

**8<sup>th</sup>**

**ANNUAL CONFERENCE  
OF THE INFECTION  
PREVENTION  
NETWORK KENYA**

**THEME:  
PUTTING IPC AND QUALITY AT THE CENTER  
OF UNIVERSAL HEALTH COVERAGE**

**ACACIA HOTEL ,KISUMU COUNTY  
Date: 26th- 29th November 2019**



**Dear colleagues, friends and all  
multidisciplinary health care workforce!**

On behalf of IPNET members and organizing committee, I am delighted to welcome all of you to IPNET Kenya 2019 conference in Kisumu! I do this with a deep satisfaction that IPNET 2019 continues its own tradition of bringing together

Infection control and prevention practitioners, all cadres of health care workers, researchers, academics, experts and professionals from far and wide. They meet and greet each other in friendly ambience and substantial collaborations resulted from these encounters in the past.

IPNET is a young organization and the congress is also quite young, just 9 years old yet it has already witnessed tremendous growth. As evidence of that, IPNET 2019 received a record number of submissions, representing huge growth of popularity. The authors of submitted papers come from various counties and regions of Kenya and abroad.

The conference program is the result of the efforts of several devoted members. We want to express our gratitude to the chairlady and members of the Scientific Program Committee, and the reviewers for their hard work in reviewing submissions. They have lined up for us a feast of topics of immense importance and interest.

The conference leadership and organizing committee worked hard in many ways in putting all this together for which we are very grateful. We sincerely thank all our invited speakers for sharing their insights with us. Finally, the conference would never succeed without the excellent papers contributed by authors. We thank all the authors for their contributions and their participation in this congress. The best of programs will fail if there were no audience to participate and enjoy the program. Thank you all for making it to this congress. IPNET 2019 is taking place immediately after AMR week. We would like to remind ourselves that Kenya has just turned a crucial corner of its AMR journey and about to launch national AMR surveillance in 13 public facilities with partners' support. Next year is going to be quite exciting time for us with lot of hopes of fulfillment of our aspirations.

We sincerely hope that you enjoy every minute of IPNET conference including the networking opportunities. We hope that this program will stimulate and sow seeds for many more studies of immediate relevance to Kenya at this time

We welcome your feedback on your experiences and your suggestions too on improving this conference in future.

**Prof. Gunturu Revathi,**

*Chair IPNET-K*



## Dear Colleagues and Friends

Welcome to the 8th IPNET-KENYA conference

After the highly successful regional IPNET-KENYA conference in 2018, in Nyeri, it is our great pleasure to welcome you to the 8th conference being held at Acacia hotel, Kisumu county 26-29th November 2019.

The conference is organized in partnership with ministry of health and other stakeholders. The theme this year is “Putting IPC and quality at the center of universal health care (UHC)”. The conference is bringing together researchers, clinicians, health care managers and industries from around the region who are engaged in the provision of quality healthcare.

IPNET-KENYA is a unique professional organization in that it draws its members from all medical professional and those whose focus is to reduce healthcare associated infections (HAIs) and improve the patients care in the region. We believe that infection control is every healthcare worker business and should be at the center of every HCW. If UHC has to be attained, then patients and HCW should have knowledge, skills and what it takes to implement UHC without getting infections from their place of work or having patients pick new infections which they did not come with. In line with our goal to mentor, train and promote professional development in healthcare epidemiology, IPNET-KENYA conducted the 2nd scientific writing workshop that helped many participants in this conference develop high quality abstracts. We will continue in this venture to build more capacity for our members. The scientific program reflects the progress made in Kenya in IPC. This year it will emphasize on Putting IPC and quality at the center of universal health care. It does not make sense to have mothers deliver in the health facilities and then die because of either surgical site infection or any other HAIs. Please join IPNET-KENYA in the fight against HAIs and antimicrobial resistance by improving IPC practices in Kenya and the region.

Enjoy the conference and enjoy the beautiful town of Kisumu, and many places to enjoy like Kisumu Impala Sanctuary, Kit Mikayi and many more

**Ndegwa Linus**, MPHE, PhD SHEA Amb.

Founder, Infection prevention network-Kenya (IPNET-K)/Infection Control African Network (ICAN) - Board member

International Federation of infection control (IFIC) –Board member.

## Scientific Committee Chair remarks



On behalf of the Scientific Committee, It is with great pride and enthusiasm that we welcome you to the 8th Infection Prevention Network (IPNET)-Kenya conference in Acacia Premier Hotel Kisumu.

The conference has become an important forum to share and disseminate best practices in infection prevention and control (IPC) and Antimicrobial Stewardship.

The IPNET conferences have also created a great opportunity for upcoming scientists and health care professionals to meet and learn best practices in the area of IPC. In the previous years, the conference has attracted both local and international delegates of high repute with great knowledge on IPC governance, Public Private Partnerships (PPPs), antimicrobial stewardship, surveillance of Hospital acquired infections, and healthcare waste management, Biosafety, injection safety, Blood safety, Respiratory infections and TB, Occupational safety and health, surgical site infections, which are critical areas in IPC. We believe that IPNET 2019 participants will learn and actively participate in the conference, in addition to connecting with other IPC professionals.

The conference theme this year is “Putting IPC and Quality at the Center of Universal Health Coverage”. Kenya is currently rolling out UHC. This comes in with issues that would compromise the quality of care due to increased workload, which again may stretch the Human resources for Health, the infrastructure among other aspects of health care services. In this case we need to look at UHC implementation comprehensively to ensure that quality of care is also addressed. In thinking about quality of care, we have to look at both the patient clients benefiting from our services and the health care worker who is providing the service. This raises our attention to patients and the health care workers safety issues. This is what this conference is about Putting IPC and Quality at the Center of Universal Health Coverage.

This conference provides a unique opportunity in Kenya to leverage advances for substantial improvements in the Quality of care even as we scale up the implementation of universal Health Coverage in the face of limited resources. We cannot have Quality care without ensuring patient safety and health care worker safety.

The wide range of presentations by well-seasoned professional, experienced health workers, researchers, program implementers, policy makers serves as a great opportunity to learn best practices.

At the end of this conference we will have an opportunity to recognize the best Oral and Poster presenters, and also the Best County based on their effort to disseminate IPC implementation in their facilities and sharing of best practices in this conference.

I wish to thank the scientific committee and the team of abstract reviewers who have worked tirelessly to ensure the conference delivers quality scientific information. I wish you an exciting experience and look forward to your participation in future conferences.

## **8th IPNET Conference**

Scientific Committee Chair

### **General information:**

#### **Conference Venue**

Acacia Premier Hotel, Kisumu

#### **Language**

The official language of the conference will be English. No simultaneous translation service will be provided.

#### **Name Badge**

Upon registration, you will receive your name badge and conference bag. Please wear your badge at all times during all the conference sessions.

#### **Insurance**

The congress organizers cannot accept liability for personal injuries sustained, or for loss of, or damage to, property belonging to congress participants (or their accompanying persons), either during or as a result of the congress. Please check the validity of your own insurance.

#### **Safety and security**

You are kindly requested not to leave any of your belongings unattended at any time, whether inside or outside the meeting venue. Please contact the bell captain in the hotel lobby to store any of your personal belongings.

#### **Cell phones, Pagers and electronic devices**

Electronic devices must be operated in silent/vibrate mode within educational sessions. No phone conversations will be permitted within the meeting rooms.

## Registration

Onsite registration will be held outside the main conference hall.

The registration fee includes: the program book, access to all sessions and exhibition areas located at the 2nd Floor/Poolside Morning and afternoon tea/coffee and lunch.

Information on any meeting changes will be communicated to meeting participants via signage or announcement.

### Registration hours:

Tuesday, November 26th, 2019:	8.00am – 8.00pm
Wednesday, November 27th, 201:	8.30 am – 5.30pm
Thursday, November 28th, 2019:	8.30 am – 5.30pm
Friday, November 29th, 2019:	8.30 am – 12.30pm

### Speakers ready room

All speakers are required to submit their presentation as soon as they are available, and no later than 2 hours before they are scheduled to speak.

Speakers must bring copies of their presentations on portable drives, CD-Rom. In the speaker's ready room, presenters will be able to review and update their presentations as well as check for any last minute problem. Speakers are required to arrive at their meeting room 15 minutes before their session starts in order to meet with the session chair of the session.

### Lost and found

Please return any found items to the registration desk located in front of the meeting room

### Posters

- a) Poster for the day sessions will be displayed in the morning and will be viewed during the tea and lunch break sessions.
- b) Poster presenters are requested to display their poster in the morning by 7.30am on the day they are to present their poster.
- c) Poster Presenters are requested to stand next to their poster board during morning and afternoon breaks for discussions regarding their posters.
- d) Poster presenters are requested to remove their posters by the end of the day, and it will be their responsibility to store their posters.

**Exhibition**

Exhibition will be held on 2nd floor. All delegates are invited to interact with the companies and view IPC related products at the exhibition.

**Currency Information**

The currency will be Kenya Shillings (KES)

**The Executive Committee**

Conference Chair:	Prof. Revathi Gunturu (Aga Khan University Hospital)
Vice Chair:	Dr. Evelyne Wesangula (MOH)
IPNET Secretary:	Doris Bota (MSH)
Vice Secretary	Noel Odhiambo (AMREF)
IPNET Administrator:	Lydia Ntisiki
Treasurer:	Loyce Kihungi (I-TECH)
Scientific Committee:	Mercy Njeru (CDC-Kenya)
Trustee:	Dr. Linus Ndegwa (CDC-Kenya)
Members:	Erick Kitangala Henry Ogalo

## ABOUT IPNET KENYA

### BACKGROUND

Infection Prevention Network Kenya (IPNET-K) is a professional body whose mandate is working and lobbying to improve health workers and patient safety through evidence based infection control practices. The body encourages and facilitates multidisciplinary collaboration, creating opportunities for health-care professionals with an interest in infection control to work together to identify priorities and solutions.

### The membership:

**Individual** (persons working in the field in or related to infection prevention and control: infection prevention and control professionals, epidemiologists, clinicians, public health experts, surgeons, nurses, microbiologist, occupational health professionals, environmental health professional patient safety experts and other healthcare professionals from across the continuum of healthcare).

**Corporate** (do not otherwise qualify for other categories of membership, are employed in a business or industry related to the field of healthcare and have a special interest in healthcare epidemiology).

**Students** (those enrolled in a institution of higher learning pursuing a program in a field related to healthcare epidemiology [infection control]).

**Emeritus** (must be a current member in good standing who has fully retired from the practice of healthcare epidemiology (Infection control)).

**Patron** – firms or companies, which have an interest in, or concern about healthcare epidemiology. They are not entitled to nominate trustees to the board, vote or hold office. However, they have priority choice of exhibition space and industry symposia. They will be partnered with a board member, invited to yearly meetings with the board and such have access to expert advice and gate keeping opportunities.

**Mission:**

The association/ Society mission is to promote patient and staff safety in the healthcare settings by promoting infection control measures and advance the field of healthcare epidemiology.

**Objectives:**

- a) To raise the scale of awareness of IPC issues nationally and regionally.
- b) Infection prevention and control will be recognized as a separate and distinct profession, whose members are positioned for leadership roles in healthcare.
- c) To educate stakeholders (communities, families, all health care settings, industries) on best practices of IPC.
- d) To provide a forum for regular exchange of information on IPC issues.
- e) To prepare and circulate SOPs for IPC issues, to meet JCI standards.
- f) Recognition and certification of IPC professionals in partnership with other international bodies.
- g) To facilitate creation of an IPC database that would be useful in research and to inform decisions made at different levels.
- h) Mentor, train and promote professional development in healthcare epidemiology
- i) To promote patients and healthcare workers safety
- j) To advance the science of healthcare epidemiology by catalyzing for leading edge research for the prevention of infection and associated adverse outcomes
- k) To play a leadership role in emergency preparedness related to infection prevention and control, including emerging and re-emerging diseases, bioterrorism, natural disasters and other issues.
- l) Collaborate and share expertise with other organizations.
- m) To promote high ethical standards, principles in the practice of health epidemiology

<b>DAY 1</b>	<b>TUESDAY-26TH NOVEMBER 2019</b>	
<b>8:30 - 9:00</b>	<b>Conference registration</b>	
<b>SESSION 1 9am – 11am</b>	<b>GSK Multidisciplinary AMR Pre-conference workshop</b>	<b>Session Chairs:</b> Dr Joseph Mukoko/ Dr Evelyne Wesangula
<b>9:00 - 9:20</b>	Diagnostic Stewardship in Acute Respiratory Tract Infections( ARTIs) , AMR in pathogens of ARTIs	Gunturu Revathi Clinical Microbiologist AKUH
<b>9:20 – 9:40</b>	URTI- a strong driver of AMR in outpatient practice	Dr Evelyne Wesangula
<b>9:40 – 9:45</b>	Control and Prevention of ARTIs in community and health care settings	Dr. Linus Ndegwa/ Loice Kihungi
<b>9:45- 10:00</b>	Challenges and opportunities for Antimicrobial stewardship in our setting-Role of pharmacist	Dr Nath Arwa, Pharmacist AKUH
<b>10:00 – 10:15</b>	A Systems Approach to Implementing Antimicrobial Stewardship Programs	Dr. Jaguga Collins
<b>10:15 – 10:30</b>	<b>Plenary Discussions</b>	
<b>10:30-11:00</b>	<b>TEA BREAK: Exhibitions</b>	
<b>SESSION 2</b>	<b>Diagnostic Microbiology Demos</b>	
<b>11:00 – 13:00</b>	Fight back AMR through QMS in microbiology lab Practicum and Demonstrations for all multidisciplinary participants by Microbiology Technical team of AKUH & Microbiology:	Nelson Kuria, Esther Ngata and team
<b>13:00 – 14:00</b>	<b>LUNCH BREAK: Exhibitions</b>	
<b>SESSION 3</b>		
<b>14:00 – 14:15</b>	The Quality Of The Key Antiseptics And Disinfectants In Selected Counties In Kenya: A Preliminary Report	Dr. Kimotho J.H Kenya Medical Research Institute

14:15 – 14:30	The Role Of PEPFAR In Improving IPC And HCWM Practices In Kenya.	Dr. Raphael Ondondo CDC, Kenya
14:30 – 14:45	Public Private Partnership In The Context Of Infection Prevention And Control At Kombewa County Hospital, Kisumu County, Kenya: Evidence Based On Pharmaccess Foundation Report	Jenifer Simani, County Government of Kisumu/ PharmAccess Foundation
14:45 – 15:00	Application Of Quality Improvement Concept To Improve Hygiene Practice Compliance	Mwangi C Thika Level 5 Hospital/ITECH K -
15:00 – 15:15	Instrument Reprocessing	Abijah M Muembu, Kenyatta National Hospital
15:15 – 15:30	Building Individual Capacity for Effective execution of IPC	Shadrack Radido, CEO Zionpearl Business consultants
15:30 – 15:45	<b>Plenary Discussions</b>	
15:45 - 17:00	<b>Preparation for the opening ceremony</b>	
<b>SESSION 4</b>	<b>CONFERENCE OPENING CEREMONY ON TUESDAY 26TH NOVEMBER 2019 TIME: 5:00 PM -7:00PM</b>	
17: 00 – 17:10	<b>Opening Remarks- Chair/ Vice IPNET Kenya</b>	
17:10 – 17: 20	<b>Entertainment</b>	
17:20 – 17:30	<b>Speeches – Key IPNET Leaders</b>	
17:30 – 18:00	<b>Key Note address-“ Putting IPC and Quality at the Centre of universal Health Coverage”. Dr Dr. Taraz Samandari CDC Kenya</b>	

