



13<sup>th</sup> World Congress on

# **INFECTION PREVENTION AND CONTROL**

December 14-15, 2017 | Rome, Italy

# Scientific Tracks & Abstracts Day 1

Infection Prevention 2017

# Sessions:

Day 1 December 14, 2017

**Infection Prevention, Control and Cure | Infection Control Procedures | Immunizations  
Epidemiology and Infection Control | Hospital Infections and Epidemiology | Antimicrobial  
Chemo Therapy | Respiratory Tract Infection Therapy**

**Session Chair**

**Zarina Bee Nazeer**

ICC Armed Forces Hospital, Saudi Arabia

**Session Co-Chair**

**Julian Hunt**

Swansea University, UK

## Session Introduction

**Title: Adverse events following immunisation with a meningococcal serogroup B vaccine: Report from a German passive surveillance system**

**Doris Oberle**, Paul-Ehrlich-Institut, Germany

**Title: Can hospital osteomyelitis be treated without the use of antibiotics?**

**Huang Wei Ling**, Medical Acupuncture and Pain Management Clinic, Brazil

**Title: Infection prevention control and patient safety culture within hospital isolation settings**

**Julian Hunt**, Swansea University, UK

**Title: The risk of tuberculosis in patients with diabetes mellitus from an Asian tertiary hospital**

**Yong Yang**, Singapore General Hospital, Singapore

**Title: Surveillance findings of surgical site infections among pediatric surgeries at a specialized teaching hospital, Sudan 2016**

**Atika M O Swar**, Ahfad University for Women, Sudan

**Title: Infection control measures to reduce surgical site infections after coronary artery bypass grafting**

**Hanadi Al Salmi**, King Faisal Specialist Hospital & Research Center, Saudi Arabia

**Title: Prevalence and response to needle stick injuries among health care workers at Kenyatta National Hospital Nairobi, Kenya**

**Alice Njihia**, Kenyatta National Referral and Teaching Hospital, Kenya

**Title: The sequestration of human dendritic cells by the infective L3 *Necator americanus***

**Asha Hassan**, University of Nottingham, UK

**Title: Roadmap to zero tolerance of device healthcare associated infections**

**Waleed A Mazi**, Directorate of Health Affairs, Taif, Kingdom of Saudi Arabia

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**Adverse events following immunization with a meningococcal serogroup B vaccine: Report from a German passive surveillance system****Doris Oberle, Dirk Mentzer and Brigitte Keller-Stanislawski**  
Paul-Ehrlich-Institut, Germany

**Background:** Invasive meningococcal disease (IMD) can be fatal and may lead to permanent neurological sequelae and disabilities. In January 2013, a novel vaccine against *Neisseria meningitidis* serogroup B, 4CMenB, was approved by the European Medicines Agency. We aimed at evaluating the safety profile of this vaccine.

**Methods:** All adverse events following immunization (AEFI) reported from Germany since launch on the European market through December 2016 were reviewed and analyzed.

**Results:** Through December 2016, a total of 664 individual case safety reports (ICSR) notifying 1960 AEFI were received. A majority of vaccines were children aged two to 11 years (n=280, 42.2%) as well as infants and toddlers aged 28 days to 23 months (n=170, 25.6%). General disorders and administrations site conditions was the system organ class (SOC) with the majority of AEFI (n=977, 49.8%) followed by the SOCs nervous system disorders (n=249, 12.7%) and skin and subcutaneous tissue disorders (n=191, 9.7%). Screening for immune-mediated and neurological diseases did not raise any safety signal in terms of an increased proportional reporting ratio (PRR).

**Conclusions:** The safety profile described in the summary of product characteristics, in general, is confirmed by data from spontaneous reporting. No safety concerns were identified.

**Biography**

Doris Oberle is a Physician and Biostatistician at the pharmacovigilance department of the Paul-Ehrlich-Institut, Federal Institute for Vaccines and Biomedicines, Langen, Germany. Her research focuses on the investigation of adverse events following immunization. For example, within the scope of a case-control study, she investigated the association between pandemic influenza A (H1N1) vaccination and narcolepsy in Germany. She is also involved in the detection and evaluation of safety signals especially regarding newly approved pharmaceutical products like the meningococcal B vaccine.

