16th Annual Scientific Conference

26th - 29th April 2016.

Boma Inn – Eldoret

The NCDs Epidemic:
A FOCUS ON EARLY LIFE DETERMINANTS
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome Address</td>
<td>2</td>
</tr>
<tr>
<td>Programme at a Glance</td>
<td>3</td>
</tr>
<tr>
<td>Scientific Committee</td>
<td>4</td>
</tr>
<tr>
<td>Local Organizing Committee</td>
<td>5</td>
</tr>
<tr>
<td>Secretariat</td>
<td>5</td>
</tr>
<tr>
<td>Speaker Bios</td>
<td>6</td>
</tr>
<tr>
<td>Conference Programme</td>
<td>9</td>
</tr>
<tr>
<td>Abstracts</td>
<td>17</td>
</tr>
<tr>
<td>Sponsors</td>
<td>44</td>
</tr>
</tbody>
</table>
A warm welcome to the Kenya Paediatrics Association’s 16th Annual Scientific Conference! KPA is delighted to be hosting this conference in Eldoret, Kenya and we count it as a great privilege and honor that you made it to this year’s conference.

The theme this year is ‘Non Communicable Diseases: A Focus on Early Life Determinants.’ Kenya has made great strides in reducing communicable diseases through expanding vaccination programs and improved primary health care. It is with this in mind that our focus for this year’s conference has shifted to Non Communicable Diseases (NCDs) that account for an increasing burden of morbidity and mortality worldwide. NCDs are quite often due to modifiable factors and have a great cost not only to families but also to the nation as a whole.

The use of evidence-based interventions in the management of NCDs has been shown to decrease the disease burden and as such we are now joining forces with developed nations in addressing this NCD issue. In order to equip our health care workers to adequately address NCDs, KPA is seeking partnerships with pediatric associations in the developed world.

This year’s conference begins on 26th April 2016 with a two-day pre congress, which will include four full day workshops on allergy and asthma, rheumatology, neonatology and infectious diseases. There will also be two half-day workshops on Continuous Positive Airway Pressure (CPAP) and paediatric tuberculosis. This will be followed by the main conference, which will feature exciting talks from both regional and international speakers with the keynote address given by Dr. Marilyn Bull from the American Academy of Paediatrics. Among the various stimulating symposia scheduled there will be one on health systems, focusing on devolution in health. The panel for this session will surely provide very engaging discussion for this hot topic.

This years conference will take place in Eldoret, Kenya set in the Kenyan highlands and home to many of Kenya’s famed long-distance runners. Unknown to many, Eldoret is rich with tourist activities including visiting the breathtaking Mt. Elgon National Park and parasailing over the Kerio Valley.

Once again we extend a very warm welcome to you and invite you to enjoy the rich scientific program, network with colleagues and strengthen partnerships. It is our hope that by the end of the conference you will all leave with a reignited spark to continue positively impacting lives of children in our communities.

Sincerely,

The KPA 16th Annual Conference Planning Committee
# Programme at a Glance

## Pre-Congress 26th – 27th April 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Track 1</th>
<th>Track 2</th>
<th>Track 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, 26th April</td>
<td>CPAP Experience Exchange – Dr. F. Murila/ Dr. Adudans</td>
<td>Rheumatology – Dr. L. Okong’o/ Dr. A. Migowa</td>
<td>Infectious Diseases – Dr. Muthia/ Prof. Mekasha</td>
</tr>
<tr>
<td>8 am – 1 pm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 pm – 5 pm</td>
<td>Paediatric TB - CHS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday, 27th April</td>
<td>Neonatology – Dr. Nyama/ Prof. Musoke</td>
<td>Allergy – Dr. A. Irungu</td>
<td>Research Workshop (Strathmore University)</td>
</tr>
<tr>
<td>8 am – 1 pm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 pm – 4:30 pm</td>
<td>Neonatology – Dr. Nyama/ Prof. Musoke</td>
<td>Asthma – Dr. A. Irungu</td>
<td>Research Workshop (Strathmore University)</td>
</tr>
<tr>
<td>4:30 pm – 6:30 pm</td>
<td></td>
<td></td>
<td>ETAT+ Instructors Update on 2016 Basic Paediatric Protocols</td>
</tr>
</tbody>
</table>

## Main Conference: 28th – 29th April 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Track 1</th>
<th>Track 2</th>
<th>Track 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, 28th April</td>
<td>Welcome Address – KPA Secretary &amp; Prof. F. Esamai</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 – 8:15 a.m.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:15 – 8:35 a.m.</td>
<td>Food Allergy: A window of opportunity for prevention of non-communicable diseases? – Prof. A. Fiochi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:35 – 8:55 a.m.</td>
<td>Early life determinants of allergic diseases and the wider pandemic of non-communicable diseases – Dr. V. Fiero</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:55 – 9:15 a.m.</td>
<td>Antibiotic Surveillance - GSK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:15 – 9:35 a.m.</td>
<td>The PCV 10 Vaccine: Updates on effectiveness and Impact – Dr. W. Mwiti</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:35 – 10:05 a.m.</td>
<td>Data-informed decision making for Paediatric Care – Prof. M. English</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:05 – 10:25 a.m.</td>
<td>Devolution in Health – Dr. J. Nyikal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:25 – 10:40 a.m.</td>
<td>Questions – Panel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:40 – 11:00 a.m.</td>
<td>COFFEE BREAK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session Chair: Dr. T. Ngwir</td>
<td>Entertainment – Pokot Dance Troupe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 – 11:20 a.m.</td>
<td>KPA Address – KPA Chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:20 – 11:40 a.m.</td>
<td>Breaching Disciplinary and Sector Boundaries; Perspective on Early Childhood Developmental and Health Interventions – Prof. K. Marfo (Guest Speaker)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:40 – 12:00 p.m.</td>
<td>Opening Ceremony – Dr. Cleopa Mallu (Guest of Honor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 – 12:30 p.m.</td>
<td>Opening Ceremony – Dr. Cleopa Mallu (Guest of Honor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 – 1:00 p.m.</td>
<td>Opening Ceremony – Dr. Cleopa Mallu (Guest of Honor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00 – 2:00 p.m.</td>
<td>LUNCHTIME Symposium: Pain &amp; Fever (GSK)</td>
<td>Nutrition – Prof. D. Mandi</td>
<td>Paediatrics in Disaster- Dr. D. Alore</td>
</tr>
<tr>
<td>2:00 – 3:00 p.m.</td>
<td>Symposium 1 – Health Systems – Prof. L. Atwoli</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30 – 4:00 p.m.</td>
<td>Poster Viewing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 – 4:30 p.m.</td>
<td>TEA BREAK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:30 – 6:00 p.m.</td>
<td>ANNUAL GENERAL MEETING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00 p.m.</td>
<td>Annual Scientific Networking Night</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday, 29th April</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session Chair: Dr. Reson Marima</td>
<td>An Overview of Genetic Disorders – Dr. K. Fieggen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 – 8:20 a.m.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:20 – 8:40 a.m.</td>
<td>Birth Defects – Prof. R. Musoke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:40 – 9:00 a.m.</td>
<td>Hearing Screening – J. Liikichorou (Gertrude’s Children Hospital)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 – 9:20 a.m.</td>
<td>Drug and Alcohol Abuse – Dr. William Simbele</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:20 – 9:40 a.m.</td>
<td>The Role of the Paediatrician in the Management of Attention Deficit Hyperactivity Disorder (ADHD) – Dr. S. Nesbitt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:40 – 10:00 a.m.</td>
<td>Trauma &amp; Disaster – Dr. A. Kimeu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 – 10:20 a.m.</td>
<td>Universal Health – Dr. R. Ayah</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:20 – 10:30 a.m.</td>
<td>Q &amp; A Session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 – 11:00 a.m.</td>
<td>COFFEE BREAK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 – 1:00 p.m.</td>
<td>LUNCHTIME Symposium: Empiric Treatment of RTI – SANOFI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00 – 4:00 p.m.</td>
<td>Symposium 7 – Malaria – Dr. B. Ogutu</td>
<td>Cardiology – Dr. M. Kech/ Dr. G. Akech</td>
<td>Endocrinology – Dr. R. Mukhwa</td>
</tr>
<tr>
<td>4:00 – 4:30 p.m.</td>
<td>Poster Viewing with Tea Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session Chair: Dr. J. Oliwa</td>
<td>Rapporteurs Summary – Dr. B. Kigathi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:30 – 4:50 p.m.</td>
<td>Conference Resolutions – Dr. J. Oliwa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 – 5:20 p.m.</td>
<td>Appreciation of Sponsors – Dr. P. Ngwatu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:20 – 5:30 p.m.</td>
<td>Closing Address – Dr. P. Gisoere</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LOCAL ORGANIZING COMMITTEE

Dr. Peter Gisore
Dr. Irene Marete
Dr. Francis Ogara
Prof. Winstone Nyandiko
Dr. Evans Ronoh
Dr. Justus Simba

SECRETARIAT

Ms. June Kongoro
Mr. Chris Okwako
Ms. Treezer Otieno
Dr. Joe Mbuthia
Graduate of the University of Oxford, with a specialty in Paediatric Infectious Diseases. He has been a honorary Lecturer at the Dept of Paediatrics, University of Nairobi as well as a Senior Technical Advisor to the HIV programme – Kenya Paediatric Association.
He served as the Chairman of the Medical Advisory Committee, Gertrude’s Children’s Hospital and Chairman of the Kenya Paediatric Association from 1996 - 2003. He is the Honorary Secretary for the Union of African Paediatric Societies and Associations (UNAPSA).

Prof. Marilyn Bull - Keynote Address
Dr. Bull is the Morris Green Professor of Pediatrics at Indiana University School of Medicine. She also serves as the Medical Director for the Down Syndrome Program and is the pediatric consultant for the Cleft Palate Clinic and the Craniofacial Anomalies Team at the James Whitcomb Riley Hospital for Children at Indiana University Health. She is board certified in pediatrics, clinical genetics, and neurodevelopmental disabilities; is the American Academy of Pediatrics Representative to the Down Syndrome Research Consortium of the National Institute of Child Health and Human Development; and serves on the National Institutes of Health Down Syndrome Registry Governance Board.

Prof. Kofi Marfo - Guest Speaker
Dr. Kofi Marfo is Professor and Foundation Director, Institute for Human Development, Aga Khan University (South-Central Asia, East Africa, and United Kingdom). Professor Marfo has been a Residential Fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford University, a finalist for Distinguished University Professor (University of South Florida), a U.S. National Academy of Education Spencer Fellow, and an Irving B. Harris Mid-Career Leadership Fellow (Zero to Three Organization—USA). He served on the WHO Task Force on the International Classification of Functioning, Disability and Health (ICF), officially endorsed by the 54th World Health Assembly on May 22, 2001. He was a founding member of the Bio-behavioral and Behavioral Sciences Subcommittee of the National Institute of Child Health and Human Development (NICHD—USA). He has been a member of the Governing Council of the Society for Research in Child Development and currently serves on advisory boards for two private foundations with substantial investments in early childhood development. Professor Marfo is a graduate of the University of Alberta, Canada (M.Ed. and Ph.D.) and the University of Cape Coast, Ghana (B.Ed., Honors).

Dr. Cleopa Mailu - Chief Guest
Dr. Cleopa Mailu, EBS, holds an MBChB from the University of Nairobi; MSc (Med. Sci) in Genetics from the University of Glasgow and is an alumnus of the Strathmore University/ IESE University of Navarre Advanced Management Program. Dr. Mailu started his career as a Medical Officer at Kenyatta National Hospital where he rose to the position of Consultant Geneticist and Quality Assurance Manager. He later joined the Ministry of Health and worked as EPI Manager, Director Division of Family Health and Director Health Sector Reform Program. Thereafter, Dr. Mailu worked with WHO and UNICEF on local and international assignments. Dr. Mailu is currently the Cabinet Secretary for Health.

Dr. Immaculate Anne Kathure
Program Officer: Childhood TB
Also coordinating Infection prevention and lung health services.
National TB, Leprosy and Lung disease program
Been in TB control since 2008 at provincial and national levels
involved in policy development, planning, monitoring and implementation, resource mobilization and coordination of partner activities

Dr. Steve Adudans
Steve Adudans is a public health and infectious diseases medical professional with a wealth of global experience in project formulation, implementation, evaluation and management in resource limited settings, including governance and organizational management. He received his undergraduate doctor of medicine and surgery training at the University of Nairobi, School of Medicine, and post-graduate training in Infectious Diseases at the University of London, London School of Hygiene and Tropical Medicine (LSHTM). He is currently the Executive Director at Center for Public Health and Development (CPHD)

Dr. Teresiah Njoroge
Dr. Teresiah Njoroge attained her Bachelor’s Degree in Medicine and Surgery (MBChB) and a Masters degree in Paediatrics and Child health (M.Med. Paeds) from the University of Nairobi. Dr. Njoroge previously worked as a Consultant Paediatrician at the Moi County Referral Hospital in Voi. She is currently the Paediatric Advisor with the National Tuberculosis Leprosy and Lung Disease Program (NTLD-P), Ministry of Health, under the USAID funded Tuberculosis Accelerated Response and Care Activity (TB ARC), spearheaded by the Centre for Health Solutions – Kenya (CHS) in collaboration with other partners.
She has a special Interest in Infectious Disease, in particular childhood diseases and community public health initiatives.

Dr. Joe Mbuthia
Graduate of the University of Oxford, with a specialty in Paediatric Infectious Diseases. He has been a honorary Lecturer at the Dept of Paediatrics, University of Nairobi as well as a Senior Technical Advisor to the HIV programme – Kenya Paediatric Association.
He served as the Chairman of the Medical Advisory Committee, Gertrude’s Children’s Hospital and Chairman of the Kenya Paediatric Association from 1996 - 2003. He is the Honorary Secretary for the Union of African Paediatric Societies and Associations (UNAPSA).
Prof. Amha Mekasha
Prof. Amha Mekasha graduated from Addis Ababa University (AAU), Faculty of Medicine as a general practitioner in 1980 and pediatric residency program 1986. In 1997 he obtained his Msc in medical Education from University of Cardiff, UK. Since June 1999 he joined Addis Ababa University, Faculty of medicine.
As a medical educationist he has leading role in curricular development at the University and the nation as a whole. He has played a pivotal role in the establishment of the Medical Education Center at the college of health sciences. National he has served as the National Curriculum Council. He has actively participated in local and international professional societies. He was president of Ethiopian Pediatric Society and executive member of UNAPSA. He is currently vice chairman of the East African Pediatric Society, vice president of African pediatric Infectious diseases and Secretary of East African Society of disability in Childen.

Prof. Rachel N. Musoke.
Born and schooled in Uganda. She has grown up professionally at the University of Nairobi, Department of Paediatrics and Child Health and Kenyatta National Hospital newborn unit. She has been head of Neonatology for over 30 years. Helped to start a short in-service neonatal nursing course at KNH which has grown into a full postgraduate neonatal nursing diploma. In addition she has worked closely with the Ministry of Health in developing curricula and guidelines, adaptation of training materials as well as participating in training of health professionals within Kenya. Her other passion is child nutrition especially infant and young child feeding

Dr. Lawrence Okong’o
Qualification: Paediatrician, child health specialist (University of Nairobi) and Paediatric Rheumatologist (University of Cape Town); currently a Lecturer, Department of Paediatrics and Child Health, University of Nairobi.
Experience: Wide experience in the public sector in pediatrics and child health at various public institutions with the government of Kenya. Two years’ work experience as a fellow in paediatric rheumatology at the Red Cross Children’s Hospital, University of Cape Town. Previously a civil service support officer/medical officer with the IGAAD/ Government of South Sudan program based at the WAU Teaching Hospital. I am ETAT+ course director and previously held the post of study coordinator for the AERAS TB vaccine trial at KEMRI/CDC.
Interests: Paediatric rheumatology, vaccinology and Child rights advocacy.
Hobbies: Community work and development; and watching soccer!

Dr. Anne Irungu
I’m A Paediatric Pulmonologist in private practice at Upperhill Medical Centre Nairobi.
I studied medicine at the University of Nairobi and did my postgraduate studies in Paediatrics and Child health at the same institution before proceeding for sub-speciality training at Red Cross Hospital, University of Cape Town. I have worked in the paediatric field since 2006 starting as a senior house officer at Gertrude’s Children’s hospital, Nairobi before proceeding for my postgraduate studies in Paediatrics.
My most recent research was an audit on non-invasive ventilation use and its impact on the morbidity and mortality of children admitted at a referral hospital. My previous research was on streptococcus pneumoniae and its antibiotic sensitivity profile in children under 5 years and the implication for antibiotic use at the study centre.
Currently I hold the post of Secretary of The Allergy Society of Kenya (ASOK) and aim to raise awareness on the Allergy epidemic that is growing globally. Future research interests are in asthma epidemiology in our region, risk factors for allergic disease in children and prevention of progression to disease, bronchiectasis causes and long term outcome of these patients.

Dr. Bernhards Ragama Ogutu
Dr. Bernhards Ragama Ogutu is a Kenyan paediatrician and Clinical pharmacologist. Chief Research Officer with the Kenya Medical Research Institute (KEMRI) and Senior Clinical Trialist, INDEPTH-Network. He is the scientific team leader of the Centre for Research in Therapeutic Sciences (CREATES) a consortium of KEMRI Centre for Clinical Research. Strathmore University, African Centre for Clinical Trials and Council for Scientific and Industrial Research (CSIR), South Africa housed at Strathmore University. Dr. Ogutu received MBChB, MMed and PhD from the University of Nairobi and is a certified Physician Investigator. Dr. Ogutu has held different positions since 1992 as a practicing pediatrician at several hospitals and lead clinical trialist in a number of product evaluation protocols. His areas of research include clinical trials, disease pathogenesis, clinical therapeutics with a bias in malaria and clinical trials capacity development

Dr. Polycarp Mandi
Paediatric Gastroenterologist
Studied for his Bachelors and Masters degrees at the University of Nairobi and his sub specialization at University of Cape Town’s Red Cross Children’s Hospital.
He is a Consultant and Honorary lecturer at Moi Teaching and Refferal Hospital. His main areas of interest include:
  - Gut motility disorders (dysmotility) specifically feeding and swallowing disorders
  - Chronic Liver Disease management in resource limited settings

Dr. Dan Alaro
Dr. Alaro is a Paediatric Consultant at Avenue Hospital. He holds a Bachelor of Medicine and Surgery and Masters in Paediatrics and Child Health. He has also completed a Diploma in Advanced Health Management and Diploma in Management Information Systems. He has more than 7 years of experience in clinical work and implementing paediatrics health programs in Garissa, Wajir and Nairobi (public and private sector). Dr Alaro is a member of Kenya Paediatric Association where he is a course director, Christian Medical and Dentists Association and National Practitioners and Dentists Board. He has worked in Rwanda, Uganda, Myanamar and Somalia.
He received the 2014 Global Health Research Award by the American Paediatric Association as well as the Young Researcher of the year award from KPA.
In his current role, he leads the capacity development of health workers in Paediatric Disaster Management at KPA working with the University of Colorado and Global Health.
**Dr. Myra Maghasi Koech**

**Qualifications:** MBChB (Pretoria), Hons BSc Pharmacology (University North West)

Currently Head of Medical for Sanofi Genzyme for 5 years. Genzyme specialises in training, diagnosis and management of Lysosomal Storage Disorders including Gaucher, Pompe, Mucopolysaccharidosis and Fabry diseases.

Previously employed by GlaxoSmithKline as a Medical Advisor in the areas of CNS, Psychiatry, Pulmonology, Antibiotics and vaccines (2002-2010)

Worked as a general practitioner and investigator in various clinical trials in a primary healthcare practice (1998-2002)

**Dr. Dr. Constance Tenge**

**Qualifications:** MBchB 1988  (UON ) Mmed Paediatrics 1998  (UON )

A paediatrician and associate professor at the Moi University, College of Health Sciences, School of Medicine, Department of Child Health and Paediatrics. Clinical Care – At the Moi Teaching and Referral hospital (MTRH) and other hospitals in Eldoret as well as the AMPATH Comprehensive Care Clinic for HIV in Webuye sub county hospital.

