization in children in Sub-Saharan Africa. When the patient is managed as per clinical guidelines, the case fatality rates due to SA should be low. Hospital series however show that patients who present with SA have a higher than expected inpatient mortality. The purpose of the study was to describe the quality of inpatient care provided to children admitted with SA in two hospitals in Uganda. Inpatient cases notes of children 0-5 years admitted and managed as cases of SA were reviewed to ascertain adherence to national clinical guidelines. A questionnaire was used to abstract data on the timing of assessments, treatments and blood transfusion; evidence of laboratory tests to support diagnosis, blood transfusion practices, and the outcome of hospitalization (requirement for repeat transfusion or death or discharge). A total of 707 files were reviewed, 271 from Lira and 436 from Jinja hospitals. The overall inpatient mortality was 38 (5.4%) and 129 (18.2%) of the children required a repeat transfusion during the admission. Only 140 (19.8%) of the children were seen within one hour of admission to hospital while 418(60.9%) were able to get a blood transfusion with two hours from the time of prescription. Pre-transfusion estimation of hemoglobin concentration (Hb) was done in 334/707 (47.2%) of the cases while 282/620 (45.5%) of the malaria cases were treated without and or despite a negative malaria test result. Overall only 169 (24%) of the cases were treated as per national guidelines. Delay of over more than 2 hours in receiving a blood transfusion (p=0.002) and having no pre-transfusion Hb done (p = 0.005) were associated with poor inpatient outcome. Many patients with SA presenting to hospital in SSA receive sub-optimal inpatient care. Efforts to improve care should focus on improving blood transfusion services.
Prevalence of Anaemia Among Patients Presenting KATH ED following Point of Care Haemoglobin Testing

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Anaemia is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. The global prevalence of anaemia in 2010 was 32.9% according to data from 187 countries using the World Health Organization (WHO) definitions of anaemia. Not much is documented in literature on the prevalence of anaemia amongst patients presenting to emergency departments and none in Ghana. This study was carried out to determine the prevalence of anaemia amongst patients presenting to the Komfo Anoyke Teaching Hospital (KATH) Emergency Department (ED). All patients who presented to the triage area of the accident and emergency centre of KATH from July, 2016 to May 2017 were recruited into a large observational study. Informed consents were sought from all participants. Demographic data were taken of all patients retrospectively from medical records. A point of care haemoglobin test kit was used for the screening patients as part of inclusion criteria for a larger sepsis study. Analysis was done using Stata 12.0. A total of 2,440 patients presenting to the KATH ED were approached and consented to do the POC haemoglobin test. 53% were males and 47% females; mean age of patients was 47.7 years (SD 20.6 years). The mean heart rate of patients was 97 bpm and respiratory rate was 22.8 cpm. Abdominal pain, altered level of consciousness and difficulty in breathing were the commonest complaints patients presented. The average haemoglobin level of all patients presenting to the ED was 10.5 g/dL (SD 3 g/dL). Overall, 63.7% of patients presented to KATH ED with anaemia. By the WHO classification, 14.1% of participants had mild anaemia, 27.8% had moderate anaemia and 21.8% had severe anaemia. Females had a higher frequency of anaemia (70%) compared to males (59%). This study documents a significant prevalence of anaemia among patients attending KATH ED; according to WHO population-based classification of anaemia, this prevalence is severe. Anaemia may be the cause or consequence of illnesses presented to the Emergency Department (ED) and may significantly determine patient outcomes. Simple, inexpensive, rapid screening kits may serve as a useful screening tool in low resource settings. Further studies are warranted to establish the aetiology of anaemia among this population.

