Program:

1. Presence of a multidisciplinary audience including healthcare workers of all cadres, administrators and policy makers.
2. Presentations by local experts.
3. Presentations from hospital administrators from the public and private sector.
4. Presence of national and senior county leadership.
5. Launch of the Kenya Sepsis Alliance.
6. Roll-out of the Modified Sepsis Pathway for resource-limited facilities.

Payment Details:

1. Account Name: Critical Care Society of Kenya
   Bank: Diamond Trust Bank
   Branch: Parklands
   Account No: 0050275839001
2. Mpesa Paybill No: 516600
   Account No. 0050275839001

Symposium Opportunities:

1. Opportunity to exhibit products to a wide audience from Uasin Gishu County and countrywide.
2. Networking opportunities with hospital administrators from public and private sector.

For more information, contact:
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Website: https://criticalcarekenya.co.ke/
Kenya Sepsis Symposium
Boma Inn, Eldoret
Friday, September 13th, 2019

A. Symposium Objectives
Sustainable Development Goal No.3 (SDG-3) of the World Health Organisation seeks to ensure that universal healthcare (UHC) for all becomes a reality, even in underserved populations. Resource-limitation and lack of protocolised care have been identified as major causes of poor outcomes among the critically ill in low to middle income countries. The implementation of a standardised approach to sepsis recognition and sepsis management in Kenya is therefore key to improving the quality of care offered to our patients, irrespective of the healthcare facility they are managed in. For this reason, on the 13th September 2019, the African Sepsis Alliance, in conjunction with the Critical Care Society of Kenya will hold the Kenya Sepsis Symposium in Eldoret, Kenya at a meeting intended to attract healthcare workers of all cadres, administrators and policy makers. We plan to roll out a modified sepsis pathway for low-resource settings for implementation in our healthcare facilities as we officially launch the Kenya Sepsis Alliance to champion sepsis activities locally.

B. Programme

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<td>8:00am-8:30am</td>
<td>Registration</td>
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<td>8:30am-9:00am</td>
<td>Opening Ceremony: CEC Health, Uasin Gishu County</td>
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<tr>
<td>9:00am-9:20am</td>
<td>Sepsis Recognition and Current Recommendations in Sepsis Management – Dr. Charles Kwobah, Lecturer, Moi University School of Medicine</td>
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<td>9:20am-9:40am</td>
<td>Sepsis Care in the Public Sector: Opportunities and Challenges- Dr. Fatma Some, Chair of Department of Medicine, Moi University School of Medicine</td>
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<td>9:40am-10:00am</td>
<td>Sepsis and Septic Shock-Experiences from an A&amp;E at a Tertiary Referral Hospital- Dr. Simiyu Tabu, Head, Emergency Department, Moi Teaching and Referral Hospital</td>
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<td>10:00am-10:20am</td>
<td>Panel Discussion (Q&amp;A)</td>
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<td>10:20am-10:40am</td>
<td>TEA BREAK</td>
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<td>10:40am-11:00am</td>
<td>Antibiotic Resistance in Kenya – Dr. Enoch Omonge, Senior Lecturer in Infectious Disease, University of Nairobi</td>
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<td>11:00am-11:20am</td>
<td>Anti-Bacterial Susceptibility Patterns of Blood Culture Isolates at Moi Teaching and Referral Hospital (2002-2013)- Edith Apondi, Lecturer, Department of Child Health and Paediatrics, Moi University, Eldoret</td>
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<td>11:20am-11:40am</td>
<td>Antibiotic Stewardship - Prof Reena Shah, Consultant in Infectious Diseases, Aga Khan University, Nairobi</td>
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<td>11:40am-12:00pm</td>
<td>Antibiotic Stewardship: an Administrator’s Perspective- Dr. Majid Twahir, Associate Dean and</td>
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12:00pm-12:30pm  Panel Discussion (Q&A)