Research – Principal Investigator and Team Leader of the Kenyan arm of the EMBLEM (Epidemiology of Burkitt’s Lymphoma in East African Children or Minors) Study. A Co- investigator in the Global Network for Women’s Children’s Health Research (GNWCHR) in Western Kenya. Currently trying to champion for a comprehensive National Sickle Cell Disease Control Programme for Kenya with emphasis on strengthening the aspect of primary intervention.

**Dr. Dr. Karen Fieggen**

**Qualifications:** - MBCHB (UCT), FCPaed (SA), Cert Med Genet

Dr. Karen Fieggen received her medical degree from the University of Cape Town in 1986. Thereafter, she trained as a specialist in paediatrics at Red Cross War Memorial Children’s Hospital in Cape Town, obtaining her FCPaed (SA) in 1994 with additional training in paediatric oncology and cardiology. After practicing as a general paediatrician for a number of years, she returned returning UCT to do subspecialist training in Medical Genetics in 2003. Dr Fieggen is privileged to work as a subspecialist medical geneticist at Groote Schuur and Red Cross War Memorial Children’s hospitals in Cape Town leading an excellent team of medical genetic doctors, genetic counselors and genetic nurses in providing medical genetic services to both children and adults in the Western Cape and beyond.

**Research Interests and Activities** - Monogenic disorders in South Africa and Intellectual Disability

**Dr. Ombeva Malande**

Ombeva Malande is a Vaccinologist & Paediatric Infectious Diseases Specialist. He holds a Masters of Medicine (M.Med – Paediatrics & Child Health) and subspecialty training in Paediatric Infectious Diseases & Vaccinology from University of Cape Town & Red Cross Children’s Hospital in South Africa. He is a specialist consultant Paediatrician and Lecturer of Paediatrics & Child Health, Egerton University, and an Honorary Lecturer at Makerere University.

He is the Director of East Africa Centre for Vaccines and Immunization (ECAVI), a member of the Kenya Paediatric Association committee on Child Health Policy & Advocacy, a weekly Columnist and Advocate on Child Health with the Eve magazine of the Saturday Standard Newspaper of Standard Media Group in Kenya. He was selected after successful nomination and included in the Marquis WHO’S WHO IN THE WORLD® 2016 (33rd Edition), in recognition of his work. Through his social responsibility work with the Mama Chandaria Foundation, he helped set up two NOT FOR PROFIT Community Health Clinics in Kampala (in 2007) and Tororo (in 2012), Uganda.

**Dr. Myra Maghasi Koech**

Dr. Myra Koech is a paediatric cardiologist based at Moi Teaching and Referral Hospital / Moi University, Eldoret. She undertook her undergraduate and postgraduate medical studies at the Nairobi University. Upon her qualification as a pediatrician she worked at the Kericho District Hospital and there after proceeded for her fellowship in pediatric cardiology at the Royal children’s hospital Australia. Since 2007 she has been working at the Moi Teaching and referral hospital as well as lecturing at the school of medicine, Moi University. She continues to be at the forefront of clinical administration, teaching and research. She is part of the team that has helped set up a busy pediatric cardiology service, scaling up the adult cardiology services as well as training cardiology fellows. Dr. Myra remains active in research work.

**Dr. Renson Mukhwana**

Dr. Renson Mukhwana, Mb.ChB, (Nhb) , Dip HSM (Israel),Fellow Paediatric endo ( ESPE) Senior Paediatrician/endocrinologist, Gertrudes childrens hospital, TUTOR PETCA program Nairobi

President ASPAE ( African society for Paediatric and adolescent endocrinology)

**Prof. Lukoye Atwoli**

Prof. Lukoye Atwoli is a consultant psychiatrist, Associate Professor of Psychiatry and Dean, Moi University School of Medicine. Prof Atwoli studied for his Bachelor’s of Medicine and Surgery at Moi University. He proceeded for his post-graduate training at University of Nairobi where he attained his Mater’s in psychiatry. Thereafter he trained in University of Capetown where he studied post-traumatic stress disorder in South Africa for his PhD in psychiatry. Prof. Atwoli has specialized in disaster mental health, psychotherapy, HIV and Mental Health.
# CONFERENCE PROGRAM

## DAY ONE- PRE-CONGRESS WORKSHOP: TUESDAY, 26TH APRIL 2016

### TRACK 1

#### SESSION 1: CPAP EXPERIENCE EXCHANGE

**SESSION CHAIRS - Dr. F. Murila/ Dr. S. Adudans**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 – 9:00 am.</td>
<td>What is CPAP?</td>
<td>Dr. F. Murila</td>
</tr>
<tr>
<td>9:00 – 9:30 am.</td>
<td>CPAP Case Study</td>
<td>Dr. M. Kuria</td>
</tr>
<tr>
<td>9:30 – 10:00 am.</td>
<td>CPAP Training Model</td>
<td>Dr. N. Odero</td>
</tr>
</tbody>
</table>

**10:00 – 10:30 a.m.**

**TEA BREAK**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 – 11:30 am.</td>
<td>Experience Sharing</td>
<td>Migori &amp; Bungoma Teams</td>
</tr>
<tr>
<td>11:30 – 12:30 pm.</td>
<td>CPAP Skills Training</td>
<td>CPHD Team</td>
</tr>
</tbody>
</table>

**1:00 – 2:00 p.m.**

**LUNCH**

### SESSION 2: PAEDIATRIC TB (PARALLEL SESSION)

**SESSION CHAIRS – Dr. I. Kathure & Dr. T. Njoroge**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 – 2:20 pm.</td>
<td>Diagnosis of TB in children</td>
<td>Dr. J. Oliwa</td>
</tr>
<tr>
<td>2:20 – 2:30 pm.</td>
<td>Q &amp; A</td>
<td>Dr. F. Ogaro</td>
</tr>
<tr>
<td>2:30 – 2:50 pm.</td>
<td>Treatment of TB in Children</td>
<td>Dr. E. Amukaye</td>
</tr>
<tr>
<td>2:50 – 3:00 pm.</td>
<td>Q &amp; A</td>
<td>R. Wambu</td>
</tr>
<tr>
<td>3:00 – 3:20 pm.</td>
<td>Prevention of TB in Children</td>
<td></td>
</tr>
<tr>
<td>3:20 – 3:30 pm.</td>
<td>Q &amp; A</td>
<td></td>
</tr>
<tr>
<td>3:30 – 3:50 pm.</td>
<td>Nutrition in Children with TB</td>
<td></td>
</tr>
<tr>
<td>3:50 – 4:00 pm.</td>
<td>Q &amp; A</td>
<td></td>
</tr>
</tbody>
</table>

**4:00 – 4:30 pm.**

**COFFEE BREAK**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:15 – 4:35 pm.</td>
<td>Diagnostic Yield of Gene Xpert® MTB/RIF Assay and Mycobacterium</td>
<td>Dr. K. Cain</td>
</tr>
<tr>
<td>4:35 – 4:40 pm.</td>
<td>Tuberculosis Culture on Respirator and Non-respiratory Specimens among Kenyan Children</td>
<td></td>
</tr>
<tr>
<td>4:40 – 5:00 pm.</td>
<td>Q &amp; A</td>
<td>Dr. I. Kathure</td>
</tr>
</tbody>
</table>

### CLOSE OF DAY

### TRACK 2: RHEUMATOLOGY (PARALLEL SESSION)

**SESSION CHAIRS - Dr. L. Okong’o & Dr. A. Migowa**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 9:00 am.</td>
<td>Arrival and Welcome</td>
<td>Dr. L. Okong’o</td>
</tr>
<tr>
<td>9:00 – 9:30 am.</td>
<td>Rheumatology Healthcare worker training programs: Lessons from Kenya</td>
<td>Prof. G. Omondi-Oyoo</td>
</tr>
<tr>
<td>9:30 – 10:00 am.</td>
<td>Is it Systemic Lupus Erythematosus? Approach to the diagnosis and management of childhood SLE</td>
<td>Dr. A. Migowa</td>
</tr>
<tr>
<td>10:00 – 10:30 am.</td>
<td>juvenile Idiopathic Arthritis</td>
<td>Prof. C. Scott</td>
</tr>
<tr>
<td>10:30 – 11:00 am.</td>
<td>juvenile Dermatomyositis</td>
<td>Dr. L. Okong’o</td>
</tr>
</tbody>
</table>

**11:00 – 11:20 am.**

**COFFEE BREAK**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:20 – 11:40 am.</td>
<td>Paediatric Vasculitides: IgA Vasculitis and Kawasaki</td>
<td>Dr. A. Migowa</td>
</tr>
<tr>
<td>11:40 – 12:00 noon.</td>
<td>Other Vasculitides in Children</td>
<td>Dr. L. Okong’o</td>
</tr>
</tbody>
</table>
12:00 – 12:30 pm. Scleroderma: Diagnosis and Management
12:30 – 12:50 pm. Looking into the future of Rheumatology Practice in Kenya

12:50 – 2:00 p.m. LUNCH BREAK

2:00 – 4:00 pm. Musculoskeletal Exam (the pGALS)
4:00 – 4:10 pm. Closure / Vote of thanks

CLOSE OF DAY

TRACK 3: INFECTIOUS DISEASES (PARALLEL SESSION)
SESSION CHAIRS – Dr. J. Mbuthia/ Prof. A. Mekasha

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 9:00 am.</td>
<td>Introduction to the Course</td>
<td>Dr. C. Chege-Karanja</td>
</tr>
<tr>
<td>9:00 – 9:30 am.</td>
<td>Key Antibiotics/ Antibiotic Groups: How do they work?</td>
<td>KNH Clinical Pharmacologist</td>
</tr>
<tr>
<td>9:30 – 10:00 am.</td>
<td>Pharmacokinetics/Pharmacodynamics basis for antibiotics</td>
<td>Dr. R. Kumar</td>
</tr>
<tr>
<td>10:00 -10:30 am.</td>
<td>Common bacterial infections and their empirical treatment</td>
<td></td>
</tr>
<tr>
<td>10:30 – 11:00 am.</td>
<td>COFFEE BREAK</td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:30 am.</td>
<td>Infections in Special Groups</td>
<td>Dr. W. Gitaka</td>
</tr>
<tr>
<td>11:30 – 12:00 noon</td>
<td>Antibiotic Resistance (mechanisms, drivers, surveillance and prevention strategies)</td>
<td>Dr. P Njuguna</td>
</tr>
<tr>
<td>12:00 - 12:30 pm.</td>
<td>Antibiotic Stewardship</td>
<td>Dr. J. Mbuthia</td>
</tr>
<tr>
<td>12:30 - 1:00 pm.</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>1:00 - 2:00 pm.</td>
<td>LUNCH BREAK</td>
<td></td>
</tr>
<tr>
<td>2:00 - 2:30 pm.</td>
<td>Challenges of Antibiotic Use in Resource Poor Countries</td>
<td>Prof. A. Mekasha</td>
</tr>
<tr>
<td>2:30 - 3:00 pm.</td>
<td>Changes in Sensitivity of Bacteriological Isolates over the last 10 years in Nairobi</td>
<td>Prof. G. Revathi</td>
</tr>
<tr>
<td>3:00 - 3:30 pm.</td>
<td>Development of an ICU Antibiotic Protocol in KNH – sharing of experience</td>
<td>Guest Speaker</td>
</tr>
<tr>
<td>3:30 - 4:00 pm.</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>4:00 - 4:30 pm.</td>
<td>Discussion and Conclusion</td>
<td></td>
</tr>
<tr>
<td>4:30 pm.</td>
<td>TEA BREAK</td>
<td></td>
</tr>
</tbody>
</table>

CLOSE OF DAY

DAY TWO - PRECONGRESS WORKSHOP: WEDNESDAY, 27TH APRIL 2016

TRACK 1:
SESSION 1: NEONATOLOGY (PARALLEL SESSION)
SESSION CHAIRS - Dr. R. Nyamai/ Prof. R. Musoke

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 - 8:00 am.</td>
<td>Registration of Participants</td>
<td>Secretariat</td>
</tr>
<tr>
<td>8:00 - 8:15 am.</td>
<td>Climate Setting, Introduction &amp; Objectives of the Meeting</td>
<td>Prof. R. Musoke</td>
</tr>
<tr>
<td>8:15 - 8:45 am.</td>
<td>MoH Neonatal Care Guidelines</td>
<td>Prof. R. Musoke</td>
</tr>
<tr>
<td></td>
<td>Overview of neonatal health in Kenya</td>
<td>A. Govoga</td>
</tr>
<tr>
<td></td>
<td>Essential Newborn Care</td>
<td>A. Miheso</td>
</tr>
<tr>
<td></td>
<td>The sick young infant using IMCI approach - Kenyan Experience</td>
<td>KPA/ KWTRP</td>
</tr>
<tr>
<td></td>
<td>Updates to the MoH Basic Paediatric Protocols</td>
<td>Prof. F. Esamai &amp; WHO</td>
</tr>
<tr>
<td></td>
<td>WHO Newborn Care Guidelines</td>
<td>Prof F. Esamai &amp; WHO</td>
</tr>
<tr>
<td></td>
<td>Management of Possible serious bacterial infections (PSBI) of the young infant where referral is not possible</td>
<td></td>
</tr>
<tr>
<td>TIME</td>
<td>ACTIVITY</td>
<td>PRESENTER</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10:45 - 11:00 am.</td>
<td>COFFEE BREAK</td>
<td></td>
</tr>
<tr>
<td>11:00 - 12:00 pm.</td>
<td>Chlorhexidine for Infection Control</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review of chlorhexidine evidence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A guideline for use of 7.1% chlorhexidine for newborn umbilical cord in Kenya</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction of 7.1% chlorhexidine for umbilical cord care for Western &amp; Nyanza regions in Kenya</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discussant</td>
<td></td>
</tr>
<tr>
<td>12:00 - 1:00 pm.</td>
<td>Kangaroo Mother Care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KMC Presentation; MoH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Panel Discussion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KMC Implementation in Kenya</td>
<td></td>
</tr>
<tr>
<td>1:00 - 2:30 pm.</td>
<td>LUNCH</td>
<td></td>
</tr>
<tr>
<td>2:30 - 3:30 pm.</td>
<td>Quality of Newborn Care in Kenya</td>
<td></td>
</tr>
<tr>
<td>3:30 - 3:45 pm.</td>
<td>Care for Child Development</td>
<td></td>
</tr>
<tr>
<td>3:45 - 4:00 pm.</td>
<td>Ethics in Neonatal Care</td>
<td></td>
</tr>
<tr>
<td>4:00 - 4:15 pm.</td>
<td>MPDSR Process in Kenya</td>
<td></td>
</tr>
<tr>
<td>4:30 - 5:00 pm.</td>
<td>Plenary Session</td>
<td></td>
</tr>
<tr>
<td>10:00 - 10:30 a.m.</td>
<td>COFFEE BREAK</td>
<td></td>
</tr>
<tr>
<td>10:30 - 11:00 am.</td>
<td>Role of Intranasal corticosteroids in paediatrics: revisited</td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:30 am.</td>
<td>Early sensitization to allergens as a marker for future disease</td>
<td></td>
</tr>
<tr>
<td>11:30 - 12:00 noon</td>
<td>Eczema essentials and the current management</td>
<td></td>
</tr>
<tr>
<td>12:00 - 12:30 pm.</td>
<td>Management of Cow’s Milk protein allergy</td>
<td></td>
</tr>
<tr>
<td>12:30 - 1:00 pm.</td>
<td>Allergy and economic inequality</td>
<td></td>
</tr>
<tr>
<td>1:00 - 1:45 pm.</td>
<td>LUNCH BREAK</td>
<td></td>
</tr>
<tr>
<td>2:00 - 2:30 pm.</td>
<td>Vaccinations and Allergy: which are the specific risks for allergic children when undergoing immunizations</td>
<td></td>
</tr>
<tr>
<td>2:30 - 3:00 pm.</td>
<td>Diagnosis of Gluten Sensitivity and wheat related allergy</td>
<td></td>
</tr>
<tr>
<td>3:00 - 3:30 pm.</td>
<td>H. Pylori and Atopic Dermatitis</td>
<td></td>
</tr>
<tr>
<td>3:30 - 4:00 pm.</td>
<td>A brief on the update of the Kenya National Guidelines on Management of Asthma in children under 5 years</td>
<td></td>
</tr>
<tr>
<td>4:00 - 4:30 pm.</td>
<td>Abstract Session and meet the experts session</td>
<td></td>
</tr>
<tr>
<td>4:30 - 5:00 pm.</td>
<td>Paediatric Asthma: what are the unmet needs?</td>
<td></td>
</tr>
<tr>
<td>5:00 pm.</td>
<td>Closing Remarks and Vote of thanks &amp; Tea</td>
<td></td>
</tr>
</tbody>
</table>
### TRACK 3: RESEARCH WORKSHOP (PARALLEL SESSION)  
**SESSION CHAIR- Dr. B. Ogutu**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 9:00 am.</td>
<td>Population Based Impact Evaluation of Health Interventions</td>
<td>Dr. A. Mbithe</td>
</tr>
<tr>
<td></td>
<td>Overview of Health Economics Evaluation: Relevance to Clinicians</td>
<td>Dr. K. Munge/ P. Nguhiu</td>
</tr>
<tr>
<td>9:00 - 9:30 am.</td>
<td>A look at the Theoretical Domains Framework &amp; Mixed Methods Research</td>
<td>Dr. J. Oliwa</td>
</tr>
<tr>
<td>9:30 - 10:00 am.</td>
<td><strong>COFFEE BREAK</strong></td>
<td></td>
</tr>
<tr>
<td>10:00 - 10:30 am.</td>
<td>Spatial Epidemiology</td>
<td>Dr. A. Noor</td>
</tr>
<tr>
<td></td>
<td>Mathematical Modelling in Biological Systems</td>
<td>Dr. R. Mbogo</td>
</tr>
<tr>
<td></td>
<td>Pharmacokinetics in Paediatrics Therapeutics</td>
<td>Dr. B. Ogutu</td>
</tr>
<tr>
<td>10:30 - 11:00 am.</td>
<td><strong>LUNCH BREAK</strong></td>
<td></td>
</tr>
<tr>
<td>11:00 - 12:00 noon</td>
<td>Understanding Audit, Quality Improvement, Quality Monitoring</td>
<td>Prof. M. English</td>
</tr>
<tr>
<td></td>
<td>(Serve Evaluation) and why Research Ethics Approval may not be needed</td>
<td>Dr. G. Irimu</td>
</tr>
<tr>
<td>12:30 - 1:30 pm.</td>
<td>Linking Quality Monitoring with feedback and local problem solving</td>
<td>Dr. P. Ayieko</td>
</tr>
<tr>
<td></td>
<td>to improve use of MUAC measurement in hospital care.</td>
<td>Dr. D. Gathara</td>
</tr>
<tr>
<td></td>
<td>Service Evaluation to track the Adoption of Policy on Treatment of</td>
<td>Dr. M. Maina</td>
</tr>
<tr>
<td></td>
<td>Severe Malaria</td>
<td>Panel</td>
</tr>
<tr>
<td>1:45 - 2:15 pm.</td>
<td>Understanding Clinical Outcomes of Hospital Admission</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- why it is important to document key clinical signs</td>
<td></td>
</tr>
<tr>
<td>2:15 - 2:45 pm.</td>
<td>Use of Unnecessary Drugs - how common is it?</td>
<td></td>
</tr>
<tr>
<td>2:45 - 3:15 pm.</td>
<td>Question and Answer Session</td>
<td></td>
</tr>
<tr>
<td>3:15 - 3:45 pm.</td>
<td><strong>ETAT + INSTRUCTORS MEETING</strong></td>
<td></td>
</tr>
<tr>
<td>5:00 - 6:30 pm.</td>
<td>Update on 2016 Basic Paediatric Protocols</td>
<td>ETAT+ Curriculum Review Team</td>
</tr>
<tr>
<td>7:00 p.m.</td>
<td>ETAT+ Cocktail</td>
<td></td>
</tr>
</tbody>
</table>

### DAY ONE OF CONGRESS: THURSDAY, 28TH APRIL 2016  
**SESSION CHAIR: Dr. Rose Kamenwa**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 8:15 am.</td>
<td>Welcome Address</td>
<td>KPA Secretary &amp; Prof. F. Esamai</td>
</tr>
<tr>
<td>8:15 - 8:35 am.</td>
<td>Food Allergy: A window of opportunity for prevention of non-communicable diseases?</td>
<td>Prof. A. Fiocchi</td>
</tr>
<tr>
<td>8:35 - 8:55 am.</td>
<td>Early life determinants of allergic diseases and the wider pandemic of non-communicable diseases</td>
<td>Dr. V. Ferro</td>
</tr>
<tr>
<td>8:55 - 9:15 am.</td>
<td>Antibiotic Surveillance</td>
<td>GSK</td>
</tr>
<tr>
<td>9:15 - 9:35 am.</td>
<td>The PCV 10 Vaccine: Updates on effectiveness and Impact</td>
<td>Dr. W. Mwiti</td>
</tr>
<tr>
<td>9:35 - 10:00 am.</td>
<td>Data-informed decision making for Paediatric Care</td>
<td>Prof. M. English</td>
</tr>
<tr>
<td>10:00 - 10:45 am.</td>
<td>Devolution in Health</td>
<td>Dr. J. Nyikal</td>
</tr>
<tr>
<td>10:25 - 10:40 am.</td>
<td>Questions</td>
<td>Panel</td>
</tr>
<tr>
<td>10:40 - 11:00 am.</td>
<td><strong>COFFEE BREAK</strong></td>
<td></td>
</tr>
</tbody>
</table>
SESSION CHAIR: Dr. T. Ngwiri

11:00 - 11:20 am. Entertainment
11:20 - 11:40 am. KPA Address
11:40 - 12:00 noon Guest Speaker: Breaching Disciplinary and Sector Boundaries: Perspective on Early Childhood Developmental and Health Interventions.