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**Can hospital osteomyelitis be treated without the use of antibiotics?****Huang Wei Ling**

Medical Acupuncture and Pain Management Clinic, Brazil

**Statement of the Problem:** As we know osteomyelitis is a bone infection which can reach a bone by traveling through the bloodstream or spreading from nearby tissue. It can also begin in the bone itself if an injury exposes it to germs. Once considered an incurable condition, osteomyelitis can sometimes be successfully treated today by surgery to remove parts of the bone that have died and then with strong antibiotics. (Mayo) The purpose of this study was to show why the treatment of osteomyelitis is so difficult and in most cases incurable. However to improve chances of cure, we need to look at the patient in his entirety, and associate other theories that can be found within other traditions, and not only focus on the infected area. The methodology used was the presentation of two case reports, of which the first showed an infection resulting from knee fracture surgery done after a motorcycle accident that had been treated by the use of a large spectrum of antibiotics without any improvement. The second case was another hospital osteomyelitis after an exposed tibia fracture also after a motorcycle accident which had been treated profusely with antibiotics with any improvement.

**Findings:** Both cases were treated successfully taking out all the anti-inflammatory and antibiotic drugs, and then treated by changing diet, balancing the Yin, Yang, Qi, Blood energy and removing heat retention following the theories of Oriental Medicine. In these two cases, the condition that was maintaining the symptoms of infection was exactly the aggressive use of antibiotics.

**Conclusion:** The treatment of osteomyelitis showed in this study, demonstrated to us that we need to see the patient and not only the disease, to treat adequately the symptoms presented by the patient, and both cases were successfully treated without the use of antibiotics

**Biography**

Huang Wei Ling is graduated in medicine in Brazil, specializing in infectious and parasitic diseases, a General Practitioner and Parenteral and Enteral Medical Nutrition Therapist. She has been In Charge of the Hospital Infection Control Service of the City of Franca's General Hospital, she was responsible for the control of all prescribed antimicrobial medication, and received an award for the best paper presented at the Brazilian Hospital Infection Control Congress in 1998. She was coordinator of both the Infection Control and the Nutritional Support Committee in Sao Joaquim Hospital in Franca, and also worked at the infectious Sexually Transmitted Disease Reference Center. She is the owner of the Medical Acupuncture and Pain Management Clinic, and since 1997 she has been presenting her work worldwide concerning the treatment of various diseases using techniques based on several medical traditions around the world.

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# INFECTION PREVENTION AND CONTROL

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## Infection prevention control and patient safety culture within hospital isolation settings

Julian Hunt and John Gammon  
Swansea University, UK

**Background:** Infections present a very real risk of harm and sometimes death within and outside the healthcare. In recent years, there have been high profile successes in infection prevention and control, such as the dramatic reductions in MRSA bloodstream infections (which is viewed as one proxy indicator of overall harm) and *Clostridium difficile* in the UK (Health Protection Agency, 2013; Public Health Wales, 2012). However, healthcare-associated infections (HCAI) continue to occur and continue to present a risk to users of healthcare. The present study describes the ways in which engagement of health workers with infection prevention control strategies and principles shape and inform organizational patient safety culture within isolation in surgical, medical and admission hospital settings; and vice-versa.

**Research Methods:** The study adopts a mixed-methods design incorporating quantitative data utilising the Manchester Patient Safety Framework (MaPSaF). MaPSaF assists us in seeing the levels of patient safety culture maturity in isolation settings at four district general hospitals, in one health board in Wales, UK. These data were supplemented by ethnographic case studies, involving qualitative semi-structured interviews and periods of observation on hospital wards, thus providing a more in-depth understanding of process, experience and outcomes, from the perspectives of health workers, isolated patients and their significant others.

**Conclusion:** All health workers should take ownership and responsibility for IPC. This study offers new understandings of the meaning of ownership for health workers; of the ways in which IPC is promoted, of how IPC teams operate as new challenges arise, how their effectiveness is assessed and of the positioning of IPC within the broader context of organisational patient safety culture, within hospital isolation settings.

### Biography

Hunt is a sociologist with particular interest in ethnographic and participatory research methods. He previously worked on the Welsh Assembly Government's Sustainable Health Action Research Programme (SHARP), an action research initiative that focused on health inequalities and community health development. He has combined this with a keen interest in historical sociology and the impact of class and place upon social, cultural and economic life. Dr Hunt has experience of working with quantitative research methods and analysis.