12:30pm-1:30pm  Lunch

1:30pm-1:50pm  Nursing: The Heart of Quality Improvement in Sepsis Care – Dr. Eunice Ndirangu, Chair, Nursing Council of Kenya and Dean School of Nursing and Midwifery, Aga Khan University Nairobi and Mrs Eunice Tole, Head of Quality and Risk, Aga Khan University Hospital, Nairobi

1:50pm-2:00pm  The Critical Care Society of Kenya and Sepsis Care: Empowering Practitioners to Deliver- Dr. Idris Chikophe

2:00pm-2:10pm  Industry Support in Sepsis- Crown Healthcare

2:40pm-3:00pm  Launch of the Sepsis Pathway for Resource-Constrained Facilities- Dr. Wangari Siika, Chair, Kenya Sepsis Alliance

2:10pm-2:40pm  Launch of the Kenya Sepsis Alliance Dr. Evelyn Wesangula, Head, Antimicrobial Resistance, Ministry of Health

3:00pm-3:30pm  Q&A

3:30pm-4:00pm  Closing Ceremony- Chief Guest, HE Governor Jackson Mandago

3:30pm-4:00pm  Tea/Facility Registration for Sepsis Pathway

C. Speaker Bios and Abstracts

Sepsis Care in the Public Sector: Opportunities and Challenges – Dr. Fatma Some

Background: Sepsis is a syndrome of life-threatening organ dysfunction due to a dysregulated host response to infection. It is common worldwide, carries a high mortality, with worse outcomes in LMIC. In SSA, data is limited but some studies have identified high morbidity and mortality. Some reasons for these are; environmental degradation, widespread malnutrition, high rates of bacterial, parasitic and HIV infections. In Kenya, the bulk of such patients are seen in public hospitals, which have limited resources. We have used Moi Teaching and Referral Hospital (MTRH), to highlight the clinical care, opportunities and challenges encountered in sepsis care.

Setting: MTRH, based in western Kenya, is the second national public referral hospital in the country, with bed capacity of 1000, and daily out-patient attendance of 1200 patients. Most of the patients with sepsis are referred from other facilities, arrive in critical condition requiring ICU care, which is limited by space; hence the majority are managed on the wards. Respiratory infections, associated with HIV are common. Outcomes are variable, with mortality of over 50% recorded in ICU.

Challenges include late patient presentation, limited ICU capacity, shortage of drugs and other supplies; lack of adequate laboratory back-up; growing antibiotic resistance, shortage of trained staff, lack of patient isolation, and limited data. Other challenges include poor coordination with peripheral hospitals. Opportunities include awareness for early diagnosis and management; development of care protocols; improvement on equipment, laboratory and other supplies; staff training; development of data system;
empowerment of county facilities and strengthening of referral system, and opportunity for research.

**Conclusion:** Sepsis care in the public sector is still sub-optimal, with poor outcomes due to late presentation and limited resources. We need awareness creation, capacity building, early recognition and management protocols at primary, secondary and tertiary levels of care, and improved equipment and other supplies.

**Dr. Fatma Some** is a Consultant Physician in the Moi Teaching and Referral Hospital Medical Division, with a long medical career in both the private and public sectors. Dr. Some received her undergraduate and post-graduate degrees from the University of Nairobi and is a Fellow of the College of Physicians of East, Central and Southern Africa College of Physicians (ECSACOP) and the Royal College of Physicians (FRCP) of Edinburgh. She is the current Head of the Department of Medicine at the School of Medicine, Moi University, a Technical Advisor for Adult HIV Care in AMPATH, and Head of the GI/Hepatology Unit. She is also a Researcher with Moi University Clinical Research Centre. Her interest is in ensuring quality healthcare for all.

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Sepsis and Septic Shock - Experiences from an A&E at a Tertiary Referral Hospital – Dr. John Simiyu Tabu

**Background:** Untreated or inadequately treated cases of sepsis can lead to severe sepsis or septic shock, which are associated with high mortality and morbidity and high burden of costs. Early diagnosis of sepsis is essential for successful treatment with favorable outcome. Moi teaching referral hospital (MTRH) is a level six public health facility located in Western Kenya with a catchment of over 22 Million people from the whole of Western Kenya, the South Rift, South Sudan and Uganda. The hospital collaborates with Moi University and AMPATH and has over 1000 in-patient beds with occupancy of over 100%. The ICU beds are close to 20 though several centers of excellence Neurosurgery, CU, PACU, Renal, Haemato-oncology have set-ups similar to ICU/HDU.

