## 2185th Conference

## Nosocomial infections & Decontamination 2018

2nd International Congress on

# Nosocomial and Healthcare Associated Infections

&

International Conference on

# Decontamination, Sterilization and Infection Control

October 15-16, 2018 | Las Vegas, USA

# Workshop

## Day 1

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*Cheryl Sharp*

*Texas Health Resources, USA*

## Surgical site infection prevention

Healthcare acquired infections are patient safety events that should never happen, especially a surgical site infection (SSI). Infection prevention has grown through the years, and with this growth, a change in focus has occurred from controlling infections to eliminating infections. With this move, many facilities have taken a 'Bundled' approach to prevent infections from ever reaching patients. There are a variety of approaches to SSI Bundles, which we will explore.

### Biography

Cheryl Sharp has worked in Infection Control/Prevention for 16 years, helping to create a safe environment for patients. She completed her Bachelor's in Nursing from Western Governors University and has been certified in Infection Prevention and Control through CBIC since 2009. She is currently an Infection Preventionist at a local hospital in the DFW area and is very active in their local chapter of APIC. She has presented at venues such as APIC National, in conjunction with the AORN, presented posters, and has served on the Board of Directors of APIC DFW, as well as chairing the professional advancement SIG for 5 years, where new infection preventionists are prepared to pass their CBIC exam to obtain CIC status. APIC DFW has won several awards with APIC National for this work.

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# Scientific Tracks & Abstracts

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# Central line blood stream infection (Clabsi): Armed forces hospital southern region

**Phyllis Hazel Twala**
Stellenbosch University, South Africa

Although healthcare-associated infections (HAIs) are a recognized public health problem worldwide, they are presently a great concern for each and every healthcare setting. CLABSI is the most common infection especially in critically ill patients despite international interventions to prevent CLABSI by adhering to the best practices. Thus further studies of good quality are essential. Hospital-acquired infections (HAIs), definitions are adapted from the CDC's National Healthcare Safety Network. Nonspecific (fever-associated) HAI, was defined as the patient who has been on the surveillance ward >48hrs and has new onset (i.e. not present on admission) of fever or hypothermia (>38°C or <35°C). Relatively high prevalence of CLABSI is in NICU & ICUs which suggests that infection prevention practices (e.g. hand hygiene, cohorting practices, insertion of central lines) should be assessed and improved in these settings. Monitoring of CLABSI care bundle compliance by all healthcare workers and recording. Quality Improvement Project, route cause analysis FOCUS PDCA. Staff education and training on the prevention of CLABSI.

## Biography

Phyllis Hazel Twala Qualified Professional Nurse RN, RM, RC, BA in Infection Control, PGD in HIV/AIDS Management, PGD in Nur Educ presented National and International presentations on infection control. Facilitating PCI mandatory infection control course in AFHSR.

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# Microbial ecology of hospital surfaces of maternities in the public hospitals of Lubumbashi in the Democratic Republic of Congo

**Kaj Francoise Malonga**[1], **Hendrick Lukuke Mbutshu**[1], **Mukengeshayi Abel Ntambue**[1] and **Michel Makoutode**[2]
[1]University of Lubumbashi, Democratic Republic of Congo
[2]Regional Institute of Public Health, Ouidah Benin Republic

**Introduction:** In the healthcare environment, germs can contaminate surfaces that are in contact with vulnerable anatomical sites. The study had an objectives to identify the nature of germs present on the hospital surfaces and to evaluate their resistance to antibiotics used in clinical practice in the maternity wards of public hospitals of Lubumbashi.

**Methods:** The cross-sectional descriptive study was conducted in seven maternities in January 2015. These maternities were chosen depending on whether they met the inclusion criteria. Data collection was performed by swabbing the surfaces in using ISO/DIS 14698-1. The sample analysis was achieved in the laboratory of the University clinics in Lubumbashi.