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**The risk of tuberculosis in patients with diabetes mellitus from an Asian tertiary hospital**Yong Yang<sup>1,2</sup>, Ming Ming Teh<sup>1,2</sup>, Chian Min Loo<sup>1,2</sup>, Thuan Tong Tan<sup>1,2</sup>, Han Seong Ng<sup>1</sup> and Ban Hock Tan<sup>1,2</sup><sup>1</sup>Singapore General Hospital, Singapore<sup>2</sup>Duke-NUS Graduate Medical School, Singapore

**D**iabetics Mellitus (DM) has been associated with increased risk of developing tuberculosis (TB). However, information about the extent and risk factors for TB among Asian diabetic patients is scarce. The aim of this study was to assess the rate of TB in patients with DM, and investigate the effect of DM on TB using hospital administrative database. This is an historical cohort study of hospital discharge database from 2004 to 2015 to identify cases with DM and TB using International Statistical Classification of Diseases and Related Health Problems, 9/10th Revision, Australian Modification (ICD-9/10-AM) codes. Of 406751 hospitalized patients, 80493 (19.8%) patients had DM and 2358 (0.6%) patients had TB. Patients with DM had a significantly higher rate of TB (0.71% vs. 0.55%,  $p < 0.001$ ) compared to patients without DM. This higher rate was only present in the pulmonary TB group (0.62% vs. 0.44%,  $p < 0.001$ ) but not in the extrapulmonary TB group (0.11% vs. 0.08%,  $p = 0.053$ ). Logistic regression analyses showed that DM was a significant and independent predictor of TB (odds ratio 1.2, 95% CI 1.1-1.3,  $p < 0.001$ ) after adjustment for factors such as age, gender, ethnicity, admission class, nutritional deficiency, HIV infection, and other comorbid conditions. In conclusion, DM patients were found to have higher rates of TB in this group of Asian patient population. Active screening for latent TB should be considered for DM patients.

**Biography**

Yong Yang has completed his PhD at 2007 from National University of Singapore. He is the Director of Epidemiology Department of a large tertiary care hospital in Singapore. He has strong experience in epidemiological study with the usage of hospital discharge database. He has conducted hospital epidemiological and clinical research on chronic diseases and infection disease using the hospital discharge database for the past 10 years. He is currently developing a comprehensive hospital discharge database, which may be used to conduct epidemiological research in various fields. He has published more than 30 papers in reputed journals.

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**Surveillance findings of surgical site infections among pediatric surgeries at a specialized teaching hospital, Sudan 2016****Atika M O Swar**

Ahfad University for Women, Sudan

Surveillance for SSI is an important element of IPC programs. This research aimed at studying SSI among pediatric surgeries by active direct surveillance using NNIS for prediction. A nested case control study conducted following establishing surveillance at the department of pediatric surgery. Case definition and tools were modified from the CDC - SSI surveillance guidelines. Patients were followed throughout admission period and post discharge for one month using phone calls and follow up visits. The incidence rates of SSI were measured and the associated factors were investigated. During the 3 month period of the study, 191 surgical patients were admitted and (83%) have undergone surgeries and accordingly, the cumulative incidence rate was (16.4%). Among the components of NNIS risk index, contaminated surgical wounds and the ASA classification were significantly associated with the highest rate of infection with (P value of 0.01- 0.006) respectively. Cumulatively, the NNIS risk index was also associated with SSI and it was a good tool for prediction of SSI (P value: 0.02). Major surgical operations constituted the highest rates of infections and it was found that patients who stayed for 3-5 days post operatively were at higher risk of developing SSI. Using logistic regression for multivariate analysis, the test was highly significant and indicated that only sex and duration of postoperative stay were having a great effect on developing SSI. SSI rate was high and active direct surveillance with post discharge follow up was a feasible tool for estimating the burden and investigating the associated risk factors. The NNIS risk index was useful for prediction of SSI. It is important to integrate admission follow up with post discharge follow up SSI surveillance.

**Biography**

Atika M O Swar has expertise in Community Medicine, public health surveillance, research and great passion for infection prevention and control. She has several years of expertise in the field of public health and currently building expertise in infection prevention and control. She is very interested in estimating the burden of hospital acquired infections so as to contribute in prevention and reduction of their burden. Through the relevant expertise and interest, this research was conducted to establish an applicable and feasible methodology for assessment of surgical site infection rates and risk factors for low income settings like Sudan. It was among the first researches conducted in this field using similar methodology.

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**Infection control measures to reduce surgical site infections after coronary artery bypass grafting**