The Setup of a Low Resource Residents’ Lead Research Office: Proof of Concept

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The relevance of good research in emergency medicine simply saves lives. The interest in research should be cultivated in the early stages of residency training to build capacity in the robust research methods and credible data to influence policy. The aim for setting up a resident lead research office was to provide technical support, human resource, internet access and space for research work. The aims of the office first saw the acknowledgment of the idea by the department and support from MEPI in acquiring equipment and internet access. The staff recruited were national service personnel, paid by the government and experts in Public health and Statistics whose salaries were based on the projects running through the office. The office was managed by an emergency physician with a master’s in public health. A resident with a research idea is
coached through to the end of research process. The research capacity built in the department has seen many successes. So far over fifty residents have been trained in research methods through didactic lectures, journal clubs and training sessions. 26 papers and abstracts have been submitted and published. There has been over twenty conference presentations around the world in Paris, Canada, South Africa, Egypt and locally. Two local grants have been won and executed. The office provided research assistance to medical students in their community health researches and also collaborated with Fogarty, Fulbright through the NIH on three large projects. The concept has proven that low resource resident lead research office has the capacity for improve research training at all levels. Going forward, good research must be promoted, collaborations must be fostered for future and the publication and disseminations of research work which can formulate policy to save lives must be enhanced. It can be adopted in other countries with similar and eventually form a network of resident lead research offices for global collaborative research.

Shock Index as a Prognostic Indicator for Sepsis

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Shock index (SI) is defined as the quotient of heart rate and systolic blood pressure. SI has been investigated as a tool to identify patients at increased risk for transfusion in the setting of hemorrhage and trauma. A large retrospective single-center study found the Shock Index to be as sensitive as the SIRS criteria to identify patients at risk for Sepsis in other settings. The study was aimed at evaluating whether the shock index is useful predictor mortality patients with suspected sepsis. This was an observational study that commenced in July 2016 at the KATH ED. Patients, 18 years and above, were recruited once they met the inclusion criteria and consented to join the study. All patients were triaged using the South African Triage Scale. Blood samples were drawn from consented patients who were enrolled for haematological, biochemical and microbiological studies on admission, 6 hours, 24 hours, 48 hours and 72 hours after admission. Medical records of patients were abstracted retrospectively for demographic data and vitals of patients whiles on admission. Patients were followed up even after discharge. Preliminary data from this on-going study was analyzed using Stata 13. A total of 147 patients met the inclusion criteria. There were more females (83 out of 147) than males with a mean age of 49.6 and 50.2 respectively. The mean temperature of patients was 38.6°C, respiratory rate 25 cpm, heart rate was 113 bpm and systolic blood pressure was 134 mmHg (SD 76.5 mmHg). About a third of patients presented with altered mental status at enrolment. Ninety-one percent (134) of the patients had confirmed sepsis, 8% (12) had severe sepsis and one patient met the SIRS criteria without a septic focus. Thirty seven percent of patients were triaged to Orange, 23% to Red and 20% to Yellow. The mean shock index (SI) was 0.88 among patients in this study. The mean SI among females was 0.87 which was lower than in males, 0.89. Shock index was normal (0.5 to 0.7) in 59.9% of patients. Among patients who died in the hospital, 53% had a high shock index whiles the 42% of patients who died after discharge had a high shock index. A marginally greater percentage of patients (8.5%) with high shock index were diagnosed with severe sepsis compared to those (8.0%) with normal shock index. Shock index may be a useful predictive tool for mortality in patients with suspected sepsis. Computing shock index of patients with sepsis may guide in early decision making for intensive care.
Adoption and Use of Social Media in Healthcare in a Resource-Limited Setting

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Social media is a growing innovative internet communication that has considerable potential to facilitate public access to health information globally. Though it is becoming increasingly common for individuals and institutions to use social media for varied reasons, little has been published about its appropriate role in health promotion and even less about its monitoring and evaluation in a low resource setting. The aim of this study was to assess the benefits and drawbacks of using social media in health education and promotion. There was a systematic search of literature using electronic databases like PubMed, Biomed Central, Google Scholar and Medline to locate relevant peer reviewed studies published on the role of social media in health between 2006 and 2016. Social media like other traditional health promotion media, require careful application and may not always achieve its desired outcomes. The advent of social media has presented various challenges in how health organizations respond and engage with public health controversies in LMIC. With limited internet access and social media training of health professionals, lack of continuous social media monitoring and evaluation, many health institutions in a developing economy like Ghana in the public sector often struggle to efficiently and effectively respond to social media postings. These are compounded with the Ministry of Health unexplored social media pages created to solely promote health and alternative health views that attack practices vital to maintaining public health. Social media is a powerful tool for reducing some barriers in disease prevention and control in Sub-Saharan Africa. As noted promoting and participating in conversations by national health authorities on social media may help to improve quality of health information, institutional image and address other public health related issues aimed at improving health outcomes of the people.