**Results:** On 77 sampled and analyzed surfaces, 47 surfaces either 61% have made one or several germs. *Candida albicans* was the most isolated on 20 surfaces or 43% followed by Escherichia coli on 17 surfaces (36%), *Staphylococcus aureus* on 4 surfaces (9%) and *Pseudomonas aeruginosa, Klebsiella oxytoca*, *Enterococcus faecalis* respectively on 2 surfaces (4%). The *Klebsiella oxytoca* was found in the solution of Dakin reserved for disinfection in the operating room. The germs were multi-resistant to several antibiotics commonly used clinically in these maternities, including the Amoxicillin to Ampicillin and the Augmentin *(*amoxicillin + clavulanate).

**Conclusion:** We found a significant presence of multi-resistant germs on the hospital surfaces. We need to improve the bio-cleaning and good political use of antibiotics and disinfectants.

## Biography

Kaj Francoise Malonga is Professor of Public Health and Nursing at the Faculty of Medicine and the School of Public Health at the University of Lubumbashi. Author of more than 20 scientific publications in International journals in the field of maternal and child health, hospital hygiene, HIV AIDS and management of health institutions. She is currently director of the School of Public Health of the same university.

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# Video Presentations

## Day 1

Massimo Sartelli, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C4-047



# Improving behaviour, knowledge and attitude in combating antimicrobial resistance across the surgical pathway

**Massimo Sartelli**
Macerata Hospital, Italy

Although most surgeons are aware of the problem of antimicrobial resistance, most underestimate this problem in their own hospital. Incorrect and inappropriate use of antibiotics and other antimicrobials, as well as poor prevention and control of infections, are contributing to the development of such resistance. Some of the most common surgical conditions, such as appendicitis and cholecystitis are infectious in nature. Additionally, healthcare-associated infections, such as surgical site infections, urinary tract infections, and pneumonia, are among the most common complications surgeons face in their clinical practice. In hospitals, cultural, contextual, and behavioral determinants influence clinical practice and improving behavior in infection prevention and antibiotics prescribing practice remains a challenge. Despite evidence supporting the effectiveness of best practice, many surgeons fail to implement them, and evidence-based processes and practices that are known to optimize both the prevention and the treatment of infections tend to be underused in routine practice. Since surgeons are primarily responsible for the management of infections, educating them and changing the attitudes and knowledge are crucial for improving best practices in the management of infections. Educational interventions should include any attempt to persuade surgeons to modify their clinical practice.

## Biography

Massimo Sartelli is specialized in general surgery with an emphasis in emergency surgery. He is Consultant Surgeon at Macerata Hospital, Italy. His scientific activity is documented by publications in National and International scientific journals. He is an Author of seven books on emergency and general surgery. In the last years, he has devoted his updating to the study of surgical sepsis. He is Associate Editor of the "World Journal of Emergency Surgery" and member of the Board of Directors of the "World Society of Emergency Surgery". He coordinated the WSES guidelines for management of intra-abdominal infections, soft tissue infections, and *Clostridium difficile* infection. He designed and coordinated three prospective studies on intra-abdominal infections (CIAO Study, CIAOW Study, WISS Study) identifying epidemiological and management profiles of patients with intra-abdominal infections worldwide. He is the founder and acting director of the Global Alliance for Infections in Surgery. The mission of Infections in Surgery is to educate healthcare workers promoting the standards of care in managing surgical infections worldwide. Its intent is to raise awareness among healthcare workers of infections and sepsis. Up to now, members from 87 countries worldwide joined the Global Alliance for Infections in Surgery.

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**Notes:**

Samuel Sunday Taiwo, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C4-047



# Healthcare associated infections: Development of surgical site infections surveillance tool for low-and-middle-income-countries-Nigeria as a case study