Hanadi Al Salmi

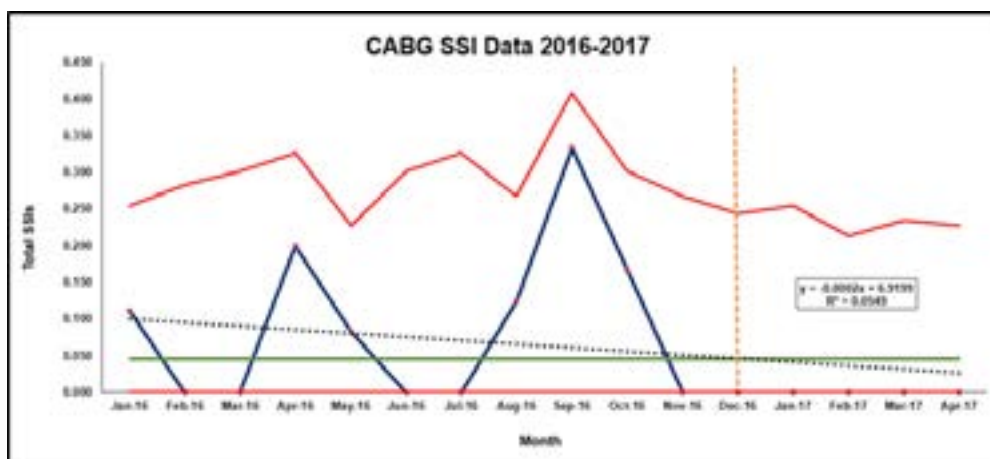
King Faisal Specialist Hospital &amp; Research Center, Saudi Arabia

**Background:** Surgical site infection (SSI) is a preventable and devastating complication of cardiac surgery that is associated with significant morbidity. Unfortunately, the reported SSI rate at our centre in 2014-2015 ranged from 2.6% to 8.2%; this is above the standardized rate recommended by the National Healthcare Safety Network.

**Method:** An improvement project team was formed in late 2016 to address the rate of SSI in our centre. In this study, we sought to identify risk factors of CABG SSI by using evidence-based practices in addition to a local approach to solve the problem. We performed a root-cause analysis to identify areas for potential improvement. Data collected included a process map of the pre-operative, intra-operative, and post-operative factors that might contribute to SSI risk. In addition, we collected data on patient-related factors, hygiene practice in the operating room, operating room traffic, and compliance to the SSI bundle of care. We used the DMAIC (Define, Measure, Analyze, Improve, and Control) method to improve our CABG-SSI rate. The root cause analysis identified significant weaknesses in the compliance to the bundle of care of SSI prevention, including: High blood glucose (Pre, Intra and Post-operative in patients with diabetes and those without it). Normothermia was not maintained (Pre, Intra and Post-operative). Noncompliance with chlorhexidine gluconate pre-operative shower. Noncompliance with the timely administration of the first and second dose of pre-operative antibiotics and noncompliance with the appropriate dosing for pre-operative antibiotics

**Results:** Improvement in compliance with the above noted gaps resulted in a decreased incidence of SSI among patients with post-coronary artery bypass grafting for 5 consecutive months.

**Conclusion:** CABG SSI is a preventable complication. Using evidence-based practice and structured problem solving may potentially identify risk factors. Focusing on solving the right patient process and visually representing the problem will help in identifying the potential solutions, improving quality-of-care, and reducing cost.

**Biography**

Hanadi Al Salmi is an Assistant Director of Infection Control and Environment Health at King Faisal Specialist Hospital and Research Center. Responsible for assisting the Director, Infection Control & Hospital Epidemiology ensures compliance with environmental standards related to Joint Commission, International Accreditation (JCIA), and American Institute of Architecture (AIA) for Hospital and healthcare facilities, OSHA, and other regional and other regional and internationally recognized bodies

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## Prevalence and response to needle stick injuries among health care workers at Kenyatta National Hospital Nairobi, Kenya

**Alice Njihia**

Kenyatta National Referral and Teaching Hospital, Kenya

**Introduction:** Needle stick injuries (NSI) are preventable global occupational hazards which are quite prevalent among Health Care Workers (HCW) who are pillars of Health Care Systems. The NSI can easily result to blood borne infections such as hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). The infections have bad outcomes to the HCW such as long term illness, disability and even death. Health care workers optimal health is essential for efficient delivery of health services

**Objectives:** To determine the prevalence and response to NSI among Health Care Workers working at Kenyatta National Hospital.

**Methodology:** The overall objective of this study was to determine the prevalence and response to needle stick injuries among HCW working at KNH. The study design was cross-sectional descriptive while data was collected by quantitative and qualitative methods. The study population was 1394 HCW who performed invasive patient procedures from where a sample of 331 was determined. Data was collected for a period of one month by self-administered structured questionnaires and was analysed by SPSS version 20.0. Chi Square was used to test association and relationship between independent and dependent variables. The findings were presented in frequencies, proportions, pie charts, tables and graphs. The expected benefits of the study findings were to identify gaps in prevalence and response to NSI.