Key Words: Social media; Public health, Health education and promotion, Sub-Saharan Africa

Research Administrators: A Critical Component in Research Training of Makerere University Junior Faculty in the NURTURE Program

Nambooze H, Sewankambo N.K, and NURTURE Research Administrators Group

To support NURTURE, a MEPI research training program among low- and mid-level faculty (LMF) we utilized the knowledge, skills and experience gained from collaborations, research administrators’ networks, and advanced training in research administration to support these junior faculty to transition into independent researchers. Appropriate pre- and post-award support was extended to applicants and fellows to have strong applications and successful implementation of their awards. We provided clarification regarding the NURTURE call for proposals, the application process, development of research budgets; updating eRA Commons accounts and career track profiles. Post-award we provided them with support to ensure adherence to funders’ terms and conditions, ethical conduct of research, registration of clinical trials with clinicaltrials.gov (where applicable), timely provision of resources for research and training; access to other relevant calls for proposals and opportunities for research training courses, tracking individual and program metrics through fellows’ personal development plan, quarterly progress review
meetings and submissions for open access publications and acknowledging funders. We have tracked the progress made on a timely basis. LMFs are encouraged to document their activities daily. They demonstrate increasing understanding what it takes to have a successful grant and financial management. NURTURE has ignited the desire for LMFs to seek support from research administrators and to apply for competitive funding. They show greater understanding of the value of research administrators. We have learnt that availability and accessibility of well informed and supportive RAs accelerates progress in individual and institutional research capacity building efforts. Deliberate efforts to provide targeted research administrative support is a critical component of research capacity building of junior faculty to transition into independent researchers.

Using Peer Motivation to Upscale Nurse Initiated Management of ART (NIMART) Implementation in Kwazulu Natal, South Africa

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Section 27(1) of the Constitution of South Africa provides that everyone has the right to have access to healthcare services. It is in the provision of these services that healthcare workers need to be guided by ethical principles to ensure that services are provided in a timely, safe and efficient manner.

Districts in KwaZuluNatal recorded NIMART documentaries told by nurses implementing NIMART at DoH facilitie. NIMART is one aspect of a broader strategy, commonly referred to as task-shifting. Task shifting is delegation whereby tasks are moved to less specialized health workers. We learnt that service areas that had previously not participated in ART services are now formulating innovative ways of scaling up care using different service point and integration. Herzberg developed a two-factor theory that forms the basis of the influence of peer motivation on NIMART nurses. NIMART documentation allowed DoH to foster political support, effective leadership showing respect and dignity for NIMART nurses. The NIMART nurses work is challenging yet very meaningful to the people they serve. Some interviewed NIMART nurses had pioneered roll out of NIMART taking ART services from being doctor driven to being nurse driven. Out of the 3213 trained nurses only 1261 were ready for certification in September 2015. The documentaries have increased the number of nurses who are now demanding to complete their portfolios of evidence, so that they can be recognized as NIMART trained nurses. The social proof theory states that when people are unsure of the action they should take, they seek out the direction their peers are following. The documentaries have put NIMART nurses at the limelight where every nurse wants to be, thus influencing the need for psychological mind shift.
Strategies for Improving Task Shifting of ART Services to Nurses through NIMART