Keynote Address: Early Life Determinant; Can Advocacy Make a Difference?

Opening Ceremony: presided over by the Guest of Honor

12:00 - 12:30 pm. Guest Speaker:
Breaching Disciplinary and Sector Boundaries: Perspective on Early Childhood Developmental and Health Interventions.

Prof. K. Marfo
Dr. M. Bull, AAP
Dr. C. Mailu, CS

12:30 - 1:00 pm. Keynote Address:
Early Life Determinant; Can Advocacy Make a Difference?

Dr. M. Bull, AAP
Dr. C. Mailu, CS

1:00 – 2:00 pm. LUNCH TIME Symposium: Pain & Fever (GSK)

PARALLEL SESSIONS - 2:00 – 3:30 p.m.

SYMPOSIUM 1: DEVOLUTION AND HEALTH
SESSION CHAIR- Prof. L. Atwoli

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 – 3:30 pm.</td>
<td>Open Panel Discussion on Health Systems</td>
<td>Prof. L Atwoli, Kinuthia wa Mwangi, Dr. J. Nyikal,</td>
</tr>
</tbody>
</table>

1:00 - 2:00 pm. LUNCH

SYMPOSIUM 2: NUTRITION (PARALLEL SESSION)
SESSION CHAIR - Dr. P. Mandi

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 - 2:20 pm.</td>
<td>NCDS/ Nutrition and NCDs: The Scientific link</td>
<td>Dr. R. Kamenwa</td>
</tr>
<tr>
<td>2:20 - 2:40 pm.</td>
<td>Paediatric obesity beyond nutrition</td>
<td>Dr. V. Bandika</td>
</tr>
<tr>
<td>2:40 - 3:00 pm.</td>
<td>Environmental Enteropathies</td>
<td>Dr. A. Laving</td>
</tr>
<tr>
<td>3:00 - 3:20 pm.</td>
<td>The Celiac Iceberg</td>
<td>Dr. P. Mandi</td>
</tr>
<tr>
<td>3:20 - 3:40 pm.</td>
<td>Early life determinants of NAFLD/ NASH</td>
<td>Dr. J. Muiva</td>
</tr>
<tr>
<td>3:40 - 4:00 pm.</td>
<td>Importance of Alpha-lactalbumin in Infant Nutrition</td>
<td>Dr. D. Alaro</td>
</tr>
</tbody>
</table>

SYMPOSIUM 3: PAEDIATRICS IN DISASTER (PARALLEL SESSION)
SESSION CHAIR - Dr. D. Alaro

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 - 2:25 pm.</td>
<td>Kenya Red Cross Society Activities towards Paediatric Disaster Management</td>
<td>C. Wanyama</td>
</tr>
<tr>
<td>2:25 - 2:50 pm.</td>
<td>The Adolescent in Disasters; the role of Gertrude’s Children’s Hospital Paediatric Disaster Management Skills Teaching - Table Top Exercise + Discussion</td>
<td>Dr. Naomi Kiniu</td>
</tr>
<tr>
<td>2:50 - 3:30 pm.</td>
<td></td>
<td>Dr. M. Muriithi/ Wanyama / Dr. C. Mutinda / Dr. B Maina / Dr. N. Kiniu/ Mr. D. Odula</td>
</tr>
<tr>
<td>3:30 - 4:00 pm.</td>
<td>Poster Viewing Session</td>
<td></td>
</tr>
</tbody>
</table>

4:00 - 4:30 pm. TEA BREAK

4:30 - 6:00 pm. ANNUAL GENERAL MEETING:
Annual Scientific Networking Night

MERCK
<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 8:20 am.</td>
<td>An Overview of Genetic Disorders</td>
<td>Dr. K. Fieggen</td>
</tr>
<tr>
<td>8:20 - 8:40 am.</td>
<td>Birth Defects</td>
<td>Prof. R. Musoke</td>
</tr>
<tr>
<td>8:40 - 9:00 am.</td>
<td>Hearing Screening</td>
<td>Gertrude’s Children Hospital</td>
</tr>
<tr>
<td>9:00 - 9:20 am.</td>
<td>The Role of Paediatricians in the Management of Attention</td>
<td>Dr. S. Nesbitt</td>
</tr>
<tr>
<td>9:20 - 9:30 am.</td>
<td>Deficit Hyperactivity Disorder (ADHD)</td>
<td>Dr. W. Sinkele</td>
</tr>
<tr>
<td>9:30 - 9:50 am.</td>
<td>Question and Answer Session</td>
<td>Dr. A. Kimeu</td>
</tr>
<tr>
<td>9:50 - 10:10 am.</td>
<td>Drug and Alcohol Abuse</td>
<td>Dr. R. Ayah</td>
</tr>
<tr>
<td>10:10 - 10:30 am.</td>
<td>Trauma and Disaster</td>
<td></td>
</tr>
<tr>
<td>10:30 - 10:40 am.</td>
<td>Universal Health</td>
<td></td>
</tr>
<tr>
<td>10:30 - 11:00 am.</td>
<td>Question and Answer Session</td>
<td></td>
</tr>
<tr>
<td>10:30 - 11:00 am.</td>
<td>COFFEE BREAK</td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:10 am.</td>
<td>An overview of Lysosomal Storage Disorder</td>
<td>Dr. K. Fieggen</td>
</tr>
<tr>
<td>11:10 - 11:20 am.</td>
<td>Rare Disease Societies – The Voice of Patients in Africa</td>
<td>Kelly du Plessis</td>
</tr>
<tr>
<td>11:20 - 11:30 am.</td>
<td>Introduction to Rare Disease Society Kenya</td>
<td>Christina Mutena</td>
</tr>
<tr>
<td>11:30 - 11:40 am.</td>
<td>Question &amp; Answer Session</td>
<td></td>
</tr>
<tr>
<td>11:55 - 12:10 pm.</td>
<td>An experience from an Indian tertiary care center</td>
<td>Dr. B. Oeba</td>
</tr>
<tr>
<td>12:10 - 12:20 pm.</td>
<td>Abstract 44: Blood transfusion practices at the NBU, MTRH, Eldoret –</td>
<td>Dr. J. Thomas</td>
</tr>
<tr>
<td>12:20 - 12:30 pm.</td>
<td>Kenya</td>
<td></td>
</tr>
<tr>
<td>12:30 - 12:45 pm.</td>
<td>Abstract 18: Blood transfusion delay and outcome across county hospitals in Kenya</td>
<td></td>
</tr>
<tr>
<td>1:00 - 1:15 pm.</td>
<td>Overview of Paediatric surgical oncology services in Kenya</td>
<td></td>
</tr>
<tr>
<td>1:15 - 1:30 pm.</td>
<td>Paediatric support systems for paediatric oncology in Kenya</td>
<td></td>
</tr>
<tr>
<td>1:30 - 1:45 pm.</td>
<td>Abstract 22: Impact of living with SCD in Uganda. How location determines access to comprehensive management</td>
<td></td>
</tr>
<tr>
<td>1:45 - 2:00 pm.</td>
<td>Abstract 21: Allogeneic Transplant for SCD</td>
<td></td>
</tr>
<tr>
<td>2:00 - 2:15 pm.</td>
<td>A National SCD control program for Kenya</td>
<td></td>
</tr>
<tr>
<td>2:15 - 2:30 pm.</td>
<td>Discussion, Question &amp; Answer Session</td>
<td></td>
</tr>
<tr>
<td>2:30 - 2:45 pm.</td>
<td>Upcoming vaccinology course for Health Professionals: Concept, Target Groups and Expected Impact</td>
<td></td>
</tr>
<tr>
<td>2:45 - 3:00 pm.</td>
<td>Paradigm swing in Pneumococcal disease prevention: New Algorithm</td>
<td></td>
</tr>
<tr>
<td>3:00 - 3:15 pm.</td>
<td>Upcoming vaccinology course for Health Professionals: Concept, Target Groups and Expected Impact</td>
<td></td>
</tr>
<tr>
<td>3:15 - 3:30 pm.</td>
<td>Paradigm swing in Pneumococcal disease prevention: New Algorithm</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Activity</td>
<td>Presenter</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>11:40 - 12:00 pm.</td>
<td>Trivalent OPV to bivalent OPV switch, IPV and MR introduction in Kenya</td>
<td>Dr. C. Tabu</td>
</tr>
<tr>
<td>12:00 - 12:15 pm.</td>
<td>Rotavirus serotype surveillance: Results and Experiences in Tanzania</td>
<td>Dr. A. Hokororo</td>
</tr>
<tr>
<td>12:15 - 12:35 pm.</td>
<td>Communicating Vaccine Safety and Community involvement in Vaccine Programs: Dealing with Vaccine hesitancy and negative messaging</td>
<td>Dr. D. Munube</td>
</tr>
<tr>
<td>12:35 - 12:50 pm.</td>
<td>Vaccination for the immunocompromised</td>
<td>Dr. L. Okong’o</td>
</tr>
<tr>
<td>12:50 - 1:00 pm.</td>
<td>Question &amp; Answer Session</td>
<td>All Presenters</td>
</tr>
</tbody>
</table>

**ABSTRACT DRIVEN SESSION (PARALLEL SESSION)**

**SESSION CHAIR - Dr. R. Lopokoiyit & Dr. D. Marangu**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 - 1:00 pm.</td>
<td>Oral presentation of Abstracts</td>
<td>Various</td>
</tr>
<tr>
<td>1:00 - 2:00 pm.</td>
<td><strong>LUNCH TIME SYMPOSIUM:</strong> Empiric Treatment of RTI</td>
<td>SANOFI</td>
</tr>
<tr>
<td>2:00 - 2:25 pm.</td>
<td>The epidemiological Transition of malaria Endemicity in Kenya</td>
<td>Prof. N. Abdisalan (KEMRI/WTRL)</td>
</tr>
<tr>
<td>2:25 - 2:50 pm.</td>
<td>Pathogenesis of Anaemia in Malaria</td>
<td>Dr. M. Ongecha (KEMRI/UNM)</td>
</tr>
<tr>
<td>2:50 - 3:15 pm.</td>
<td>Treatment of uncomplicated malaria in the wake of Multi-drug Resistance Falciparum Malaria</td>
<td>Dr. B. Andagalu (KEMRI/WRP)</td>
</tr>
<tr>
<td>3:15 - 3:40 pm.</td>
<td>Treatment of Severe Malaria in Children</td>
<td>Dr. B. Ogutu</td>
</tr>
<tr>
<td>3:40 - 4:00 pm.</td>
<td>Current Status of Malaria Vaccine</td>
<td>Dr. W. Otieno (Maseno University/KEMRI-WRP)</td>
</tr>
</tbody>
</table>

**PARALLEL SESSIONS: 2:00 - 4:00 pm.**

**SYMPOSIUM 7: MALARIA**

**SESSION CHAIR - Dr. B. Ogutu**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 - 2:25 pm.</td>
<td>The epidemiological Transition of malaria Endemicity in Kenya</td>
<td>Prof. N. Abdisalan (KEMRI/WTRL)</td>
</tr>
<tr>
<td>2:25 - 2:50 pm.</td>
<td>Pathogenesis of Anaemia in Malaria</td>
<td>Dr. M. Ongecha (KEMRI/UNM)</td>
</tr>
<tr>
<td>2:50 - 3:15 pm.</td>
<td>Treatment of uncomplicated malaria in the wake of Multi-drug Resistance Falciparum Malaria</td>
<td>Dr. B. Andagalu (KEMRI/WRP)</td>
</tr>
<tr>
<td>3:15 - 3:40 pm.</td>
<td>Treatment of Severe Malaria in Children</td>
<td>Dr. B. Ogutu</td>
</tr>
<tr>
<td>3:40 - 4:00 pm.</td>
<td>Current Status of Malaria Vaccine</td>
<td>Dr. W. Otieno (Maseno University/KEMRI-WRP)</td>
</tr>
</tbody>
</table>

**SYMPOSIUM 8: CARDIOLOGY (PARALLEL SESSION)**

**SESSION CHAIRS- Dr. M. Koech/ Dr. G. Akech**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 - 2:25 pm.</td>
<td>Rheumatic Heart Disease</td>
<td>Prof. C. Jowi</td>
</tr>
<tr>
<td>2:25 - 2:50 pm.</td>
<td>Role of pulse oximetry in congenital heart disease diagnosis</td>
<td>Dr. N. Gachara</td>
</tr>
<tr>
<td>2:50 - 3:15 pm.</td>
<td>Acyanotic congenital heart disease</td>
<td>Dr. L. Mutai</td>
</tr>
<tr>
<td>3:15 - 3:40 pm.</td>
<td>Infective endocarditis</td>
<td>Dr. G. Aketch</td>
</tr>
<tr>
<td>3:40 - 4:00 pm.</td>
<td>Cyanotic congenital heart disease</td>
<td>Dr. M. Koech</td>
</tr>
</tbody>
</table>

**SYMPOSIUM 9: ENDOCRINOLOGY (PARALLEL SESSION)**

**SESSION CHAIR - Dr. R. Mukhwana**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 – 2:25 pm.</td>
<td>ICP Growth Model</td>
<td>Dr. R. Mukhwana</td>
</tr>
<tr>
<td>2:25 – 2:50 pm.</td>
<td>Patterns of Growth in SGAs</td>
<td>Dr. P. Laigong</td>
</tr>
<tr>
<td>2:50 – 3:15 pm.</td>
<td>Obesity and Type 2 Diabetes in Children</td>
<td>Dr. T. Ngwiri</td>
</tr>
<tr>
<td>3:15 – 3:40 pm.</td>
<td>Type 1 Diabetes in Children</td>
<td>Dr. L. Mungai</td>
</tr>
<tr>
<td>3:40 – 4:00 pm.</td>
<td>Changing Diabetes in Children (CDiC) - an update</td>
<td>Dr. P. Laigong’</td>
</tr>
<tr>
<td>4:00 – 4:30 pm.</td>
<td>Poster Viewing with Tea Break</td>
<td></td>
</tr>
</tbody>
</table>
### ABSTRACT DRIVEN SESSION (PARALLEL SESSION)
**SESSION CHAIR - Dr. P. Musila & Dr. Kimutai**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 - 4:00 pm.</td>
<td>Oral presentation of Abstracts</td>
<td>Various</td>
</tr>
<tr>
<td>4:00 - 4:30 pm.</td>
<td>TEA BREAK</td>
<td></td>
</tr>
</tbody>
</table>

### SESSION CHAIR - Dr. J. Oliwa

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>PRESENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:30 - 4:50 pm.</td>
<td>Rapporteurs Summary</td>
<td>Dr. B. Kigathi</td>
</tr>
<tr>
<td>4:50 - 5:00 pm.</td>
<td>Conference Resolutions</td>
<td>Dr. J. Oliwa</td>
</tr>
<tr>
<td>5:00 - 5:20 pm.</td>
<td>Appreciation of Sponsors</td>
<td>Dr. P. Ngwatu</td>
</tr>
<tr>
<td>5:20 - 5:30 pm.</td>
<td>Closing Address</td>
<td>Dr. P. Gisore</td>
</tr>
</tbody>
</table>

**CLOSE OF CONFERENCE**
SPOUSAL INVOLVEMENT IN MATERNAL AND NEWBORN CARE IN NAKURU CENTRAL DISTRICT

Kibaru E.G *, Otara A.M
Corresponding author: e-mail gathonigakinya@yahoo.com
Faculty of Health Sciences, Egerton University, P.O.Box 536-20115, Njoro, Kenya

Background: Maternal and newborn mortality has remained high in Kenya despite various efforts being applied to reduce this negative trend. Majority of these mortalities occur during the first few weeks after delivery. Male involvement is associated with improved maternal and newborn outcomes in developing countries. The objective of the study was to determine male involvement in antenatal and postnatal care and its influence on knowledge and practices of immediate maternal and newborn care among mothers attending well baby clinics

Methods: Purposive sampling of health care facilities that provide antenatal, delivery and postnatal services in Nakuru central district to include government, faith based and privately run facilities in Tier 2, 3 and 4 of health care, was done. In each of the selected health facility mothers with children aged less than one year attending well baby clinics were interviewed. Structured questionnaires were used to determine male accompaniment during antenatal and postnatal care clinics and maternal knowledge and practices on immediate care of mother and newborn. Data was processed using the SPSS software (version 20)

Results: During the period of study 499 mothers attending well baby clinics were interviewed. During antenatal clinics 40.9% of mothers were accompanied by their partners while only 29.1% were accompanied during postnatal clinics. Mothers who had higher level of education were likely to be accompanied by their partners during antenatal (P <0.05) and postnatal clinics (P<0.05) respectively. Accompaniment during the postnatal clinics was associated with likelihood of reading the mother and child health booklet (P<0.05). Convulsions (P<0.05) and breast problems (P<0.05) were positively identified as postnatal maternal danger signs by mothers who were accompanied by their partners during the antenatal clinics

Accompaniment in both antenatal and postnatal clinics affected maternal knowledge of newborn care and mothers positively identified not able to breastfeed (P<0.05) and convulsions (P<0.05) as newborn danger signs. Most Immediate newborn care practices were not affected by male accompaniment in antenatal and postnatal clinics apart from early initiation of breastfeeding for mothers who were accompanied by their partners during postnatal clinics.

Conclusion: Male partner accompaniment to antenatal care and postnatal care clinics was found to have a positive correlation to maternal antenatal and postnatal care practices including identification of maternal and neonatal danger signs. However the number of women accompanied by their spouses to antenatal care and postnatal care clinics was low. This affected the overall maternal knowledge and practices of immediate care for mothers and newborn

ANTIBIOGRAM FOR KIJABE HOSPITAL PEDIATRICS PATIENTS

Shirk A, Hennebery R, Kraus S, Barasa I, McClanahan T
AIC Kijabe Hospital, Bethany Kid’s Children’s Center, Kijabe, Kenya

Background: Noting an increase in gram negative resistance in our day to day patient diagnoses, we sought to look at our laboratory culture results as a whole to better understand their patterns of bacterial growth and resistance, establish evidence-based guidelines for empiric treatment, and ultimately, better serve our pediatrics patients.