18:00 – 18:40	<b>Official Opening Ceremony</b> <b>Speeches</b> <ul style="list-style-type: none"> <li>● National MOH Leaders</li> <li>● County MOH Leadership</li> <li>● County CEC for Health</li> </ul> <b>IPC Linus Ndegwa Awards</b>	<b>Prof. Judith Miguda Attyang</b>
19:00 – 19:30	<b>Opening Reception</b>	
<b>DAY 2</b>	<b>WEDNESDAY-27TH NOVEMBER 2019</b>	
<b>SESSION 5</b>	<b>Session Chair: Dr. Jared Nyakiba, MOH</b>	
8:30 - 08:50	<b>Keynote Speaker 1 :</b> Emerging Pathogens and the Global Burden of AMR: Impact on Universal <b>Health Coverage</b>	
8:50 - 9:20	Guest Speaker: Insights into Past Present_ and Future of SSI in LMICs	Prof Joseph Solomkin
9:20 – 10:00	Panel Discussion IPC in Public Health Outbreaks Response, Investigations and Management (Panel Discussion) <b>Panelist:Dr. Sammy Director TransNzoia, Dr.Nyaga (med Supt Thika),Dr Collins Jaguga (MTaPS)</b>	
10:00 – 10:10	Setting up an Antimicrobial Stewardship program (ASP) in Nyeri County Referral Hospital (NCRH) outpatient department	Dr Nkatha Gitonga Nyeri CRH
10:10- 10:20	Antimicrobial prescribing patterns and compliance with guideline in Critical Care at a National Referral Hospital in Kenya.	Dr Emmah Obegi
10:20 – 10:30	<b>Plenary discussion</b>	
10:30- 11:00	<b>TEA BREAK: Poster Viewing/Exhibition</b> <b>Parallel plenary Sessions</b>	

<b>SESSION 6</b>		<b>Session Chair: Loise Kihungi</b>		<b>SESSION 7</b>		<b>Session Chair: Japheth Gituku</b>	
<b>11:00 – 13:00</b>		<b>IPC Governance and AMR</b>		<b>11:00 – 13:00</b>		<b>Occupational health and safety in health care settings/Immunization</b>	
<b>11:00 – 11:20</b>	Leadership and Professional Development in IPC	APIC Heather Saunders		11:00-11:20	Prevalence of Occupational Blood Borne Exposures and Uptake of Post Exposure Prophylaxis at Thika Level 5 Hospital	Kavinya B M; Mwangi C; Mbugua A.; Nyaga, Thika	
<b>11:20 -11:30</b>	Need For Training Of Motorbike Riders On Infection Prevention And Control In Trans-Nzoia County	Harrison Kimemia, Kitale		11:20 -11:30	Hepatitis B Vaccination Status of Health Care Workers in Thika Level 5 Hospital	Gikonyo G, Mwangi.C Thika	
<b>11:30 - 11:40</b>	Prevalence And Factors Associated With Misuse Of Antibiotics Among Patients Attending Gatundu Level 5 Hospital, Kiambu County, Kenya IN 2019.	Kabuga Samuel		11:30- 11:40	Hepatitis b vaccine uptake among healthcare personnel (hcp) at Nyeri county referral hospital	Kamau, Pauline Nyeri CRH	

11:40 - 11:50	Antimicrobial Prophylaxis In Surgery At Nyeri County Referral Hospital	Kibira, Sarah	11:40- 11:50	Assessment Of Hepatitis BVaccination Coverage among Health care Workers In Kiambu county, Kenya.	McDarius Mbela & Janeffer Nyawira, Kiambu
11:50 - 12:00	Baseline audit evaluating the prescribing of anti-infective in Nyeri County Referral Hospital (NCRH) outpatient department 2019	Dr N katha Gitonga Nyeri CRH	11:50- 12:00	Knowledge, Risk Perception And Hepatitis B Vaccination Status Of Health Care Workers In Kitale County Hospital.	Davis Opili, Epidemiology Unit, Kitale CRH
12:00 -12:15	<b>Plenary discussion</b>		12:00- 12:15	<b>Plenary discussion</b>	
<b>SESSION 8</b>	<b>Session Chair: Doris Bota</b>		<b>SESSION 9</b>	<b>Session Chair: Dr. Daniel Kimani</b>	
12:15 - 13:00	<b>Laboratory Quality and Biosafety as part of Infection Control</b>		12:15 - 13:00	<b>Infection Control in Clinical Practice</b>	
12:15 - 12:25	Improving Biosafety Practices Through Audits	Simon Karige Maina	12:15 - 12:25	Peripheral IV catheter insertion, care and maintenance practices in Kenya, 2019	Daniel Kimani, CDC

12:25 – 12:35	Role of Biosafety toward The Accreditation Process at Thika Level Five Hospital Laboratory	Wamuyu E, Maina J, Thika	12:25 – 12:35	Infection Prevention Control Practices among GeneXpert TB Sample Riders in Kisumu County, Kenya	Ogollah Hellen, Department of Health, Kisumu County.
12:35 – 12:45	Infection Prevention Control audit at Regional Blood transfusion center Kisumu	Benard Odindo, RBTC Kisumu	12:35 – 12:45	Impact Of Adherence To The Surgical Instrument Reprocessing Cycle On Cost Of Instrument Reprocessing. A comparison cleaning first instead of disinfection.	Celestine Nafula
12:45– 13:00	Plenary discussion		12:45– 13:00	Plenary discussion	
13:00- 14:00	<b>Lunch: Poster Viewing/Exhibitions</b>		13:00- 14:00	<b>Lunch: Poster Viewing/Exhibitions</b>	
<b>SESSION 10</b>	<b>Session Chair: Erick Kitangala</b>		<b>SESSION 11</b>	<b>Session Chair: Noel Odhiambo</b>	
14:00- 16:00	<b>Patient Safety/Universal precautions in health care settings: Hand Hygiene</b>		14:00- 16:05	<b>IPC and waste management</b>	
14:00-14:20	Universal precautions in health care settings- Lessons from KNH	<b>Jemimah Katama</b>	14:00-14:20	Current state of HCWM in Kenya- MOH HQ	Mr. Lolem

14:20-14:25	Assessment of Hand hygiene compliance amongst health care workers at Mulele Health Centre in 2019.	Brigid Soita	14:20-14:25	Healthcare waste management practices in Kenya before and after guidelines implementation	Macharia Catherine W.- CDC
14:35-14:50	Hand Hygiene Compliance Among Health Care Workers At Kitale County Hospital	Julia A, Stella M Kitale CRH	14:35-14:50	Healthcare Waste Management In Kisumu East Sub County	Paul O.& Peter M. Kisumu East MOH office
14:50-15:05	Assessing Infection Prevention and Control Programs in Health facilities performing Caesarean Section in Kenya	Steven Senglaub, World Surgical Infection Society	14:50-15:05	Infection Prevention Control And Waste Management At Chulaimbo County Hospital In Kisumu County	Duncan Onyang'i, Dr Grace Oyaro, Chulaimbo.

15:05-15:20	Peri-Operative Surgical Care Practices In 27 Kenyan Health Facilities Who Provide Cesarean Section	Chandler Hinson, World Surgical Infection Society	15:05-15:20	Application of Quality Improvement Concept in Management of Healthcare Waste at Thika Level 5 Hospital	Mbugua A, Mwangi C, Thika
15:20 -15:35	Assessment of the use of chlorhexidine digluconate gel for cord care at Kangundo level 4 hospital	Clarice Ambale, Machakos	15:20 -15:35	Progress Report On The Effects Of Safety Audit On Infection Prevention Control In Kombewa County Hospital In Western Kenya	C. Okuta, G.Odoyo , H.Ogolla, M. Adan
15:35-15:50	Implementation of tuberculosis infection control policy at the Vihiga County Referral Hospital	Faith June, Vihiga	15:35-15:50	Antibiotic prescribing patterns for in-patients at JM Kariuki Memmorial county referral hospital,	Hellen Wangai
15:50 – 16:05	Plenary discussion		15:50 – 16:05	Plenary discussion	
<b>Symposium : 1BD</b>					
<b>DAY 3</b>	<b>THURSDAY-28TH NOVEMBER 2019</b>				<b>29-Nov-18</b>
<b>SESSION 12</b>	<b>Session Chair: Dr. Ernest Makokha</b>				
8:30 – 9:00	<b>Guest Speaker:</b> Public Private Partnerships in IPC				Prof Nathwani

9:00 – 9:30	<b>Guest Speaker:</b> Biosafety and Biosecurity: nternational focus awareness raising initiatives		Rik Bleijs- Head Biosecurity Office, Netherlands	
9:30 – 9:50	<b>Guest Speaker:</b> Diagnostic stewardship in LMIC settings - Lessons from LMIC		Dr Nicholas Brown	
9:40 – 10:00	<b>Guest Speaker:</b> Role of IPC in achieving quality standards and accreditation in health care		Dr. Aisha Mohamed MOH	
10:00 – 10:30	Plenary Discussions			
10:30- 11:00	<b>TEA BREAK: Poster Viewing/Exhibitions</b>			
<b>SESSION 13</b>	<b>Session Chair: Doris Bota</b>		<b>SESSION 14</b>	<b>Session Chair: Nyawira Njeru</b>
<b>11:00-13:00</b>	<b>IPC in Outbreak Response and vaccination programs</b>		<b>11:00-13:00</b>	<b>Public Private Partnerships in IPC/Use of Innovative strategies</b>
<b>11:00 - 11.30</b>	Impact Of Surgical Site Infection On Length Of Hospital Stay And Cost At Kitale County Hospital	Webale, M.B Kitale County Hospital	11:00 - 11.30	KINGA- PPP Initiative  Gituku/BD
<b>11:30-11:45</b>	Severe Illness Among Children Admitted To The Pediatric Ward In Coast General Hospital, Mombasa County, January - May 2019	Were Ian, FELTP	11:30-11:45	Scaled Specimen Referrals and Access to Prompt, Quality Laboratory Services in Trans Nzoia: The Role of the Public-Private Partnership  Isaac Njihia

11:45-12:00	Factors influencing the cost-effectiveness outcomes of HPV vaccination and screening interventions in LMICs: A systematic review	Benard Okeah	11:45-12:00	Public Private Partnership in the context of Infection Prevention and Control at Kombewa County Hospital, Kisumu County, Kenya: Evidence Based on PharmAccess Foundation Report	Jenifer Simani MOH
12:00-12:15	Plenary Discussions		12:00-12:15	Plenary Discussions	
<b>SESSION 15</b>	<b>Session Chair:</b>	<b>Eveline Wesangula</b>	<b>SESSION 16</b>	<b>Session Chair: Mary Ndinda ITECH</b>	
12:15 – 13:00	<b>Antimicrobial Stewardship</b>		12:15 – 13:00	<b>Antimicrobial Stewardship</b>	
12:15 – 12:25	Aminoglycoside Serum Trough Levels And The Risk Of Early Hearing Loss And Renal Toxicity Among Pediatric Patients Admitted At KNH: a prospective cohort study	Dr Zaietuni Mula	12:15 – 12:25	Bacterial isolates and their patterns of antibiotic resistance in the Kenyatta National Hospital critical care unit	Dr Emmah Obegi

12:25–12:35	Susceptibility Patterns Antibacterial of Clinical Isolates from JOOTRH. preliminary results for the period 2014 to 2019.	Wafula. CN, Omondi. C, JOOTRH	12:25–12:35	Cost Of Antibiotics Consumed In The Outpatient Department Of The Nyeri County Referral Hospital	Kibira, Sarah
12:35 – 12:45	Adherence To Antibiotics In Thika Level 5	Nyaga A. Thika	12:35 – 12:45	Practices of mobile phone users and the associated risk of spread of extended spectrum beta lactamase producing bacteria within Kitale county hospital.	Godfrey Sande Jumba
12:45–13:00	<b>Plenary discussion</b>		12:45 13:00	<b>Plenary discussion</b>	
13:00- 14:00	<b>Lunch: Poster Viewing/Exhibitions</b>		13:00- 14:00	<b>Lunch: Poster Viewing/Exhibitions</b>	
14:00- 16:00	<b>SESSION 17: Antimicrobial Stewardship Workshop BSAC/IPNET Session Chair : Dr. Joseph Mukoko</b>				
14:00-14:30	Session One: Plenary Session - Developing Antimicrobial Stewardship			Prof. Revathi	
14:30-15:00	Developing clinical pharmacist capacity in LMIC's to support AMS			Preet Panesar, BSAC	
15:00-15:30	The stewardship team and the role of pharmacist in stewardship			Dr Jaimini G ohil IPNET /Preet Panesar, BSAC	
15:30-15:45	How can the laboratory support AMS in the Kenyan /African setting			Prof. Revathi IPNET	

<b>15:45-16:00</b>	Running AMS programme in the Kenyan/ African setting	Prof.Revathi IPNET
<b>16:00 – 16:15</b>	Developing and implementing post- prescription review	Susan Mutua, IPNET
<b>16:15 – 16:30</b>	Panel discussion	
<b>16:45-17:30</b>	<b>IPNET-KENYA AGM</b>	
<b>DAY 4</b>	<b>Friday-29TH NOVEMBER 2019</b>	
<b>SESSION 18</b>	<b>Workshop Session two: Implementing Antimicrobial Stewardship Session Chair: Dr.Kusu Ndinda</b>	
<b>8:30 – 8:50</b>	Developing and implementing antibiotic prescribing guideline/policy	Dr Jaimini Gohil, IPNET
<b>8:50 – 9:10</b>	Surveillance of and quality of antibiotic prescribing	Preet Panesar and Nicholas Brown, BSAC
<b>9:10 – 9:30</b>	WHO toolkit for AMS - education and research resources for AMS	Dilip Nathwani OBE, BSAC
	Session Three Workshops	
<b>9:30 – 10:45</b>	Workshop one: Practice of stewardship: the improvement science approach - surgical prophylaxis	Facilitator: Dilip Nathwani OBE, BSAC
<b>10:45 – 11:15</b>	<b>TEA BREAK</b>	
<b>11:15 – 12:30</b>	Workshop two: How can the laboratory help antimicrobial stewardship?	Revathi Gunturu, IPNET and Nicholas Brown, BSAC
<b>12:30-13:30</b>	<b>SESSION 19:Conference Closing Ceremony</b>	
<b>12:30 -12:50</b>	<b>BSAC /IPNET Awards presentation</b>	
<b>12:50 -13:20</b>	<b>Vote of thanks and official closing</b>	
<b>13:00- 14:00</b>	<b>LUNCH &amp; DEPARTURE</b>	

