

respectively; and Sal02, TR4699 and TR2 having 15, 20 and 23 alleles respectively.

**Conclusion:** In summary, we have identified 6 polymorphic VNTR loci suitable for MLVA analysis of *Salmonella* Typhi strains. The five most diverse VNTR loci will be selected for the MLVA assay and will be used to analyse *Salmonella* Typhi strains from SSA. This work will assist in rapidly identifying strain relatedness and assist outbreak detection in typhoid fever outbreaks.

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Room: Ballroom

#### Co-infection of malaria and influenza viruses in Uganda: A pilot study



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**Background:** Influenza is a highly contagious viral infection of the respiratory passages causing fever, headache, severe aching, cough, and periodically causes epidemics especially in temperate environments. In many African countries, people do not visit clinics or hospitals with just influenza infection. Majority of ILI patients do not seek medical care and very few of those who do, get tested for influenza. The many of influenza cases that are reported by surveillance programs are from sentinel sites where patients come in with other medical problems. Clinically, influenza is not distinguishable from most other infectious diseases with fever in the tropics. Malaria is an important infectious disease and is still thought to be the main cause of febrile episodes. Most fevers are thought to be malaria. Our investigations sort to establish information on incidence of malaria in patients who are positive with Influenza infection.

**Methods & Materials:** This cross-sectional pilot study examined incidence of malaria among outpatient visits and hospitalizations associated with Influenza like Illnesses (ILI) and Severe Acute Respiratory Illness (SARI) during the period February 2011–November 2013 in children, youth and adults attending six health facilities of; Kawaala health centre III, Kitebi Health centre III, UVRI Clinic, Entebbe Hospital and Mbarara Regional referral hospital in Uganda. Nasopharyngeal and oropharyngeal swabs were collected from patients meeting the WHO case definition for ILI and SARI. Influenza viruses were screened for using RT-PCR and the clinical data presenting diagnosis of malaria was collected and analyzed.

**Results:** Out of the 1020 influenza specimens collected from cases; 754 (73.9%) patients were diagnosed with malaria; 116 (15%) of 754 were positive for Influenza and 638 (84.6%) were negative; positive for Influenza A were 71 (9.4%) with two subtypes; 56 (7.4%) A(H3) and 15 (2.6%) Pandemic A(H1N1) 2009, and 45 (6.0%) were Influenza B viruses. Of the 116 positives 108 (93.1%) were ILI and 8 (6.9%) were SARI patients. Although 107 (92.2%) Children diagnosed with Malaria had Influenza, 9 (7.8%) Youth had Influenza whereas there was no Influenza in Adult.

**Conclusion:** Our data shows a high incidence of Influenza in children diagnosed with malaria.

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#### *Clostridium difficile* infection in University Hospital Trnava: A hospital-based survey



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**Background:** *Clostridium difficile* infection (CDI) have increased in frequency and severity over the past decade and are a leading cause of hospital acquired infections. In Slovakia, mandatory surveillance of *Clostridium difficile* infection and others health care associated infection was established due to electronically national Epidemiological information systems (EPIS). But only a few cases of CDI were reported as a healthcare associated infection in EPIS during last years. Therefore the aim of this hospital-based survey was to assess incidence, risk factors and outcome of CDI in University Hospital Trnava, Slovakia in period 2010–2012.

**Methods & Materials:** We analysed all patients with laboratory confirmed CDI in University Hospital Trnava during three years period (RIDA@QUICK *Clostridium difficile* Toxin A/B immunochromatographic rapid assay for the qualitative determination of the toxins A and B of *Clostridium difficile* in stool samples, R-Biopharm). Incidence rate per 10 000 hospitalized patients were calculated and patients characteristic were recorded from hospital information systems.

**Results:** Together 208 hospitalized patients were confirmed *Clostridium difficile* toxin in stool samples. Incidence of CDI in hospitalized patients during three years period 2010, 2011, 2012 increased 24/10 000, 27/10 000, 32/10 000 respectively. Health care –associated CDI were more often identified than community-acquired CDI (73,6% vs. 26,4%). Mean age of infected patients were 73 ± 16 (range 15–96) and female (60%) were more frequent infected than male. The most affected were Geriatric Department (29,3%), Department of Infectious Diseases (25%) and Department of Internal Medicine (24%). Concerning risk factors, most patients before development CDI received antibiotics – ciprofloxacin, cefuroxime and ampicillin/sulbactam due to respiratory or urinary tract infection. Recurrence of CDI was confirmed in 7,7% patients and occurring within 3 months after the first episode. Almost all cases (99%) were treated with metronidazole, others 4 cases with rifaximin (2), vancomycin (1) and fidaxomicin (1). Death associated with CDI was observed in two patients.