Methods: We manually entered all 1,552 positive microbiology lab culture results from 1 June 2014 to 31 May 2015 into a MS Excel spreadsheet that was then uploaded to WHO NET5.5 database software, which was used to analyze the data for creation of the antibiogram according to Clinical and Laboratory Standards Institute (CLSI) standards. Using this software we created 2 antibiograms: one for the hospital and one for the pediatric ward.

Results: Similar to our adult antibiogram, in pediatrics, we found significant gram negative resistance across all types of
bacteria cultured (Acinetobacter baumannii, Citrobacter freundii, Enterobacter, Escherichia coli, Klebsiella pneumonia, and Pseudomonas aeruginosa.) and patterns were confirmed in the most resistant samples by affiliate laboratories. We also noted some reported Vancomycin resistance in Staph Aureus and were able to identify this as inaccurate and related to the disk diffusion method being used.

**Conclusion:** Significant gram negative resistance exists in our patient population, and we must change our empiric treatment and isolation protocols to address it. Antibiotic stewardship and careful monitoring are also going to be important as we go forward with the treatment of our most vulnerable patients.

**HYLENEX-ASSISTED RESUSCITATION IN KENYA (HARK) TRIAL FOR THE MANAGEMENT OF DEHYDRATION**

**Authors:** Zubairi H, Nelson BD, Tulshian P, Fredricks K, Odongo FO, Al Tawl Z, Burke TF  
**Affiliation:** Massachusetts General Hospital, Boston, USA

**Background:** Dehydration, mainly due diarrheal illnesses is a leading cause of childhood mortality worldwide. Intravenous (IV) therapy is the standard of care for patients unable to tolerate oral rehydration; however, placing IV’s in fragile, dehydrated veins can be challenging. Studies comparing Hylenex (hyaluronidase)-assisted subcutaneous rehydration with standard IV rehydration in children have demonstrated several benefits including safety, time and success of line placement, ease of use, satisfaction and cost-effectiveness.

**Methods:** A single arm trial assessing the feasibility of Hylenex- assisted subcutaneous infusion for treatment of children with dehydration in rural Kenyan hospitals of Siaya County. All children ≥2 months that presented with moderate-to-severely dehydrated veins with dehydration clinically warranting parenteral rehydration and had two failed IV attempts were enrolled. Study staff received training on standard dehydration management and Hylenex infusion processes. Children received all other standard of care. They were monitored from presentation and through discharge with a one week phone follow up. Any individuals with adverse reactions or concerns at the time of the phone interview returned for further evaluation.

**Results:** Thirty-one patients were enrolled (mean age 17.3 months; range 2-60 months). Twenty–one patients (67.7%) were classified with severe dehydration. The average length of subcutaneous infusion was 4.1 hours (0.5-23.0 hours). The average total subcutaneous infusion was 684.7 ml (180-1900 ml). Average time to resolution of symptoms was 3.7 hours (0.5-19 hours). There were no significant complications.

**Conclusion:** Hyaluronidase-assisted subcutaneous infusion is a feasible alternative to IV hydration in moderate-to-severely dehydrated children with difficult to obtain IV access in resource limited areas.

**A CORE CURRICULUM IN PAEDIATRIC EMERGENCY CARE FOR DISTRICT HOSPITAL LEVEL PROVIDERS IN KENYA**

**Affiliations:** African Institute for Health Transformation, Sagam Community Hospital, Sagam, Kenya; Massachusetts General Hospital, Boston, Massachusetts, USA

**Background:** Emergency care is a relatively new field in sub-Saharan Africa. While guidelines from the African Federation of Emergency Medicine (AFEM) regarding emergency training exist, a set of core competencies in paediatric emergency care has not yet been established for providers at the district hospital level.

**Methods:** A core curriculum for paediatric emergency care was developed through review of existing guidelines and literature. Seventy-five articles were identified by title or abstract, of which 60 were reviewed in full and 27 deemed relevant. Based on the literature review, core topics were chosen and agreed upon by experts in the field, including emergency care providers in Kenya as well as U.S.-based paediatric and emergency specialists with significant experience working in resource-limited settings. These topics were confirmed to be consistent with the principles of emergency care endorsed by AFEM. The curriculum was then piloted at a community hospital in western Kenya.

**Results:** The ten core paediatric topics prioritized were airway management, respiratory distress, head trauma and cervical spine management, thoracic and abdominal trauma, sepsis and shock, endocrine emergencies, altered mental status/toxicology, orthopedic emergencies, burn and wound management, and pediatric advanced life support. The topics were incorporated into
a curriculum comprised of ten 1.5-hour combined didactic plus low-fidelity simulation modules. Feedback from trainers and participating providers gave high ratings to the ease of information delivery, relevance, and appropriateness of the curriculum.

Conclusions: A set of core competencies in paediatric emergency care for district hospital level providers in Kenya has now been established and can be used as a framework for further development and implementation of training programs throughout sub-Saharan Africa.

AN INNOVATIVE, SAFE ANESTHESIA AND ANALGESIA PACKAGE FOR EMERGENT AND URGENT PAEDIATRIC PROCEDURES AND SURGERIES WHEN NO ANESTHETIST IS AVAILABLE

Affiliations: African Institute for Health Transformation, Sagam Community Hospital, Sagam, Kenya; Massachusetts General Hospital, Boston, Massachusetts, USA

Background: Adequate pain control and sedation for procedures and surgeries are crucial aspects of paediatric emergency care. Resources for administering such analgesia and anesthesia are limited in rural Kenya.

Methods: Non-anesthetist providers in western Kenya were trained in the use of a ketamine-based anesthesia package, Every Second Matters-Ketamine (ESM-Ketamine). Prospective data on the use and safety of this package for emergent and urgent paediatric procedures and surgeries was collected. Providers were surveyed as to what they would have done for similar cases if the ESM-Ketamine package had not been available.

Results: Ninety procedures were completed for 77 paediatric patients utilizing the ESM-Ketamine package. Of these, 29 (32.2%) cases were orthopaedic reductions, 19 (21.1%) were incision and drainage, and 19 (21.1%) were debridement and irrigation of burns. The remaining cases included caesarean section, repair of perineal tear, foreign body removal, arthrocentesis, laceration repair, exploratory laparotomy, excision of mass, paracentesis, and circumcision. There were no serious adverse events; 17% experienced minor adverse events including hypersalivation, hallucinations, or brief, self-resolving, oxygen desaturations. Providers were surveyed for 80 of the 90 cases as to what they would have done in the absence of the ESM-Ketamine package: in 26 cases (32.5%) they would have proceeded with the procedure without any anesthesia or analgesia, in 15 (18.75%) they would have significantly delayed the procedure while waiting for an anesthetist, in 13 (16.25%) they would have attempted referral to another facility, and in 26 (32.5%) they would have tried using an alternate form of analgesia- primarily paracetamol, ibuprofen, diclofenac, or tramadol- with or without diazepam for minor sedation. All surveyed providers reported that they would use the ESM-Ketamine package again in similar cases.

Conclusions: The ESM-Ketamine package allows for safe analgesia and anesthesia during emergent and urgent paediatric procedures and surgeries by non-anesthetists in a resource-limited setting.

ASSESSMENT OF BASIC NEWBORN RESUSCITATION CAPACITY AT SUB COUNTY HOSPITALS IN UASIN GISHU COUNTY, KENYA.

Authors: Koech M, Songok J, Kamau PT
Moi University, School Of Medicine, Eldoret

Background: Of all new-born babies, 3-6% of new-born require basic resuscitation that entails stimulation at birth and assisted ventilation with bag and a mask to help them breathe. Up to a third of neonatal deaths maybe averted by performing facility based basic neonatal resuscitation. This study aims to assess the capacity of Sub county Hospitals in Uasin Gishu County to conduct effective basic newborn resuscitation.

Methods: This will be a descriptive cross sectional study to be conducted in the six Sub county hospitals in Uasin Gishu County between January 2016 and June 2016. The Health care workers in labour wards of the hospitals will be assessed on knowledge of basic new-born resuscitation using a written test, resuscitation skills using simulation scenarios in the Emergency Triage Assessment and Treatment plus Admission (ETAT+) skills assessment tool. The new-born resuscitation equipment will be assessed for availability and functionality. Frequency tables will be used to summarize data. Descriptive statistics such as mean will be used for continuous variables whereas categorical variables will described in frequency listings and percentages. Continuous variables will be compared using Student’s t-Test while categorical

Expected Results: The level of knowledge of new-born resuscitation based on percentage scores shall be noted as poor, fair
or pass. The health workers’ skills shall be assessed and marked as competent or not competent. The hospitals basic new-born resuscitation equipment will be reported as available or not available and functional or not functional.

Conclusion: The proportion of Sub County Hospitals with the capacity to carry out effective basic new-born resuscitation.

MALARIA PARASITEMIA AMONG FEBRILE CHILDREN AND THEIR CLINICAL CHARACTERISTICS IN A MALARIA/HIV ENDEMIC REGION OF WESTERN KENYA: A CROSS-SECTIONAL COMPARATIVE STUDY

Authors: Marete, I.K.1, Mutugi, M.2, Osiero-Lagat, Z.2, Obala, A.1, Simba, J.1, & Esamai, F.1
1Moï University, School of Medicine, Eldoret. 2Jomo Kenyatta University of Agriculture & Technology, Nairobi.

Background: Fever is still a priority health problem in the paediatric population. The cause of fever in children in resource-limited settings is rarely investigated and thus clinical characteristics are relied on to make presumptive diagnosis especially for malaria. This study was to determine the prevalence of malaria parasitemia, describe the demographic, clinical and haematological characteristics of febrile children in the context of their HIV status.

Methods: A cross-sectional comparative hospital based study was carried out on febrile children seeking care in the ambulatory clinics of Webuye Level IV Hospital in western Kenya. Recruitment was done in the general paediatric clinic and the AMPATH paediatric HIV clinic. Demographic and clinical characteristics were obtained for those who met the inclusion criteria and blood samples taken for malaria parasite check and complete blood count.

Results: A total of 282 febrile HIV-infected and 332 Non-HIV-infected were recruited into the study. Prevalence of malaria parasitemia was 84% and 51.2% among HIV-infected and the non-HIV-infected febrile children respectively. Of the HIV-infected, 97% were on cotrimoxazole. The HIV-infected were significantly older than the non infected with a median age of 59 (IQR43,89) and 48(IQR36,60) respectively. The non-HIV infected group were more likely to present typically for malaria. Splenomegaly, hepatomegaly and anaemia were more common among the HIV-infected (p-value 0.000 and 0.0001 respectively). However, these HIV-infected children had generally more favourable haematological parameters (haemoglobin & MCV) compared to the HIV-non-infected (p-value ≤0.0001).

Conclusion: Malaria prevalence is still high in western Kenya especially among the HIV-infected despite the use of cotrimoxazole. There is an apparent age shift towards the older children especially among the HIV-infected children. Anti- folate resistance testing is recommended while an alternative prophylaxis is sought that prevents malaria among the HIV-infected children.

SUSTAINABLE IMPLEMENTATION OF CONTINUED POSITIVE AIRWAY PRESSURE (CPAP) IN A RURAL KENYAN HOSPITAL

Authors: Bean AE, Slater J, Tricks R
Affiliation: Chogoria PCEA Hospital
Royal College of Paediatrics and Child Health (RCPCH) Global Links Programme

Background: Prematurity and respiratory disease are leading causes of neonatal death in Kenya. It has been shown that the introduction of CPAP a simple and relatively low cost lifesaving intervention. It is important that the appropriate training, equipment maintenance and education of staff is carried out so that CPAP can remain successful and sustainable.

Methods: Two bubble CPAP machines were donated to the newborn unit in a rural Kenyan hospital. Over an eight month period doctors from the RCPCH implemented a teaching programme for local staff, formulated a guideline, audited the use of CPAP and planned for the maintenance of the devices so they could be used safely, appropriately and sustainably.

Results: The teaching programme and dissemination of the guideline improved paediatric healthcare workers ability to set up and appropriately use CPAP. All healthcare workers surveyed after teaching sessions felt more confident in the indications for CPAP, how to set up the equipment and how to care for an infant whilst on CPAP. Sustainability was also achieved through meetings with managing hospital staff to instigate and implement systems to ensure the correct maintenance of the machines.

Conclusions: CPAP is becoming a more established, effective method of managing infants with respiratory distress in lower
resource settings. However, ensuring the equipment is used in a safe and correct manner is vital, in addition to the consideration of training local staff to ensure the ongoing sustainability of its use. The study highlights that through careful planning, teaching, formulation of guidelines and audit, ongoing appropriate and safe use of CPAP can be achieved.

COMMON THEMES IN NEONATAL CARE: IDENTIFYING AREAS FOR DEVELOPMENT

Bean AE; Hayden H; Hyliger G; Otido S
Royal College of Paediatrics and Child Health, Global Links Programme

Background: Despite the progress made in reducing under five mortality in line with Millennium Development Goal four, the mortality rate remains high worldwide. The most vulnerable time is the neonatal period with 44% of deaths of children under 5 in 2013 occurring within the first 28 days of life. The aim of this analysis is to compare neonatal care in three government hospitals to uncover common themes that may be addressed to improve care and reduce Kenyan neonatal mortality.

Method: A Retrospective Review Of Case Notes Of Newborn Unit (Nbu) Admissions At Three Government Hospitals Was Conducted Over A Two Month Period. Data Was Collected On Demographics, Diagnoses, Observations And Prescriptions.

Results: A total of 310 neonates were admitted with 221 case notes reviewed (88 excluded due to unavailability of notes and 1 as they were admitted at 2 weeks of age). Performance in each area was varied across hospitals. Overall, 29% of neonates were hypothermic on admission, 4% had blood glucose documented on admission and of those, 22% were hypoglycaemic. The accuracy of prescribing first line antibiotics varied with 0.8%-18% Of gentamicin prescriptions being incorrect. Documentation of vitamin k and tetracycline eye ointment administration ranged from 21.6% To 69.7%. Overall mortality rate for the period studied was 14% (range 11-24%).

Conclusions: This analysis of clinical practice identified areas of success and those with potential for improvement. There is a need for ongoing training and education in addition to potentially improvement of the standardised neonatal admission proforma. Particular areas of strength and weakness in care varied between the hospitals, therefore be postulated that by nbu’s sharing experiences, neonatal care could be improved countrywide.

EVALUATION OF NEONATAL CARE AT EMBU LEVEL FIVE HOSPITAL: WHAT ARE WE DOING WELL AND WHAT CAN BE IMPROVED?

Bean AE; Otido S
Newborn Unit, Embu Level 5 Government Hospital
Royal College of Paediatrics and Child Health Global Links Programme

Background: Neonatal care is an important and developing area in the context of non-communicable diseases in low resource settings. A thorough service evaluation was performed at Embu Provincial level five unit enabling the quality of care to be assessed and the identification of areas to improve upon.

Methods: A total of 152 patient case records were retrospectively reviewed from admissions during September and October 2015. Information reviewed included patient demographics, observations, diagnoses, accuracy of prescriptions and mortality. Standards were based upon the Basic Paediatric Protocols from the Kenyan Ministry of Health and World Health Organisation guidance.

Results: The main areas for development identified were admission temperatures with 39% hypothermic on admission; blood glucose recording which was only measured on 5% of occasions on admission and the documentation of Tetracycline Eye Ointment and Vitamin K which was documented as being given in 70% of cases. Conversely, it also demonstrated that the accuracy of prescribing of first line antibiotics and intravenous fluids was done to a very high standard with antibiotics being prescribed accurately in 99.3% of cases and intravenous fluids accurately in 94.5% of cases.

Conclusions: The service evaluation highlighted the need for improvement in some areas of basic neonatal care. It has prompted a teaching programme for healthcare staff on the unit to be developed and increased awareness of areas to be improved upon. We hope that this in turn will have a positive impact upon neonatal morbidity and mortality on the unit.
KEEPING BABIES WARM: SIMPLE INTERVENTIONS FOR THERMAL MANAGEMENT

Hayden, HS
Global Links Programme, Royal College of Paediatrics and Child Health, Kenya

Background: Worldwide, child mortality remains high with 44% of deaths in children under 5 years occurring in the neonatal period. Hypothermia is a major contributor to neonatal morbidity and mortality, particularly in low resource settings. The World Health Organisation outlines recommendations for newborn thermal care and several papers have demonstrated success of use of plastic bags for preterm infants. This study set out to audit current practice against guidelines and to reassess practice following interventions.

Method: Retrospective review of case notes of neonates admitted to a newborn unit in a district referral hospital was carried out over a 2 month period. Baseline on data on temperature on admission was recorded. Following education on hypothermia and introduction of plastic bags at preterm deliveries, further data on temperature at admission were collected.

Results: 59 admissions to the newborn unit in 2 month period when baseline data were collected. 1 baby excluded as they were 2 weeks old at admission. Data for 52% of babies could not be found. Of the 48% of case notes reviewed, 62.5% of babies were hypothermic (range 33-40.2). Following education of medical staff, introduction of plastic bags for small and preterm infants case notes were reviewed over a 1.5 month period during which time 43 newborns were admitted. 85% of admissions had case notes reviewed, 62% remained hypothermic (range 34.6-39). Fewer proportion of babies had a temperature <35 (21% vs 2.7%) following interventions.

Conclusion: This audit mirrored results of studies that found simple interventions improve neonatal temperature but that most babies in low resource settings remain hypothermic. Documentation on standard admission proformas needs to be improved to enhance recognition and treatment of hypothermia and simple measures implemented and provided to ensure neonatal thermal management is prioritised.

HAND WASHING: PROMOTING CLEAN HABITS

Hayden, HS
Global Links Programme, Royal College of Paediatrics and Child Health, Kenya

Background: Health care acquired infections (HCAI) are a significant burden on health systems, increasing morbidity and mortality and promoting antibiotic resistance. The World Health Organisation (WHO) states that HCAI surveillance and prevention must be prioritised in healthcare settings. Simple measures, such as good hand hygiene, have been shown to prevent such infections. The Kenyan Paediatric Association (KPA) provides guidelines on hand hygiene. This study set to audit current practice against guidelines and then reaudit practice following implementations set to improve compliance with guidelines.

Methods: Hand hygiene practice in a government hospital in Kenya was measured against current guidelines. Local staff were educated on the importance of hand hygiene and were taught the correct procedure and resources provided, followed by impromptu monthly reassessment of adherence to guidelines. To aid reaudit and on-going monitoring, local staff were educated on principles of audit.

Results: Baseline compliance with guidelines was 0%. Following education of staff, provision of hand sanitiser and visual aids, compliance improved.

Hand sanitiser use:
October 87%,
November 80%,
December 100%,
January 0% when staff changed over
January 81%.

Compliance with guidelines on appropriate use of soap and water remained poor throughout the period of study
October 8%,
November 5%,
December 8%,
January 0%,
January 3%.
Conclusion: Good hand hygiene is essential to reduce HCAI and reduce antibiotic resistance. Knowledge of and compliance with guidelines remains poor in some hospitals but can be improved with simple interventions. Despite this, provision of basic resources remains poor. Hand hygiene should be actively promoted from university level, as this study also demonstrates doctors arriving at the hospital are not aware of good hand hygiene and made a priority in healthcare facilities. Healthcare workers should also be educated on audit in order to monitor and maintain good practice.

ROLE OF SERIAL C- REACTIVE PROTEIN IN DETERMINING DURATION OF ANTIBIOTIC USE FOR NEONATES WITH SUSPECTED NEONATAL SEPSIS: A RANDOMISED CONTROLLED TRIAL

Author: AHAMED, F, PROFESSOR WASUNNA. A.O, KUMAR. R
Affiliation: Department of Paediatrics and Child Health, University of Nairobi Partnership for Innovative Medical Education in Kenya (PRIME-K)

Background: Neonatal sepsis has nonspecific signs and symptoms, studies have shown that C Reactive Protein (CRP) is useful in diagnosis and guiding duration of antibiotic therapy thus preventing prolonged exposure to antibiotics.

Objectives: To determine the utility of serial CRP in determining duration of antibiotic treatment for neonates with suspected neonatal sepsis in New Born Unit at Pumwani Maternity Hospital.