# CONFERENCE ABSTRACTS

	LIST OF POSTER TITLE	AUTHOR/PRESENTER
001	World Bank Project A Game Changer In Laboratory Bio-Waste Management And Infection Prevention At Busia County Referral Hospital	Mr oscar Gaunya
002	Determination of Antimicrobial Resistance of Escherichia coli isolated from Rastrineobola argentae and water samples from Lake Victoria - Kenya	Mr Tony Sote
003	Application of "pointing and calling" in healthcare facilities to reduce human error in healthcare facilities	Ongola Otieno
004	Antimicrobial Stewardship Program At The Nyeri County Referral Hospital	Kibira, Sarah

005	IPC In Public Health Outbreak Response At Kombewa County Hospital	Phanice A jore1, Duncan Odhiambo2,Alice Mbugua
006	Capacity Building in Infection Prevention and Control at County Level	Teresia Wanjiru Kariuki
007	The Impact of Infection, Prevention and Control (IPC) committee on IPC practices at Kisumu County Referral Hospital in Kisumu County, Kenya	Dr Okeyo A
008	The Impact of Support Supervision and In-person Mentorship	Pauline Kiruri
009	Infection Prevention and Control Practices: pivotal role of IPC trainings at the Kisumu County Referral Hospital.	Alfred O
010	Needle stick and Sharps injuries among HealthCare Workers at Kenyatta National Hospital, 2012-2016	Daniel O. Were,
011	Surveillance; A Tool For Prevention Of Hospital Acquired Infections: A Case Of Surgical Site Infection Surveillance At Kitale County Hospital	Stellah Mmochi

012	Infection Prevention Practices among healthcare workers at Regional Blood Transfusion Center in Kisumu, Kenya	Odera M
013	Effects Of Safety Audits In Infection Prevention Control At JOOTRH Laboratory	Caroline Aoch
014	Critique On Staffs' Technique And Accuracy Of Hand Washing Among Nurses And Doctors In JOOTRH In The Month Of May & June 2019	Robert Kiobo

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## CONFERENCE ABSTRACTS

Day 1: Tuesday 26th November 2019

### SESSION 1:

#### MULTIDISCIPLINARY AMR PRE- CONFERENCE WORKSHOP

**Collaborating organizers - Aga Khan University Hospital, GSK, IPNET Kenya, IPC and AMR secretariat at MOH Kenya.**

### SESSION 3:

#### THE QUALITY OF THE KEY ANTISEPTICS AND DISINFECTANTS IN SELECTED COUNTIES IN KENYA: A PRELIMINARY REPORT

Author 1: 1, a Kimotho J.H, 1Muita M.W, 1Thiga W.

Organization 1: 1Kenya Medical Research Institute

Keywords: efficacy, antiseptic, disinfectants, evaluation

#### **Background:**

Antiseptics and disinfectants are used extensively in healthcare facilities for a variety of topical and hard-surface applications. They are an essential part of infection control practices and aid in the prevention of nosocomial infections.

#### **Objective:**

This study aimed to evaluate the quality of the key antiseptics and disinfectants in Kenya; and to use the findings to develop improved products. Department (KEMRI-PD) and selected healthcare facilities in Nairobi, Mombasa, and Kisumu counties. Five different commercial brands of five key disinfectants and antiseptics and enzymatic cleaners (Chlorohexidine, Povidone iodine, Sodium hypochlorite, Hydrogen peroxide, and Enzyme-based cleaners) were bought intact from various retail pharmacies in the study counties. The study also sampled disinfectants, antiseptics and enzymatic cleaners (including the five) that were in-use in thirty-two (32) public healthcare facilities in the study counties and their key users were interviewed in regards to the methods of their use. The samples were analyzed using the approved analytical methods.

**Results:**

Out of the five enzymatic detergents tested, only 1(20%) contained both cleansing and disinfectant. Study design: The study design was a mix of a Laboratory-based Experimental and a Field study design. The sites of the study were the KEMRI Production infection activities and it showed a total microbial load reduction for the test micro-organisms when used in the recommended dilutions. All the other enzymatic detergents did not show any inhibition of the microbial growth as expected. Analysis of Povidone Iodine brands (n = 22) that were sampled in the market established that 84% (n = 18) had levels lower than the acceptable limits. For sodium hypochlorite, none (n = 8) of the brands tested met the limits prescribed on the product Label claim. The compliance to the label claims ranged from 25% to 94%. The study also demonstrated that 45% of the chlorohexidine based disinfectants did not meet the expected microbial efficacy. In regards to compliance with dilutions recommended by the manufacturers, 40% of the health facilities did not comply with dilutions for chlorohexidine while 100% complied for the enzyme-based cleaners.

**Conclusion:**

The quality of a number of antiseptics and disinfectants in Kenya needs to be improved given their key role in the infection control.

### **Public Private Partnership in the Context of Infection Prevention and Control at Kombewa County Hospital, Kisumu County, Kenya: Evidence Based on PharmAccess Foundation Report**

**Authors:** Jenifer Simani<sup>1</sup>, Dr.David Okeyo<sup>1</sup>, Dr.Dickens Onyango<sup>2</sup>, Dr.George Rae<sup>3</sup>, Emmanuel Milimo<sup>2</sup>, Nathalie Houben<sup>2</sup>, George Otieno Agal<sup>1, 2</sup>, Emily Ogwang<sup>1, 2</sup>, Tom Arunga<sup>2</sup>, Alinda Ndenga<sup>3</sup>, Moha Adan<sup>2</sup>, Doris Bota<sup>3</sup>

**Affiliations:** 1 Ministry of Health (County Government of Kisumu), 2 Pharm Access Foundation, 3KMET, 4MCSP, 5MTaPS

**Background:** Kenya's government has embraced private provision of social services including healthcare. The involvement of private partners is an indicator that the public facilities are not sufficient enough to meet the high demands of the ever increasing population. This has been done through Public Private Partnership (PPP) arrangement. In the context of Infection Prevention and Control (IPC), PharmAccess Foundation partnered with Kombewa County Hospital team to address gaps observed.

**Objective:** To enhance Quality, Safety and Efficiency

**Methodology:** Baseline assessments were done using SafeCare standard checklist accredited by the International Society for Quality in Healthcare (ISQua). The standards evaluated were included governance and management, human resource and management, patient and family right and access to care, management of information, risk management, primary healthcare (out-patient services, in-patient care, surgery and anaesthesia services, laboratory services, diagnostic imaging services medication management, facility management services, and support services. The assessments were conducted in two phases, 22nd October, 2018 and report released on 24th July, 2019). The second phase of assessment was conducted on the 7th August, 2019 and report released on the 15th August, 2019.

**Results:** Infection Prevention and Control is characteristically linked to all departments due to its scope of activities. The facility was at 47% as compared to 38% when it was first evaluated. The gaps noted then informed the interventions which were adopted to strengthen IPC activities. They included operationalization of maternity theatre capacity building of support staff and staff on the basics of IPC and Occupational Health Safety respectively, analysis of water available and used by patients at the facility, purchase and locating hand washing unit in strategic points at the facility, availing more than 300 pieces of bin coded liners for waste segregation as well as the handwashing signages that were posted in most of the clinical rooms, maternity, theatre and general ward. The impact of these interventions are reflected in the results as shown below:

## **APPLICATION OF QUALITY IMPROVEMENT CONCEPT TO IMPROVE HAND HYGIENE PRACTICE COMPLIANCE**

**Authors:** Mwangi C1, Nyaga P1, Ndinda M2 & Kihungi L2

**Introduction:** Hand hygiene is an important component of infection prevention and control with World Health Organization rating its ability to prevent transmission of infections by 80%. This is through simple observation of the 5 moments of hand hygiene either by hand washing or hand rubbing with alcohol-based hand rub.

**Method:** A longitudinal study on hand hygiene practice was done by monitoring the practice by observing different cadres of healthcare workers following implementation of quality improvement concept with an aim to improve hand hygiene compliance at Thika Level 5 Hospital. Various quality improvement interventions were identified and implemented, including, continuous medical education, on job trainings, reminders, monthly feedback to hospital management and healthcare workers and availing of hand hygiene supplies as well as repair of faulty hand washing sinks and taps. Data was collected monthly using the World Health Organization's Hand Hygiene Observation tool. Data was analyzed using Microsoft excel 365.

**Results:** There were 15 clinical areas assessed between April 2018 and August 2019. The compliance results were: 2018, Baseline in April 23%, May 40%, June 30%, July 42%, August 47%, September 50%, October 46%, November 49% and December 44%. In 2019, January 45%, March 51%, April 48%, May 51%, June 42%, July 43% and August 53%.

**Conclusion:** Hand hygiene compliance has greatly improved in Thika level 5 hospital among its health care workers from its baseline 23% to the current 53%. This has been made possible by implementation of various quality improvement interventions and continuous monitoring.

## **INSTRUMENT REPROCESSING**

**BY; ABIJAH M MUEMBU**

### **IPC PRACTITIONER KENYATTA NATIONAL HOSPITAL**

#### **Background:**

Hospital acquired infections (HAIs) are a major cause of morbidity and mortality in low- and middle-income countries (LMICs). Inadequately reprocessed surgical instruments can be a vector for pathogens. Little has been published on the current state of surgical instrument reprocessing in LMICs.

**Methods:** Review of English-language articles in Pub Med, Web of Science, and Google Scholar databases describing current methods, policies, and barriers to surgical instrument reprocessing in LMICs. Qualitative analysis of all studies to categorize existing practices and barriers to successful surgical.

instrument reprocessing was conducted. Barriers were non-exclusively categorized by theme: training/education, resource availability, environment, and policies/procedures. Studies associating HAIs with existing practices were separately evaluated to assess this relationship.

**Results:** Nine hundred seventy-two abstracts were identified. Forty studies met criteria for qualitative analysis and three studies associated patient outcomes with surgical instrument reprocessing. Most studies ( $n = 28$ , 70%) discussed institution-specific policies/procedures; half discussed shortcomings in staff training. Sterilization ( $n = 38$ , 95%), verification of sterilization ( $n = 19$ , 48%), and instrument cleaning and decontamination ( $n = 16$ , 40%) were the most common instrument reprocessing practices examined. Poor resource availability and the lack of effective education/training and appropriate policies/procedures were cited as the common barriers. Of the case series investigating surgical instrument reprocessing with patient outcomes, improperly cleaned and sterilized neurosurgical instruments and contaminated rinse water were linked to *Pseudomonas aeruginosa* ventriculitis and *Mycobacterium* port site infections, respectively.

**Conclusions:** Large gaps exist between instrument reprocessing practices in LMICs and recommended policies/procedures. Identified areas for improvement include instrument cleaning and decontamination, sterilization aspects of instrument reprocessing, and verification of sterilization. Education and training of staff responsible for reprocessing instruments and realistic, defined policies and procedures are critical, and lend themselves to improvement interventions.

## BUILDING INDIVIDUAL CAPACITY FOR EFFECTIVE EXECUTION OF IPC

Shadrack Radido

### SESSION 5:

**Theme:**

### INSIGHT INTO PAST PRESENT AND FUTURE OF SSI IN LMICS

Prof. Joseph Solomkin

### Setting up an Antimicrobial Stewardship program (ASP) in Nyeri County Referral Hospital (NCRH) outpatient department

**Authors:** Dr Nkatha Gitonga, Dr Sarah Kibira

**Background:** The NCRH outpatient department baseline audit provided valuable information on current use of antimicrobial agents. It revealed the need for guidance on safe, cost-effective and evidence-based prescribing of antimicrobial agents.

**Purpose:** This paper will outline the priorities for setting up a successful NCRH outpatient ASP.

**Methods:** The baseline audit was analysed to determine the current state of prescribing within the NCRH outpatient department, to determine the areas of priority and focus when setting up the ASP.

**Findings:** 62% of prescriptions contained at least one antimicrobial, with a cost implication of ~200,000KSH. 25% of antimicrobials contained a medication error and 31% were deemed inappropriate, translating to monetary loss of ~50,000KSH and 62,000KSH, respectively. A multidisciplinary partnership will aid the development of clinical practices that will reduce antimicrobial use and promote cost-effective use of antimicrobials. Departmental antimicrobial guidelines must be developed and approved by the Medicines and Therapeutics Committee. These guidelines will inform the NCRH restricted antimicrobial drug list and set out a robust pathway for the verification and approval for use. A strong laboratory, medical and pharmacy link will inform on emerging drug resistant microbes, surveillance of infection spread and facilitate the appropriate use of restricted antimicrobials. Pharmacy are recommended to lead an annual point prevalence study, evaluating each departments' guideline compliance, identify training gaps, system failures and prescribing trends. Proposed initial targets include, 15% reduction in antimicrobial consumption annually, and  $\geq 95\%$  compliance with guidelines; indication(s) in patients' notes, clearly indicating route, formulation, dose and treatment duration, and are deemed appropriate as per clinical guideline and/or laboratory cultures.

**Conclusion:** A robust ASP will address the potential misuse and overuse of antimicrobials. This program should aim to bring together all health professionals as antimicrobial stewards. This work should extend to inpatient departments, informing inpatient antimicrobial guidelines and principles for reducing the risk of hospital acquired infections.

### **Antimicrobial prescribing patterns and compliance with guideline in Critical Care at a National Referral Hospital in Kenya.**

**Author 1:** Dr Emmah Obegi, **Author 2:** Dr Margaret Oluka, **Author 3:** Dr Faith Okalebo, **Author 4:** Dr Dorothy Aywak, **Author 5:** Dr Sylvia Opanga

**Background:** Antimicrobial resistance is a serious and growing threat to public health today. The irrational prescribing of antimicrobial agents is a major contributor to the development of resistant.

**Purpose:** To determine the patterns of antimicrobial prescribing and the level of compliance to the Critical Care antimicrobial prescribing guideline.

**Methods:** A retrospective longitudinal study was conducted at the selected Critical Care Units of Kenyatta National Hospital. The study involved the extraction of data from medical records of patients the age of 13 years and above admitted to the Critical Care Units from January to December 2013 and were prescribed an antimicrobial agent during the hospital stay. Data was abstracted using a pre-designed standardized data collection tool. Descriptive statistics were used to analyze socio-demographic data and antimicrobial prescribing. Ethical approval was granted by the KNH-UON ERC

**Findings:** A total of 309 patients' records were included in this study. The prevalence of antimicrobial prescribing was 98.4%. The antimicrobial agents commonly prescribed were Ceftriaxone (36.8%), Metronidazole (16.9%) and Meropenem (12.4%). Only 35% of the participants were on a single antimicrobial agent while 36% (n=111) were on two. Less than 2% (n=5) of the participants had more than five antimicrobial agents. The proportion of patients who had a review or stopping of antimicrobial therapy documented in their medical records was 11.7% (n=36). There was guideline compliance in 40.9% of the study population.

