den was estimated using tympanometry and pneumatic otoscopy for otitis media with effusion (OME) and by parental questionnaires for acute otitis media (AOM). Here we report the baseline results from the first round.

**Results**: Out of the 529 children enrolled, 427 were included in the final analyses and the rest were excluded due to indeterminate tympanogram data. Nonetheless, there were no major differences in the baseline characteristics between the two groups. Of those subjects, 84/427 (19.7%) were diagnosed with at least one form of otitis media or its complications. This consisted of 21 (4.9%) children with bilateral OME (i.e. OM in both ears) and 44 (10.3%) with unilateral OME. Based on otoscopy and parental questionnaire, an additional 14 (3.0%) children were diagnosed with AOM, 3 (0.7%) with unilateral CSOM based on inspection and 2 (0.5%) with unilateral ear perforations. No statistically significant relationship was found between OME and any of the predictor variables. However, multivariate logistic regression analysis identified a strong association between the existence of OME and one health outcome i.e. notification of any ear related problems/symptoms in the last 6 months prior to study period (Odds Ratio: OR = 2.5 and Confidence Interval: 95% CI = 1.3 – 5.0).

**Conclusion**: The findings indicate that as many as every one in five children in our study population were affected by middle ear disease between the ages of 2 and 3 years.

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Staphylococcal foodborne illness outbreak, Tshwane District, Gauteng Province - South Africa, June 2015

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**Background**: Staphylococcus enterotoxin A is one of the few Staphylococcus aureus strains producing gastroenteritis symptoms and is a common cause of food-borne illness worldwide. Although food-borne illness is a notifiable disease in South Africa, its burden is not well known, possibly due to under-reporting. On May 31 2015, three public hospitals in Pretoria notified Tshwane-Outbreak-Response-Unit (ORU) of 51 cases presenting with vomiting and stomach cramps following consumption of food at a local hotel on May 30 2015. All patients were treated and discharged within 24 hours. The ORU conducted further investigations to determine the magnitude, clinical-manifestation and likely source of the outbreak.

**Methods & Materials**: On June 1st 2015 the team visited the three affected hospitals and collected demographic and clinical details of those affected. We interviewed potentially exposed persons using a structured questionnaire. Food samples (chicken, cabbage, rice, brown onion soup) were collected from leftover food and sent to the laboratory for enterotoxin testing. Clinical specimens were not collected.

**Results**: Of the 50 potentially exposed persons, 37 were cases. The reported symptoms included: abdominal cramps (37/37, 100%); vomiting (32/37, 86%); nausea (13/37, 35%) fever (9/37, 24%); diarrhea (12/37, 43%). The mean age was 23 years (range 9 – 58 years) and males were the most affected group (76%, 28/37). The median incubation period was 2.5 hours and symptoms lasted a median of 24 hours. The food-specific attack rate was 74% (37/50) among those exposed to chicken and 28% (14/50) among those who ate rice and/or brown onion soup. Staphylococcus enterotoxin A was isolated from the chicken and no pathogens were isolated from other foods.

**Conclusion**: Staphylococcus enterotoxin A was the likely cause of the outbreak with poor hand hygiene practices among food handlers being the likely source of infection. The relationship between staphylococcal foodborne illness and poor hand hygiene among food-handlers is well established in the scientific literature with cross contamination frequently occurring during food preparation. Ongoing hand washing awareness should be conducted to improve hand hygiene practices among food-handlers in affected food establishments. Training could improve the knowledge and outbreak response capacity among the environmental health practitioners and emergency unit health care workers.

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Factors associated with high HIV related stigma among commuter populations in Johannesburg inner city, South Africa

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**Background**: Stigma remains the single most important barrier to individual confidence. Despite education about stigma and its morphing characteristics, it has continued to exist. The main objective of this study was to identify factors related to HIV stigma among a commuter population in the Johannesburg inner city of South Africa.