Methods: A randomised controlled trial was conducted and neonates were randomly assigned by block randomisation. Patients in the control group were treated with antibiotics according to national health guidelines. Serial CRP was done for patients in the intervention group; antibiotics were stopped once two normal CRP levels 24 hours apart were Median antibiotic treatment duration was analysed using Mann Whitney U test, hospital readmission rates one week post discharge was analysed using Fishers’ exact test.

Results: A total of 120 patients were recruited, 60 assigned to each arm. The median duration of treatment in the intervention group was 6 days (IQR 4-7) and 4.5 days (3-7) in the control group (p=0.055). On per protocol analysis the median duration of antibiotic treatment in intervention and control were 6 days (4-8) and 5 days (3-7), respectively (p = 0.075). There were 4 readmissions within one week of discharge in the control group with none in the intervention group (p=0.119).

Conclusion: There was no statistically significant differences in the duration of antibiotic therapy in both groups. CRP is a safe and useful marker to guide duration of treatment in suspected neonatal sepsis.

APPROPRIATE PAPER-BASED TECHNOLOGY (APT) ASSISTIVE DEVICES FOR YOUNG CHILDREN WITH CEREBRAL PARYS in RURAL KENYA- INITIAL FINDINGS OF A FEASIBILITY STUDY

Lindoewood, R 1 Samia, P 2; Chege,D 3, Johnson,C1 Barton C 1 Powys Teaching Health Board1, Wales; Aga Khan University2, Nairobi, St Martin Disability Programme3, Nyahururu.

Background: The World Health Organisation notes a lack of assistive devices for disabled people in Africa particularly children with Cerebral Palsy. APT using cardboard to make bespoke chairs and standing frames has been introduced in several centres in rural Kenya and is potentially sustainable as the materials are cheap and available although production is labour intensive requiring training.

Methods: One centre with the most experience of APT device production was chosen and children selected to receive a bespoke device. Assessment of range or movement and participation were made at baseline and 5 months after issue of the device, with monthly visits by a rehabilitation worker to check continued suitability of the device and completion of a daily usage diary by caregivers. Interviews and a focus group are planned with participants and workers involved in the study.

Results: Three supportive chairs and three standing frames were issued to six children aged between one and six years. Reassessment of the children’s range of movements, motor ability and participation after 5 months will be made and compared with the baseline measures. Acceptability of the device and amount of usage from the diaries will also be reported. Further children will be recruited to participate in the study.

Conclusions: Young Children with Cerebral Palsy benefit from locally made bespoke APT equipment, although numbers in the initial stage of the study were small and may not be generalizable. A larger multicentre study is envisaged to help establish
longer term benefit, sustainability and acceptability of such devices.

GETTING TO KNOW CEREBRAL PALSY –PARENT EDUCATION PROGRAMME
FOCUS ON THE FEEDING MODULE

Lindoewood, R 1 Wanjagua R 2; Pape, C 1
Powys Teaching Health Board1, Wales; University of the Western Cape, South Africa 2

Background: Cerebral Palsy is a common cause of childhood disability in Kenya. Lack of specialist assessment and therapy, particularly in rural areas, means families may struggle to meet the often complex care needs of their children. This can lead to complications including contractures and malnutrition adding further challenges to children’s inclusion and participation. Getting to Know Cerebral Palsy (GTKCP) is a training resource for facilitators to empower caregivers to learn therapeutically correct skills to use in everyday activities including feeding. It was developed by an international team, based on the Hambisela materials used by Cerebral Palsy Association (Eastern Cape) in South Africa, which were trialled in Bangladesh and are now being piloted in other African Countries

Methods: A five day participatory training course using the GTKCP manual and display materials was delivered to 4 pairs of facilitators from 4 communities in the Rift Valley and Central province of Kenya by a Kenyan Physiotherapist, British Paediatrician and Paediatric Speech and Language therapist. After learning about the structure of the course, the causes of cerebral palsy and importance of postural support - the trainee facilitators prepared and delivered the feeding module to each other and a practical element to local parents

Results: All participants successfully completed the training and delivered aspects of the feeding module to parents of children with Cerebral Palsy. Their self-assessed knowledge on each module and ability to deliver a course for parents increased and feedback about the course content, materials and teaching methods was positive.

Conclusions: The GTKCP training resource appears appropriate to a Kenyan rural context, and was well received by facilitators who will run courses with parents in their local communities. Follow up and feedback from the new facilitators and parents completing the course is needed regarding any benefits to their children with cerebral palsy.

JOB SYNDROME AND PRIMARY IMMUNE DEFICIENCY (CASE PRESENTATION & DISCUSSION)

Henderson SD, Doherty C
Royal Hospital for Children, Glasgow, Scotland

Background: Job Syndrome was first described in 1966 in two girls with red hair, chronic dermatitis, recurrent staphylococcal abscesses and pneumonias. Further cases were described in 1972 who had coarse facies, eosinophilia and elevated IgE. It is named after the Biblical character Job, who was “afflicted with loathsome sores from the sole of his foot to the crown of his head.”

Methods: We present a clinical case of Job syndrome which first presented in infancy and was complicated with a necrotic pneumonia, fungal pneumonia and deep soft tissue infection. She had an eosinophilia and extremely high IgE. Diagnosis was confirmed by genetic sequencing for STAT3. A remarkable feature these invasive infections was a relative absence of an inflammatory response. This reminds us that deep infections and severe sepsis can easily be overlooked in children with primary immune deficiency (PID) with potentially catastrophic consequences.

Results: Ten warning signs are commonly used to identify those in whom a diagnosis of PID should be considered.

1. ≥ 4 new ear infections within 1 year
2. ≥ 2 serious sinus infections within 1 year
3. ≥ 2 months of oral antibiotic treatment with little effect
4. ≥ 2 episodes of pneumonia within 1 year
5. Failure of an infant to gain weight or grow normally
6. Recurrent, deep skin or organ abscesses
7. Persistent thrush in mouth or fungal infection on skin
8. Need for intravenous antibiotics to clear infections
9. ≥ 2 deep-seated infections, including septicemia
10. A family history of PID.

Conclusions: PID should be considered in any patient presenting any of the warning signs. Investigation can be costly and require the expertise of a number of specialists including paediatric immunology, infectious diseases and genetics.

IMPROVING PAEDIATRIC AND NEONATAL CARE AT CHOGORIA HOSPITAL: AN ONGOING LINK WITH THE ROYAL COLLEGE OF PAEDIATRICS AND CHILD HEALTH (RCPCH).

Bean AE; Tricks R
Royal College of Paediatrics and Child Health, Global Links Programme

Background: The RCPCH has had a link with Chogoria PCEA (Pentecostal Churches of East Africa) Hospital for almost three years and has had volunteer paediatricians working there consistently for this time. Through teaching of healthcare staff, auditing of current practice and development of services already in place, there has been progress and improvement of the paediatric and neonatal services delivered at the facility.

Methods: Particular areas of care that have been evaluated are neonatal care, the implementation of neonatal CPAP, hand hygiene practices and the consistent recording and evaluation of nutritional status of children admitted to the paediatric ward.

Results: Neonatal mortality reduced from 21.5% in 2014 to 15.8% even with an increase in the total number of admission to the newborn unit (NBU). The incidence of neonatal hypothermia on admission to NBU also reduced from 50% in 2014 to 0% in 2015. Hand hygiene practice on the NBU also improved with compliance increasing from 66% to 93.7% between December 2013 and December 2015. In paediatrics, the recording of admission weight of children admitted increased from 76% to 88.5% and documentation of Z score from 0% to 58%.

Conclusions: The consistent presence of a Global Links Volunteer at this facility over the past three years has contributed to the continued improvement in the quality of paediatric care at this hospital. Ongoing links with overseas partners such as the RCPCH contribute to and influence the sustained development and improvement of Kenyan healthcare facilities.

DIAGNOSIS OF CHILDHOOD ASTHMA IN POOR RESOURCE SETTINGS: A REVIEW

Simba, J.M1,2, Marete, I.K.1, Waihenya, R.2, Kombe, Y.3, & Ogaro, F.4
1Moi University, Eldoret. 2Jomo Kenyatta University of Agriculture & Technology, Nairobi. 3Kenya Medical Research Institute, Nairobi. 4Moi Teaching & Referral Hospital, Eldoret.

Background: The definition of asthma is by the history of respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough that vary over time and in intensity, together with variable expiratory airflow limitation. This largely descriptive definition seems to be what is used for many children in our set up who continue to be treated for asthma yet no lung function testing has ever been done. The aim of this review is to show whether clinical diagnosis of asthma without lung function tests can be relied upon in poor resource settings.

Methods: Available English literature was reviewed and examples of how asthma diagnosis has been made without lung functions tests is provided.

Results: In most developed countries, there is axillary test support especially in those above 5 years. This is difficult in developing countries and usually (>90% of the time), the diagnosis is made based on history taking. The current estimates of asthma are based on model data from ISAAC studies carried out 10 years ago. This is based on questionnaires diagnosis. There is consensus that the questions used are sensitive, some as high as above 80% and can be used to estimate asthma prevalence. Specificity for these questions is as high as above 90%. They have been validated and used in multicentre surveys. The testing for bronchial hyper-responsiveness in addition to positive questionnaire response is highly specific but not sensitive at 47%. Physician diagnosis has varied sensitivity and specificity affected by among others, the experience.

Conclusion: This review shows that, though not acknowledged and advocated for, good clinical history can be used to make a diagnosis of asthma where complementary testing is not feasible.
THE IMPACT OF A MEDICAL AND NUTRITION OUTREACH PROGRAM FOR CHILDREN LOCATED IN HARD TO REACH AREAS IN LAIKIPIA COUNTY, KENYA

Authors: Odundo GO1, Ongadi P1, Lubembe E, Asembo P and Chanzu NM1
Affiliation 1Gertrude’s Children’s Hospital, Nairobi, Kenya

Background: Laikipia County, in Kenya is often hard hit with drought and famine and thus one of the major causes of childhood morbidity and mortality in the region is malnutrition. There is a growing need to ensure the survival of these vulnerable children and their families by ensuring access of timely healthcare and nutrition support. Towards this, the Gertrude’s Children’s Hospital Foundation in collaboration with the Children’s Health and Development in Kenya (CHADIK) launched a medical and nutrition outreach program to offer targeted nutrition interventions to a population of 20,000 malnourished children located in hard to reach areas in Laikipia County, Kenya.

Methods: The target population was children aged between 0-14 years. Door to door community outreach initiatives were conducted to identify malnourished children based on anthropometric measurements. The children were kept in the program for 3 intensive follow up months. The interventions provided were food support and supplements distribution, health education and awareness on maternal nutrition, infant and young child feeding.

Results: A total number of 4,762 children have benefited from the program. Of these 916 were aged 0-6 months, 1,053 aged 7-23 months, 1,744 aged 24-59 months and 1,049 aged 5-9 years of age. 3,100 breastfeeding mothers have fully embraced exclusive breastfeeding and appropriate infant and young child feeding practices despite cultural beliefs and practice boundaries. The infant morbidity and mortality reported in Doldol, Rumuriti and Likii regions have further dropped by 14% and 5% respectively according to facility morbidity and mortality trends.

Conclusion: There is need for additional efforts towards the development of targeted nutrition intervention programs in addition to well-established surveillance systems across the country.

INVESTIGATING THE DISTRIBUTION OF MATERNAL, NEONATAL AND CHILD HEALTH SERVICES IN KENYA USING THE CO-COVERAGE SCORE

Authors: Peter K. Nguhiu1*, Kenneth K. Munge1, Phyllis Machio2, Jane M. Chuma1,2
1.KEMRI Centre for Geographic Medicine Research – Coast, and Wellcome Trust Research Programme, Nairobi, Kenya
2.School of Economics, University of Nairobi
*Corresponding Author pnguhiu@kemri-wellcome.org

Background: Kenya is aligning her health systems towards universal health coverage (UHC) through implementation of various health financing reforms. While these reforms are important, they have largely focused on resource mobilization to afford financial risk protection. It is important that financial resources availed through these reforms are used to purchase good quality health care services. Further, it is critical that the entire population is equitably covered with these services regardless of their socioeconomic status. This study aimed to visualize socioeconomic inequities in the co-coverage of tracer maternal, neonatal and child health (MNCH) services in Kenya, as a means of tracking the country’s progress towards UHC.

Methods AND Results: We used nationally representative cross sectional survey datasets (the Kenya Demographic and Health Surveys 2003, 2008-09 and 2014) representing more than 8100 women of reproductive age (15–49 years) and more than 5900 under-5 year children in each period of study. Indicators of need and use for 9 MNCH interventions were aggregated to yield coverage estimates which are presented disaggregated across socioeconomic quintiles as determined by their wealth index value. These estimates were used to calculate the survey adjusted proportion of households in need who accessed all, part or none of the services needed. Inequalities across socioeconomic quintiles are investigated using simple visual graphs. In addition, a composite coverage score (CCS) was calculated and the ratio of the CCS of the wealthiest versus the poorest quintiles (Q5/ Q1 CCI ratio) is presented as a summary measure of inequality.

Conclusion: Inequalities in coverage of key MNCH services persist in the country. The effect of newly introduced health financing reforms in Kenya on the persistence of large inequalities in facility level delivery of effective maternal health services remains to be demonstrated.
KNOWLEDGE, ATTITUDE AND PRACTICE ON PEDIATRIC PAIN MANAGEMENT AMONG NURSES IN GERTRUDE’S CHILDREN’S HOSPITAL, MUTHAIGA

KASILI P B. and LIVASIA D.
Gertrude’s Children’s Hospital

Background: Pain control in pediatric has been masked by many myths to include: Infants do not feel pain, children easily become addicted to narcotics children tolerate pain better than adults among others (O’Keeffe N, 2002). Adequate pain assessment is essential for pain relief and should begin at first encounter with the child and continue through discharge. Control of pain and stress for children is a vital component of medical care. Timely administration of analgesia affects the entire emergency medical experience and can have a lasting effect on a child’s and family’s reaction to current and future medical care (Fein J A, Zempsky W T and Cravero J P, 2012).

AIM: The study will aim to determine knowledge, attitude and practice on pediatric pain management among nurses. The dependent variables will be the knowledge, attitude and the practice of the nurses while the independent viable will be pediatric pain management.

Methods: This will be a descriptive cross sectional study design done in Gertrude’s Children’s Hospital, Muthaiga. A simple random sampling method will be used to select a sample of participants from a study population of 128 nurses who will be recruited and informed consent obtained. Data will be collected using a pretested self-administered questionnaire which will be coded for anonymity. Data collected will be cleaned, coded and entered into the Statistical products and Services Solutions (SPSS) version 21 software for analysis.

Results: this will be presented using percentages, frequency tables, pie charts and bar graphs. The study findings will be disseminated to the nurses, and Gertrude’s management for adaption and corrective action.

QUALITY OF LIFE IN CHILDREN WITH DIABETES AT KENYATTA NATIONAL HOSPITAL

Musabi Sm1, Yuko-Jowi C1, Wainaina-Mungai L1, Osano B01
1 University Of Nairobi, School Of Medicine, Department Of Pediatrics, Nairobi

Background: Health related quality of life (HRQOL) is the value assigned to duration of life as modified by, impairments, functional states, perceptions, and social opportunities that are influenced by disease, injury, treatment, or policy. Quality Of Life (QOL) assessment in children with diabetes provides valuable information on the impact of the disease on their QOL.

Objective: Assess QOL in children with diabetes compared to their non diabetic peers.

Methodology: This was a comparative cross sectional study that included 156 children aged 2 – 18 years (78 children diabetes at Kenyatta National Hospital endocrinology clinic and 78 controls from the same school as the subject matched for sex and age). Questionnaires (Pediatric quality of life (PedsQL) version 4.0 for both the groups and PedsQL diabetes module version 3.0 for children with diabetes) were administered for the diabetic group and telephone interviews were conducted for the control group. Parent proxy reports were also obtained.

Results: Mean age was 11.7± 4.3 for children with diabetes and 11.7± 4.2 for controls. Mean duration of diabetes was 35.02 ± 32 months. Diabetic patients were found to have a lower QOL than their non diabetic peers (p < 0.05). Older age, male gender, self administration of insulin and adherence to insulin therapy were associated with better HRQOL in children with diabetes. Older age was also associated with better diabetic related QOL. Age at diagnosis, duration of treatment and compliance to follow up, glycemic control, level of education of parent, residence, family setting and did not affect QOL.

Conclusion: Children with diabetes have a lower QOL compared to their non diabetic peers.

INADEQUATE EFFICACY OF CLINDAMYCIN PLUS QUININE COMPARED TO ARTEMETHER-LUMEFANTRINE IN THE TREATMENT OF CHILDREN WITH UNCOMPLICATED FALCIPARUM MALARIA IN WESTERN KENYA

Obonyo CO1, *; Juma EA1,2; Were V1; Logedi J3; Liru M4; Warsame M5; Ogutu BR2
1 Centre for Global Health Research, KEMRI, Kisumu, Kenya; 2 Centre for Clinical Research, KEMRI, Nairobi, Kenya; 3 Kenyan Ministry of Health, Nairobi, Kenya; 4 Homabay County Referral Hospital; 5 Global Malaria Programme, World Health Organization, Geneva, Switzerland.
Background: Clindamycin plus quinine is a WHO recommended non-artemisinin-based antimalarial drug combination. The evidence on the efficacy of clindamycin plus quinine compared with other antimalarial drugs is scanty, inconclusive and outdated. We conducted an open-label randomized controlled trial to evaluate the efficacy and safety of clindamycin plus quinine vs. artemether-lumefantrine in the treatment of children below 5 years of age with uncomplicated falciparum malaria in western Kenya.

Methods: A total of 384 children with uncomplicated malaria were enrolled from the outpatient clinics at Homa Bay District and Ahero Sub-District Hospitals in western Kenya and randomized (1:1) to receive oral clindamycin plus quinine or dispersible artemether-lumefantrine (AL) tablets and followed for 28 days. The primary endpoint was parasitological cure rate after 28 days of follow up, unadjusted and adjusted by genotyping to distinguish recrudescence from new infections. Secondary endpoints included parasite clearance rates, gametocyte carriage, mean change in haemoglobin, and incidence of adverse events.

Results: The unadjusted cure rate was 30.2% in the clindamycin plus quinine group and 70.3% in the AL group (p<0.0001). The adjusted cure rate was 41% in the clindamycin plus quinine arm and 86.5% in the AL arm (p<0.0001). 53% of children on the clindamycin plus quinine arm experienced early treatment failure compared to 0.6% in the AL arm. By day 3, 35% of children on clindamycin plus quinine were still parasitemic compared to none in the AL arm. Gametocyte carriage and adverse events were similar between the two groups. Three serious adverse events occurred in the clindamycin plus quinine group.

Conclusion: We found a significantly lower cure rate with clindamycin plus quinine compared to artemether-lumefantrine. These findings question the role of second-line quinine-based antimalarial drug combinations in the treatment of children with uncomplicated malaria.

Funding: EDCTP
Key words: malaria, clindamycin, quinine, artemether-lumefantrine, children, Kenya

IMPROVING CARE ON NEONATAL UNITS: A GLOBAL PROBLEM

Tricks, R. Wright, V. Olpin, J. Sheffield Childrens Hospital NHS Foundation Trust.

Background: Like many Neonatal Units in Kenya, care on the Neonatal Surgical Unit at Sheffield Children’s Hospital (UK) is provided by Interns’s with support from Paediatric Surgeons. Most of these trainees have not had specific neonatal training. A 2012 audit confirmed, despite being an High Dependency Unit, many babies were not examined regularly. Babies were not having a full admission or discharge examination. A proforma was introduced to guide the interns’s with newborn care.

Aims:
- Undertake an audit to assess whether the current version of the proforma ensures all babies are examined and have relevant follow up.
- Assess if babies are examined regularly whilst inpatients.
- Determine further improvements to the proforma.

Objectives: - Audit the following standards:

- The proforma is completed in all babies
- There is a full examination on admission and prior to discharge.
- Risk factors or abnormal findings are followed up with appropriate investigations.
- All babies have a full examination weekly including growth.
- All babies are appropriately immunised.