**Conclusion:** There was a high prevalence of antimicrobial prescribing in the Critical Care Unit with low compliance to the available guideline. The hospital antimicrobial stewardship committee will need to instigate activities to address these concerns including the review of the guideline and encouraging strict adherence.

## SESSION 6

**Theme: IPC Governance and AMR****LEADERSHIP AND PROFESSIONAL DEVELOPMENT IN IPC**

Heather Saunders

**NEED FOR TRAINING OF MOTORBIKE RIDERS ON INFECTION PREVENTION AND CONTROL IN TRANS-NZIOIA COUNTY**

Author 1: HARRISON KIMEMIA

**Background:** Turn around time for referred samples from peripheral facilities to Kitale County Laboratory has been long in Trans-nzoia County. The partner (AMPATH) and the county government addressed this by rider system

**Purpose:** To train the motorbike riders on infection prevention and control and biosafety on sample handling and transportation.

**Methods:** This study was done in the month of June 2018 and to all 12 riders. The study was conducted on the recruited motorbike riders using a self-administered structured questionnaire and findings were analyzed and presented in terms of tables and graphs. On which information on whether the riders had been trained on infection prevention control and biosafety/security in relation to sample handling and transportation and if they are vaccinated against hepatitis B.

**Findings:** 12 riders were recruited and all were trained on sample packaging, infection prevention and control and biosafety. It was also noted that there was a program for them to be refreshed twice yearly on the same. During the survey it was noted 5 (24.0%) of the 12 riders had issues with managing spillages and leakages of specimens during transportation. It was also noted that WHO recommended triple packaging was not followed, as 50 % of the riders didn't know about triple packaging.

**Conclusion:** The study showed that there was a gap in training of the motorbike riders on IPC and biosafety especially when transporting the specimens. A refresher course majorly on good sample packaging procedures and transportation should be conducted soonest to avoid issues of infections. A regular assessment of the riders' competency on IPC and basic biosafety practices and protocols should be carried out.

## **PREVALENCE AND FACTORS ASSOCIATED WITH MISUSE OF ANTIBIOTICS AMONG PATIENTS ATTENDING GATUNDU LEVEL 5 HOSPITAL, KIAMBU COUNTY, KENYA IN 2019.**

**Author 1:** Mr Kabuga Samuel

**Background:** Antibiotic misuse rate is rising globally with a concern of rise of a post-antibiotic era. The study aimed at assessing the degree of contribution by the patients in antibiotic misuse.

**Purpose:** To determine the prevalence and factors associated with antibiotic misuse among patients attending Gatundu Level 5 Hospital in Kiambu 2019.

**Methods:** The study was a descriptive cross-sectional survey. Stratified sampling and simple random sampling methods were used to identify the subjects. 128 patients were interviewed between May and July 2019 from 5 departments within Gatundu level 5 Hospital. The data was collected using questionnaires. Informed consent was acquired before participation. A list of common antibiotics was provided to assist the participants to recall. The criteria for antibiotic misuse was any patient who admitted to; 1. Using antibiotics longer than prescribed time 2. Failed to complete dose 3. Self-medicated with antibiotics 4. Requested/ demanded to be administered antibiotics due to common cold/flu.

**Findings:** From the survey, 79% of the respondents had used antibiotics within the past 1 year. The prevalence of antibiotic misuse was 53.1%. The contributing factors towards antibiotic misuse were failure to complete prescribed doses(55/68), self medication (36/68), antibiotic use due to common cold/flu (26/68) and 16/68 had used antibiotics longer than the prescribed time. Most had misused antibiotics in more than 1 form therefore, a larger cumulative number. Amoxicillin was the commonly misused antibiotic by 47%. The study also established there is a degree of unrestricted access to antibiotics at community pharmacies since they are prescription only drugs.

**Conclusion:** Antibiotic misuse is still a challenge within the community setting. The stakeholder of Antimicrobial stewardship programs should actively involve the community members through health education programs at the community levels and at the public health institutions. The existing regulations on purchase of antibiotics at community pharmacies should be enforced.

## ANTIMICROBIAL PROPHYLAXIS IN SURGERY AT NYERI COUNTY REFERRAL HOSPITAL

**Author 1:** Kibira, Sarah, **Author 2:** Kamau, Pauline

**Background:** Antimicrobial prophylaxis can decrease the incidence of infection, particularly wound infection after certain operations.

**Purpose:** The aim of the study was to assess the practice of antimicrobial prophylaxis in surgery at Nyeri County Referral Hospital.

**Methods:** A retrospective study on antibiotic prophylaxis in surgeries was conducted at the Nyeri County Referral Hospital in the month of August 2019. The study team involved theatre nurse, health records officer and two pharmacists. The study targeted patients who had undergone elective surgeries and qualify for surgical antibiotic prophylaxis. Out of the 76 patients that underwent the surgeries during that period, 58 medical files were available for review. Data on age, gender, diagnosis, procedure carried out, antibiotic prophylaxis administered, date of admission, date of surgery, date of discharge, presence of surgical site infection and post-surgery antibiotics administered was collected.

**Findings:** Of the 58 medical files reviewed, 23 (39 %) were of females and 35 (61 %) of males. Patients between 15 – 24 years accounted for most of the surgical cases. The highest proportion of the surgeries carried out were orthopedic cases accounting for 36%. On documentation, only 23 (40%) files had antibiotic prophylaxis recorded on the operation form where Ceftriaxone injection was the main drug administered for prophylaxis. Among the patients who received prophylaxis (n=23), 30% and 70% of the patients received preoperative and intraoperative antibiotic prophylaxis respectively. Post-operative antibiotic administration accounted for 52% of the surgical cases.

**Conclusion:** Antibiotic prophylaxis in surgery at Nyeri County Referral Hospital complies with the Ministry of health recommendations as outlined in the Clinical Guidelines for Management and Referral of Common Conditions at Levels 4–6: Hospitals. However, there were notable challenges in antibiotic prophylaxis documentation which can affect future antibiotic use audits.

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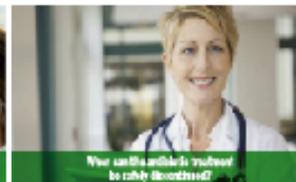
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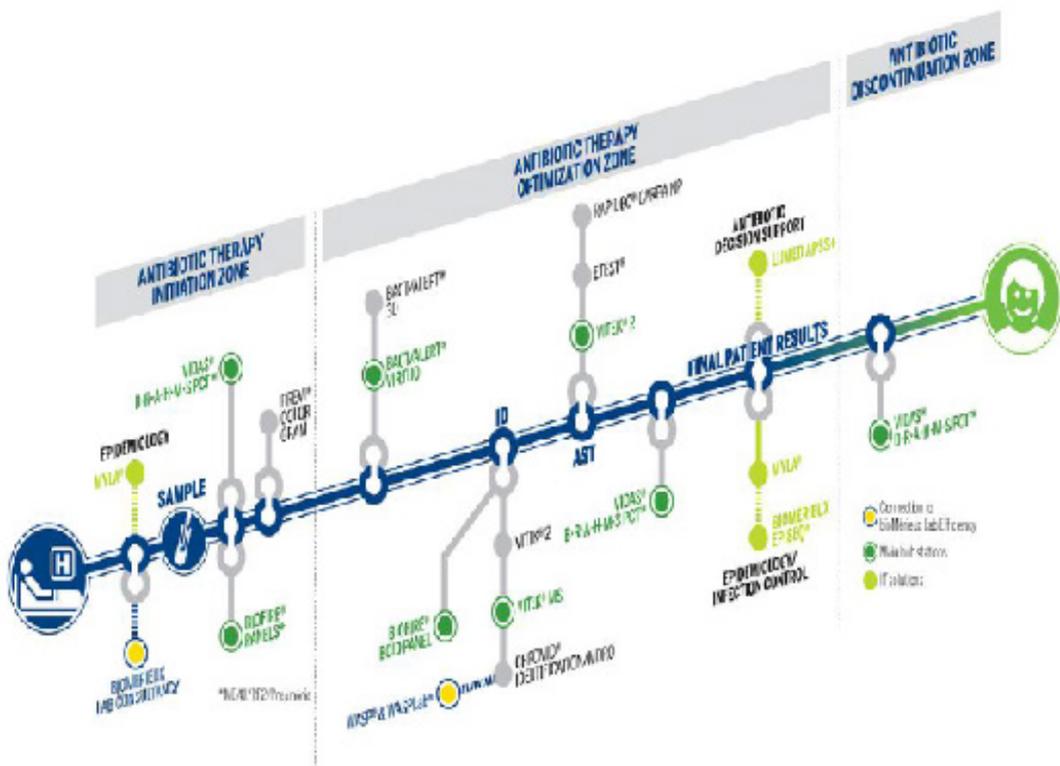


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## SESSION 7

**Theme: Occupational health and safety in health care settings****/Immunization Prevalence of Occupational Blood Borne Exposures and Uptake of Post Exposure Prophylaxis at Thika Level 5 Hospital****Author 1:** Kavinya B M; Mwangi C; Mbugua A.; Nyaga

**Background:** Introduction: Injection safety encompasses safe medical infection, safe phlebotomy, safe disposal of health care waste and provision of post exposure prophylaxis following occupational exposure to HIV. Health care workers are vulnerable to experience accidental exposure to blood, body fluids and tissues and post exposure prophylaxis is the preventive strategy that aims to avert the transmission of HIV to exposed.

**Method:** A cross sectional study was conducted between January 2019 and August 2019 involving different cadres of Health Care workers in Thika Level Five Hospital. Data was obtained from comprehensive care clinic records department and analyzed using Microsoft excel.

**Findings:** The overall number of health care workers in Thika Level 5 Hospital reported to have occupational exposure to HIV either by needle prick or splashing of blood on mucosal surface was 40 out of 902, with needle prick being the most frequent exposure reported with 34 incidents (85%) and blood splash 6 incidents (15%). Of 40 the Health Care workers who were exposed 6 (15%) were Doctors, 6 (15%) Nurses, 3 (8%) Clinical Officers 4 (10%) laboratory technologists, 1 (3%) Pharmaceutical Technologists, 3 (8%) waste handlers, 16 (40%) Medical Students and 1 (3%) Occupational Therapist. Baseline HIV test was done for all exposed health care workers and results were all negative however none of them had hepatitis B or C test done. All were initiated on post exposure prophylaxis within 72 hours of exposure and completed 28 days course of treatment. A posttest on HIV was done for all exposed Health care workers and were all negative.

**Conclusion:** Blood borne exposures are common among healthcare workers but from this study reveals the medical students being the most affected. It is therefore important to have post exposure prophylaxis available. It is important to provide training on safety measures for all healthcare workers and the students.

## **Title: Hepatitis B Vaccination Status of Health Care Workers in Thika Level 5 Hospital**

**Authors:** Gikonyo G, Mwangi.C

### **Abstract**

**Background:** Hepatitis is a disease of the liver characterized by presence of inflammatory tissue leading to jaundice. According to world health organization more than 200,000 people in Africa are dying from complications of viral hepatitis B while 60 million people in Africa are living with chronic hepatitis B infection.

**Method:** A cross sectional survey was done in the month of June 2019 where nurses, clinicians, waste handlers and nursing students working in Thika level 5 hospital questionnaire was self-administered and data entered on a formulated standard tool on their hepatitis B vaccination status.

**Results:** Out of the total 265 nurses working in Thika level 5 hospital 219(83%) qualified nurses were interviewed of which 55(25%) responded they are fully immunized while 105(48%) were partially immunized and the rest 59(27%) had not been immunized at all. Out of total 65 a total of 30 (46%)clinicians were interviewed, 11(37%) responded they have received all the 3 doses of hepatitis B vaccine while 16(53%) were partially immunized and 3(10%) had not received any vaccination, 25(29.8%) nursing students were interviewed out of the total 84 working in the facility at that particular time out of which 9(36%) responded having received all the 3 doses of hepatitis B vaccine while 13(52%) were partially immunized and 3(12%) had not received any dose. Out of the total 75 cleaners and waste handlers, 68(91%) were interviewed and 17(25%) responded they were fully immunized while 48(71%) were partially immunized and 3(4%) had not been vaccinated at all.

**Conclusion:** Among the health care workers interviewed more than half of nurses and cleaners had been fully immunized against hepatitis B while majority of clinicians and students were partially immunized. However, a big number of healthcare workers had not been immunized at all which poses a risk of acquiring hepatitis B disease.

## HEPATITIS B VACCINE UPTAKE AMONG HEALTHCARE PERSONNEL (HCP) AT NYERI COUNTY REFERRAL HOSPITAL

**Author 1:** Kamau, Pauline

**Background:** Hepatitis B vaccination uptake has been low among health care personnel (HCPs) at Nyeri County Referral Hospital (NCRH) despite the occupational hazard associated with the exposure to potentially infectious materials.

**Purpose:** The aim of the study was to assess the uptake of Hepatitis B vaccine among the HCPs at NCRH.

**Methods:** An analytical prospective study of the coverage of Hepatitis B vaccination as done involving a review of medical records. The study team included a nurse, health records officer and a pharmacist. The Infection Prevention and Control (IPC) committee targeted 300 HCPs from different departments who Control (IPC) committee targeted 300 HCPs from different departments who were scheduled to receive 3 doses of Hepatitis B vaccine at 0, 3 and 6 months with the first dose administered in July 2019. Participants were issued with immunization cards and reminded of future vaccination appointments using SMS. The data collected was analyzed using Microsoft excel in the form of pie charts and bar graphs.

**Findings:** The initiative targeted 300 HCPs (56%) based on complete Hepatitis B vaccine doses available. All the 300 HCPs (100%) received the 1st dose of Hepatitis B vaccine while 288 (96%) received the 2nd dose of the vaccine after one month. Among the defaulters were 2 HCPs (0.7%) who got pregnant and 10 (3.3%) who did not respond to the reminders for the second dose. Among those vaccinated, 211 (70.3%) and 89 (29.7%) worked in the high-risk and low-risk departments respectively. Nurses 135 (45%) accounted for the majority of HCPs who participated in the vaccination.

**Conclusion:** Uptake of the Hepatitis B vaccine was relatively high especially among health workers in high-risk departments. The use of mobile technology to send out appointment reminders and issuance of immunization cards has the potential to improve uptake of vaccination services.

## ASSESSMENT OF HEPATITIS B VACCINATION COVERAGE AMONG HEALTHCARE WORKERS IN KIAMBUCOUNTY, KENYA.

**Authors:** Mc'Darius Mbela & Janeffer Nyawira.

### ABSTRACT

**Introduction:** Hepatitis B virus (HBV) infection is a major global health problem. Current estimates put the prevalence of hepatitis B virus (HBV) infection in Kenya at 5.8%. The World Health Organization (WHO) recommends the hepatitis B vaccine for adults at the highest risk of acquiring HBV infection.