**Results:** The results showed that 151(45.6%) respondents experienced NSI in their entire career while 62 (41.1%) experienced NSI in the last one year. The incidence rate was 2 NSI per HCW per year. Majority of the HCW got one NSI in both life time 78(51.7%) while in the last one year was 52(83.9%) respectively. Gender, education, profession and experience respectively were statistically associated with lifetime history of NSI, ( $\chi^2=4.057$ ,  $df=1$ ,  $p<0.05$ ), ( $\chi^2=12.911$ ,  $df=5$ ,  $P<0.05$ ), ( $\chi^2=8.404$ ,  $df=3$ ,  $p<0.05$ ), ( $\chi^2=16.819$ ,  $df=4$ ,  $P<0.05$ ). Majority 324(97.9%) of the respondents disposed sharps sharp in appropriate sharp bins. Administration of injections was a day to day activity by the majority 91.5% of the HCW of which 20(13.2%) of them got NSI. Majority of HCW (45.7%) got NSI while on night duty. There was statistical significant association between work experience and drawing blood samples, suturing and recapping used needles, ( $\chi^2=11.953$ ,  $df=4$ ,  $p<0.05$ ), ( $c^2=13.693$ ,  $df=4$ ,  $p<0.05$  and  $c^2=14.069$ ,  $df=4$ ,  $p<0.05$ ) respectively. Age was also related to drawing blood samples ( $c^2=15.535$ ,  $df=3$ ,  $p<0.05$ ). Majority of HCW 98 (65.1%) washed NSI site with water and soap, while only 50% of the HCW reported all NSI. screening for Hepatitis B and HIV was 36 (58.1%) and 7(11.3%) respectively. Uptake of PEP for HBV was 12 (7.9%) while for HIV was 70(46.4%). Gloves were worn routinely as precautions against NSI by 201(62.6%) of the respondents

**Conclusion & Recommendations:** The prevalence of NSI was found to be high among HCW at KNH; major activity at time of NSI was administration of injections with low uptake of PEP. Proper handling of needles should also be considered for the staff giving treatment via injections. More research needs to be done on prevalence, response and contributing factors to NSI for informed policy formulation and ways of addressing the gaps.

### Biography

Alice Njihia working as a Senior Assistant Chief Nurse in Internal Medicine department in Kenyatta National Referral and Teaching Hospital, Kenya, and have published many articles based on Infection Prevention and Control methods and also worked as Assistant Chief Nurse in Accident and Emergency Department

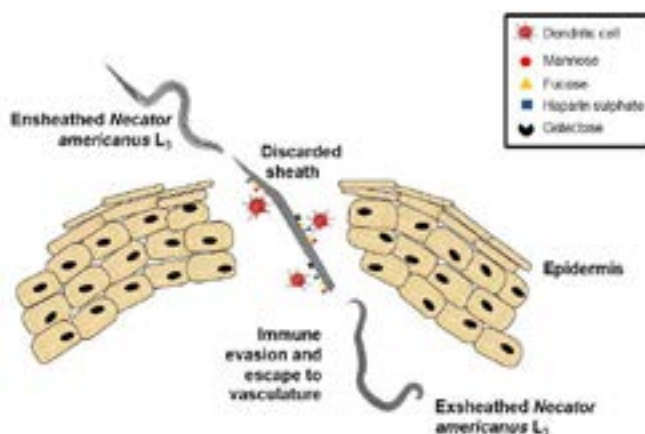
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**The sequestration of human dendritic cells by the infective L3 *Necator americanus*****A Hassan, D I Pritchard and A M Ghaemmaghami**  
University of Nottingham, UK

Despite the profound health implications of *Necator americanus* (*N. americanus*) infection in humans, many aspects of its interaction with the host immune system are poorly understood. In this context, we studied the direct effects of *N. americanus* larvae (L3) on the phenotype and function of human dendritic cells (DCs). For the first time our data show that L3 *N. americanus* larvae exsheathed in the presence of DCs and sequestered the immune cells onto the discarded cuticle sheath. Intriguingly, bystander DCs had negligible interaction with the emerging larvae, alluding to a disparity between the surface chemistry of the larval sheath and its cuticle. Our data also suggest that the interaction between DCs and larvae is mediated via C-type lectin receptors (CLRs) as evidenced by an inhibition in DC sequestration on the larvae cuticle after blocking DC-SIGN (dendritic cell-specific intercellular adhesion molecule-3 grabbing non-integrin) or MR (mannose receptor).



**Figure 1:** The proposed mechanism of *N. americanus* immune evasion strategy. DCs bind the *N. americanus* sheath via CLRs which trigger larval exsheathing enabling larvae to escape to the vasculature, whilst DCs are sequestered onto the sheath.