- Update the proforma as necessary to support this.

Methodology: In 2013 33 surgical patients admitted, following the introduction of the proforma, were audited. Subsequently the proforma was updated according to recommendations. In 2015 all new surgical admissions between January and April were audited (n=53).

Results: The introduction of the proforma improved history taking and examination of babies admitted, increasing from 57% having a complete admission in 2012 to >80% in 2015. The weekly examination section has ensured regular examination and monitoring of growth have increased from 30 to 70%.
Conclusion: Introducing Neonatal Admission Proformas, as is already occurring in some Kenyan Hospitals, can be shown to improve care. Increased input and training by Paediatricians in Kenyan Neonatal Units, as is occurring in Sheffield, will also help improve care.

SEVERE HYPERNATREMIA (SODIUM \( \geq 160 \text{ mmol} \)) IN NEONATES: EFFECTIVENESS OF A SIMPLE REHYDRATION PROTOCOL

Barasa I, Okeyo B, Kraus S, Muma S, Shirk A, Myhre J.
Author Details: Immaculate K-Barasa PO BOX 20 00220 Kijabe,Kenya. +254 721 877 053
Email: immarculate@yahoo.com
Affiliation: AIC Kijabe Hospital, Kijabe, Kenya

Background: There is a reported increase in the incidence of hypernatremia in newborns, with anecdotal reports of the same even in exclusively breastfed Kenyan newborns. In contrast to what was seen previously where hypernatremia was mainly associated with poor breast feeding practices - prelacteal feeds, sugar /salt solutions and poor formula dilution - the current rise in hypernatremia cases may not be attributable to artificial feeds.

Methods: We sought to evaluate the prevalence of hypernatremia in all babies up to 28 days of age admitted to a rural facility without dialysis facilities and rehydrated with a simple rehydration protocol. We report the discharge outcomes of infants with this diagnosis, and describe other factors which could be associated with outcome including percent weight loss at admission, associated infections, time of presentation in days post-discharge or post-delivery. Cases were defined as all newborns presenting with a sodium of >150 mmol in the first 28 days of life, and data was collected over a period of 14 months.

Results: 111 infants had a sodium above 150mmol. We present findings in a subset of 40 newborns with sodium \( \geq 160 \text{ mmol} \) (range of 160-205mmol).

The mortality rate for severe hypernatremia was 12.5% (5/40). Culture positive sepsis +/- meningitis was found in 1/3 (13/40) these patients. A poor suck needing assistance with latching was documented in 9/40 (22.5% of patients). The majority of babies had been delivered at Kijabe Hospital (30/40, 75%) and nearly half of those (14 of the 30 inborn babies) were found to be hypernatremic while still in their birth admission. 27 of the 40 (67%) were delivered by C/S, while the overall C/S delivery fraction in this time period was 43%.

Conclusion: Hypernatremic dehydration in newborns is multifactorial and a simple rehydration protocol was effective in managing majority of the newborns in this study

IMPROVING THE MANAGEMENT OF NEONATAL SEPSIS AT A LEVEL 4 KENYAN HOSPITAL

Hyliger G, Goenka A

Background: Effective clinical management of neonatal sepsis is a vital to reduce its associated morbidity and mortality. There are few reports of quality improvement projects that have successfully enhanced the care of babies with neonatal sepsis in low-resource settings.

Methods: A quality improvement project was undertaken at Karatina Subcounty hospital, a level 4 facility in Kenya. Interventions were introduced over a 4 month period from September 2015 and included small group teaching sessions, “best practice” posters and a monthly feedback. Outcome measures included: i) correct recognition of neonatal sepsis and prescription of appropriate antibiotics; ii) time from antibiotic prescription to first dose administration; iii) proportion of total prescribed antibiotic doses that were administered.

Results: There were 1097 births at Karatina hospital during the study period, of which 9.2% (101) resulted in admission to the newborn unit. Signs of sepsis were documented in the notes of 74% (72/97) of babies. Following introduction of the quality improvement package, prescription of appropriate intravenous antibiotics for babies with suspected sepsis increased from 60% to 100%. The median time from antibiotic prescription to first dose administration 1st dose decreased from 9.5 hours to 3 hours for benzylpenicillin, and from 9.5 hours to 2.5 hours for gentamicin. The proportion of prescribed benzylpenicillin that was administered increased from 62% to 87%, and gentamicin from 32% to 84%.

Conclusion: A simple quality improvement package was associated with significant enhancement in the care of babies with neonatal sepsis at a district hospital in a low-resource setting. Further work should explore the sustainability of such interventions
and their transference to similar settings.

RESULTS OF AN INFANT AND CHILDREN HEARING SCREENING PROGRAM ACROSS THREE HEALTH FACILITIES IN KENYA, JUNE 2014-DECEMBER 2015.

Authors: Gordon Otieno Odundo1, Zachary Wanjohi1, Thomas Ngwiri1, Olivia Otuoma1, Carol Muriithi1 and Nadia Musimbi Chanzu1
1Gertrude’s Children’s Hospital, Kenya
Affiliation 1Gertrude’s Children’s Hospital, Nairobi, Kenya

Background: Estimates by the World Health Organization indicate there were 32 million children living worldwide with disabling hearing loss (> 30 dB in the better ear) in the year 2015. The majority of these cases were in low and middle-income countries including sub-Saharan Africa. Early screening and detection of hearing loss is critical as this can significantly reduce the risk of permanent deafness and hearing impairment. Intervention is crucial for minimizing the impact of hearing loss on a child’s development and educational achievements. Towards this, Gertrude’s Children’s Hospital launched a hearing-screening program to identify, treat and rehabilitate infants and children with moderate, severe and profound hearing impairment.

Methods: The hearing-screening program runs across three health institutions: Gertrude’s Children’s Hospital, Machakos Level 5 Hospital and Thika Level 5 Hospital. The target population is children aged 6 weeks to 12 months of age. Hearing screenings are performed using the portable and handheld Otoacoustic emission (OAE) screening kit OtoRead™. Screening is performed in two stages: at first contact with the child during the clinic visit and the second stage is for all cases with a possibility of hearing loss, which are then referred for audiological assessment so as to establish a conclusive diagnosis before an intervention is launched.

Results: The total number of children screened by December 2015 was 13,223. Of these 11,657 (88.16%) were found to have a low risk of hearing loss, 1,566 (11.84%) had a risk of hearing loss. Of the 1,566, 21 (1.34%) attended the Hearing Care Centre at the Gertrude’s Children’s Hospital for further audiological assessments.

Conclusion: These efforts are in line with the WHO recommendations, which recommend early screening and intervention of infants and children. Early assessment, prompt diagnosis and appropriate management as required can avert nearly 50% of permanent deafness.

SURVIVAL AMONG KENYAN CHILDREN TREATED FOR ENDEMIC BURKITT LYMPHOMA BETWEEN 2003 AND 2011: A LONGITUDINAL ANALYSIS OF RISK FACTORS

Juliana A. Otieno, Geoffrey Buckle, Louise Maranda, Jodi Skiles, Ann M. Moormann
Jaramogi Oginga Odinga Teaching and Referral Hospital, Ministry of Health, Kisumu, Kenya
Indiana University School of Medicine, Indianapolis, IN, USA
University of Massachusetts Medical School, Worcester, MA, USA

Background: The evaluation of chemotherapeutics, related toxicities and supportive care associated with Burkitt lymphoma (BL) survival has recently recaptured international attention.

Objectives: A longitudinal study of children diagnosed by histology with BL in western Kenya establishes a baseline upon which to strengthen cancer care delivery in resource-constrained settings.

Methods: This prospective study includes 428 children diagnosed with BL from 2003-2011 at Jaramogi Oginga Odinga Teaching and Referral Hospital, Kisumu, Kenya. Lactate dehydrogenase (LDH), Epstein-Barr virus (EBV), hemoglobin, age, gender, tumor stage and Plasmodium falciparum malaria infection status were evaluated prior to induction of chemotherapy (cyclophosphamide, vincristine, methotrexate, prednisone and doxorubicin). Multivariate analyzes identified predictive and prognostic biomarkers for in-hospital and long-term survival.

Results: In our study, 22% children died in-hospital and 78% completed 6-courses of chemotherapy. Of those, 16% relapsed or died within 6 months, on average; 31% achieved 18-months event-free-survival; and 31% were lost to follow-up; thus the overall one-year survival was 45%. After adjusting for age, gender, tumor stage and nutritional status, hemoglobin was found to be a predictor of survival, with admission levels <8 g/dL associated with a 57% increased risk of adverse outcomes compared to children with levels >8 d/dL (HR= 1.57 [0.97 to 2.41]). In multivariate models, elevated LDH (>400 mU/ml) was associated with
increased risk of death or relapse \( \text{HR}=1.84, [0.91 \text{ to } 3.69] \). EBV load (copies/\( \mu \)g DNA) did not differ by tumor stage \( (p=0.583) \) nor was EBV level associated with survival. Malnourished children were 1.48 times more likely to die in-hospital as compared to those who were not \( [0.94 \text{ to } 2.33] \).

Conclusions: This study codifies risk factors associated with poor outcomes for pediatric BL patients in Kenya. New chemotherapeutic regimens will be compared against this historic study and allow us to measure improvements in survival within planned clinical trials.

Funding: US National Institute of Health, National Cancer Institute (K08 51565, R01 CA134054, CA189806)

PREVENING DISEASE CONDITIONS PRESENTING AT THE SICK CHILD CLINIC OF THE MAIN REFERRAL HOSPITAL IN THE NORTH RIFT REGION OF KENYA.

D.K. Nyariki, F.B. Nyamongo, A. E. Ubaga, P. O. Ouma
School of Medicine, Moi University, Kenya

Background: Infant and Child mortality remains a challenge within the Kenyan health sector. The under five and infant mortality rate as of 2014 was 52/1000 and 36/1000 live births respectively. Acute Respiratory Infections (ARTIs), malaria, and dehydration caused by severe diarrhea are the major causes of child morbidity and mortality (KDHS 2014). While these figures reflect the overall country’s burden, there exist wide disparities among various regions of the country due to difference in health resource distribution. This study therefore sought to find out the prevailing of disease among the children presenting at the Moi Teaching and Referral Hospital (MTRH), the main teaching and referral hospital in the North Rift region of the country.

Methods: We reviewed medical data of all the children who presented from the beginning of January to the end of December 2014, evaluating them by disease condition and demographic data. Ethical Approval was duly sought.

Results: A total of 29,307 patients were seen, 54.2% were males and 67.7% were under-fives. Most common conditions were ARTIs (32.4%), diarrheal illness (10.6%), accidents (8.1%) and all other diseases accounted for 48.5%.

Conclusion: ARTIs and diarrheal illnesses are the most common diseases among the children in the North Rift region. ARTIs was cited as the the leading cause of morbidity and mortality in Kenya in non-malaria endemic areas with a countrywide prevalence of 15% (NCCS, 2015-2022). Three in every 10 child seen had an ARTI. The region’s cold weather and low social economic status could be attributed to this. Diarrhea is cited as the third cause of child mortality and morbidity in Kenya with a prevalence of 9% (NSSC, 2015-2022). The higher prevalence was possibly due to the low living standards and malnutrition among patients served by the hospital. All forms of accidents clustered together formed a great percentage too probably due to the playful nature of children and their vulnerability to injuries. The high rate of traffic road accidents in the country could be a contributing factor too.

Limitations: Poor Data recording.

Funding: Moi University-School of Medicine

EXAMINING THE EFFECTS OF POLITICAL DECENTRALISATION ON HEALTH SECTOR PLANNING AND BUDGETING: A CASE STUDY OF KILIFI COUNTY IN KENYA

Key words: Decentralisation, Operational Planning, Budgeting, Priority Setting
Authors: Benjamin Tsfa 1, 3,**, Catherine Goodman1, 3, Lucy Gilson4, Sassy Molyneux1, 2, 1. KEMRI-Wellcome Trust Research Programme, P.O. Box 230-80108 Kilifi Kenya. 2. Nuffield Department of Medicine, University of Oxford. 3. Global Health Department, London School of Hygiene and Tropical Medicine. 4. Health Economic Unit, University of Cape Town – South Africa
*Corresponding author. KEMRI-Wellcome Trust Research Programme, P.O. Box 230-80108 Kilifi. Email: BTsofa@kemri-wellcome.org

Background: Health sector decentralisation has been a recurring theme in health systems reforms in developing countries. Decentralisation is promoted for its potential to strengthen community participation and accountability, and enhance technical efficiency in the management of limited health sector resources. However, most of the literature on health sector decentralisation has been descriptive, reporting outcomes of different decentralisation models, with minimal analysis of how contextual factors contribute to the observed outcomes. In 2010, Kenya passed a new constitution through a nationwide public referendum. A key feature of this constitution was the introduction of 47 semi-autonomous devolved county governments. This study aimed to describe and analyse the effects of this major political decentralization on planning and budgeting in the health sector at
the sub-national level, including the goals and intended strategies for health sector operational planning and budgeting, and stakeholder expectations and experiences of decentralisation.

Methods: We used a case study design, focusing on Kilifi County, guided by a conceptual framework which drew on decentralisation and policy analysis theories. We used three tracers: planning and budgeting for recurrent expenditures; Human Resources for Health (HRH); and Essential Medicines and Medical Supplies (EMMS) management. Qualitative data were collected through document reviews, key informant interviews, and participant and non-participant observations.

Results: We found that the Kenyan devolution was largely driven by need to address political rather that technical challenges in public sector management. To this effect, county level functions were rapidly transferred without proper structures and capacity to undertake these functions at county level leading to major disruption of public services at county level. Within the health sector, the early days witnessed perverse re-centralisation of operational financial management roles from health facility level to the county level. On HRH, there were major disruptions in staff salary payments, and political interference with and confusion over management functions, leading to industrial strikes and mass resignations by health workers. On EMMS, there was significant delays in the procurement process leading to long days of stock outs of essential drugs in health facilities. Nevertheless, over time, county governments have been establishing their structures and progressively building up their capacity, leading to a general improvement in their ability to manage devolved functions. There have also been seen some deliberate efforts to find local level solutions to some of the emerging challenges. This progress has been supported by political will to strengthen the functioning and performance of county governments, and continued public support for devolution even in the face of major service disruptions.

Conclusion: We argue that the political push for decentralisation is often stronger than the technical intentions and implementation processes. There is thus need for health sector policy actors to have a broader understanding of the countries’ political context whenever designing technical strategies for implementing health sector decentralisation. In addition, we propose that the allocation of functions between central level and decentralised units should always be guided by considerations around decision space, organisational structure and capacity, and accountability arrangements and practices within the health system. There is also need for more health sector decentralisation empirical studies that provide an analysis of broader country level political context so as to provide a better understanding of the outcomes of health sector decentralisation.

INTRODUCTION OF CONTINUOUS POSITIVE AIRWAY PRESSURE FOR NEONATAL AND PAEDIATRIC PATIENTS IN TEN KENYAN HOSPITALS

Olayo, B.1; Kendi, C.1; Adudans, S1; Benckert, M.2; Moresky, R.2,3; Wilson, P.4
1Center of Public Health and Development, Nairobi, Kenya
2Population and Family Health, Columbia University Mailman School of Public Health, New York, USA
3Department of Medicine, Division of Emergency Medicine Columbia University Medical Center, New York, USA
4Pediatric Critical Care Medicine, Columbia University Medical Center, New York, USA

Background: To reduce the burden of morbidity and mortality caused by pneumonia, sepsis and prematurity in paediatric patients, continuous positive airway pressure (CPAP) was introduced into ten hospitals in Kenya. The program used a Training-of-Trainers model to ensure sustainability and monitoring and evaluation was performed.

Methods: Clinicians were asked to complete a one page monitoring and evaluation form each time CPAP was applied on a paediatric patient. Patient demographics, indication, duration, type of healthcare provider applying CPAP and adverse events were included in the monitoring and evaluation. Forms were collected monthly and data entered into an Excel database.

Results: Over an 18 month period 886 uses of CPAP were documented. Median age (n=850) was 1 day (0 - 4,166), median weight (n=872) was 2.4 kg (0.6 - 28) and 56% (500/886) were male. The most commonly reported indications for usage were prematurity (n=500), pneumonia (n=243), sepsis (n=66), birth asphyxia (n=42), and malaria (n=40); patients may have more than one diagnosis. Median duration of usage (n=796) was 20 hours (0.2 - 476), 70% (617/885) of applications occurred in the newborn nursery or equivalent and 58% (513/877) involved a nurse. Adverse events reported were nose injury (n=9), nasal bleeding (n=7), vomiting (n=6), eye injury (n=5) and aspiration pneumonia (n=3).

Conclusions: We describe the usage of CPAP in ten Kenyan hospitals following the implementation of a Training-of-Trainers program. Prematurity was the most common indication for CPAP and nurses were the most common healthcare provider applying the device. The rate of adverse events was low with the majority being nasal injury. On-going monitoring and evaluation will ensure safety and provide quality assurance of the training program.
PREVALENCE OF DIABETIC NEPHROPATHY AMONG DIABETIC CHILDREN ATTENDING OUTPATIENT CLINIC AT MOI TEACHING AND REFERRAL HOSPITAL.

Adnaan M.1 Nabakwe, E.2 and Ganda, B.O.K.3
MMed Pediatrics1, Senior lecturer Moi University2, Chief Medical Specialist Moi Teaching and Referral Hospital3

Background: Type 1 DM, is caused by insulin deficiency. The reported incidence in of 37 to 45 per 100000 children occurs in Finland and Sardinia. In Nigeria and Tanzania the prevalence was 33/100000 and 1.5/100000 respectively. Diabetic nephropathy defined as urinary albumin excretion above 300 mg/day and is caused by sustained hyperglycaemia and hypertension. In Tanzania, the prevalence of microalbuminuria was 12% in type 1 DM. There is need to screen for pediatric diabetic nephropathy which has been mistaken to be a condition of adults.

Objective: To determine the prevalence of diabetic nephropathy among children seen at the diabetic outpatient clinic at Moi Teaching and Referral Hospital(MTRH), Eldoret-Kenya.

Methodology: A cross sectional study design was used. Data was collected from 80 participants attending the diabetic outpatient clinic at MTRH using a questionnaire. Blood pressure was measured and a spot urine sample was collected to measure urinary albumin and creatinine. The most recent HbA1c level was recorded from the file. Data was analyzed using SAS version 9.3 at 95% confidence level.

Results: Out of the 80 participants, 48% were female, 43% were aged 10-14 years. The mean age at diagnosis of diabetes was 7 years while the mean duration with diabetes was 4.2 years. The prevalence of diabetic nephropathy was (n=1) 1% and those with microalbuminuria was (n=6) 7.5%. The prevalence of hypertension was 6%. The mean HbA1c was 11.3%. The mean HbA1c among patients with diabetic nephropathy was higher than those without. However the difference was not statistically significant (p-value=0.641).

Conclusion: Overt diabetic nephropathy is not a major concern in children attending the diabetic outpatient clinic at Moi teaching and Referral Hospital. However there is a need there is a need to screen for microalbuminuria.

Key Words: Diabetic nephropathy, children, microalbuminuria

UNDERSTANDING THE CRITICAL FACTORS FOR DEVELOPING A SUSTAINABLE TRAINING PROGRAMME

Eadsforth H
National Resuscitation Council of Kenya, Nairobi

Background: GRASPIT (Global Recognition and Assessment of the Sick patient, Intervention and Treatment) is a one-day course developed over the past 5 years for delivery in Kenyan hospitals by an ‘in house’ training faculty. It focuses on the importance of recognising deteriorating and acutely unwell paediatric and adult patients, making simple interventions and using effective communication to escalate patient care. The course complements ETAT training as a refresher or introduction to paediatric emergencies. The GRASPIT course suits a model of local delivery as training is only one-day duration and covers fundamental concepts. There was variable uptake of training at initial hospitals therefore we undertook a process to understand critical factors for success when implementing a new training programme.