**Samuel Sunday Taiwo**
University of Ibadan, Nigeria

Surveillance is a core component of the World Health Organization (WHO) Infection Prevention and Control (IPC) strategy for healthcare-associated infections (HAIs). Although these infections are more frequent in developing than developed countries of the world, data in the former are very limited and usually of poor quality. A major constraint is the non-applicability of the internationally accepted standard surveillance tools for HAI data collection in Low-and-Middle-Income-Countries (LMICs) as a result of inadequate laboratory support, costs, and training gaps that exist among IPC practitioners on surveillance of HAIs. A Healthcare Associated Infection Working Group (HAIWG) in 2017 met in Abuja, Nigeria to develop protocol and tool for Surgical Site Infections (SSI) surveillance in the country using documents obtained from Health Protection Surveillance Centre (HPSC) Ireland, United States Centre for Disease Control (CDC), European Centre for Disease Control (ECDC) and the WHO Global Guideline for the Prevention of Surgical Site Infections. Using the clinical case definition, SSI surveillance tool and protocol were developed and field tested in six selected healthcare facilities across the six geopolitical zones of the country. The results of the field testing showed that this surveillance tool can be applied across healthcare facilities in Nigeria and adopted by other LMICs of the world. There is a need to develop similar tools for surveillance of other HAIs in LMICs.

## Biography

S S Taiwo obtained his MD from University of Ibadan College of Medicine Nigeria and currently a Consultant Clinical Microbiologist and Infectious Disease Specialist to Ladoke Akintola University of Technology Teaching Hospital, Ogbomoso. He is also the Director of Clinical Microbiology Laboratory that is enlisted by the Nigeria Center for Disease Control as a sentinel site for routine antimicrobial resistance (AMR) data collection for the Global Antimicrobial Resistance Surveillance System (GLASS). His research focuses on the clinical epidemiology of AMR pathogens involved in healthcare and community-associated infections, with interest in methicillin-resistant *Staphylococcus aureus* (MRSA).

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# Scientific Tracks & Abstracts

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# Molecular detection of virulence factors in antibiotic resistant *enterococcus faecalis* from abattoir, poultry and clinic

**Adetunji Kola Olawale**
Afe Babalola University, Nigeria

*Enterococcus faecalis* is a major cause of nosocomial infection in human and has been linked to severe extra-intestinal infections in animals. This study determines the frequency and distribution of antibiotic-resistant *Enterococcus faecalis* (ARE) in poultry, abattoir and clinical environment. A total of the 150 samples including; poultry droppings, abattoir waste-water, and clinical specimens were collected. Standard bacteriological methods were used in isolation and characterization of *E. faecalis*, while disc diffusion technique was used in determining antibiotic resistance pattern of the isolates. Of the 150 samples examined, 53% were positive for *E. faecalis*. The highest occurrence (31.33%) of *E. faecalis* was recorded from poultry samples, followed by (14%) from abattoir samples and the least (8%) from clinical samples. The High antibiotic resistance ranging between 33.3% and 100% were recorded. *E. faecalis* isolates from abattoir shown the highest percentage antibiotic resistance, followed by clinical isolates and least among the poultry isolates. Cefuroxime, Erythromycin and Augmentin were less effective against selected *E. faecalis* isolates while Ofloxacin was highly effective. Molecular detection of each of the genes coding virulence factors - enterococcal surface protein (esp), aggregation substance (asa1) and collagen-binding protein (*ace*) in E.faecalis revealed; presence in four isolates (EKSG-3, EKSG-7, EKSG-11, EKSG-20), three isolates (SP2B1, SP2A1, PKL-41) and none from abattoir, poultry and clinical samples respectively. The study revealed high incidence of antibiotic resistant *E. faecalis* with virulence potentials in the studied areas especially abattoir which could serve as a reservoir for antibiotic-resistant strains. Hence, need for enforcement of good hygiene practice and constant epidemiological surveillance.

## Biography

A K Olawale lectures as a Senior Lecturer in the Department of Biological Sciences (Microbiology and Biotechnology unit), Afe Babalola University, Ado-Ekiti. Nigeria. He has PhD in Medical Microbiology. He possessed excellent experience in the clinical diagnosis and scientific research in molecular epidemiology and pathogenesis, emerging infectious diseases, antimicrobial resistance, pathogens fingerprinting, molecular analysis of human pathogen virulence, development of new antimicrobials and immunology. He has made some modest contributions in these major areas of Microbiology with notable publications in peer-reviewed learned journals.