**Objective:** To establish hepatitis B vaccination coverage among Healthcare

**Methods:** We conducted a cross-sectional survey of 384 healthcare workers' vaccination statuses in 50 out of 107 Healthcare facilities in Kiambu County. Univariate and multivariate logistic regression analysis were used to assess factors associated with hepatitis B vaccination coverage.

**Results:** Fifteen percent 15.3% (59/384) of respondents reported having received at least one dose of the hepatitis B vaccination and 3.7% (14/384) reported having completed  $\geq 3$  doses of the hepatitis B vaccination. HCWs in workplaces offering a free hepatitis B vaccine with vaccination management were 1.4 times more likely (OR = 1.4, 95% CI: 1.1–1.8) to complete their hepatitis B vaccination compared to HCWs in workplaces that did not offer a free hepatitis B vaccine. The receipt of training on hepatitis B was also associated with a higher percentage of completing the hepatitis B vaccination (OR = 1.5, 95% CI: 1.2–1.8). The main self-reported reason for incomplete hepatitis B vaccination was “forgot to complete follow-up doses” among 23% (3/14) of respondents. Among those who never received any hepatitis B vaccination, only 64% (208/325) intended to be vaccinated.

**Conclusions:** The complete Hepatitis B vaccination rate among HCWs in Kiambu County is low, and the desire of HCWs for vaccination is indifferent; therefore, education campaigns are needed.

**Key words:** Hepatitis B, Healthcare workers, Vaccination & Coverage.

## SESSION 8

**THEME: LABORATORY QUALITY AND BIOSAFETY AS PART OF INFECTION CONTROL****Improving Biosafety Practices Through Audits**

**Authors:** Simon Karige Maina.

**Background:** Medical Laboratories are required to implement and maintain requirements of ISO 15189-2012 on facility and biosafety. Non-compliance in any of the clause is a set-back in implementation of IPC protocols and practices. Gaps noted in biosafety audits when addressed help in preventing and controlling infections associated with healthcare service provision setting.

**Purpose:** To Show the importance of Biosafety Audits in improving performance in safety practices.

**Methods:** Internal and external audits on biosafety training, safety equipment's and fire safety were conducted in 2017 and 2018 using the SLIPTA checklist. The audits revealed non-conformities that were addressed by the laboratory quality team that came up with an action plan for gap closure. Biosafety training on porters was done and regular refreshers, continuous medical education sessions were conducted in 6 months and monthly basis respectively. The hospital procured the safety equipment's was

**Results:** In 2017, internal audit the laboratory scored 2/6 (33.33%) on fire safety, safety equipment and biosafety training with an overall score of 39/43 (90.70%) on facility and biosafety while the external safety audit score was 3/6 (50%) with an overall score of 39/43 (90.7%). In 2018, the internal audit score was 3/6 (50%) with an overall score of 40/43 (93.02%). All the non conformities identified in 2017 and 2018 internal audit were closed and the laboratory scored 6/6 (100%) in safety equipment and biosafety training clauses and an overall score of 41/43 (95.3%) during the external audit

**Conclusion:** Laboratory safety audit is an essential component in maintaining safety standards in the laboratory environment. Failure to close gaps identified during audits may lead to deterioration in the safety standards which compromises the safety of both patients and healthcare workers.

## Role of Biosafety toward The Accreditation Process at Thika Level Five Hospital Laboratory

**Author 1:** Wamuyu E, Maina J

Organization 1: Thika Level 5 Hospital

Presenter: Nyaga A.

**Background:** Laboratory safety practices are one of the major quality essentials according to ISO 15189-2012 Standards. The laboratory safety and facilities module has the highest score among other quality essentials. This makes safety fundamental in laboratory practices

**Purpose:** Methods: An audit was conducted using WHO SLIPTA assessment checklist. Various non-conformities were identified, and an action plan was developed to help close the non-conformities. The laboratory manager appointed a trained biosafety officer to work together with the laboratory biosafety officer to help with the closure of the gaps. A number of audits were conducted to establish if there was improvement.

### **Methods:**

**Findings:** Results: Scores for the audit reports were rated out of 43 possible points awarded for facilities and biosafety practices out of a possible 150 points per the SLIPTA checklists. The scores for the audits (baseline, midterm and exit) from 2017 -2019 were, 34/43 (79%), 35/43 (81%), 36/43 (84%), 40/43 (93%), 41/43 (95%) and 42/43 (98%) respectively. Tremendous progress was noted with regards to SLIPTA scores and ultimately laboratory safety.

**Conclusion:** Conclusion: IPC is an essential component of laboratory biosafety in ensuring a safe conducive working environment. This helps in providing quality laboratory services to the community. As a result, Thika level Five laboratory is the first public hospital laboratory to be KENAS accredited in Kiambu county.

# **INFECTION PREVENTION CONTROL AUDIT AT REGIONAL BLOOD TRANSFUSION CENTER KISUMU BENARD ODINDO, 1 DANIEL KIMANI, 2**

**Affiliation**-Regional Blood Transfusion Center-Kisumu

## **INTRODUCTION**

WHO estimates that the global burden of disease from occupational exposure is ~40% each of the hepatitis B & C and 4.4% of the HIV infections among health care workers? Given potential dangers posed by Blood collection, it's therefore important to assess RBTC Kisumu to look at the gaps

## **Method**

We carried out an audit in the RBTC Kisumu on August 2019 using a WHO IPC checklist. We used 11 elements that applied to the RBTC out of all possible 17 elements.

## **Results**

Overall, the RBTC was at 63% compliance. Compliance was highest in PPE, Equipment care blood and body fluid management at 100% followed by waste management at 86 %, while administrative support at 60 %, Hand hygiene, Environmental cleaning each at 50% and it was lowest in Injection safety, surveillance, and disease reporting at 0%. Occupational and health safety 40 %, Education and Training 33 % respectively.

## **Discussion**

Despite an average performance, noted were, poor Injection safety - sharps containers not puncture proof, sample collection-direct puncture of tubes, this poses a risk of needle pricks. Need to improve in hand hygiene, no handwashing sink in 3 areas, gloves not consistently used; no alternatives such as alcohol rub. Policy and guidelines adequate, waste management well done. Training for all cadres and disease surveillance not in place. Mobile sessions' in school dining halls, Labs or open air ground used ,where IPC practices i.e. running tap water, injection safety are a challenge.

## **Conclusion**

Implement injection safety measures as its posing risks, Training of all cadres, Development of a disease surveillance system. Need of an audit tool that applies to RBTC.

**SESSION 9****THEME: INFECTION CONTROL IN CLINICAL PRACTICE  
PERIPHERAL IV CATHETER INSERTION, CARE AND  
MAINTENANCE PRACTICE IN KENYA, 2019****Dr. Daniel Kimani****Infection Prevention Control Practices among GeneXpert TB Sample  
Riders in Kisumu County, Kenya****Ogollah H.1; Ndeda G.2; Otip J.2, Adongo S.2, Simba Z.2, Gumba M.2;  
Ojwaka A.2; Onyuro J.2****Introduction**

To achieve targets for the WHO End TB Strategy, early TB diagnosis and universal access to drug-susceptibility testing is crucial. Kisumu County rolled out GeneXpert TB diagnosis; a sensitive and specific molecular technique that simultaneously profile for rifampicin drug resistance. The County has seven GeneXpert machines placed in Sub-County hospitals and to promote universal accessibility, the county adopted a specimen referral system using motorbike sample riders. Due to the possible health risks associated with exposure to TB positive samples in-transit, we carried out a cross-sectional study to determine infection prevention control (IPC) practices among sample riders.

**Method**

Between 1st June to 31st July, 2019 we assessed IPC practices among sample riders delivering TB samples cross seven GeneXpert sites within Kisumu County. Data on IPC adherence during transport and delivery of TB samples were collected using a standardized questionnaire that included measures taken by riders in case of sample spillage. Other variables captured included, training on IPC, duration of engagement as sample rider and reasons for non-adherence to IPC measures.

**Results**

Of the 17 sample riders involved in sputum sample networking within the seven GeneXpert testing sites, 82% were male and 65% were  $\geq 28$  years of age. Majority (53%) of the sample riders had primary level of education and 65% had worked as sample riders for  $\geq 4$  years. The total number of samples delivered to GeneXpert testing sites during the period under review were 4,741, out of which 42 (1%) were rejected due to various reasons including: mismatch of the request form and sample container information (33%), sample leakage (29%), missing request form (21%) and incomplete request form

(17%). Out of 4699 samples tested, 181 (3.9%) were positive for TB, 2 (1.1%) of the positives were detected with rifampicin resistance, one of which was confirmed by culture. Despite all sample riders having been trained on IPC, only 12% disinfected their motor bikes after transporting TB specimens, 88% did not always wash hands after sample delivery and only 47% used appropriate PPE. None of the riders reported spillage of samples to the TB focal person. Main reasons reported for non-adherence to IPC measures included: low risk perception (65%) and lack of time (59%). Kisumu County that has a high burden of active TB. Inhalation of mycobacterium bacilli being the main mode of TB infection, there is need for ongoing emphasis on existence of high-risk exposure through sample leakage and adherence to IPC to reduce potential TB acquisition by the riders, laboratory staff, and motor riders' usual customers.

## **IMPACT OF ADHERANCE TO THE SURGICAL INSTRUMENT REPROCESSING CYCLE ON COST OF INSTRUMENT REPROCESSING. A comparison cleaning first instead of disinfection.**

Author 1: Celestine Nafula

**Background:** The quality of instruments plays a pivotal role in governing safe operating room culture. The surgical instrument reprocessing cycle followed; determines the effectiveness thus ensuring patient safety as well as minimizing expenses. With the rising health care expenditures; hospitals must contain costs in ways that maintain high quality patient care. A significant portion of perioperative costs are associated with supplies for surgical instruments reprocessing, well trained staffs and following formulated guidelines helps reduce this costs.

**Methodology;** Single site retrospective study, from July 2017 to July 2019, comparing the cost incurred by the facility when the surgical instrument processing cycle was; disinfection by jik then cleaning and sterilization from July 2017 to July 2018 compared to cleaning by use of enzymatic detergent then sterilization/high level disinfection from July 2018 to July 2019. The data was collected by reviews or the s11 in the pharmacy and interview of health care workers in departments that were using surgical instruments

**Findings;** up to July 2018 jik was being used for disinfection use V in all departments that used surgical instruments before being taken to central sterilizing unit [cssd,] according to previous practices and recommendations.

Currently, cleaning by use of endozime is only done in CSSD. Average jik consumption per month was 900 liters. An, average cost of 5 litre Jerri can of jik is ksh 345 at KEMSA thus ksh 62,000per month. On the other hand, Endozime consumption averagely is 4 litres per month, and 4 litres Jeri can at KEMSA costs ksh 6,995.

**Conclusion;** it is much cheaper and safer to adhere to cleaning by Enzymatic detergent then sterilization/high level disinfection than disinfection by jik then cleaning and sterilization/ high level disinfection.

## Session 10

**THEME: PATIENT SAFETY/UNIVERSAL PRECAUTIONS IN HEALTHCARE SETTINGS: HAND HYGIENE UNIVERSAL PRECAUTIONS IN HEALTH CARE SETTINGS- LESSONS FROM KNH JEMIMAH KATAMA**

**ASSESSMENT OF HAND HYGIENE COMPLIANCE AMONGST HEALTH CARE WORKERS AT MULELE HEALTH CENTRE IN 2019.**

**Author;** Soita B1, Sumba S1

### Introduction

Hand hygiene is the most effective way of controlling nosocomial infections. In Hospitals, most infections are transmitted through poor hand hygiene practices. We evaluated adherence to hand hygiene practices among health care providers handling patients at Mulele Health center between July and August 2019.

### Methods

Using WHO Patient Safety/Save Lives observational form, data on hand hygiene was collected from eight healthcare workers (HCW) between July-August 2019, through secrete observation. To determine the degree of compliance with hand hygiene practices, the study focused on WHO “My five moments for hand hygiene” approach. Hand hygiene practice compliance rates were computed and compared.

### Results

The eight HCW observed contributed 96 of hand-hygiene (HH) opportunities, with female workers accounting for 69 (72%). Only 16 (17%) of these

opportunities resulted into a HH action and 12 (75%) of actions were among women. The proportion HCW practicing HH action was 17.4% among females compared to 16.7% among males. Nurses had the highest compliance to HH at 25%, while clinical officers and HTS providers had the least at 13% each. HH action was most frequently practiced in the laboratory department (25%), compared to 8% in OPD. Neither gender (OR=1.2; 95% CI: 0.3 – 4.1), department (OR=3.7; 95% CI: 0.7 – 20.4) nor cadre (OR=2.3; 95% CI: 0.5 – 10.7) was associated with increased odds of missing a HH action.

Commonly cited reason for missing HH action was lack of handwashing facilities and sanitizers. Others least cited reasons by staff included ignorance, forgetfulness and being too busy.

### **Conclusion**

There was low hand hygiene compliance at Mulele health center. Provision of hand sanitization amenities is required to reduce potential for hospital acquired infections among patients and healthcare workers. Staff sensitization will go a long way in ensuring improved HH practice.

## **HAND HYGIENE COMPLIANCE AMONG HEALTH CARE WORKERS AT KITALE COUNTY HOSPITAL**

**Author:** JULIA AMBEYI, STELLA MAMUTI

**INTRODUCTION:** Hand hygiene (HH) reduces 80% of Healthcare associated infections (HAIs). This study was designed to develop an intervention approach to improve HH compliance among the healthcare workers at Kitale County Hospital.

**METHODOLOGY:** The study was done at Kitale County Hospital, Kenya organized by the Infection Prevention and Control Committee (IPCC) with the help of Ministry of Health, CDC-Atlanta and CDC-Kenya and I-TECH Kenya. It was an observational, prospective, quasi experimental (before and after intervention) study. WHO hand hygiene compliance observation and Infrastructure tools were used. The observing team included the IPCC members and other staff trained on HH as a quality improvement project. The study involved multidimensional intervention approach in all categories of healthcare workers in the hospital.

**RESULTS:** Based on nine months observation period, the rate of HH compliance improved from 3% at baseline to 51% with continuous

interventions. Baseline ward infrastructure survey indicated 38% of the sinks had soap, with only two departments having alcohol based hand rub. Alcohol Based Hand rub bed ratio was 1:8 by the end of the observation period. Thus showing that there is a close relationship between availability of hand hygiene infrastructure and compliance among healthcare workers.

**CONCLUSION:** This project demonstrates that HH compliance can be improved through systemic, multidimensional interventions.