Methods: A literature review was undertaken to identify possible critical factors for training success. This informed a self-reported screening questionnaire which was aimed to identify suitable hospitals for the introduction of GRASPIT training. Selected hospitals will be offered faculty training, materials and equipment, network support and follow up monitoring and evaluation. RESULT: 9/20 hospitals responded to the initial questionnaire. 6 of these received follow up visits. 4 of these hospitals were finally selected based on their assessed capacity/willingness, infrastructure and need. All have agreed to commit local resources to the training.

Conclusion: This experience shows there is willingness from Kenyan Government hospitals to engage with a different model training programme where there is expectation of handing over the responsibility for delivery to a local faculty. Selection has been based on the combination of a needs analysis and presence of presumed success factors. The next phase is to see if this translates into sustainable local delivery over the 12 month follow period of the project.
GOVERNMENT HOSPITAL UPTAKE OF SUSTAINABLE LOCALLY DELIVERED MATERNITY AND NEONATAL TRAINING PROGRAM

Vidler K
National Resuscitation Council of Kenya, Nairobi

Background: Maternity and neonatal GRASPIT (Global Recognition and Assessment of Sick Patient, Intervention and Treatment) is a one-day course developed in 2015 for delivery in Kenyan hospitals by an ‘in house’ training faculty. It focuses on the importance of recognising patient deterioration and obstetric and neonatal emergencies, making a systematic assessment, applying simple interventions and using effective communication to escalate patient care. The GRASPIT course suits a model of local delivery as training is only one-day duration and covers fundamental concepts.

Methods: 3 hospitals in 2 Kenyan counties were approached for initial training and TOT. The hospitals were offered teaching materials and equipment, network support and follow up monitoring and evaluation. They are expected to take responsibility for ongoing course organisation and sustainability.

Result: 3 hospitals were willing to be involved in delivering the course. 1 of these is now running independent courses. To date 25 staff members at this hospital have been trained and there are 8 local trainers. They have identified and trained all in house staff who require maternity and neonatal training and are independently rolling out training to staff in rural clinics as well as refresher courses. The other 2 hospitals remain engaged with the GRASPIT network.

Conclusions: This experience suggests that there is a need for this type of training. There appears to be willingness from Kenyan Government hospitals to engage with a different model for training programmes where there is expectation of handing over the responsibility for delivery to their local faculty. This is supported by our experience with other GRASPIT courses. The next phase is to support establishing sustainable training in the other two hospitals before contemplating wider dissemination.

PROCALCITONIN IN THE CLINICAL PRACTICE

Becze, Zsolt MD
County Hospital Siófok, Department of ENT, Siófok, Hungary

Background: The use of procalcitonin (PCT) as a surrogate biomarker is an approach to more tailored management of systemic infections and guidance of antibiotic therapy. PCT can help us in finding the etiology and diagnosis of febrile conditions both in Emergency Rooms (ERs) and Intensive Care Units (ICUs). It gives a value to PCT to change the therapeutic decision and PCT can be used to reduce antibiotic duration in different settings and infections with similar medical outcomes. In these terms, its use has been best documented in respiratory tract infections (RTIs) and sepsis. The kinetics of the marker is coding the prognostic value in bacterial infections and sepsis as decreasing kinetics is associated with good, while increasing or stagnating PCT levels are associated with poor clinical outcome. PCT guidance has a differential effect on initial prescription and/or cease of antibiotic therapy depending on the severity of infection and/or the clinical setting. Important to note that one hour delay with the appropriate antibiotic (ATB) administration results in roughly 8% increase in the mortality of septic patients. Shortening antibiotic exposure has been shown to significantly reduce the risk of antibiotic-related side effects in individual patients and reduce the incidence of multidrug resistance on a population level beside the economic benefits. Based on outcome data of 11 randomized controlled intervention studies enrolling more than 3500 patients, PCT-guided antibiotic therapy is proven to be safe in RTIs and sepsis. Further analysis is necessary to evaluate cost-effectiveness of current PCT algorithms in different (extra-pulmonary) settings and healthcare systems while considering antibiotics as a natural resource. Future intervention trials are needed to broaden the knowledge of PCT guidance in non-European countries, and to expand application in disease states other than RTIs and sepsis. This includes settings where nonbacterial infections such as malaria, which is known to cause high PCT levels, might be considered in the differential diagnosis. The rational of PCT use is shown through landmark studies that reflect the efficiency and safety of the approach not only the cost reduction in the patient’s treatment. These trials are focusing mainly the RTIs and sepsis but also give strongholds in case of any other infections that could be of interest in Africa like discrimination between tuberculosis (TB) versus lower respiratory tract infections (LRTIs) or early detection of bacterial infections in immune-compromised hosts e.g. in case of HIV/AIDS infected. In all cases the adequate therapy performed in time can save lives...

Results And Conclusion: The author also will demonstrate own experiences regarding daily routine use of PCT in intensive care settings and show examples how to reduce the antibiotic administration on a safe and rational way. These case presentations will cover bacterial, viral and fungal infections as well. PCT behaves differently in these infections and the ability to interpret of the values is important to make the relevant clinical decision.

DIAGNOSTIC CHALLENGES IN NEONATAL TUBERCULOSIS EXPOSURE IN PERSISTENT SPUTUM POSITIVE MATERNAL TUBERCULOSIS: A CASE REPORT:

Authors: Chesire E.1, Kiilu C.1, Simba J.1, Ogaro F.2
Moi University1; Moi Teaching and Referral Hospital, Eldoret2.
chesiresemily@gmail.com

Background: Congenital tuberculosis is a rare but life threatening condition, with a mortality rate of up to 60%. It has non-specific clinical presentation in the neonatal population. Early and accurate diagnosis is imperative but difficult. We highlight management of a neonate whose mother had positive sputum five months into treatment, in which we could not find evidence of tuberculosis.

CASE REPORT: Baby E. U., a male baby delivered at forty weeks gestation, via spontaneous vaginal delivery, weighing 2.7 kilograms, to a para 5+0, 32 year old mother. Baby presented to hospital with a four week history of somnolence and a three week history of poor feeding. Mother had been on treatment since 24 weeks of pregnancy and remained positive both in Ziehl Nielsen staining for acid fast bacilli and Genexpert®. She gave history of medication compliance. Clinical findings at admission were, wasting, hypoglycemia, hypothermia, microcephaly and other dysmorphic features. Chest radiograph done was normal, with subsequent negative gene expert for both Cerebrospinal Fluid and gastric aspirate. An ultrasound of the liver was normal. Maternal sputum gene expert did not show Rifampicin or Isoniazid resistance, but sputum culture results are pending. The child was continued on isoniazid prophylaxis since there was no evidence of active Tuberculosis infection. The baby has had stable weight gain.

Conclusion: We shall highlight the challenges encountered during management of this neonate and the difficulties that can arise in management of such children.

AN AUDIT OF BIRTH ASPHYXIA IN A LEVEL 5 HOSPITAL IN KENYA

Ndung’u MN1, Nyotu, RG1, Otido,SS1.
Embu level V hospital1.

Background : Birth asphyxia is a significant cause of morbidity and mortality among the neonatal group. In resource restrained setups more emphasis is put on preventing 4 patients 52% were delivered by caesarian section while 48% by spontaneous vertex delivery. Total neonatal deaths were 38 with 13(34.2%) having a diagnosis of birth asphyxia. Spontaneous vertex delivery (SVD) was found to have a higher rate of mortality in the study group. SVD accounted for 69% of all mortalities reviewed versus 31% in patients delivered via caesarian section.

Conclusion: A closer collaboration between maternity and pediatric departments is important to improve prevention and management of birth asphyxia in a resource restrained setup.

THORACIC AORTIC ANEURYSM IN A 4 YEAR OLD: A RARE PRESENTATION:

Authors:Kiilu C.1, Simba J.1, Marete I.1, Koech M.M.1.
Moi University1.

Background: A thoracic aortic aneurysm is a dilatation of the aorta above the diaphragm that is either localized or diffuse, with a diameter 150% of the normal. There are many forms of classification but commonly based on the location. DeBakey Classification is into three: Type I: involves ascending and descending aorta; Type II: involves ascending aorta only; Type III: involves descending aorta only, commencing after the origin of the left subclavian artery. There is little information on epidemiology in under fives. In the ageing it’s at 3.5/100,000 population. Etiology is genetic such as syndromes and familial; and non-genetic, such as age, prior dissection, arteritis, among others.

CASE REPORT: A four year old girl was referred to us in February 2015, with a history of lethargy and cough for two weeks. She later developed right-sided hemiparesis with respiratory difficulty and a newly developed squint. She was not in heart failure and had unilateral ‘crepitations’ and a murmur on assessment. Chest X-ray done, showed a circular chest mass on the left superior mediastinal region. Echocardiogram showed pulmonary stenosis. However head Computerized Tomography (CT) scan revealed brain atrophy and normal pressure hydrocephalus. To consolidate the chest and intracranial findings further chest investigations were done. A chest ultrasound showed features suggestive of aneurismal dilatation of the aorta. Chest CT scan showed severe dilatation of the aorta, distal to its origin at the left subclavian artery, with evidence of an aneurysm and a thrombus. She was
put on anticoagulation therapy and advised on definitive surgical management abroad. The patient’s lower limb weakness resolved, with partial recovery of arm function. The squint persisted. She was discharged on long term anticoagulation but was lost to follow-up after her August 2015 clinic.

Conclusion: We shall highlight the clinical difficulties in diagnosis and management in pediatric population.

PEDIATRIC HAEMATOPOIETIC STEM CELL TRANSPLANT - AN EXPERIENCE FROM INDIAN TERTIARY CARE CENTER

Dr Shah C1 , Dr Bohara V1, Dr Karanwal A1 and Dr Shah R1
1 Apollo –CBCC Cancer Care, Ahmedabad, India

Background: Considerable progress has been made in HSCT in pediatric malignant and nonmalignant conditions. Furthermore, there has been a considerable expansion of pediatric diseases successfully treated following HSCT, utilization of alternative donor stem-cell sources, new developments in conditioning, and identification of late effects in pediatric HSCT recipients. We describe our experience of pediatric HSCT over past few years

Methods: Patients aged less than 18 years of age at the time of HSCT were included in the analysis. All of the patients received peripheral blood stem cell graft except one who underwent bone marrow stem cell transplant. Data was analyzed in term of rates of engraftment, Day 100 and disease free survival.

Results: Eighteen patients underwent HSCT of which seven (39%) patients had thalassemia major (TM), six (34%) had acute myeloid leukemia, Hodgkin lymphoma was present in two (12%) and one patient (5%) each had neuroblastoma, non-Hodgkin lymphoma and aplastic anemia respectively. Barring two (neuroblastoma, non-Hodgkin lymphoma), all of the transplants were allogeneic HSCT. Of sixteen allogeneic HSCT, haploidentical stem cells were used as graft in three patients (19%). All patients engrafted and Day 100 survival was 100%. Following this, three patients with AML relapsed while one patient with neuroblastoma and TM expired during follow up. As of now, of the entire cohort, long term survival is (73%)

Conclusion: HSCT in pediatric population is an important treatment modality especially for life threatening illnesses such as AML and neuroblastoma and chronic illnesses like TM and sickle cell anemia. Children tolerate transplant better than adults, and have significantly better results, including lower mortality, low graft versus host disease

ALLOGENEIC TRANSPLANTATION FOR SICKLE CELL DISEASE

Dr Shah C1 , Dr Bohara V1, Dr Karanwal A1 and Dr Shah R1
1 Apollo –CBCC Cancer Care, Ahmedabad, India

Background: The only proven curative therapy for patients with SCD is myeloablative conditioning with allogeneic hematopoietic cell transplantation (HCT) from a human leukocyte antigen (HLA) matched sibling donor. Unlike in Thalassemia, the current dilemma concerning HCT for SCD revolves around patient selection and criteria for transplant.

Methods And Results: In several series of patients who have undergone HCT for SCD using matched sibling donor, five-year survival rates were 90 to 97 percent, transplant-related mortality was 7 to 10 percent and SCD-free survival of 80 to 90 percent. As the proportion of individuals with sibling donors remains small, the possibility of using unrelated donors has also been investigated. Familial haploidentical HCT with posttransplant cyclophosphamide is a feasible approach to expand the donor pool in patients with SCD with favourable results. Efforts to use nonmyeloablative transplantation strategies in adults logically followed but were initially met with largely disappointing results. Limitations to the use of HCT in patients with SCD include the variability of the clinical course, which preclude predictions of which patients might benefit from HCT, transplant-related risks because of pulmonary and neurologic disease in patients with advanced SCD, and the need for a HLA-matched sibling donor. For younger patients, below about 10 years of age, benefits of transplant outweigh risks clearly. Over 90% of these patients generally are cured of sickle cell disease.

Conclusions: Awareness of this success rate and safety needs to reach pediatricians as well as families suffering from this disease. For many patients who are suffering with more serious or debilitating complications, even the slightly higher risk of alternate donor transplant (matched unrelated or haploidentical) may be worthwhile.
HYPOVOLEMIC SHOCK IN CHILDREN WITH DEHYDRATION ADMITTED TO KENYAN HOSPITALS: PREVALENCE, TREATMENT AND OUTCOMES

Author: Mbevi G.1, Ayieko P1, Irimu G1, 2, 3, Oliwa J1, English M1, 4
1.Kemri-Wellcome Trust Research Programme, Nairobi
2.Department of Pediatrics and Child Health, University of Nairobi
3.Kenyatta National Hospital, Nairobi
4.Nuffield Department of Medicine, University of Oxford, Oxford, UK

Background: Hypovolemic shock due to diarrhoea and dehydration is a leading cause of hospital admission among children in developing countries. There are limited data on the magnitude, management and outcomes of diarrheal diseases in Kenyan hospitals. Data on hypovolemic shock are even rarer. We thus undertook this study to examine the prevalence, treatment and outcome of children hospitalized with hypovolemic shock in 14 Kenyan hospitals.

Methods: Data for admissions aged 2 months -16 years admitted with acute medical diagnoses to 14 hospitals participating in the Kenyan Clinical Information Network (CIN) established in 2013/2014 were analysed. Data collection was conducted as soon as possible after discharge by trained data clerks through abstracting data from inpatient paper records into a non-propriety electronic tool, REDCap. Admission assessment of signs of severe illness and specific features of diarrhea/dehydration, treatment processes and outcomes were recorded.

Results: Overall, data were available from 37,027 patients of whom 7,660 (20.7%) had dehydration with 303 (4%) of the dehydrated children presenting with hypovolemic shock. The overall prevalence of hypovolemic shock was 0.9% (319 out of 37,027). The median age of presentation with shock was 23 months (IQR 10-48). Impairment of circulation was the most frequently documented feature of shock 279 (87.5%). The remaining features of shock (weak pulse, altered consciousness, sunken eyes, temperature gradient) were documented in between 52.9 and 65.4% of cases. Intravenous fluid boluses were prescribed to 34.5% of all patients with hypovolemic shock and 78.4% of the boluses were correct fluid type (Ringers lactate/Hartmann). The mortality rate among children with hypovolemic shock was 42.6%.

Conclusion: Mortality rates in children admitted with hypovolemic shock are high. Considering intravenous fluid type, bolus duration and bolus volume then a significant proportion of children with hypovolemic shock might not be receiving recommended treatment.

BLOOD TRANSFUSION DELAY AND OUTCOME ACROSS COUNTY HOSPITALS IN KENYA

Thomas J1, Ayieko P1, English M12
1.KEMRI Wellcome Trust Research Programme, Nairobi, Kenya
2.Nuffield Department of Medicine, University of Oxford, Oxford, UK

Background: Severe anaemia mostly attributable to malaria is a leading indication for blood transfusion and an important cause of hospital admission and mortality in African children. The inability to initiate blood transfusion rapidly enough to save lives has been identified as a contributing factor to malarial anaemia deaths in sub Saharan Africa. This paper aims to examine the ability of clinicians to access blood when needed in malaria endemic regions in Kenya and to examine documented evidence of any delays in transfusion in Kenyan hospitals.

Method: Children admitted to the 14 Kenyan county hospitals participating in the Clinical Information Network, with non-surgical conditions who had blood transfusion ordered from September 2013 to March 2016 were studied. Data on blood transfusion practices, related risk factors, diagnoses and final outcome at discharge of children presenting to the hospitals were collected. The delay in blood transfusion was calculated from the date when blood transfusion is prescribed to date of actual transfusion.

Results: A total of 2,661 (4%) admissions had blood transfusion ordered. Of these 1910 (72%) had malaria, 272 (10%) had sickle cell disease, 143 (5%) had both malaria and sickle cell disease and 622 (23%) had other diagnoses. Overall, 1,211 (46%) children who had blood transfusion ordered at admission had haemoglobin < 5g/dl. Out of all the ordered transfusions 2,184 (82%) were actually given, and 1,622 (74%) were given on the same day as ordered. Overall, most blood prescriptions (81.7%) and transfusions (61.8%) were done on the first day of admission. There were 97 (30%) deaths mostly occurring on the first day, with the group of children who were not transfused recording marginally higher mortality (46.5%), compared to those who were transfused (24.3%).
Conclusion: Malaria remains the leading cause of blood transfusion in acute childhood illnesses. There still exist significant delays between blood transfusion orders and actual transfusion. The mortality among children ordered blood transfusion remains high pointing to a need for addressing the identified gaps in transfusion practices. High cases of mortality on first day among those who were never transfused could be attributed to delay in accessing blood, whereas for those who were transfused; the severity in their illness and the possibility of accessing blood when it was already too late.

VITAL SIGNS ASSESSMENT IN CHILDREN ADMITTED WITH ACUTE ILLNESSES IN KENYAN COUNTY HOSPITALS.

Ogero ,M1, Ayieko.P1, English.M12
1.KEMRI Wellcome Trust Research Programme, Nairobi, Kenya
2.Nuffield Department of Medicine, University of Oxford, Oxford, UK

Background: Regular measurement and correct interpretation of vital signs (VS) enhances early recognition of deterioration in severe childhood illness. Automation of monitoring, and documentation of vital signs is widespread in developed countries and within critical care in developing countries. However, for majority of severely ill children in developing countries admitted to general medical wards monitoring and documentation of vital signs is still done manually. Little is known about the frequency of monitoring vital signs, level of documentation and accuracy of the documented measurements.

Objective: To determine the completeness and accuracy of documentation of vital signs in severe childhood illness in Kenyan hospitals.

Methods: Children admitted with non-surgical conditions to 13 Kenyan county hospitals participating in the Clinical Information Network between September 2013 and March 2016 were studied. Documented VS (Temperature, Respiratory rate and Pulse rate) measurements were analysed linked to patient’s age, gender, admission diagnosis, length of stay and outcome.

Results: Data were available for 57957 patients including 31721(54.7%) males. The median age was 19 (IQR, 9-44) months. Overall in-hospital mortality was 3606 (6.2%). All three VS were assessed in 40.5% of admissions while 28.6% were not assessed at all. Temperature was the most documented VS (68.3%) while respiratory rate and pulse rate were documented in 60.7% and 44.5%, respectively. At least 43.9% of patients did not have any VS documented in the first 48 hours of admission. End digit preference was evident in respiratory rate and pulse rate where 79% of the end-digits were even numbers.

Conclusion: All VS should be accurately observed in all admissions and monitored regularly. Additional studies are needed to determine optimal frequency of monitoring paediatric patients considering staffing and workload changes in general wards in developing countries.

MORTALITY AMONG 5 -17 YEAR OLD CHILDREN IN KENYA

Osano, BO.1, 2 Were, FN.1 Mathews, S.2
Affiliation:
1.University of Nairobi, College of Health Sciences, Nairobi, Kenya.
2.University of Cape Town, Cape Town, South Africa

Background: Global mortality trends have changed over time and are expected to continue changing. Increased survival of children beyond five years may change mortality patterns for children aged 6-18 years. There are few studies in Africa that explore the causes of mortality in children above the age of five.

Objective: This study sought to determine the mortality rate and diagnoses of children aged 5-17 years who died in six Kenyan hospitals in 2013.