**Methods:** Though a specialized care facility with several centers of excellence including renal, haemato-oncology, Orthopedic, ICU, Riley Mother and Baby the hospital also attends to general patients majority being from the host county. At the Adult ED alone the hospital attends to over 8000 patients in 24 hours; this excludes other out-patient clinics ENT, Ophthalmology, Dental, private wings, Specialized clinics and Pediatrics. Close to 2000 of these patients are seen on the Emergency side. Our presentation will be descriptive based on experiences from the adult Emergency Department (ED). An interview guide will be administered during a meeting by the ED team including Nursing, Health records information, pharmacy, Clinicians and consultants.

**Results and discussion:** This will include the trend in numbers of patients seen over the last 6 months and their morbid conditions, lab capacity towards investigating patients suspected to have sepsis. The investigations include Full hemogram, serum electrolyte and lactate levels, blood gas analysis, plasma procalcitonin and C reactive protein. We report how often these requests are made from the ED.

We plan to report the most commonly used antibiotics at the ED for patients suspected to have sepsis from soft tissue, open fractures and the weapon wounded. We will share existing protocols from the Orthopaedics, General surgery, Renal, haemato-oncology and the field experience.
The hospital is unique and clients experience includes co-morbidities, HIV/Aids, NCDs, and inability to finance cost of treatment. This may delay and complicate management. Additionally, ICU space is limiting and the hospital is overwhelmed with patients medical and surgical who require ICU/HDU.

**Conclusion:** Our experience highlights the need for increased sensitization across the hospital and other referring facilities on high index of suspicion for sepsis/septic shock and ability to determine the source. Being a teaching institution there is need to interest residents and other senior faculty to research on this important area and establish protocols for management of patients with sepsis and septic shock. We advocate for adequate health cover that supports early presentation to hospital for investigation and appropriate management.

**Dr. John Simiyu Tabu** is a Consultant Trauma Surgeon, a Lecturer in the Department of Disaster Risk Management at Moi University and Head of the Accident and Emergency Department at the Moi Teaching and Referral Hospital in Eldoret. He has a Masters degree in Surgery from the University of Nairobi. His areas of expertise are disaster management and mass casualty management.

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**Antimicrobial Resistance And The Need For Antimicrobial Stewardship – Dr. Enoch Omonge**

Antimicrobial resistance is a global crisis driven by both appropriate and inappropriate antimicrobial use to treat human illness and promote animal growth. In this paper the global burden and drivers of antimicrobial resistance will be examined. We will review the challenges faced by resource constrained setting and interventions requisite for effective antibiotic stewardship. The bacterial agents and mechanisms of bacterial resistance will be briefly discussed. Available surveillance data from some of the tertiary facilities in Kenya will be looked at alongside data from resource rich countries. Interventions including inculcating the culture of evidence basis for antimicrobial use, appropriate protocolised treatment and appropriate pharmacokinetic and pharmacodynamics consideration in determination of adequacy of treatment will be given mention. Our strategy to combat antimicrobial resistance has started with a clear national policy on prevention and containment of AMR. A multi-sectoral engagement is vital in responding to this challenge.

**Enoch Omonge** is a specialist physician with interest in infectious disease pharmacotherapy. Since 2012 he has taken keen interest in examining and using hospital surveillance data in generating evidence-based treatment protocols. He chaired the antimicrobial stewardship committee at the KNH since its inception in 2012 until 2018. Dr. Omonge is currently a member of the National Stewardship Initiative, and continues to offer support to various medical facilities in establishing and strengthening stewardship interventions.