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# Video Presentations

## Day 2

Paul J Caesar, J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C4-047



# Infection Control: Through the barricades?!

**Paul J Caesar**
Hospital Tjongerschans, Netherlands

Micro-organisms aren't stopped through the walls of any health care institution (HCI). An introduction can vary from both patients, clients, visitors, or healthcare workers. Since antimicrobial drug resistance (AMR) is recognized as a significant problem in combating infections in HCIs, especially in hospitals and nursing homes, there is an increasing discussion on how to organize infection control 'through the barricades' e.g. HCIs. Every hospital has their own Infection Prevention Practitioners (IPPs). They practice a good job of increasing hygiene and infection control in those settings, based on national guidelines and other evidence or best practice. Since there is increasing attention for infection control in other care institutions, IPPs are more involved in infection control policy in those institutes. Sometimes there is a (strong) link with a regional hospital, sometimes the job is done as a freelance IPP, and sometimes there is a contract with an IPP from the public health organization. While this is a good development, it's sometimes remarkable that all those IPPs in all those hospitals and other HCIs are doing the same thing, and again developing the same procedures and protocols. This also seems to happen on Antibiotic Stewardship (AS) in hospitals. It's like everyone in HCI is running their own race on infection control. But now it seems as we are likely to lose the race on AMR infections, the question isn't if we should run another race, but how to perform this race: Organizing infection control through the barricades! Regional networks, with a new role for IPPs.

## Biography

As ICP Paul Caesar has a broad experience in hygiene and infection control, mainly in hospitals but also in nursing homes and other care institutes. He is also an expert in Sterile Medical Devices and Reprocessing Flex Endoscopes. He participates in more nationwide and regional groups on infection control and is the guest lecturer on infection control in different kind of educational programs. He also was the initiator on a nationwide education programme for ICPs in hospital and public health.

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# Plasmid profile and curing of resistant bacteria isolated from the environment of two tertiary hospitals in calabar metropolis

**Mboto C I** and **Mbim E N**
University of Calabar, Nigeria

Nosocomial agents are a major challenge in hospital settings globally. This study evaluated the prevalence of bacteria in the environments of two tertiary hospitals in Calabar metropolis and elucidated the plasmids associated with resistance in the isolated bacteria. Bacteria were isolated and characterized from various sections of the hospitals using standard microbiological techniques. The isolates were subjected to antibiotic susceptibility testing and the plasmids of resistant bacteria were profiled using the ZYPPYTM Plasmid Miniprep Kit (Inqaba Biotech. SA), quantified using nanodrop 1000 and amplified using standard PCR. Isolates possessing plasmids were cured using ethidium bromide and re-subjected to antibiotics of prior resistance. Exactly 159 organisms were recovered from the hospitals with a mean count of 1949cfu. Most prevalent isolates were *Escherichia coli, Pseudomonas aeruginosa, Klebsiella pneumoniae, Salmonella species, Staphylococcus aureus, Coagulase-negative Staphylococci, Candida species, and Penicillium species*. All bacteria species except Streptococci showed resistance to β-lactams but not to fluoroquinolones and aminoglycosides with multiple antibiotic resistance (MAR) index of 0.19-0.62 and high MICs and MBCs. Plasmid profiling of MAR isolates showed the presence of CTX-M (40%), SHV (86.7%) and MecA (91.7%) genes in test isolates. Chi-square and the Fischer exact tests showed significance (P<0.001) for SHV but not CTX-M. Cured isolates showed susceptibility to all the antibiotics except *P. aeruginosa* and *S. aureus*. These findings revealed that MAR bacteria in these hospitals possessed plasmids and possibly other resistance mechanisms and makes the need for intervention.

## Biography

Mboto is a Virologist, Bacteriologist, and Epidemiologist with over two decades of University teaching experience. He has 56 scientific publications in peer review journals and 13 scientific papers presented at International conferences in various parts of the world and is a serving member of three editorial boards. He was listed as one of the top 500 Nigerian Scientists in Nigerian Institutions in 2015 and 2016. He is presently the Head of the Department of Science Laboratory Technology of the University of Calabar and a Visiting Scholar to two other Universities.

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**Notes:**