**Methods & Materials**: Data were collected using a self-administered closed ended questionnaire loaded onto personal tablet computers during a community outreach campaign. All measures were self-reported. The outcome was measured by asking the respondents to rate their perceptions of levels of stigma as ‘high or low’.

**Results**: A total of 1146 participants were involved in the study of which 585 (51.0%) reported high–levels of stigma. Overall, being married/cohabiting (aOR: 1.47 95%CI: 1.05–2.04), divorced (aOR: 4.36 95%CI: 1.48–12.81), aware of HCT services (aOR: 2.10 95%CI:
Development of saliva based diagnostic method for malaria

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**Background:** More than half of the world's population are exposed to malaria. Rapid diagnosis and proper treatment are the main aim of control programs in malaria endemic areas. This study was aimed at developing a non-invasive diagnostic method for detection of *Plasmodium falciparum* in human malaria.

**Methods & Materials:** Ethical permit was obtained from CUREC. Informed consent/assent was also sought. Saliva and blood samples were collected from patients presenting with fever at the Covenant University Health Centre. Falciparum malaria was confirmed by microscopic examination of Giemsa stained thin and thick blood smears. Direct nested PCR was carried out to detect drug resistant genes (pfcrt and pfmdr) from positive blood and corresponding saliva samples using 'TransDirect' Animal Tissue Kit (Transgene Biotech, Beijing).

**Results:** Out of the 165 subjects recruited on this study, 61.8% was positive for falciparum malaria by microscopy. The presence of pfcrt gene was detectable from 20 blood samples while only 10 blood and saliva samples from same patients were harbouring the pfcrt gene.

**Conclusion:** The use of human saliva as sample for malaria detection would help facilitate effective diagnosis and development of simple probes which will be easier to handle especially in malaria endemic areas where proper diagnosis is still lacking.

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**Outbreak investigation of Kyasanur Forest Disease (KFD) in Wayanad district, Kerala, India 2015**

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**Background:** Kyasanur Forest disease (KFD), a tick-borne viral hemorrhagic fever has a case fatality rate as high as 10%. KFD is endemic to Karnataka but is spreading. Infected ticks transmit infection to monkeys, the amplifying host. Vaccination of high-risk populations is the primary control strategy. On February 6, 2015, an outbreak of KFD was reported in Wayanad district, Kerala near Chikenji forest. We investigated to describe the outbreak and identify risk factors.

**Methods & Materials:** We defined cases as residents of Sulthan Bathery taluk who during 25 December 2014 - 13 March 2015 presented with fever, headache, and myalgia. House to house survey and health facility-based surveillance was established for case finding. For each case we selected two healthy controls matched for age, sex and place of residence and interviewed regarding exposures. We conducted entomological and monkey death investigations to better understand transmission.

**Results:** Among 113 cases, including 6 deaths, 62% were females; median age was 40 (3-70). None had received vaccination. Of 81 cases tested by reverse transcription polymerase chain reaction, 43 (53%) were confirmed for KFD virus. Among 59 cases and 118 controls, a recent visit to forest (aOR=4.8, 95%CI=2.1-10.6), grazing animals in forest (aOR=3.1, 95%CI=2.2-6.9), exposure to monkey death (aOR=4.1, 95%CI=2.2-7.2) and collecting heaps of leaves around house (aOR=1.9, 95%CI=1.09-2.8) were significantly associated with illness. The tick vector (Hemophysalis spinigera) for KFD was abundantly found and 18 monkey deaths (5 tested positive for KFD) were reported from affected area.

**Conclusion:** This was the first reported outbreak of KFD in Kerala with virus, and vector also found in the area. We recommended vector control, use of personal protective measures and vaccination policy for prevention of KFD outbreaks in future.

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Time: *12:45-14:15*
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Development of saliva based diagnostic method for malaria

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**Conclusion:** The use of human saliva as sample for malaria detection would help facilitate effective diagnosis and development of simple probes which will be easier to handle especially in malaria endemic areas where proper diagnosis is still lacking.