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**Anti-Bacterial Susceptibility Patterns Of Blood Culture Isolates At Moi Teaching And Referral Hospital (2002-2013) – Dr. Edith Apondi**

**Background:** Hospital treatment guidelines are often guided by scientific evidence of efficacy of the anti-microbial agents. In developing countries, most of the treatment guidelines are adopted from the World Health Organization (WHO). However, local
data is often needed to confirm or adjust these guidelines to suit a local situation.

**Design:** This was a retrospective data review of routine blood culture isolates retrieved from the Microbiology Register at MTRH for the 2002 to 2013. The aim was to outline the isolates and to describe their antibiotic susceptibility patterns.

**Results:** The medical wards and the pediatric wards accounted for 26% each, while the NBU accounted for 19% of the blood culture specimens sent for analysis. Positivity was highest in the NBU at 62% (29% positivity for the pediatric and 19% for the adult medical wards). K pneumonia was the commonest isolate at 22%, 83% of which were from the NBU. K pneumonia isolate had resistance of over 80% towards the commonly used Cephalosporins (Ceftriaxone and Cefipime) and Gentamycin, and had indications of emergence of resistance towards the Carbapenems. The Staph Aureus isolates had significant rates resistance to the Carbapenems, Piperacillin, Cefipime, Tazobactam and Amoxicillin/clavulinic acid.

**Conclusion:** There is a large burden of MDR-Klebsiella pneumoniae at MTRH, particularly from the NBU. There is the emergence of Carbapenem resistant Staph. aureus in the hospital beyond the ICU.

**Recommendations:** There should be routine blood culture analysis to support guideline formulation. There is need to ease pressure on the Cephalosporins and Gentamycin that are commonly used in the hospital. Carbapenem resistance should be closely monitored to avoid emergence of high levels of carbapenases amongst nosocomial organisms.

**Dr. Edith Apondi** is a Consultant in Paediatrics and Child Health at the Moi Teaching and Referral Hospital and is Technical Advisor for the Paediatric and Adolescent HIV Programme of AMPATH (Academic Model Providing Access to Healthcare). She has a Masters degree in Child Health and Paediatrics from the University of Nairobi. Her research interests are HIV infection as it relates to the paediatric and adolescent population.

**Antimicrobial Stewardship from a Clinician’s Perspective – Professor Reena Shah**

The need for antimicrobial stewardship is increasingly recognized throughout the world, not only to protect patients from the adverse effects of antibiotics, but more importantly to slow down the development of antimicrobial resistance. The importance of antimicrobial stewardship has been recognized worldwide but its implementation has been slow in the developing world. This presentation will discuss the challenges and barriers to implementation, the implementation process and outcomes.

**Professor Reena Shah** is a Consultant Physician and Specialist in Infectious Diseases, in the Department of Medicine at the Aga Khan University, Nairobi, and Director of the Infectious Diseases Fellowship Program there. Prof. Shah obtained her medical degree from the University of Southampton in the UK and has been a member of the Royal College of Physicians (MRCP) London since 2000. She has a Diploma in Tropical Medicine from the London School of Hygiene and Tropical Medicine and a Masters in Infectious Diseases from the University of London. Her clinical research interest is primarily in the area of HIV/AIDS, TB, Hepatitis B and hospital acquired infections and she is Vice-Chair of the Kenya HIV Clinicians Association. She has served as Chair of the antibiotic sub-committee of the Pharmacy and Therapeutics Committee of Aga Khan Hospital and spearheaded the Antibiotic Stewardship program there.
Antimicrobial Stewardship- From Conceptualisation To Implementation And Monitoring – Dr. Majid Twahir