**Biography**

A Hassan is in the final stages of completing her Doctorate in Immunology at the University of Nottingham. She is an individual with an extreme passion for humanitarian aid, particularly within the promotion of human welfare to eliminate vaccine preventable infectious diseases, in countries with poor public health provisions. Her current PhD research focus is the epidemiology of Neglected Tropical Diseases (NTD's), particularly *Necator americanus*, with a focus on the rational design of an innovative and more efficient intervention strategy against vaccine preventable NTD's. Outside of research, she has worked extensively with a variety of organizations and is due to be presenting her research at the 4th International Conference of Parasitology (Prague, Czech Republic) and the 11th Annual NTD Conference (Nairobi, Kenya).

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**Roadmap to zero tolerance of device healthcare associated infections****Waleed A Mazi**

Directorate of Health Affairs, Taif- Kingdom of Saudi Arabia

Effective infection prevention and control programmes in hospitals are essential to prevent infections whenever possible. Healthcare-associated infections (HAIs) are the most adverse event threatening hospital patient safety worldwide. Many factors contribute to the risk of HAIs. Information resources are freely available from many national and international professional health agencies. We observed reduction of device healthcare associated infections after introduced Society for Healthcare Epidemiology of America (SHEA) /Infectious Diseases Society of America (IDSA) basic practice recommendations in acute care hospital. To reduce and control of central line-associated bloodstream Infection (CLABSI), catheter associated urinary tract infections (CAUTI) and ventilator associated pneumonia (VAP) in acute care hospital. A prospective study to reduce HAIs was conducted in tertiary hospital in 2012. Criteria and incidence rate of CLABSI, CAUTI and VAP were defined according to NHSN guidelines. Hand hygiene observation (HHO) was conducted using the WHO my five moments for hand hygiene recommendations. Prevention measures were implemented using SHEA/IDSA basic practice guidelines. We observed significantly reduction of CLABSI, CAUTI and VAP after implementation SHEA/IDSA practice guidelines. SHEA/IDSA basic practice guidelines are effective infection prevention model. The strategic plan steps were successfully targeted the goals. It is possible to achieve and maintain zero tolerance without any additional cost.

**Biography**

Waleed A Mazi is a Regional Director for Infection Prevention and Control, Taif – Saudi Arabia. He did his Philosophy of Medical Science, Clinical Microbiology, Karolinska Institutet, and Stockholm, Sweden. He is Infection Prevention and Control Director, King Abdul Aziz Specialist Hospital – Taif, Saudi Arabia (2009-2012). He has internationally published articles on prevention of central line –associated bloodstream infection, WHO- Hand Hygiene implementation program, prevention sharp injuries in healthcare settings and molecular genotyping for epidemiological purposes. He has given poster and oral presentations in many international conferences (2010-2015).

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# Scientific Tracks & Abstracts Day 2

Infection Prevention 2017

# Sessions:

Day 2 December 15, 2017

**Preventing Gastrointestinal Infection | Infection Control in Clinical Practice | Infection Control for Veterinary Practices | Disinfection and Sterilization | Infection Control Risk Assessment  
Infection Control Nursing | Emerging and Re-Emerging Infections**

**Session Chair**

**Zarina Bee Nazeer**

ICC Armed Forces Hospital, Saudi Arabia

**Session Co-Chair**

**Julian Hunt**

Swansea University, UK

## Session Introduction

**Title: Infection control among the health care workers to decrease transmission of acute upper respiratory tract infections in outpatient clinics**

**Badrelsabah Bendery**, Zagzig University, Egypt

**Title: The importance of infection control risk assessment in healthcare settings**

**Zarina Bee Nazeer**, ICC Armed Forces Hospital, Saudi Arabia

**Title: Why patients still catch hospital infections despite the practice of infection prevention and control programs**

**Huang Wei Ling**, Medical Acupuncture and Pain Management Clinic, Brazil

**Title: Fecal carriage of carbapenem resistance *Enterobacteriaceae* among inpatients in a university hospital in Iran**

**Fereshteh Shahcheraghi**, Pasteur Institute, Iran

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## Infection control among the health care workers to decrease transmission of acute upper respiratory tract infections in outpatient clinics

**Badrelsabah Bendery**

Zagazig University, Egypt

**Background:** Acute upper respiratory tract infections (AURTI) can spread rapidly among health care personnel in health care settings, particularly for immune compromised persons. In this study we evaluate infection control measures guidelines. Infection control programs in skilled nursing facilities should address: surveillance for infections and antimicrobial resistance, outbreak investigation and control plan for epidemics, isolation precautions, hand hygiene, staff education, immunizations, tuberculin testing, and infection control policies to prevent specific infections.