## **ASSESSING INFECTION PREVENTION AND CONTROL PROGRAMMES IN HEALTH FACILITIES PERFORMING CAESAREAN SECTION IN KENYA**

**Author 1** Steven Senglaub **2**Anthony Wanyoro, **3** Angie Sway, **4**Amos Oburu, **5**Joseph Solomkin

**Background:** Caesarean section (CS) is a commonly performed, major surgical procedure in Kenya. However, there are limited data on infection prevention and control (IPC) within facilities that perform CS.

**Purpose:** Our goal was to assess IPC capacity including health care-associated infection (HAI) surveillance in facilities that perform CS.

**Methods:** We conducted a cross-sectional survey on IPC programmes by adapting the World Health Organization IPC Assessment Framework at the Facility-Level in 23 facilities in Kenya. The survey addressed four areas of IPC including programme support, surveillance, infrastructure, and environment. Purposive sampling was used to identify 23 level-4 and -5 facilities across seven counties in Kenya that perform CS. County-level approvals were obtained and data was collected from March through May 2019.

**Findings:** IPC programmes were reported in all 23 facilities with 21 reporting leadership support and 14 with dedicated IPC budgets. While laboratory support was available in 21 facilities, only 16 could support HAI surveillance. On-site labs were present in 8 of these facilities while the remaining sent specimens off-site. Surveillance was conducted for: surgical site infections (11/23; 48%), device-associated infections (7/23; 30%), multi-drug resistant pathogens (5/23; 22%), and infections in vulnerable populations (8/23; 35%). Antimicrobial drug resistance was analyzed regularly

in 17% of facilities and surveillance data was used for quality improvement in 44%. Functioning hygiene stations were available in 65% of facilities. Multiple patients per bed and beds outside of the room were allowed in 65% and 26% of facilities, respectively.

**Conclusion:** Critical components of IPC were lacking in the majority of facilities, including financial support, dedicated surveillance resources and laboratory infrastructure, and compliance with infection prevention recommendations such as bed occupancy. Moving forward, facilities should consider utilizing the IPC Core Component Guideline for self-assessment and recommendations to improve programme capacity.

## PERI-OPERATIVE SURGICAL CARE PRACTICES IN 27 KENYAN HEALTH FACILITIES WHO PROVIDE CESAREAN SECTION

**Author 1:** Chandler Hinson, Angie Sway, Steven Senglaub, Anthony Wanyero, Amos Oburu, Joseph Solomkin  
Organization 1: World Surgical Infection Society

**Background:** Caesarean sections account for over 80% of surgical operations that occur in Sub-Saharan Africa. These types of operations are associated with a high incidence of surgical site infection.

**Purpose:** This study provides information on peri-operative surgical practices associated with the prevention of surgical site infection in Kenyan healthcare facilities.

**Methods:** A cross-sectional survey was developed from the WHO's Guideline on Core Components for IPC and Essential Surgical Care Situational Analysis Tool. Data was collected from 27 district level hospitals in Western Kenya from March to May 2019. Telephone interviews were conducted using the developed survey to collect information on nosocomial surveillance activities, environmental cleaning, hospital characteristics, clinical workforce, obstetrical outcomes, and perioperative surgical practices. Site selection was based on the capacity to provide comprehensive maternal and obstetric care. This study provided unknown information about peri-operative surgical practices of Kenyan surgeons and facilities' IPC readiness' to develop comprehensive IPC programs.

**Findings:** Of all facilities that conduct hair removal prior to surgery (96%), all (100%) perform hair removal with a razor. 83.3% of facilities reported surgeons using soap and water for surgical hand preparation. 54.1% of facilities reported using antiseptics and 20.8% reported using alcohol hand rub as other methods for surgical hand preparation. None of the facilities perform exclusive pre-antibiotic prophylaxis. 78.2% perform a mix of pre- and post- antibiotic prophylaxis and 17.4% only conduct post-antibiotic prophylaxis. 82.6% of facilities report using metronidazole and 82.6% reported using ceftriaxone. 52.1% of facilities only use these two types of antibiotics for prophylaxis.

**Conclusion:** Based on the WHO's Global Guidelines for the Prevention of Surgical Site Infection, most of the facilities' surgical peri-operative practices do not follow the recommendations. This demonstrates an area of improvement for the prevention of surgical site infection via improved surgical practices.

## **ASSESSMENT OF THE USE OF CHLORHEXIDINE DIGLUCONATE GEL FOR CORD CARE AT KANGUNDO LEVEL 4 HOSPITAL**

**Author 1:** Dr. Clarice Ambale, Dr Brian Ngatia, Dr Brian Ngatia, Dr Jonathan Nthusi

**Background:** Sepsis continues to be an important cause of morbidity and mortality in neonates. One of the most important portals of entry for infections is the umbilical cord.

**Purpose:** This study sought to find out the knowledge, practices and attitude on its use in Kangundo Level 4 hospital.

**Methods:** The study was carried out at Kangundo level 4 hospital between June and August 2019. It was a descriptive cross-sectional study with both quantitative and qualitative components. A questionnaire was used for the qualitative data collection while focus group discussions were held for the qualitative data collection. Ethical approval was sought prior to commencement of data collection.

**Findings:** A total of 19 clients and 24 healthcare workers were interviewed. Duration of application varied among clients; 4 days, 5/19(26%), 7 days, 12/19 (64%) and until the stump falls off, 2/19 (10%). Twenty of the 24 HCWs (83%) interviewed advised the patients on cleaning the cord prior to application of CHX, frequency of application varied from OD 15/24 ( 62%), BD 3/24 (13%) and TID 6/24( 25%). Two FGDs were held for HCW and brought out the theme of lack of training and clear instructions on how to use the gel as major contributors to poor effectiveness of CHX.

**Conclusion:** There was poor understanding on the use of CHX among both clients and HCWs at Kangundo level 4 hospital. There is need for training and development of a standard operating procedure on use of CHX.

## **IMPLEMENTATION OF TUBERCULOSIS INFECTION CONTROL POLICY AT THE VIHIGA COUNTY REFERRAL HOSPITAL**

**Authors:** June. F1, Baraza R.1, Samiah J.1, Soita. B.2, Omega.M.3, Kimuma. J 4, Vitalis J. 1

### **CONTENT**

**Topic: Implementation Science, Research, Surveillance and Technology**

Country: Kenya

#### **Introduction**

TB remains a major cause of morbidity and mortality globally. It is a concern for nosocomial transmission among health care workers (HCWs). This can be minimized through rigorous implementation of TB infection control (TBIC) measures as detailed in the 2009 “World Health Organization (WHO) Policy on TB Infection Control in Health-Care Facilities, Congregate Settings and Households”. We carried out a study at Vihiga County Referral Hospital (VCRH) to assess the extent of implementation of this policy at the facility.

#### **Methods: Methods**

A cross-section study was carried out in June 2019 across various departments of VCRH. The “WHO checklist for periodic evaluation of TB IC in health-care facilities” was used to assess implementation of four parameters: administrative, managerial, environmental and personal protective equipment (PPE). Each of the parameters had a set of questions for interview and observation with a means of verification. Administrative section had ten questions, managerial six, environmental five and PPE two. Data were analysed using descriptive statistics for frequencies.

#### **Findings: Results**

The average score across the four parameters was 44%. Managerial had the highest score at 67% followed by administrative at 56%. The other two parameters scored below 50%: PPE (33%) and environmental (20%). Specific gaps were noted as follows: Managerial: lack of dedicated budget and lack of training for all clinical staff on TBIC; Administrative: lack of TB information, education and communication (IEC) materials, lack of supplies for coughing patients and delays in TB diagnosis; Environmental: facility design and

patient flow not per the national IC guidelines, poor ventilation in waiting areas with overcrowding and lack of isolation of hospitalized TB patients.

### **Conclusions**

There is suboptimal implementation of the TBIC policy at VCRH. This exposes the HCW to risk of occupational TB. Various opportunities for improvement were noted.

## **SESSION 11:**

### **THEME : IPC AND WASTE MANAGEMENT CURRENT STATE OF HCWM IN KENYA – MOH HQ**

Lolem Lokolile

### **HEALTHCARE WASTE MANAGEMENT PRACTICES IN KENYA BEFORE AND AFTER GUIDELINES IMPLEMENTATION**

**Authors:** Macharia CW.1; Ondondo RO.1; Muthama EM.

**Background: Background:** Health facilities generate large volumes of hazardous and highly infectious medical waste that pose a health threat to hospital workers, patients, and the public. In February 2013, a World Bank-funded health sector support project in Kenya reported poor healthcare waste management (HCWM). The average score for the level of HCWM performance was 14.2% (a poor score). To improve HCWM practices, Kenya, with PEPFAR support, developed a strategic plan in 2015 and implemented guidelines and SOPs in 2016. This study evaluated compliance to HCWM guidelines implementation in Kenya.

**Methods:** This study was cross sectional and assessed HCWM practices at 1,373 health facilities in Kenya between 2014 and 2018, using a structured checklist. Scores were color-coded as Red (needs urgent remediation); Yellow (needs improvement); Green (meets expectations) and Dark Green (surpasses expectations). Red and Yellow were regarded as poor scores on HCWM requiring interventions. Data was exported into Epi-info for analysis.

**Results:** Of the 1,373 facilities assessed, 371 (27%) were evaluated between 2014 and 2015, while 1,002 (73%) between 2016 and 2018 after the HCWM guidelines were rolled-out. Over half (55%) of 371 facilities assessed before the HCWM guidelines rollout scored “yellow” and “red compared to

196 (20%) of those evaluated after roll-out. HCWM guidelines were significantly associated with reduced odds of scoring a red or yellow: ( $p < 0.0001$ ),  $OR = 0.199$  (95% CI: 0.154-0.258). Job aids availability and waste segregation practices in facilities surpassed expectation at 99% and 97% respectively, post guidelines implementation. Challenges were evident in securing waste storage areas and SOPs availability with 27% and 9% facilities scoring red and yellow respectively. Conclusions: HCWM practices improved significantly after implementation of the national HCWM guidelines. Continued efforts are required to help increase efficiencies in waste storage and/or holding areas. Continuous monitoring of guidelines implementation is recommended to ensure best HCWM practices are sustained.

## **HEALTHCARE WASTE MANAGEMENT IN KISUMU EAST SUB COUNTY**

Paul Okumu<sup>1</sup>, Peter Mahonga<sup>2</sup>

### **Introduction**

Poor management of Healthcare waste (HCW) exposes healthcare workers, patients and the community to infections, toxic effects and injuries. The need for proper HCW management (HCWM) has been gaining recognition in Kisumu East sub County. We carried out a study to evaluate HCWM practices and systems in Kisumu East Sub County.

### **Methods**

This cross-sectional study was carried out in all departments in 18 health facilities (11 public, 4 FBOs and 3 private) from February to March 2019. A standard data collection checklist (adopted from WHO) was employed to collect data on presence of a waste manager; availability of waste bins, job aids and tracking logs; proper waste segregation; method of transport and treatment; quantification of waste and networking of waste to other facilities. Data was keyed in Excel Spreadsheet and analyzed for frequencies and proportions.

### **Results**

None of the 18 facilities had a waste manager, tracking logs or waste quantification. All the facilities had waste bins. Seventeen (94%) facilities had job aids while 8 (44%) conducted proper waste segregation. In terms of waste transport, 14 (77.8%) facilities used hand, three (16.7%) used wheelbarrow while one (5.6%) used trolley. For waste treatment, 14 (77.8%)

facilities used hand, three (16.7%) used wheelbarrow while one (5.6%) used trolley. For waste treatment, 14 (77.8%) used open burning, two (11%) using burning chambers while fourteen (77.8%) networked only the sharps. Two (11%) networked all their waste.

### **Conclusion**

We identified key gaps in waste management including lack of a waste manager, necessary documentation and resources. Most facilities had risky practices such as lack of waste segregation and open burning. More investment should be made in waste management to improve safety and quality of service delivery. In the absence of these at facility level, safe networking of waste to other facilities should be encouraged.

## **INFECTION PREVENTION CONTROL AND WASTE MANAGEMENT AT CHULAIMBO COUNTY HOSPITAL IN KISUMU COUNTY.**

**Author 1:** Duncan ong'ayi1, Dr.Grace Oyar2.

### **Background:**

Infection prevention activities are essential for the reduction of healthcare associated infections. WHO States that hospitals' produces 15-20 % of infectious waste which needs to be segregated, incinerated or shredded using non burn technology. WHO also states that hospitals produce 85% of non-infectious wastes. Health associated infections can be significantly reduced through proper management of medical wastes.

**Purpose:** To explore the status of infection prevention and waste management activities at Chulaimbo county Hospital.

**Methods:** This was a cross sectional study done at Chulaimbo County Hospital by use of Infection Control Assessment tool (ICAT) between May to June 2019. This was conducted in the following departments: Opd, Mch, Laboratory, Youth friendly, Injection room, Kitchen, Ward, Ccc and Pharmacy

### **CHALLENGES AT BASELINE**

At baseline the following were observed, Improper waste segregation, Inadequate supplies necessary for the adherence of hand hygiene such as liquid soap, paper towels, water, and alcohol based hand rub, Lack of posters

alcohol based hand rub, Insufficient and appropriate PPEs such as gloves, masks, N95 mask gowns, aprons ,goggles, gumboots, uniform for kitchen staff, Insufficient bin liners for waste segregation both for clinical and non-clinical waste, Cleaning schedule not available for the toilets and high risk areas, Food handlers had expired medical certificates, Lack of linen washing machines, Knowledge gap on 5 critical ways of hand hygiene, Lack of weighing balance for the quantification of waste, Lack of certification and inspection of burning chamber by NEMA, No spill kit for management of spills, Hepatitis vaccine administered to only 1% of the staffs, No register for needle stick injuries, No investigation for incidence and occurrences in the hospital, No data base for occupational related hazards, No appointment letter for IPC members, No hand hygiene audit conducted and disseminated **Way forward:** Availability of running water, liquid soap and hand rub sanitizers in all departments., availability of all commodities necessary for the adherence of hand hygiene and waste management. Continuous medical education, sensitization to all staff and waste handlers, Linen to be assorted before going to laundry. All food handlers to have valid medical examination certificates, Hepatitis vaccination to all staff.

**Findings:** After mitigation the following practices were put in place; Hand sanitizers, Liquid soap, and signage's, Medical certificates and uniform for kitchen staff, bin liners and personal protective equipment. Hand hygiene audit conducted and analyzed and results disseminated to staff.Waste tracking logs introduced, Incidences and occurrences management logs introduced. Appointment letter for IPC members signed by the medical superintendent Weighing balance procured.

**Conclusion:** Consistent continuous medical education and on job training on infection prevention and controlis mandatory for achievement of infection prevention goals. Hand hygiene is the most significant way in reducing health care associated infections and microbial resistance. Proper waste segregation is vital for the reduction of healthcare associated infections.