Every once in a while, there occur circumstances of dire concern in a country, region and even in the world. These concerns are usually in the realm of the health of the public. Global emergent areas of concern are those of increasing abuse of prescription opioid analgesics and opioid containing medication, increasing infection causing organisms with multi-drug resistance, increasing of non-communicable diseases, etc. We, in the health industry, need and must participate in the control of these issues before they overwhelm us and have a negative impact on the population at large. In order to deliver, according to the constitution of Kenya, “……the highest attainable standard of health...” to “every person....”, we must allow ourselves to be guided by the experts. This requires recognition of the evolving nature of medicine and that what used to be practiced may no longer be the right thing to do. This requires us to recognize that medicine has evolved and new areas of expertise have emerged. We must accept that what we have practiced for years now has people who are better trained than us and they know more than us. It is recognized that physicians have various levels of specializations. Where a specialist exists, an internist will not see a paediatric patient nor a surgeon perform a caesarean section. It is recognized and accepted that the spectrum of specialists continues to increase. Not everyone can treat a patient in Intensive Care Unit – we must allow ourselves to be guided by the relatively new cadre of specialists, the intensivists. Similarly, they are those who have specialized in Infectious Diseases and they others who know more about antimicrobials than us, including clinical pharmacists of various areas of sub-specialisations and/or interest.

Restriction and control of physician practice is always an emotive issue. We must control physician practice, including restriction and rationale use of antimicrobial in a sensitive and gentle manner. We must manage perceived loss of authority, fear of diminished practice and therefore income. Restriction and control of physician practice must start slowly and progressively increase in depth and scope. It cannot be a guillotine approach but a gentle and progressive change in practice founded on science, logic and conviction. It must not start with legislation and coercion. Even then, the focus and objective must not be on the physician but on the patients, both at individual level and at the community level (public health). The restriction and control of physician practice, including that of antimicrobial restriction, must be periodically evaluated to show tangible and measurable benefit to the individual patient in improving survival, decreasing morbidity and reducing length of stay as well as at the public health level showing overall improvement of health indices of the population.

Dr. Majid Twahir is Associate Dean and Chief of Staff at the Aga Khan University Hospital, Nairobi. He is a certified nephrologist with an MBA in Strategy from Strathmore University and a Doctor in Business Administration in Strategic Management from USIU. He has been involved in the leadership of a variety of healthcare facilities in Kenya, including the Aga Khan Hospital Mombasa, Nairobi Women’s Hospital and currently the Aga Khan University Hospital, Nairobi. His areas of expertise are quality of care and the Quality Department that reports to him has been instrumental in steering the Aga Khan University Hospital through three successful accreditation cycles by the Joint Commission International.

Dr. Charles Kwobah is an Assistant Lecturer in the Department of Medicine of Moi University. He is a graduate of the University of Nairobi and has a Masters degree in
Clinical Trials from the Liverpool School of Hygiene and Tropical Medicine, University of London. His main area of research is sepsis.

**Eunice Ndirangu**
Dr. Eunice Ndirangu is the Interim Dean of the Aga Khan University School of Nursing and Midwifery. A nurse by profession, she has a BSc degree in Nursing from the University of East Africa, Baraton, a Masters degree in Advanced Nursing Practice from the University of Nottingham in the United Kingdom and a PhD in Nursing Studies from the same University. Apart from her current position as Dean, Dr. Ndirangu is also the current Chair of the Nursing Council of Kenya. Her areas of expertise and interest include the sociological aspects of HIV/AIDS prevention, treatment, care and support, as well as health policy and nursing education.

**Mrs Eunice Tole** is the Director of Quality and Risk Management at the Aga Khan University Hospital in Nairobi. She holds a BSc degree in Nursing and is currently pursuing a Masters in Health Systems. She has over 15 years’ experience in clinical services management at Aga Khan University Hospital Nairobi, overseeing service in multiple clinical areas including Surgery, Accident and Emergency and the Operating Theatres. Eunice also serves as part-time faculty at the Aga Khan University School of Nursing.

**Dr. Wangari Siika** is an Assistant Professor of Anaesthesia and Intensive Care at the Aga Khan University Nairobi. She is an alumnus of the University of Nairobi, Imperial School of Anaesthesia and Harvard Medical School, and is a Fellow of the Royal College of Anaesthetists in the UK. Dr. Siika is a member of the External Scientific Advisory Panel for the African Research Collaboration on Sepsis, and is the Kenyan lead for the Network of European and African Researchers on Antimicrobial Resistance (NEAR-AMR) as well as the African Sepsis Alliance. Her research interests revolve around improvement of quality of care in resource-limited settings, point of care ultrasound and sepsis.