Methods: Retrospective review of patients’ medical records to abstract data on diagnosis at death for those who died between 1st January to 31stDecember 2013. Data was analysed to provide descriptive statistics and explored differences in mortality rates between age categories and gender.

Results: We retrieved 4,520 patient records from the hospitals studied. The in-hospital mortality rate was 3.5% (95% CI 3.0-4.1). Among the deaths, 60% suffered from communicable diseases, maternal and nutritional causes; 41.3% suffered from non-communicable diseases and 11.9% had injuries. Common clinical diagnoses among patients who died were HIV/AIDS,
respiratory tract infections and malaria. There were variations in deaths between the ages and there were more male (57%) deaths.

Conclusion: Infectious causes such as respiratory tract infections, HIV/AIDS and malaria had the highest proportion diagnoses among children aged 5-17 years who died.

IMPACT OF LIVING WITH SICKLE CELL DISEASE IN UGANDA: HOW LOCATION DETERMINES ACCESS TO COMPREHENSIVE MANAGEMENT

Watterson C, Mageean K
Affiliations: Kayunga District Hospital, Uganda; Kamuli District Hospital, Uganda; Royal College of Paediatrics and Child Health Global Links Programme UK

Background: Sickle cell disease (SCD) is the commonest inherited, haematological non-communicable disease (NCD) in Ugandan children, and requires monitoring in order to prevent and treat complications. SCD affects 2.8% of newborns, of which 50-80% are at risk of death before reproductive age, and contributes approximately 16.2% of the Under 5 Mortality Rate (U5MR). Uganda has achieved a 61% reduction in U5MR over 12 years; the focus is now on reducing mortality from NCDs.

Methods: We compared routine treatment of a cohort of patients with SCD in an area with a regular specialist clinic with two areas relying on district hospitals and private clinics. Data collected included age at diagnosis, current medications and number of admissions and blood transfusions in the last year. Local guidelines were used as the gold standard for treatment.

Results: For the specialist clinic patients, mean age at diagnosis was 3.1 years. 90-100% received regular folic acid, multivitamins and Fansidar prophylaxis; 20% had insufficient pneumococcal protection; 30% were admitted in the past year with only 10% requiring transfusion.

For district area patients, average age at diagnosis was 3.7 years. 80% received folic acid, only 10% multivitamins and 20% Fansidar, and 60% had insufficient pneumococcal protection. 90% were admitted within the last year with 80% requiring transfusion.

Conclusions: Our cohort suggests that patients attending specialist SCD clinic are more likely to receive regular, essential medicines and less likely to be admitted or transfused. Simple, affordable, comprehensive programmes at district level may be successful and sustainable with support from specialist care, pharmacy and public health services. Reduction in mortality from SCD could be achieved at outpatient level with accessible maintenance medications, vaccinations and good nutrition. Open access to inpatient care for timely blood transfusion and surgery is also vital in order to prevent catastrophic health expenditure for carers.

OUTCOMES OF PREMATURE NEONATES WITH RESPIRATORY DISTRESS SYNDROME MANAGED AT MOI TEACHING AND REFERRAL HOSPITAL, ELDORET, KENYA.

Authors: Namulala, E.S1, Ng’etich E2, Nyandiko, W. M1

1.Moi University, School of Medicine, Eldoret.
2.Moi Teaching and Referral Hospital, Eldoret.

Background: Preterm birth is the leading cause of newborn deaths and second amongst children under five years worldwide. Over a million children die annually due to complications of prematurity yet three quarters could be saved with current, cost-effective interventions. Respiratory distress syndrome (RDS) occurs almost exclusively in premature infants. The incidence and severity are related inversely to the gestational age. Enormous strides have been made in management leading to improvements in morbidity and mortality in infants with the condition including the use of gentler modes of ventilation which have resulted in the survival of extremely premature infants. Continuous Positive Airway Pressure (CPAP) used in developed countries for decades has reduced morbidity and mortality as well as the need for mechanical ventilation. As a result it is increasingly used as a first choice for ventilator support in tertiary centers.

Objective: To determine the outcomes of premature neonates with RDS managed in the newborn unit at Moi Teaching and Referral Hospital (MTRH), Eldoret.

Methodology: A prospective descriptive study conducted in the newborn unit at MTRH (Riley Mother Baby Hospital), Eldoret. The study population comprised all premature neonates clinically diagnosed to have RDS managed at the unit with a minimum
sample size of 94 using consecutive sampling. Data was collected using a pretested structured questionnaire and analyzed using STATA version 13. Descriptive statistics were used for continuous variables and frequency listings for categorical data. Chi square test was used to show associations among different variables with a p-value < 0.05 considered statistically significant at 95% CI. Kaplan and Meier survival curves were drawn for the groups on CPAP and those not on CPAP.

Results: 94 neonates were enrolled into the study and followed until discharge or death for primary and at 6 weeks for secondary outcomes. There were 40 (42.6%) males and 54 (57.4%) females. Only 6 (6.4%) neonates were put on CPAP initially with an additional 53 (56.4%) being started on CPAP later giving us a total of 59 (62.8%) managed on CPAP with 95% CI (52.2, 72.5). Of the population on CPAP, 39 (66.1%) died while 20 (21.3%) were alive at day 10 whereas 19 (54.3%) of those not on CPAP died while 16 (45.7%) survived with a p-value of 0.255. Of the 6 whose initial treatment was CPAP, half died within the first 10 days while one remained on supplemental oxygen at 6 weeks.

Conclusion And Recommendation: A third of babies with RDS managed on CPAP at the newborn unit survived to day 10 of life whereas about a half of those not managed on CPAP survived to the same day. CPAP as an initial remedy improved survival to 50% but increased risk for complications. Further studies need to be done with all babies being started on CPAP as an initial modality to determine its effect on treatment outcome of RDS in the unit.

THE ABSENCE OF ENDEMIC HIGHLAND MALARIA IN LAIKIPIA COUNTY, KENYA: POLICY AND RECOMMENDATIONS

Hauck, SJ - Nanyuki County Referral Hospital, Departments of Paediatrics and Laboratory Sciences, Nanyuki, Kenya
Schuurmans, J - Nanyuki County Referral Hospital, Nanyuki, Kenya
Mwananchane, A - Nanyuki County Referral Hospital, Department of Paediatrics, Nanyuki, Kenya
Kilonzo, SM - Nanyuki County Referral Hospital, Medical Superintendent and Head of Paediatrics, Nanyuki, Kenya

Background: In many parts of Kenya, malaria is a leading cause of morbidity and mortality and contributes to 20% of all admissions to health facilities and between 30-50% of all outpatient care. While several studies have shown high rates of epidemic malaria in the western highlands of Kenya, none has been reported in the central highlands of Kenya. Despite the widespread abundance and impact of malaria, the Mount Kenya highlands are considered transmission free zones, safe from Anopheles breeding due to consistently low temperatures and high altitudes. This study investigates the prevalence of endemic highland P. falciparum malaria to determine whether malaria is a significant cause of tropical febrile illness in Laikipia County.

Methods: Retrospective blood smear data for 5,579 patients (both positive and negative results) was reviewed and counted by date from Nanyuki County Referral Hospital (NCRH) lab reports between January 2012 and December 2015. From this data, we calculated period prevalence by month for malaria cases. Secondly, a prospective cross sectional study was conducted in the pediatric ward at NCRH from May 2014 to January 2015.

Results: 181 paediatric inpatients were tested for malaria on admission with signs of a tropical febrile illness using rapid diagnostic tests. Of 5579 blood smears analyzed, only 181 blood smears were positive for P. falciparum, totaling 3.24%. Furthermore, none of the 181 pediatric rapid diagnostic tests were positive for malaria.

Conclusions: Therefore, we cautiously conclude that there is no active malaria transmission in the high altitude zones of Laikipia County (above 1600 m), including parts of Meru and Nyeri Counties. The study strongly suggests that malaria is not a major cause of childhood febrile illness in this region and scarce resources should be used to target the management of other childhood illnesses such as pneumonia, gastroenteritis, malnutrition and meningitis.

FACTORS ASSOCIATED WITH NON-COMPLETION OF IMMUNIZATIONS AMONG CHILDREN AGED TWO TO FIVE YEARS RECEIVING SERVICES AT THE KENYATTA NATIONAL HOSPITAL

Muathe E1, Gichuhi J1, Mutua R1, Kinuthia J1, Inwani I1
1Kenyatta National Hospital, Nairobi, Kenya

Background: Despite efforts by the Kenyan government to improve immunization coverage, completion rates remain low at 68% (KDHS 2014) below the recommended 95% by the World Health Organization (WHO). We sought to determine factors associated with non-completion among children aged two to five years receiving services at the Kenyatta National Hospital (KNH).
Methods: We conducted a cross-sectional survey among randomly selected caregivers of children 2-5 years old accessing services within KNH in September 2015. A semi-structured interviewer-administered questionnaire was used for data collection. Data on immunization status was derived from the ministry of health mother-child booklet or verbal reports. We used chi-square test of independence to detect differences among caregivers whose children completed immunization versus those who did not.

Results: We enrolled 360 caregivers, 310 (86.1%) being biological mothers, 83.1% married, 87.9% with at least secondary school education, 68% residents of Nairobi. Most (68.5%), caregivers were in possession of the mother-child booklet, 92.0% of the children were delivered in a health facility and 92% got information about immunizations. Overall, the completion rate per WHO definition was 94.7%. Only half (50.8%) received 18 month measles vaccine and 22.7% did not adhere to the scheduled immunization dates with approximately half citing lack of awareness of newly introduced vaccines as the reason for non-compliance. Non-completion was associated with delivery outside a health facility (p<0.001), non-receipt of information on immunization (p<0.001) and not having the mother-child booklet (p<0.001).

Conclusions: Hospital delivery, immunization education and availability of mother-baby booklet were highly associated with immunization completion. To achieve the sustainable development goals, facility delivery and education on immunization with supporting health systems need to be strengthened.

BREASTFEEDING OF CHILDREN 0-24 MONTHS IN BUSIA DISTRICT; PATTERN AND BARRIERS

Modi J; Wafula E; Wamalwa D
Department Of Paediatrics, University Of Nairobi

Background: Many studies show there are beneficial effects of breastfeeding during infancy on chronic diseases in adulthood, particularly on hypertension, obesity, diabetes, hypercholesterolemia, and cardiovascular diseases. This assessment of the district breastfeeding situation is an essential step in designing county-specific strategies to promote optimal breastfeeding and child survival. Western Kenya recorded the lowest rate of initiation of breastfeeding within the first one hour and the highest rate of prelacteal feeding according to the KDHS 2008/2009

Objectives: The objectives of the study were to describe the patterns of breastfeeding of children 0-24 months in Busia District. It was also to identify the barriers (exclusive breastfeeding before six months, timely initiation of breastfeeding and use of prelacteal feeds) to breastfeeding and was to explore measures to discourage the use of prelacteal feeds.

Methodology: A cross-sectional community survey of children aged 0-24 months with their mothers was carried out. An interviewer administered questionnaire and a Focus Group Discussion were used. Logistic regression was used to test the significance of practices and to analyze socio-demographic characteristics associated with feeding practices.

Results: 51.3% of babies were put to the breast within one hour after birth. Prelacteal feeding was highest in Matayos (27.9%) and Namnale (25.7%) divisions. Exclusive breastfeeding below six months was higher than the national average (86.3% versus 61%). Home delivery, lack of antenatal clinic (ANC) attendance and failure to receive information on breastfeeding during ANC encourage prelacteal feeding. Some cultural beliefs surrounding breastfeeding hinder both initiation and sustained breastfeeding.

Conclusions: Timely initiation of breastfeeding is still low in Busia District. Grandmothers have a significant influence on how children are breastfed.

SCRATCHING THE SURFACE OF RABIES: A CASE REPORT OF FEVERS AND NEUROLOGICAL DETERIORATION AFTER A CAT BITE

Hayden HS
Global Links Programme, Royal College of Paediatrics and Child Health, Kenya

2 year old male patient presented with fever and irritability 3 weeks after being bitten by a wild cat. On examination he was irritable but with no focal neurology. Kernig’s sign was negative, respiratory, cardiovascular and gastrointestinal systems were normal. Full blood count was normal and blood slide for Malaria parasite negative. A course of rabies vaccine was initiated and the child was commenced on benzyl penicillin, gentamicin, metronidazole and paracetamol. He had attended a peripheral health facility 1 day post bite and received antibiotics for his wounds only.
Over the following 2 days following admission, the child developed tremor, hypersalivation and periods of hyperactivity with continuous fevers and irritability. Antibiotic was changed to Ceftriaxone. On the 4th day following admission, conscious level reduced and symptoms of respiratory distress developed. Following further respiratory and neurological deterioration, the child had a cardiac arrest and died.

In the case described above, no definitive cause for the child’s illness was found although he had several features of rabies.

Rabies is caused by Lyssavirus. A person becomes infected following a scratch or bite from an infected mammal. 5 genotypes of the lyssavirus are endemic to Kenya and an estimated 2000 humans die of rabies annually. Post exposure prophylaxis is available in Kenya but treatment can be a financial burden for some families.

This case describes a child at risk of rabies that was not recognised at presentation following a wild animal bite when there were no symptoms of the virus at which time, rabies vaccination should have been initiated and child referred. This demonstrates that there should be increased awareness of rabies in areas where human animal conflict is possible and that cases of rabies may be underreported. Further to this testing should be more available in order to make diagnosis possible.

NEWBORN AND INFANT SCREENING SURVEY

Murila F, Ndegwa S, Irungu C, Ayugi J.
Affiliation: University of Nairobi, Kenya

Background: Universal newborn hearing screening focuses on providing the earliest possible diagnosis for infants with permanent hearing loss. The goal is to prevent or minimize the consequences of sensorineural hearing loss on speech and language development through timely and effective diagnosis and interventions. Clinicians are in a key position to educate families about the importance of follow-up, if they are well informed. The objective of this study was to survey the attitudes, practices, and knowledge of clinicians on hearing screening and follow-up.

Methodology: A questionnaire regarding practices, knowledge, and attitudes related to universal newborn hearing screening was given to clinicians attending The annual Kenya Paediatrics Association and the annual Kenya Ear Nose and Throat Association annual conferences in the year 2015.

Results: The number of respondents was 138 and the male to female ratio was 1:1. The majority (56.9%) of these worked in the public service. Clinicians reported a high level of support for universal newborn hearing screening; 77% judged it to be very important to screen all newborns for hearing loss at birth. Only 26% of the clinicians reported confidence in talking with parents about screening results and the majority knew the causes of infantile hearing. The majority (82%) felt that their training had not prepared them to meet the needs of infants with permanent hearing loss. The most common concern was lack of access to hearing centres (22.7%) followed by the need to have the teaching on newborn hearing screen introduced into the postgraduate training (17.3%), while 16% cited lack of information about the problem.

Conclusion: Clinicians recognize the benefits of early detection and intervention for permanent hearing loss in infants. There is need to educate clinicians on the methods of screening and the interventions and to increase access to assessment hearing centres.

MTRH EXPERIENCE

Cheptinga Kipkurui Philip
MOI TEACHING & REFERRAL HOSPITAL, ELDORET KENYA,

Background: The syndrome of acute kidney injury (AKI) occurs frequently in hospitalized patients, leading to increased morbidity, mortality, and healthcare expenditure. In the context of a precipitating insult, disturbances in both global and microcirculatory renal blood flow, tubular cell damage, and activation of proinflammatory pathways lead to impairment of numerous elements of renal function. Classification systems, including the recent ‘Kidney Disease: Improving Global Outcomes’ (KDIGO) classification, typically define and stage AKI in terms of the magnitude of rise in serum creatinine (SCr) and the presence of oliguria. At present there is no cure for AKI and the key principles of its management include early recognition, haemodynamic optimization, correction of hypovolaemia, ceasing and avoidance of nephrotoxic medications, and treatment of the underlying cause. Recent data show that the type and volume of fluid therapy can affect
renal function and that further guidance is required. In the future it is hoped that novel technologies, including biomarkers and real-time measurement of glomerular filtration rate will allow the earlier identification of patients with AKI, whilst a greater understanding of the pathogenesis of AKI will lead to the identification of new therapeutic targets. Despite Scr usually recovering after an episode of AKI, there is growing recognition that survivors of AKI are at an increased risk of subsequent chronic kidney disease, including end-stage renal failure and premature death.

Estimated 13.3 million cases every year, Estimated to be 11.3 million cases in LIC. Estimated 1.7 million deaths per year. Estimated 1.4 million of those deaths occur in LIC. 2.4 million deaths reported in children < 5 years, 0.62 million died from malaria, 1.4 million from diarrheal diseases, the second leading cause of mortality in this age group after severe lower respiratory tract infections. Estimated that the pneumococcal vaccine and rotavirus vaccine would reduce mortality from pneumonia and diarrheal diseases in children by 25-45%.

Methods: Peritoneal dialysis as therapy of choice: Preferred modality of renal replacement therapy, due to its adaptability to the low-technology environments frequently encountered in healthcare facilities in Kenya. In a similar environment, PD has been shown to perform comparably to hemodialysis (HD).

Results: Saving young lives, reduced referral to KNH and the implementation of this model is now being pursued at Iten and Kabarnet District Hospitals in Elgeyo Marakwet and Baringo Counties, which have a different developmental situation concerning treatment of AKI.

Conclusions: Members go out to clinics and secondary hospitals in MTRH’s catchment zone to inform and raise awareness: On early Diagnosis of AKI, treatment, Referral, documentation and Prevention, especially among children and women of childbearing age.

JOUBERT’S SYNDROME, POLYCYSTIC KIDNEY DISEASE AND HOME-BASED PERITONEAL DIALYSIS IN NAIROBI

Grace M Musiime, Doris MW Kinuthia, Donald P Oyatsi, Wangui Manguyu.
1. Gertrude’s Children’s Hospital, Nairobi.
2. The Aga Khan University Hospital, Nairobi.

Corresponding Author: Dr Grace Musiime gm.musiime@gmail.com/gmusiime@gerties.org.

Background: Joubert’s syndrome is a rare condition affecting 1:80,000 to 1:100,000 newborns; there is underdevelopment of the cerebellar vermis resulting in a characteristic molar tooth sign on cross sectional axial magnetic resonance imaging (MRI). It can occur in association with renal anomalies. To date, there are no cases of Joubert’s Syndrome and Related Disorders (JSRD) in East Africa described in the literature.

Case Report: An 8 year old female child of a consanguineous couple was diagnosed in Joubert’s Syndrome in her first year of life; she was noted to have dysmorphic facies and hypotonia in the neonatal period, cranial MRI showed dysplasia of the cerebellar vermis and typical molar tooth sign. She was subsequently lost to follow up for several years and later presented with anaemia. Further investigation revealed bilateral multicystic kidneys and significant renal impairment consistent with a diagnosis of end stage renal failure and polycystic kidney disease. Peritoneal dialysis was initiated in hospital and is currently being administered in her place of residence.

Conclusions: Joubert’s Syndrome has a variable range of clinical features. Home-based peritoneal dialysis is feasible in Kenya. Although it is scarcely provided in African countries, it is a cost-effective renal replacement strategy for patients with end stage renal disease.
Low-Technology Solutions To Combat Child Mortality

Every 20 seconds a child under 5 years of age dies from an acute respiratory infection. Most of these deaths occur in low-and middle-income countries. Advanced airway management is not practical in many of these settings secondary to lack of trained personnel, technology and monitoring capabilities. An alternative to support children in acute respiratory distress until definitive therapy takes effect is Continuous Positive Airway Pressure (CPAP).

CPAP is a low-technology device which can be used in resource-limited settings to aid in treatment of respiratory distress. CPHD supported by the GE foundation has partnered with SIDHARTE (Systems Improvement at District Hospitals and Regional Training on Emergency Care) team of Columbia University and The Kenya Paediatric Association (KPA) to introduce CPAP machines and train health workers on use of the same in Kenyan Hospitals.

CPAP has been introduced in Thirteen Hospitals across the country. CPAP On-job trainings are on-going at the facility level on a regular basis. CPAP has been applied on 1,032 patients so far.

Visit the CPHD stand for more information