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Despite remarkable achievement of the scale-up of antiretroviral therapy (ART) in KZN over the past years (<1 million people are on ART), estimated number of people (1.8 million PLHIV) requiring treatment in the next years exceeds the capacity of the healthcare system if treatment was to continue to be initiated by the doctors alone. The province has the largest ART program in SA, and highest HIV prevalence estimated at 40%, there is increased demand for improving ART coverage. With the scale up of ART program in line with Universal testing and treating, there exists urgency for initiating clients onto ART on site to meet the high volume of clients requiring ART. Data drive mentorship approach used to identify worse performing districts. Within districts, worse performing facilities were identified using routine health information system. Worse performance was set at 50%. A health system approach to mentorship of nurses trained on NIMART was devised which will allow expansion in clinical mentorship and further training in NIMART. We discovered the use of routine health information system to identify four districts which were performing <50% on ART initiation for both adults and children. Within districts, 2 worse performing facilities were selected in each district for project pilot, out of the 55 facilities performing below 50% total of 8/55 = 15%. Mentorship remains crucial for highly HIV burdened province to achieve the target of initiating clients by 2020 in line with universal 909090 targets by UNAIDS. This mentorship framework is a standardized multi-pronged approach that is hoped to scale up ART coverage for province, tracking of initiations linked to the NIMART trained nurses should be conducted to ensure that NIMART trainings contribute to ART clinical outcomes.

Strengthening Nursing Education Systems in Ghana through Faculty Development & Competency Based Paediatric Nursing Education

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Competency based education & competent faculty are essential to develop graduates who are well prepared for nursing practice. To build capacity in paediatric nursing, the Ghana College of Nurses & Midwives and the Hospital for Sick Children (SickKids) are partnering on the development and delivery of a 1-year post-registration paediatric nursing program. The partnership aims to strengthen nursing education systems in Ghana to enhance the skills, confidence and leadership abilities of paediatric nurses, and nurse educators. Faculty & curriculum development activities were the focus in the initial year of the partnership to ensure a strong foundation for implementation, resulting in the development of an evidence based, contextually relevant curriculum with a focus on competencies to address child health needs in Ghana. Concepts of health equity and social determinants of health are integrated to encourage students to think about inequities in their own region. Leadership concepts and critical thinking are taught throughout the training, with the goal of empowering graduates to create positive change in their practice environments. A team teaching model for education delivery, with active, collaborative participation from both SickKids and Ghana faculty, contributed to a positive learning environment for both students and faculty. Faculty development and capacity building were key outcomes, and are critical to sustaining the education program in Ghana. This poster
will highlight the collaborative partnership model, the curriculum framework, and monitoring & evaluation data which has been used to identify lessons learned, and contribute to continuous improvement of the process and the partnership.

A Multidimensional Approach to Strengthening Nursing Education Systems to Advance Child Health: Case Study of the Ghana-SickKids Paediatric Nursing Education Partnership

Stephanie de Young

The Centre for Global Child Health at the Hospital for Sick Children (SickKids) in Toronto, Canada collaborates with governments, health facilities, nursing associations and academic training institutions in resource-poor settings to strengthen paediatric nursing education to train professionals with the required skills, knowledge and leadership to improve access to quality paediatric care. With a focus on strategic partnerships, capacity building and sustaining change, SickKids and partners use a strength-based approach to develop and integrate innovative education programs into local health systems. Presenters will discuss this approach using a case study of the partnership between SickKids and the Ghana College of Nurses and Midwives (GCNM). From 2010 -2014, SickKids and Ghana partners designed and implemented the first post-basic education program for paediatric nurses in Ghana. Building on this successful pilot, the GCNM and SickKids are currently working in partnership to expand the education to three sites in Ghana using a national, accredited curriculum. By 2020 the partnership in Ghana will have trained over 700 paediatric nurses. The following areas will be explored: 1) partnership engagement strategies that promote local ownership, 2) program design that translates evidence-based education models into local contexts with a focus on faculty development, 3) evaluation models and approaches, 4) scaling-up successful pilot initiatives in a country-wide context, and 5) reciprocal learning within and between partners. Key considerations, successes, lessons learned and challenges will be highlighted. Overall, there is increasing recognition that advancing nursing practice and enhancing nursing leadership through collaborative partnerships can have a positive impact on many levels from a direct impact on individual patient outcomes to an indirect impact on a country’s economy. It is important to continue to explore effective collaborative approaches to advance paediatric nursing practice to impact child health globally.