**Methods:** Our study conducted on 80 Health care workers in outpatient clinics which divided into two groups' doctors and paramedical (nurses, workers, employees in clinics) age 20-55years, study method by questionnaire about guidelines of infection control, laboratory and radiology screening.

**Results:** we found 70% insufficient infection control auditors, 50% standard precautions of infection control measures inadequate and 20% of asymptomatic of AURTI among workers and employees in clinic especially hand hygiene technique insufficient among health care workers. Some of the nurses did not follow infection-control procedures fully.

**Conclusions:** Infection control interventions should be implemented in outpatient, as well as inpatient, settings to reduce transmission among health care workers and limit progression of AURT infections outbreaks. The healthcare worker, need to be provided education to support patient safety and minimize risk for infection. Infection prevention and control, care should be taken to provide comprehensive infection control measures including contact control, hand hygiene, personal protective equipment, disinfection, and environmental cleaning.

### Biography

Badrelsabah Bendery: ENT specialist MSCH zagazig university, auditor certificate, utilization management, Fellowship in hospital management, work in health insurance Egypt, work now in KSA CLIC doing this study to evaluate importance of infection control guidelines in decrease ACURTI

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## The importance of infection control risk assessment in healthcare settings

**Zarina Bee Nazeer**

ICC Armed Forces Hospital , Saudi Arabia

**Introduction:** Patient Safety and Quality Patient Care is the ultimate goal of patient care in any healthcare facility. Infection Prevention and Control is the epicenter of Patient Care Delivery, therefore the Infection Control Programme in Healthcare Settings must include the IC Risk Assessment policy which must be proactively done to prevent infections and outbreaks, by assessing the potential risks which may disrupt the IC efforts.

**Infection Control Risk Assessment (ICRA):** Infection Prevention and Control (PCI) Risk Assessment describes the Infection risks which is unique to the institution. This Infection Control Risk Assessment (ICRA) will help the institution to assess the Complexity of the Risk identified and the possible actions to reduce the effects of the risk. The risk scoring will help determine the severity of the risk and the prioritization of each risk identified. Risk assessment is an ongoing process because infection risk changes overtime and at times rapidly. An infection control risk assessment must consider different elements before establishing IPC policies and procedures, goals and objectives. A written, hospital wide comprehensive risk assessment plan is essential in any healthcare organization because it is a first step in a systematic process to create and implement PCI Plan.

**Infection Control Risk Assessment Plan:** The Healthcare Accreditation bodies (viz. JCIA – Standard PCI.7) has included the ICRA as a requirement for written risk assessments documenting how the healthcare facility is prioritizing patient and healthcare worker safety. The PCI Risk Assessment will be done by the Multidisciplinary Team members which may include representation from Infection Control , Environmental Health and Safety( EH&S) , Facilities & Engineering and Continuous Quality Improvement and Patient Safety (CQI&PS). The infection control committee members will review and approve the facility wide PCI Risk Assessment and the PCI programme Plan for the set year. The documents will include the following: assessment of risk, assessment of services provided, and assessment of the population served, prioritized strategies to decrease the risk, PCI Plan for the set year. The plan is formally reviewed at least annually and whenever significant changes occur in the elements that affects risk.

### Biography

Zarina Bee Nazeer has completed her Diploma in Nursing (General, Psychiatric, Community) and Midwifery from Natal College of Nursing, R K Khan Campus Durban South Africa. She has passed the SAMTRAC course by NOSA, safety management and training cum laude in 2001. She has completed the Infection Prevention and Control Course in 2011 at Netcare Nursing Academy in Durban South Africa. She has more than 28 years of experience in the healthcare setting. She is currently the Infection Control Coordinator at AFHSR in Khamsi Mushayt KSA. She has been a speaker on infection control topics locally and internationally. She is a presenter at AFHSR IC Mandatory Training course for all staff. She has coordinated, co-directed and facilitated IC educational activities and has been extensively involved in major infection control activities, projects and programs for the past 15 years, including commissioning of new facilities, developing surveillance programs and evaluating IC programs. She is an active team player and has been instrumental in the Infection Control Service element for JCIA at AFHSR. The hospital has successfully passed the Joint Commission International Accreditation (JCIA February 2017).

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## Why patients still catch hospital infections despite the practice of infection prevention and control programs?