## APPLICATION OF QUALITY IMPROVEMENT CONCEPT IN MANAGEMENT OF HEALTHCARE WASTE AT THIKA LEVEL 5 HOSPITAL

**Author:** Mbugua A1, Mwangi C1, Ndung'u H1, Nyaga P1, Ndinda M2, and Kihungi L2.

**Affiliations:** 1Thika Level 5 Hospital 2International Training and Education Centre for Health (I-TECH Kenya)

**Introduction:** Proper waste management is an essential element in infection prevention and control. The most critical aspect in waste management process is segregation. However, in most facilities mixing of both hazardous and non-hazardous waste is a common practice. Generally, less than 15% of healthcare waste is considered hazardous while 85% is non-hazardous of total waste generated.

**Method:** This is a longitudinal study. Waste segregation was identified as a problem for which an aim statement was developed. Drivers and interventions were identified and quality improvement work plan developed. Various quality improvement interventions were identified and implemented, including, continuous medical education, on job trainings, reminders, monthly feedback to hospital management and healthcare workers, availing of waste management supplies and quantification of waste. Monthly data collection on waste segregation by observation was done using a standard tool. Focus was on different categories of waste being collected in different color-coded bins and sharp boxes in the various units. Data on waste quantification was extracted from waste disposal register. Data was entered and analyzed using Microsoft excel 365.

**Results:** Compliance with waste segregation at baseline assessment was 74%, while quantification was 7163 Kg of hazardous waste, 9131 Kg of non-hazardous waste and 175 sharp boxes. In subsequent months compliance and quantification was as follows: 44%, 9578 Kg hazardous waste, 6289 Kg non-hazardous waste and 168 sharp boxes, 70%, 9141 Kg hazardous waste, 6813 Kg non-hazardous and 156 sharp boxes, and 80%, 8446 Kg hazardous waste, 6986 Kg non-hazardous waste and 154 sharp boxes.

**Conclusion:** Quality improvement concept is a feasible approach in monitoring and improving waste management practice. The results indicated good

score on waste segregation at the generation point although quantification for two categories of waste showed that there was minimal difference in amounts weighed probably due to mixing during waste collection.

## **PROGRESS REPORT ON THE EFFECTS OF SAFETY AUDIT ON INFECTION PREVENTION CONTROL IN KOMBWEA COUNTY HOSPITAL IN WESTERN KENYA**

**Author 1:** C. Okuta<sup>1</sup>, G.Odoyo <sup>1</sup>, H.Ogolla, M. Adan

**Background:** INTRODUCTION According to WHO, defective infection prevention and control (IPC) practices during everyday health care delivery cause harm to hundreds of millions of patients worldwide every year. IPC is a discipline that aims to prevent or control the spread of infections in health care facilities and community. The purpose of performing an audit was to assess how real life observed practice in a facility compares with the accepted best practice or standards of care.

**METHODS:** The study was a cross-sectional observational design, which involved administration of WHO safety checklist and the international organization of standardization (ISO) 15189 safety section 12. A baseline safety audit was conducted in September 2017, feedback given and safety trainings done to laboratory health care workers as an intervention to improve IPC in Kombewa laboratory. Thereafter four safety audits were conducted in 2018 and the final one conducted in April 2019 to monitor on the adherence to the expected safety standards. Safety indicators assessed included personnel protective equipment (PPE), staff vaccination, post exposure prophylaxis, Biosafety training, waste segregation, fire safety, and sharp disposal management. The study area was Kombewa County hospital laboratory in Seme Sub County. Trained auditors were used to conduct the exercise. Data analysis was done using SPSS version 2015.

**RESULTS:** The baseline safety report indicated that all the assessed safety indicators (staff vaccination, waste disposal, fire safety, waste segregation, Biosafety training, and PEP) were at 0% with the exception of PPE which was at 100%. The overall safety audit report at baseline was at 19%. The first safety audit after baseline was 65% an improvement of 46%. The individual safety indicator scores were as follows: Staff vaccination 50%, Sharp/waste disposal 50%, fire safety 50%, PPE 100%, Biosafety staff training 0%, PEP 0%

and fire safety 50%. The third safety audit had an overall score of 81%, fourth safety audit 88% and the closed up audit done in April 2019 had an overall score of 86%. The key IPC indicators at the close of the audit results were as follows staff vaccination 100%, Biosafety trainings 100% and sharps/waste disposal 100%, fire safety 50% PEP 67% and PPE 100%.

**CONCLUSION:** Biosafety biosecurity trainings and safety audits improved IPC indicators from 19% to 86% almost to the accepted standards as per the WHO checklist and helped maintain the indicators to the accepted limits. The process helped to monitor and evaluate how well the laboratory is complying with the specific standards of good IPC practice hence improving it. We therefore recommend that biosafety biosecurity trainings and frequent and timely safety audits be done to health workers in all departments to improve IPC process.

## **ANTIBIOTIC PRESCRIBING PATTERNS FOR IN-PATIENTS AT JM KARIUKI MEMMORIAL COUNTY REFERRAL HOSPITAL, NYANDARUA COUNTY**

Helen Wangai<sup>1</sup>, Angelica Kuria<sup>2</sup>

### **Background and objectives**

Antibiotic resistance is a threat to effective prevention and treatment of a wide range of bacterial infections that are ever increasing. Resistance is a direct result of antibiotic use. A reduction of antibiotic prescribing would therefore lead to a reduction of resistance rates. Antibiotic resistance is one of the major global health challenges while the antibiotic pipeline remains virtually empty. It arises from an interaction of multiple factors including prescribers and patient behavior, the health system, non-human use of antibiotics, natural evolution of resistance as part of microorganism survival and non-adherence to simple IPC protocols/practices such as hand hygiene. Therefore use of existing antibiotics rationally and with caution is paramount to avoid situations where bacterial are resistant to most or even all antibiotics available. The overall objective of this study was to determine the antibiotic preference rate, the conditions for which the antibiotics were prescribed and the quality of antibiotic prescribing for in-patients

### **Methodology**

A point prevalence survey was conducted in 4 wards of the hospital in July 2019 and lasted 14 days. A desk review was the method of quantitative data

## Results

A total of 198 documents were reviewed. These formed the sample of study population of patients on antibiotics. Females represented 58.9 % of the sample and males 41.1%. 87.7% represented the 5-115 year age group while 22.3% children under 5 years. Overall antibiotic prevalence rate was 41%. The highest prevalence (57.9%) was reported in the female ward and the least (18.6%) in maternity. 348 antibiotics were prescribed for 198 patients translating to about 1.8 antibiotics per patient. The Penicillin class had the highest prevalence rate of 38.2% followed by the cephalosporin class at 22.4%. Benzyl penicillin, metronidazole and gentamicin were the most prescribed specific antibiotics at 30.2%, 17.2% and 16.8% respectively. Majority of in-patients 48.5% had two antibiotic prescribed, 39.4% single, and 2.5% four. Most conditions (99.5%) for which antibiotics were prescribed were documented. 16.7% of the indications were documented in unstandardized abbreviations. The major indication was Pneumonia 14.1% and its comorbidities at 4%. URTI and its comorbidities followed at 4.5% and 3.5% respectively. Most antibiotics (80.2%) were administered intravenously and 19.8% orally. 46.6% were administered for 5 days while 41.7% had no duration indicated. 34 different antibiotic combinations were prescribed, some of which were unusual. Inappropriate prescribing and mismatch between indications and antibiotics were observed in 15.7% and 4% respectively.

## Conclusions

Most of the antibiotics used were in the access group. The only drug in the watch group was ceftriaxone. The quality of antibiotic prescribing was suboptimal. Surgical prophylaxis was not well defined and transition from injection to oral antibiotics not well articulated. Irrational prescribing, excessive use of injections were also observed in this study.

**SESSION 13:****THEME: IPC IN OUTBREAK RESPONSE AND VACCINATION PROGRAMS IMPACT OF SURGICAL SITE INFECTION ON LENGTH OF HOSPITAL STAY AND COST AT KITALE COUNTY HOSPITAL****Author:** Webale, M.B.**Affiliation:** Kitale County Hospital

**Background:** Surgical site infection (SSIs) are among the most common health associated infections (HAIs) in low and middle income countries (LMIC). SSI is a common complication following caesarean section (C Section) that increases maternal morbidity, mortality and significant financial burden on the health care system.

**Methodology:** Surveillance was done prospectively from January to march 2018. It was based on patient chart review, labor and delivery staff reports and patient interview. The SSI case definition was based on the 2012 (WHO) simplified criteria for healthcare associated infection (HAI) surveillance as any purulent discharge, spreading cellulitis or abscess at the surgical site during the month after operation. Surveillance activities included visiting eligible patient prior to discharge for education regarding symptoms of infection and initial wound assessment. Following discharge patients were contacted, for wound assessment interview for up to 30th day post operation, patients meeting case definition were requested to return to health facility for evaluation and care.

**Findings:** Among the 276 C-section performed in the three months 14 (5%) cases of SSIs were identified. Of the 14 SSI cases, 8 (57%) were re-admitted for care while the rest 43% were followed up in the OPD clinic and the nearest facilities. On average, SSI extended length of stay by 35 days while increasing cost by Ksh 33,250 per patient excluding theatre and medication costs.

**Conclusion:** SSI is associated with a significant burden in terms of extended length of hospital stay and increased costs of treatment

## SEVERE ILLNESS AMONG CHILDREN ADMITTED TO THE PEDIATRIC WARD IN COAST GENERAL HOSPITAL, MOMBASA COUNTY, JANUARY - MAY 2019

**Author 1:** Were Ian, Pola Rhoda, Kuria Robert, Twafleh Abdulhadi, Nyangawa Violet, Oyugi Elvis

**Background:** In May 2019, Coast General Hospital reported increased number of children presenting with severe illness admitted to pediatric ward. Despite clinical management, more than half of these children died

**Purpose:** To investigate this increase in cases of illness, identify cause of the illness and assess IPC measures at the ward

**Methods:** Inpatient clinical files and admission registers of children managed in ward between 1st January and 24th May 2019 were reviewed. A case was defined as any child presenting with fever or cough or diarrhea and any of: convulsions, altered consciousness, inability/difficulty feeding, vomiting everything and hypoxemia. Blood and nasopharyngeal/oropharyngeal specimen were collected and shipped to CDC/KEMRI laboratory for PCR analysis. Inpatient admission/mortality data between 2015-2018 was extracted and trend analysis performed. WHO's Infection Prevention and Control Assessment Framework which grades facility IPC implementation was used to assess IPC programs. Data was analyzed in Epi-Info version 7 and multivariable logistic regression analysis performed.

**Findings:** A total of 658 (71.6%) records were reviewed of which 214 (32.5%) met the case definition for severe illness of whom 89 died (CFR=41.6%) and 104 (48.6%) were discharged. Kisauni sub-county recorded highest number of cases (n=70, 32.6%, CFR= 35.7%). A total of 36 blood samples were collected. Positive viremic adenovirus samples were 5(13.9%), *Klebsiella pneumoniae* 1(0.2%) CGH pediatric ward scored 63.9% (511/800, intermediate) by the WHO IPCAF scoring tool. There were higher odds of mortality in instances where children had hyperthermia (AOR = 7.6, 95%CI=2.7 – 21.3); there was delayed implementation of doctor's decisions (AOR =2.0, 95%CI=1.1 – 3.9)

**Conclusion:** The epidemic has a predictable pattern of occurrence therefore quicker response is possible. Viremic adenovirus is a rare, potential cause of outbreaks in children Continuous active surveillance and regularization of IPC

self-assessment is recommended to Identify circulating organism,continuously improve quality of program implementation

## **FACTORS INFLUENCING THE COST-EFFECTIVENESS OUTCOMES OF HPV VACCINATION AND SCREENING INTERVENTIONS IN LOW-TO MIDDLE-INCOME COUNTRIES (LMICS): A SYSTEMATIC REVIEW**

Bernard O. Okeah, MSc and Colin Ridyard, PhD.women in low-to middle-income countries (LMICs), hence, of great public health importance. LMICs are the most affected regions as evidenced by their high prevalence of the disease. Mortality associated with cervical neoplasms is preventable through the implementation of recommended preventive approaches.

**Background:** Cervical cancer ranks fourth amongst the commonest malignancies worldwide and the second most prevalent cancer afflicting

**Aims:** This review aimed at appraising evidence on the cost-effectiveness of cervical cancer prevention interventions in LMICs involving cervical screening and HPV vaccination programmes.

**Methods:** A search of CINAHL, MEDLINE, PubMed, and Web of Science was elicited and studies published between 1st January 2008 and 31st December 2018 were retrieved. One author conducted a full text review and data extraction which was subsequently checked by the second author.

**Results:** Twelve studies were included in this systematic review. A combination of visual inspection with acetic acid (VIA) screening and HPV vaccination was considered the most cost-effective approach in reducing the lifetime risk for HPV-linked cervical neoplasms.HPV DNA testing is also cost-effective. Similarly, vaccination without any other intervention is cost effective provided the coverage is maintained between 70-100%.

**Conclusions:** HPV vaccination and screening interventions are cost-effective in LMICs and can significantly reduce the lifetime risk, economic burden, and associated mortality. The cost-effectiveness outcomes of HPV vaccination and screening interventions are influenced by age, screening method used intervention coverage, and the number of doses or visits required for vaccination and screening respectively.

**Key words:** Vaccination, screening, human papilloma virus, cervical cancer, cost-effectiveness.

## SESSION 14

### THEME: PUBLIC PRIVATE PARTNERSHIP IN IPC/USE OF INNOVATIVE STRATEGIES

#### KINGA –PPP INITIATIVE

Japheth Gituku

#### SCALING UP SPECIMEN REFERRALS AND ACCESS TO PROMPT, QUALITY LABORATORY SERVICES IN TRANS NZOIA: THE ROLE OF THE PUBLIC-PRIVATE PARTNERSHIP

**Author:** Isaac Njihia

**Background:** Non-standardized specimen-transport protocol and logistics, inadequate laboratory officers to transport biological specimens, lack of standard specimen containers, and extremely long turnaround time in hindering access to quality, credible laboratory services.