Serum Lactate Levels as a Predictor of Disease Severity and Mortality among Patients with Suspected Sepsis Presenting to KATH Emergency Department

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Elevated lactate levels have been shown to predict mortality among patients with infections in the emergency departments in some populations. We sought to determine whether serum lactate level was a predictor of disease severity and mortality among patients with suspected sepsis at KATH. This was an observational study that commenced in July 2016 at the KATH Emergency Department. Patients 18 years and above, were recruited once they met the inclusion criteria. Venous blood samples were drawn from consenting patients. The samples were sent for haematological, biochemical and microbiological studies at the time of admission, 6 hours, 24 hours, 48 hours and 72 hours after admission. Medical records of patients were abstracted retrospectively for demographic details, diagnoses and outcomes. Patients were followed up
until discharge. Preliminary data from this on-going study was analyzed using Stata 13. A total of 147 patients have met the inclusion criteria, consented and enrolled into the study. There were more females (83 out of 147) than males with a mean age of 49.6 and 50.2 respectively. The mean temperature of patients was 38.6°C, respiratory rate 25 cpm, heart rate was 113 bpm and haemoglobin level was 11.3g/dl. About a third (47) of patients presented with altered mental status at enrolment. 67% of patients were discharged from the hospital, 24% died in the hospital and 8.6% died after discharge. Most (83%) of patients had normal lactate levels (<4mmol/l). Relatively greater percentage (8.7%) developed severe sepsis among those with high lactate levels compared with those with normal lactate levels (7.4%). Of those with high lactate levels (>4mmol/l), almost half (47.6%) died in the hospital whiles 29.6% of patients with normal lactate levels died (x²=6.42, p-value =0.11). Patients with a high lactate levels were admitted to Red (22.2%) more than Yellow (13.8%) more than Orange (10.6%). Patients with high lactate levels were 3.38 times more likely to die compared with patients normal lactate levels (p-value =0.011). Lactate levels had a poor sensitivity (52%) and a low specificity (21%) for predicting whether a patient would be discharged. The area under the ROC curve (AUC) using normal lactate levels to predict outcome was 0.597 but AUC was slightly better (0.625) using high lactate levels as a predictor of outcome.

Serial measurement of lactate levels among patients with sepsis at KATH ED may be a useful marker for predicting their outcomes.

**Profile of Diabetic Patients Presenting with Hypoglycaemia at the Emergency Unit of Komfo Anokye Teaching Hospital**

*Oppong C†, Owusu Offei K†, Amie S†, Osei L† et al.*

Hypoglycaemia is a very common complication of diabetes therapy, there is however little data about the causes in patients with diabetes mellitus in Ghana and Sub Saharan Africa. Severe hypoglycaemia is an important adverse effect of diabetes mellitus treatment and it is accompanied by considerable morbidity and mortality. Setting. The aim of the study was to determine the profile of patients with diabetes mellitus presenting with hypoglycaemia at the Accident and Emergency unit of the Komfo Anokye Teaching Hospital in Kumasi. This was a cross-sectional study of patients with diabetes mellitus presenting with hypoglycaemia to KATH emergency department. A data collection sheet was used to extract information from the patients’ hospital records. A total of 49 patients were recruited in the study. Hypoglycaemia was more common in the elderly (above 70) 35%. Sex distribution was almost the same (52% male). 53.3% of the respondents admitted eating less than usual after taking medications. About 60% had a history of intercurrent illness. 80% had proteinuria. Hypoglycaemia is a common complication of DM treatment and more common in the elderly. Diabetic nephropathy is a common contributory factor to hypoglycaemia in Ghana. The commonest cause of hypoglycaemia is taking medications without eating. Education of patients with diabetes should be tailored towards these common causes.
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