**Huang Wei Ling**

Medical Acupuncture and Pain Management Clinic, Brazil

**Statement of the problem:** Very few publications provide sound scientific data used to determine which components are essential for Infection Prevention and Control (IPC) programs in terms of effectiveness in reducing the risk of infection. In recent years, a range of regional best practice or policy principles have been developed that address what could be considered as core components of IPC programs. However there remains a major gap in relation to the availability of international best practice principles for core components of IPC programs. The purpose of this study was to show why patients still catch hospital infections despite IPC programs. A better understanding of a variety of theories is needed that could explain the physiopathology of diverse diseases described in the medical past history, which are usually disregarded clinically today. A broader view seems to show the necessity of seeing the patient as a whole; not only focusing on the disease in the prevention of these hospital infections. The methodology used was a review of these theories such as those presented by Hippocrates ("Natural forces within us are the true healers of disease."), as well as others from oriental medicine, which explain that diseases originate from three factors: external (exposure to cold, heat, humidity, wind and dryness), internal (emotional) and dietary.

**Findings:** Having a broader view of the patient as a whole (Yin, Yang, Qi, Blood energy and Heat retention), we can understand better the formation of hospital infection which is a systemic energy reaction of our body undergoing normal hospital treatment.

**Conclusion:** To understand better why a patient is still catching hospital infections, despite these IPC programs, we need to broaden our view observing all emotional, environmental and dietary factors, as well as studying his energy situation at the moment of admittance identifying his risk of hospital infection

### Biography

Huang Wei Ling is graduated in medicine in Brazil, specializing in infectious and parasitic diseases, a General Practitioner and Parenteral and Enteral Medical Nutrition Therapist. She has been In Charge of the Hospital Infection Control Service of the City of Franca's General Hospital, she was responsible for the control of all prescribed antimicrobial medication, and received an award for the best paper presented at the Brazilian Hospital infection Control Congress in 1998. She was coordinator of both the Infection Control and the Nutritional Support Committee in Sao Joaquim Hospital in Franca, and also worked at the infectious Sexually Transmitted Disease Reference Center. She is the owner of the Medical Acupuncture and Pain Management Clinic, and since 1997 she has been presenting her work worldwide concerning the treatment of various diseases using techniques based on several medical traditions around the world.

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### Notes:



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**Fecal carriage of carbapenem resistance *Enterobacteriaceae* among inpatients in a university hospital in Iran****Fereshteh Shahcheraghi**

Pasteur Institute of Iran, Iran

**Objectives:** Fecal colonization by carbapenem-resistant *Enterobacteriaceae* (CRE) could serve as a reservoir for transmission of these pathogens to clinical settings, which subsequently increases clinical infections. The aim of this study was to evaluate the prevalence and risk factors associated with CRE fecal colonization among inpatients.

**Material & Methods:** Rectal swabs from 50 patients in a university hospital were collected. CRE screening was performed by using selective media. Carbapenemase production was detected by phenotypic tests. PCR assays were used to detect carbapenemases genes. Clonal relatedness was investigated by pulsed-field gel electrophoresis (PFGE).

**Results:** The prevalence of fecal colonization was 56% (28/50). Overall, 41 CRE isolates were identified, of which 38 were carbapenemase-producers. Eleven patients (39.3%) were co-colonized with CRE isolates. ICU hospitalization, prior antibiotic therapy, and mechanical ventilation were significant risk factors. The *blaOXA-48* was the most frequent carbapenemases followed by *blaNDM-1* and *blaNDM-7* enzyme. Nine carbapenemase producing *Enterobacteriaceae* (CPE) isolates co-harbored *blaNDM-1* and *blaOXA-48*. Also, six CPE isolates co-harbored *blaNDM-7* and *blaOXA-48*. We did not detect *blaKPC*, *blaGES*, *blaIMP* and *blaVIM*. PFGE analysis showed that *E. coli* clones were diverse, while *K. pneumoniae* categorize in 3 clusters. Cluster I was the major clone carrying *blaOXA-48* and *blaCTXM-15* genes.

**Conclusions:** Our study as the first investigation in Iran showed CRE not only had high prevalence in fecal carriage, but also harbored varied antimicrobial resistance elements.

**Biography**

Fereshteh Shahcheraghi is the Head of the Bacteriology Department of Pasteur Institute of Iran. She obtained her PhD in Medical Microbiology in 1996 and joined the Institute Pasteur in 1997 as Assistant Professor. From 2002-2003, she went to Japan for studying and researching on antibiotic resistance. Her main field is antibiotic resistance especially on Gram Negative Bacteria. She has several projects and papers on CRE (carbapenem Resistance *Enterobacteriaceae*) in outpatients and in patients in Iran. She is the Head of Pertussis National Reference Lab of Pasteur Institute; this lab has collaboration with CDC of Iran for diagnosis of suspected patients to Pertussis and research on isolated strains. Also she has international project on Pertussis. She has authored more than 60 articles in international peer-reviewed journals and several national and international projects she is also actively involved in research, directing studies of post-graduate students, post-doctoral research workers and trainees.

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