**Purpose:** To scale specimen referrals system through the motorbike riders with emphasis on infection prevention and control on packaging handling and transportation

**Methods:** The PPP established a well standardized, streamlined specimen logistics, using the Moto Bike rider system to support a laboratory network in which 146 facilities referred specimens to the Main Kitale County Reference laboratory. The PPP supported procuring cool boxes, standard specimen containers and the training of 63 Medical laboratory officers and 12 motorbikes riders on all aspects of safety and infection prevention and control (IPC). The average TAT has tremendously reduced from 15 days (range, 7–22 days) to 6 days (range, 2–10 days) for viral load and 7 days (range, 2–14 days) to 2 days (range, 1–3 days) for GeneXpert

**Conclusions:** This highlights practicability and untapped potential of PPPs through rider system to strengthen laboratory systems whereas maintaining standards and protocols of IPC. This structured and planned approach to enhancing and improving specimen referral greatly facilitate

access to prompt and quality laboratory services and plays a vital role in managing diseases

**Keywords.** Motorbike rider system; public-private partnership; IPC ; Turnaround time.

### **Public Private Partnership in the Context of Infection Prevention and Control at Kombewa County Hospital, Kisumu County, Kenya: Evidence Based on PharmAccess Foundation Report**

**Authors:** Jenifer Simani<sup>1</sup>, Dr.David Okeyo<sup>1</sup>, Dr.Dickens Onyango<sup>2</sup>, Dr.George Rae<sup>3</sup>, Emmanuel Milimo<sup>2</sup>, Nathalie Houben<sup>2</sup>, George Otieno Agal<sup>1, 2</sup>, Emily Ogwang<sup>1, 2</sup> Tom Arunga<sup>2</sup>, Alinda Ndenga<sup>3</sup>, Moha Adan<sup>2</sup>, Doris Bota<sup>3</sup>

**Affiliations:** 1 Ministry of Health (County Government of Kisumu), 2 PharmAccess Foundation, 3KMET, 4MCSP, 5MTaPS

**Background:** Kenya's government has embraced private provision of social services including healthcare. The involvement of private partners is an indicator that the public facilities are not sufficient enough to meet the high demands of the ever increasing population. This has been done through Public Private Partnership (PPP) arrangement. In the context of Infection Prevention and Control (IPC), PharmAccess Foundation partnered with Kombewa County Hospital team to address gaps observed.

**Objective:** To enhance Quality, Safety and Efficiency

**Methodology:** Baseline assessments were done using SafeCare standard checklist accredited by the International Society for Quality in Healthcare (ISQua).The standards evaluated were included governance and management, human resource and management, patient and family right and access to care, management of information, risk management, primary healthcare(out-patient services, in patient care, surgery and anaesthesia services ,laboratory services, diagnostic imaging services medication management, facility management services, and support services. The assessments were conducted in two phases, 22nd October, 2018 and report released on 24th July, 2019). The second phase

22nd October, 2018 and report released on 24th July, 2019). The second phase of assessment was conducted on the 7th August, 2019 and report released on the 15th August, 2019.

**Results:** Infection Prevention and Control is characteristically linked to all departments due to its scope of activities. The facility was at 47% as compared to 38% when it was first evaluated. The gaps noted then informed the interventions which were adopted to strengthen IPC activities. They included operationalization of maternity theatre, capacity building of support staff and staff on the basics of IPC and Occupational Health Safety respectively, analysis of water available and used by patients at the facility, purchase and locating hand washing unit in strategic points at the facility, availing more than 300 pieces of bin coded liners for waste segregation as well as the handwashing signages that were posted in most of the clinical rooms, maternity, theatre and general ward. The impact of these interventions are reflected in the results as shown below:

## SESSION 15

### THEME: ANTIMICROBIAL STEWARDSHIP

#### **AMINOGLYCOSIDE SERUM TROUGH LEVELS AND THE RISK OF EARLY HEARING LOSS AND RENAL TOXICITY AMONG PEDIATRIC PATIENTS ADMITTED AT KNH: a prospective cohort study**

**Author 1:** Dr Zaietuni Mulaa, Dr Margaret Olukaa, Dr Sylvia Opanga, Prof Faith Okalebo

**Background:** Aminoglycosides are antibiotics used in pediatrics for the management of severe infections. In resource limited settings, monitoring of drug levels for efficacy and toxicity is minimal.

**Purpose:** To determine aminoglycoside trough levels, risk of early hearing loss and renal toxicity among pediatric patients at KNH.

**Methods:** The study was conducted in the pediatric wards of the KNH between May and September, 2018. Pediatric patients aged 5 years and below receiving amikacin or gentamicin treatment were included, and those already on an aminoglycoside were excluded. Renal function and hearing loss

screening were determined at baseline and after treatment. Aminoglycoside trough levels determining on day three the third dose .Data on participant demographic characteristics, Kidney function, hearing screening drug serum trough levels were collected. The main outcome variable was aminoglycoside serum trough levels. Regression was used to evaluate factors associated with sub therapeutic levels among patients.

### **Findings**

Prevalence of aminoglycoside use was 57.12% 110 participants were on gentamicin and 30 were amikacin .The most common indication for use was pneumonia 117(83.45%).3(10%) participants on amikacin had levels >1 microgram/ml while 30(27%) participants on gentamicin levels >2 microgram/ml. The predictors for toxicity were aged

### **Conclusion**

There was a risk of developing a acute kidney injury in patients who received aminoglycosides therapy particularly gentamicin. Therefore there is need to review the existing aminoglycoside use protocols to include use protocols to include the therapeutic drug monitoring.

## ANTIBACTERIAL SUSCEPTIBILITY PATTERNS OF CLINICAL ISOLATES FROM JARAMOGI OGINGA ODINGA TEACHING AND REFERRAL HOSPITAL: PRELIMINARY RESULTS FOR THE PERIOD 2014 TO 2019.

**Author 1:** Wafula. CN1, Omondi. C1, Adera D1, Okot

**Background:** Background: Infectious diseases are a significant cause of morbidity and mortality, made more complex by the increasing antibacterial resistance to drugs. To manage patients more effectively and assist clinicians in formulating guidelines, bacterial pathogens and their susceptibility patterns should be monitored.

**Purpose:** Against this background, this study aimed at describing the bacterial spectrum of clinical isolates and their susceptibility to antibacterial agents at JOOTRH.

**Methods:** Methods: This was a cross-sectional retrospective data collection study in design. Data was extracted from laboratory reports, the patient files containing in-patient information and pharmacy reports to describe each case on three parameters: Clinical picture of the patient, Culture report and antibiotics prescribed. Data were extracted and input on excel data spreadsheet. Descriptive statistics was used to analyze and summarize data on patient information and pharmacy reports to describe each case on three parameters: Clinical picture of the patient, Culture report and antibiotics prescribed. Data were extracted and input on excel spreadsheet. Descriptive statistics was used to analyze and summarize data.

**Findings:** Preliminary Results: The study is still in progress. So far, only 15% of patients admitted in the hospital have laboratory culture and sensitivity results. Routine culture and sensitivity testing is only done for acute cases. The bacterial isolates that have been isolated so far include Staphylococcus aureus was the most prevalent followed by Pseudomonas aeruginosa, Proteus mirabilis, coagulase negative staphylococcus, Beta hemolytic streptococcus, Klebsiella spp, Non lactose fermenters, and Enterococcus faecalis. Only 12% of the patients reviewed had mixed infections. Escherichia coli was sensitive to ofloxacin and nitrofurantoin but resistant to amoxicillin clavulanate, nalidixic acid, and gentamicin. Klebsiella spp

Non lactose fermenters, and *Enterococcus faecalis*. Only 12% of the patients reviewed had mixed inf infections. *Escherichia coli* was sensitive to ofloxacin and nitrofurantoin but re resistant to amoxicillin clavulanate, nalidixic acid, and gentamicin. *Klebsiella spp* was sensitive to amikacin and meropenem a and resistant to all the antibiotics that were tested.

**Conclusion:** Materials and Con Conclusion: Our preliminary results show that the prevalence of bacterial resistance to commonly used a antibiotics remains high in this region. The hospital need to review its SOPs of conducting bacterial culture and sensitivity testing for only acute cases. Recommendations: Standard procedures on bacterial management i in the JOOTRH wards should be developed and followed to reduce development of antibiotic resistance. Key words: antibacterial resistance, bacterial infections, antibacterial susce susceptibility, susceptibility, antibiotic resistance.

## ADHERENCE TO ANTIBIOTICS IN THIKA LEVEL 5 HOSPITAL

**Author:** Nyaga A.

**Introduction:** The treatment of bacterial infections is increasingly complicated by the ability of bacteria to develop resistance to antibiotics which are often categorized according to principal mechanism of action. Resistance is a major threat to public health and is a concern globally and locally. The risk of running out of antibiotics in the near future has been expressed. The World health organization in 2016, called for immediate and concerted efforts to mitigate threat to global health that was estimated to contribute to 700,000 deaths in 2014 and projected to cause 10 million deaths in 2050 if not properly addressed.

**Methodology:** One hundred and twenty-eight Patient's files were randomly sampled from different departments at Thika level 5 Hospital, surgical, medical and pediatric departments to assess adherence to prescribed antibiotics use and utilization of laboratory findings to guide switching from first line to second line treatment.

**Results:** Among the 128 files sampled, 31 (24.2%) delayed starting antibiotics after prescription, 52 (40.6%) had inconsistency in administering prescribed antibiotics, 17 (13.3%) did not completed the full course of prescribed antibiotics, 23 (18%) completed the prescribed antibiotics while 3 (2.3 %) were switched from first to second line with no culture and sensitivity results and 2 (1.6 %) switched from second line to 3rd line with no culture and sensitivity results.

**Conclusion:** There were delays in starting prescribed antibiotics which may lessen the efficacy of the drug of choice at that time. There was inconsistency in administration of prescribed antibiotics which may lead to Resistance. Some patients did not complete the prescribed course of antibiotics. The antibiotics are switched without any culture and sensitivity results this may prolong patients stay and create resistance.

## SESSION 14

### THEME: ANTIMICROBIAL STEWARDSHIP

#### BACTERIAL ISOLATES AND THEIR PATTERNS OF ANTIBIOTIC RESISTANCE IN THE KENYATTA NATIONAL HOSPITAL CRITICAL CARE UNIT.

**Author:** Dr Emmah Obegi, Dr Margaret Oluka, Dr Sylvia Opanga, Prof Faith Okalebo

**Background:** Critically ill patients have a high risk of developing life-threatening infections. The extensive and indiscriminate use of antimicrobials in the critical care unit leads to selective pressure for resistant bacteria.

**Purpose:** To determine the commonest micro-organisms isolated from patients admitted in the Critical Care Unit and their susceptibility patterns.

**Methods:** A retrospective longitudinal study was conducted at the selected Critical Care Units of KNH. The study involved the extraction of data from medical records of patients aged 13 years and above admitted to the Critical Care Units from January to December 2017. Data was abstracted using a pre-designed standardized data collection tool. The study variables were the five commonest isolated micro-organisms and the susceptibility patterns of the bacteria to the commonly used antibiotics. The prescribing patterns of the various antibiotics were also assessed.

**Findings:** This study included 309 patients. The median age was 37 years [IQR 13, 83] There were more males (n=158, 51.1%). The most commonly isolated microorganisms were Klebsiella pneumonia (23.9 %), Acinetobacter baumannii (16.4%) and Escherichia coli (10.5%). Klebsiella pneumonia isolates 67% (n=11) were sensitive to meropenem. Acinetobacter baumannii isolates (82%, n=9) were sensitive to amikacin, 55% (n=6) to meropenem, 27% (n=3) were sensitive to ceftazidime and cefepime. All the Acinetobacter isolates were resistant to tigecycline, linezolid, and teicoplanin. Most of the Escherichia coli isolated were sensitive to meropenem (86%, n=6), amikacin (71%, n=5) and 43% (n=3) to gentamycin.

**Conclusion:** Klebsiella pneumonia, Acinetobacter baumannii, and Escherichia coli were the principal pathogens isolated. They showed susceptibility to meropenem and amikacin. Ceftriaxone was the most common antibiotic prescribed despite most isolates showing resistance. The study observed that the culture and sensitivity results seldom informed antibiotic prescribing.

## **COST OF ANTIBIOTICS CONSUMED IN THE OUTPATIENT DEPARTMENT OF THE NYERI COUNTY REFERRAL HOSPITAL**

**Author 1:** Kibira, Sarah, 2 Gitonga, Nkatha  
Organization Nyeri County Referral Hospital

**Background:** Inappropriate use of antibiotics can contribute significantly to emergence of antimicrobial resistance and wastage of resources.

**Purpose:** This study aimed at analyzing the cost of antibiotics consumed at the outpatient department of Nyeri County Referral Hospital.

**Methods:** A cross sectional study was carried out at the Nyeri County Referral Hospital which targeted prescriptions generated at the outpatient department from Monday 20th May 2019 to Sunday 26th May 2019 between 8 am and 12 midnight. The study team included two pharmacists in the antimicrobial stewardship program. The data collected was tabulated in an MS Excel sheet indicating the following parameters: age, diagnosis, prescribed antibiotics, formulation, dosage, duration of administration, errors in antibiotics prescribed, cost of the antibiotics prescribed and appropriateness of the antibiotic prescribed.

**Findings:** Sixty two percent of the prescriptions examined contained at least one antibiotic. The cost of antibiotics consumed in that week was Ksh. 203,996.00 (Pediatric - Ksh. 50,999 (25%) and Adults - Ksh. 152,997 (75%)). The cost of rationally used antibiotics was Ksh. 96,838 (Pediatric – Ksh. 23,241 (24%); adults Ksh. 73,597 (76%)). The cost of antibiotics inappropriately prescribed was Ksh 80,827 (40%), where prescribing errors accounted for 37% (Ksh 29,749) and non-adherence to treatment guidelines was 63% (Ksh. 51,078).

**Conclusion:** A significant proportion of pharmaceuticals budgetary allocation was consumed by antibiotics. The proportion of funds potentially lost through antibiotics inappropriately prescribed was relatively high. A strong Antimicrobial Stewardship Program may be necessary to ensure appropriate use of antibiotics and a reduction of the overall cost of antibiotic therapy in the hospital.

## **PRACTICES OF MOBILE PHONE USERS AND THE ASSOCIATED RISK OF SPREAD OF EXTENDED SPECTRUM BETA LACTAMASE PRODUCING BACTERIA WITHIN KITALE COUNTY HOSPITAL.**

**Presentation Format:** Oral

**Author 1:** Mr GODFREY SANDE JUMBA, Prof SIMON KARANJA, Dr JANE NGAIRA

**Background:** Mobile phone devices have become indispensable professional, social and networking tools. However, their potential as fomites has not been fully explored.

**Purpose:** The study sought to determine the behavior associated with mobile phone use, diversity of isolates, sensitivity profile and genotypes

**Methods:** Swabs from Mobile phones were inoculated into brain heart infusion broth then subcultured on sheep blood agar and MacConkey agar. Identification, antibiotic susceptibility profile was done using the Vitek 2 Compact analyzer. Gram negative isolates depicting high resistance profiles, then screened for Carbapenemase genes, using multiplex real time PCR.

**Findings:** Caretakers (n=187) and healthcare workers (n=50) were recruited. Sixty eight percent of health care workers admitted to receiving phone calls while attending to patients, and only 38% sanitize their mobile phones. 38%

support restriction of mobile phone use in the hospital. Caretakers (95%) allow their children to play with their phones, 29% admitted to borrowing mobile phone or accessories while in hospital. Isolate from caretakers' phones were enterococcus faecalis (30%), staphylococcus aureus (15.71%), sphingomonas paucimobilis (11.43%) and Escherichia coli (10%), while from health care worker's phones; enterococcus faecalis(27%), staphylococcus aureus (23%), sphingomonas apucimobilis (20%) and vibrio vulnificus (11%)

**Conclusion:** Enterococcus faecalis is the most common isolate from mobile phones of study participants at Kitale county hospital.

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